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A CROSS-NATIONAL ANALYSIS OF POLITICAL VIOLENCE: A MODEL SPECIFICATION AND ITS EMPIRICAL TEST

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A CROSS-NATIONAL ANALYSIS OF POLITICAL VIOLENCE:

A MODEL SPECIFICATION AND ITS EMPIRICAL TEST

by

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES (continued)

Table

LIST OF FIGURES

Figure

CHAPTER I

A CROSS-NATIONAL ANALYSIS OF POLITICAL VIOLENCE: A MODEL SPECIFICATION AND ITS EMPIRICAL TEST

Introduction

The search for the nature and causes of political violence has long been central to the study of politics. In recent years, a vast literature has accumulated in which attempts have been made to explain variations across nations in the frequency, intensity, breadth, and duration of political violence. Of course, many worthwhile comparative studies of political violence have taken as their unit of analysis individuals, groups, cities, or states rather than entire nations. Still, cross-national comparisons play an essential role in understanding political violence, because they provide a perspective on what is true of all societies, what systematically varies across societies, and what is system-specific. The primary task of comparative inquiry is to identify factors and processes which are ubiquitous or which vary in a systematic fashion: where these cannot be identified, the analytic task becomes one of subsuming system-specific factors or processes within general variables which can be applied at the cross-national level (Przeworski and Teune, 1970).

Theoretical propositions and speculations concerning political violence are so numerous and contradictory that no one theory of

political violence can be said to exist. Recently, a growing body of research has attempted to probe propositions drawn from a variety of theoretical perspectives. However, some propositions have not yet been satisfactorily tested in cross-national research. The reasons for this unsettled situation are many--including the application of different theoretical frameworks, different interpretations of a common theoretical framework, operationalization of key concepts in different fashions, use of different samples of nations, and omission of relevant variables (Siegelman and Yough, 1978a).

This dissertation seeks to test and modify propositions concerning the causes of political violence. Although it draws on a large number of existing analyses of political violence, it builds in particular on recent studies by Hibbs (1973), Yough and Sigelman (1976) and Sigelman and Simpson (1977). Hibbs' sophisticated study considers a broad range of violence theories. The Yough-Sigelman and Sigelman-Simpson studies, on the other hand, are more narrowly focused, in that each relates political violence to a limited set of factors (social mobilization and economic inequality, respectively). The immediate purpose of this dissertation, then, is to reconsider these particular propositions by embedding them, a la Hibbs, within a far more comprehensive explanatory model.

This dissertation begins by specifying various partial models of the conditions leading to political violence, and then provides an empirical foundation for the specification of a more comprehensive model of political violence. The preliminary model (presented in

Chapter V) incorporates social, economic, cultural, historical, and political factors. The specification of the model and the ordering of explanatory variables are guided by existing theoretical and empirical literature, which also provide much guidance concerning the selection and operationalization of key concepts. This study is eclectic in the sense that different theoretical perspectives are incorporated into the model specification.

The analytic technique employed here, which involves hypothesis-testing and model building in a cumulative and incremental fashion, is based in particular on the earlier efforts of Hibbs (1973) and Jackman (1975). The theoretical speculations and ordering among variables lead to the formulation of various simple explanatory models, which are finally expanded into a more comprehensive and complex explanatory framework of causal linkages among the exogenous, predetermined endogenous, and final endogenous variables.* Before the relationships between the predetermined and final endogenous variables are examined, the hypothesized causal links between the exogenous and predetermined endogenous variables and among the predetermined

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*An endogenous variable is one whose values are determined by the simultaneous interaction of the relations in the model. On the other hand, an exogenous variable is one whose value is determined outside the model. Of course, the classification of variables into exogenous and endogenous, like the designation of independent and dependent variables, is relative in the sense that a variable can be exogenous in one model but endogenous in another model. In multi-equation model, such variables are called "predetermined endogenous variables." Final endogenous variables here refer to political violence whose values are determined by exogenous and predetermined variables in a multi-equation model but they do not have any causal effects to other variables in the model. See Johnston (1972), Blalock (1969), and Hibbs (1973).

endogenous variables are tested. In this way, variables with trivial causal effects can be eliminated, if they are not directly linked to the final endogenous variables in the model. This simplification of the model is particularly appropriate for the systematic investigation of the direct and mediating effects among variables in the model.

This procedure assumes that the model under consideration is correctly specified. The model is assumed to be comprehensive, and to be derived from existing theories that consist of a set of interrelated propositions which provide the basis for identifying relevant variables, ordering them temporally, and specifying functional relationships among them. Model misspecification due to omitted variables affects research findings in two ways. First, when omitted variables are related to both political violence and other explanatory variables, the estimated impacts of the explanatory variables are unreliable, to an extent determined by the magnitude of correlations between the omitted and the other variables in the model (Hanushek, Jackson and Kain, 1974; Hauser, 1970; Chenery and Syrquin, 1975). Similarly, inferences concerning complex causal processes may be erroneous because the explanatory variables in the model can exert indirect effects on political violence, mediated by the omitted variables. Second, omitted variables might not be strongly correlated with the explanatory variables but strongly correlated with political violence. In that case, their omission would undermine the explanatory and predictive powers of the model.

For the present study, it should be noted that theoretical and methodological constraints are involved in the model specification. Obviously, there are several sources of misspecification. For example, propositions drawn from a number of different theoretical perspectives often suggest entirely contradictory relationships. Then, too, the omission of theoretically relevant variables arises from the scarcity of data; some potentially useful concepts simply cannot be measured in terms of currently available data. Moreover, the diffuseness of and lack of operational criteria for some concepts make them difficult to handle in quantitative research. We have tried to avoid specification errors by carefully examining theoretical and research literature (Chapters II, III, and IV), and by patterning measurement decisions on the best of the existing empirical literature (Chapter V). In Chapter VI, this dissertation tests the comprehensive model of political violence across 73 nations. Rather than making only unidirectional assumptions about causal relationships between variables, we apply non-recursive techniques where they seem appropriate. Finally, Chapter 7 is devoted to overall evaluation of the refined model and to spelling out the implications of further research.

PART ONE:

THEORETICAL PERSPECTIVES, HYPOTHESES, AND EMPIRICAL RESEARCH

Three different notions have been presented in existing theoretical and empirical literature on political violence. First, socioeconomic conditions, social differentiation and political structure have independent impacts on political violence. Second, the effect of socioeconomic and cultural conditions is mediated by structural conditions in the political system itself. Third, the effect of political structure is spurious--that is, the relationship between political structure and political violence is purely a function of the former's relationship to socioeconomic and cultural conditions. Theoretical propositions and speculations are divided in this chapter into four sections, which relate to the types of explanatory variables seen as underlying political violence: modernization and socioeconomic change; social idfferentiation and economic inequality; and political structure. This analytic division is admittedly somewhat arbitrary, but it is based on similarities between the explanatory variables presented in each approach.

An empirical assessment of theories of the complex process of political violence involves the specification, first, of relationships between political violence and independent variables, and, second, of relationships among independent variables. In each section that follows, hypotheses suggesting a direct link to political violence will be designated by a two-number prefix with a heading letter "H"

(e.g., H1.1)--the first number indicating chapter number and the second indicating hypothesis number. Competing views with respect to a hypothesis are assigned an alphabetic notation following the hypothesis number (e.g., H.1.1a and H1.1b). The relationships that are posited between independent variables are designated by "IV" headings (e.g., IV1.1).

In the first two chapters (i.e., modernization and socioeconomic change, and social differentiation and economic inequality), preliminary partial models including the major explanatory variables are drawn from the hypotheses suggesting relationships among exogenous, predetermined, and final endogenous variables. Then, findings of these partial models will be elaborated on by building some more inclusive, but still partial, models linking non-political variables and political factors to political violence. For example, a number of variables which were hypothesized to have impacts on the non-political determinants of political violence but which were found to have no such significant effects, will be eliminated in the model specifications, if they are not assumed to have direct relationships to political factors or political violence.

At this stage of simplification, a large number of variables are separated into several blocks that can be isolated in order to evaluate an explanatory model--a technique that is termed "block recursive." This research strategy helps to simplify hypotheses-testing and incremental model-building processes. As Blalock (1969 :73) notes,

the notion of "block recursive" is useful "to clarify relationships among different theories," and thus "to formulate preliminary 'grand theories' involving large numbers of variables separated into several blocks." In this way, we can concentrate on the relationships between different blocks as well as delimit the numbers of variables that are theoretically and empirically insignificant.

For this study, David Easton's (1965a, 1965b) systems model, which focuses on the interaction of a political system with its environment, provides a conceptual foundation for clarifying the relationship among different theoretical propositions concerning political violence. As presented in Figure 2.1, the Eastonian model consists of two relational variables (i.e., inputs and feedback) and three component variables (i.e., political systems, environment, and outputs). The inputs from the environment take the form of either demands or supports. The outputs are authoritative decisions of the political system allocating values for society. These outputs, in turn, determine the nature of inputs. The environment includes all elements external to the system such as the intra- and extra-societal settings. Easton does not precisely specify the elements or relationships occuring within "political system" block. Thus, as Mayer (1972: 132) points out, "the political system can refer to any format of governmental structure." The Eastonian paradigm considers that a dynamic equilibrium between the inputs and outputs is essential for system survival. In turn, a disequilibrium between them may lead to system breakdown.

This systems paradigm allows us to organize a large number of relevant variables deriving from diverse theoretical perspectives into

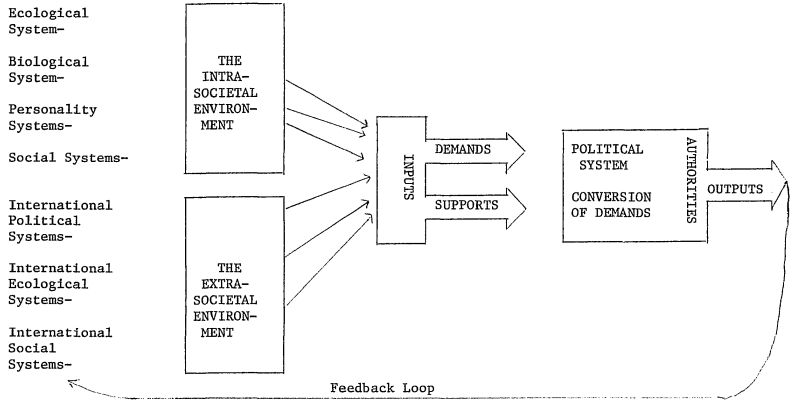


Figure 2.1: Eastonian Scheme.

Source: Adapted from Talcott Parsons, "On the Concept of Political Power," Proceedings of the American Philosophical Society, Vol. 107 (June 1963), p. 260.

a simplified form (see Table 2.1), and thus to build a basis of a more complex empirical theory. The "intra-societal environment" dimension is divided into several blocks in order to tap their indirect causal relationships mediated by political structure, and spurious relationships of political structure to political violence. Partial models including political structure are based upon consideration of the possibility of indirect and spurious relationships. This procedure helps to clarify the nature of relationships between blocks, and thus diverse perspectives on political violence will eclectically converge into an overall model.

Table 2.1: Groupings of Variables into Different Blocks

Block No.	Title of Block	Component Variables*
I.	The External-Societal Environment	
	1. Economic Dependence	Economic Dependence
II.	The Intra-Societal Environment	
	2. Socioeconomic Development	Economic Development Social Mobilization
	3. Socioeconomic Change	Rate of Economic Growth Communication Change Urbanization Change Improvement of Human Resources
	4. Cultural Heterogeneity	Cultural Heterogeneity Political Separatism
	5. Social Inequality	Opportunity for social mobility Economic Inequality
III.	Political System	
	6. Political Structure	Political Institutionalization Regime Coercive Potential Elite Leftism
IV.	Output	
	7. Welfare Statism	Welfare Statism
	8. Structure Imbalance	Political-Social Imbalance
V.	Final Endogenous Variables	
	9. Political Violence	Collective Protest Violent Power Transfers Deaths from Domestic Violence Regime Coercion

*Operationalization of these variables will be discussed in Chapter 5.

CHAPTER II

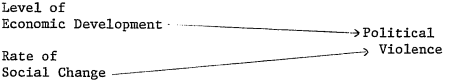
MOBILIZATION, SOCIOECONOMIC CHANGE, AND POLITICAL VIOLENCE

Most prominent theories of political violence focus on certain social conditions that are seen as bringing about structural and psychological strains within society. Modernization, as a process of large-scale social change, is commonly thought to introduce such strains by uprooting and dislocating social, cultural, economic, and political institutions and processes of long standing. Long ago, Durkheim argued that disruption of established communal life led to both the growth of industrial civilization and anomie (rootlessness and normlessness). Anomie, discontent, and unrest among those who have been dislocated from their native communities and from their families, the development of rising but unsatisfied expectations, and unemployment and underemployment in the industrial centers are all seen as the effects of socio-demographic change in the process of early modernization (Durkheim, 1964).

Modernization is also said to produce social disorganization by weakening the hold of long-established values and traditions and by generating a new set of expectations to which people have to adjust. Moreover, modernization can be seen as creating tension and competition among diverse cultural elites or between the traditional and modern elites. Political changes associated with the modernization

process involve the spread of mass political participation and the articulation of various social groups into more or less commonly accepted institutional frameworks. These growing interactions between different groups and classes with potentially conflicting interests may well increase social and political tensions and may also serve to alienate various groups from the political system. Moreover, these conflicting group interests may be closely tied to ideological interests, which means that such conflicts may challenge the very existence of political institutions. Thus, a prevalent theme is that modernization brings about the disruption and disorganization of old patterns and frequently is accompanied by anomie, discontent, disorientation, rising expectations, and value conflict--which are ultimately expressed in an outburst of violence.

In the theoretical literature, two different perspectives have been presented on the modernization-violence relationship. Diagrammatically, these perspectives can be specified in the following way:



Most modernization theorists content that political violence should be closely linked to rate of social change; others believe that the level of economic development, which is conceived as a key component of the general process of modernization, is an important factor underlying the scope and intensity of political violence.

Socioeconomic Change

Most theories of political violence place a great deal of emphasis on the impact of socioeconomic change. According to Smelser (1963) and Sorokin (1957), rapid transformation of socioeconomic and cultural systems is a major source of internal disturbances and structural strains. More concretely, Dahrendorf (1959) and Olson (1963) have argued that rapid economic change leads to political instability, and Moore (1966) and Weiner (1960) have focused on the destabilizing effects of rapid urbanization. Explicit in all these formations is the notion that discontinuities and dislocations accompanying extensive social change are the primary conditions leading to political violence. Beyond this general notion, however, these explanations are extremely divsrse.

Kornhauser (1959: 24) contends that rapid urbanization and industrialization have politically destablizing effects because they atomize large segments of the population. This atomization follows from the destruction of intermediate organizations and institutions that bind people to the existing social order--a process which produces the conditions of "mass politics," in which "large numbers of people engage in political activity outside of the procedures and rules instigated by a society to govern action" (see also Olson, 1963; Eisenstadt, 1966). Unrest, anomie, and alienation also provide a favorable condition for extremist movements that challenge the existing social order (Olson, 1963; Weiner, 1960; Smelser, 1963). Moreover, extensive social change increases discontent and frustration among

"politically relevant strata" because, although it generates a new set of attitudes, expectations and aspirations, there is likely to be a wide gap between reality and this "revolution of rising expectations" (Lerner, 1958; Deutsch, 1961; Davies, 1962, 1969).

Moreover, the process of modernization almost inevitably expands the scope of political participation. However, growing interaction and mutual interdependence between groups also increase intergroup tensions and conflicts. Olson (1963) believes that rapid economic growth frequently increases the numbers of economic "losers" and thus creates growing conflicts between "losers" and "gainers" (see also Mack and Snyder, 1957). Potentials for group conflict are also produced by disruptions of the old patterns of social and cultural systems, since some cultural groups are more advantaged than others by the process of social change. Finally, those who are most greatly disadvantaged by rapid change are prone to become alienated and to join destabilizing extremist movements (Eisenstadt, 1966).

Perhaps the best example of this line of reasoning is Deutsch's (1961) social mobilization framework. Social mobilization in Deutsch's terms subsumes several interrelated processes of social change which affect the quality of life as well as residential, occupational, and social settings, and attitudinal and behavioral patterns. The concept of social mobilization, which is defined as "the process in which major clusters of old social, economic and psychological commitments are eroded and broken and people become available for new patterns of socialization and behaviors," incorporates two distinctive stages of

social change: (1) the stage of "uprooting or breaking away from old settings, habits and commitment"; and (2) the induction of "mobilized persons into some relatively stable new patterns of group membership, organization and commitment" (Deutsch, 1961: 494).

Deutsch believes that social mobilization brings about a change in the quality of politics, because rising aspirations and expectations engendered by social mobilization require a greater scope of government services and functions, especially those relating to the quality of life (such as living conditions and social welfare). Moreover, social mobilization inevitably weakens the hold of traditional values and organizations and accordingly requires new patterns of organizations, which can provide a dependable social setting for the individuals uprooted or alienated from their traditional communities. However, rapid rates of social mobilization are considered politically destabilizing because they trigger intensified demands for change which challenge the viability of the political system and cause a critical problem in direct communications between government and uprooted individuals (Deutsch, 1961; Huntington, 1968; von Vorys, 1967; Riggs, 1968).

There are, then, any number of subtly different perspectives concerning the impact of socioeconomic change on political violence, but these perspectives all converge into a hypotheses that is simple and direct:

H2.1: The higher the rates of social mobilization and economic growth, the higher the level of political violence.

Empirical evidence concerning these relationships is quite diverse. Working with a sample of 84 nations at mid-twentieth century, Feierabend, Feierabend and Nesvold (1969a) concluded on the basis of a cross-tabular analysis that there is a positive linear relationship between a composite measure of social change and political instability. The correlational analysis by the Feierabends with Conroe (1969b) came to much the same conclusion in their 84-nation study for the period from 1948 to 1960. In their study of ten affluent nations, on the other hand, Schneider and Schneider (1971) found a moderately positive relationship between rapid social mobilization and political violence, but this relationship disappeared when the effects of political institutionalization and economic development were controlled. A recent study by Hibbs (1973) provides even less support for the idea that political violence is a function of social change. Hibbs' 108-nation study regressed two dimensions of political violence (i.e., collective protest, and internal war) on social change (measured by change in urbanization rate) and population size, but the contribution of change in urbanization proved to be negligible. In contrast, Yough and Sigelman's (1976) study of 61 less developed nations revealed a negative relationship between a composite measure of social mobilization rate and three dimensions of political violence (i.e., collective protest, internal war, and power transfers). However, Yough and Sigelman found that negative impact of rapid social change is uniformly modest, and that the strength of these relationships varied across the three types of political violence.

Empirical research has been more interested in testing the destabilizing impact of rapid economic growth. Contrary to the theoretical speculations offered above, Alker and Russett (1964) found in their 33-nation study that levels of political unrest are strongly and negatively associated with rate of change in GNP per capita (during 1950 to 1960). Similarly, Bwy's (1968) comparison of Latin America nations also concluded that the level of both organized and anomic violence vary inversely with the annual rate of growth of GNP per capita (1950-59). Feierabend, Feierabend and Nesvold (1969a) reported that political instability was likely to decrease as the rate of economic growth increases--a conclusion replicated by Feierabend, Feierabend with Nesvold (1969b), for a different time period. Flanigan and Fogelman's (1970) longitudinal analysis for the period from 1800 to 1960 also found that domestic violence varies negatively with the rate of economic growth. On the other hand, Gurr and Ruttenberg (1967) in their 119-nation study found no relationship between civil violence and growth rate in per capita income, 1953-62. Hibbs (1973) was also unable to find any significant relationship between rapid economic growth and both collective protest and internal war. In their study of fourteen nations which experienced successful revolutions during 1955-60, however, Tanter and Midlarsky (1967) concluded that the rate of change in GNP per capita has a moderate positive impact on deaths from domestic group violence.

In sum, contradictory findings have been presented in the empirical research literature on the relationship between socioeconomic

change and political violence: some report a positive linear relationship, others contend that the relationship is negative and still others find no appreciable relationship in either direction. A mass of empirical analysis notwithstanding, the status of this particular part of the model is still very much in doubt.

Economic Development

The idea that the level of economic development is linked with political violence derives in large part from theoretical speculations in the end-of-ideology tradition, which focuses on new socioeconomic realities and their political implications in Western nations. A central premise of the end-of-ideology thesis is that political conflicts in the early stage of industrialization are deeply rooted in continuing struggles over the distribution of wealth, the expansion of political rights, and the collective bargaining power of the lower strata, particularly the working class (Lipset, 1960). But political conflicts are said to moderated in more affluent societies where the problems associated with early industrialization are seen as "solved" (see Rejai, 1971; Lipset, 1960).

In this framework, the social and cultural conditions associated with early industrialization introduce individuals to new life styles that are sharply opposed to habits and values associated with traditional occupations in agriculture and handcraft (Eisenstadt, 1966; Blumer, 1969-70). Kerr, Dunlop, Harbison, and Myers (1964; 30) observed a relationship between discontent among workers and their lack

of familiarity with the patterns of production associated with industrialization:

> The partially committed industrial workers, with strong ties to the extended family and village, unaccustomed to urban life and to the discipline and mores of the factory, are more likely to reflect open revolt against industrial life than the seasoned worker more familiar with the ways of the factory, more understanding of the reasons for the web of factory rules.

Thus, the discontent of workers and outbursts of violent expressions are greatest in early industrialization. However, political violence and conflict are seen as declining in industrial and post-industrial societies, where the workers are not only more accustomed to industrialization, but also have been induced into relatively enduring patterns of group membership and organization. Such organizations, e.g., labor unions, are seen as creating "a mechanism for the expression of conflict and perhaps more important integrating the workers into the body politic by giving them a legitimate means of obtaining their wants" (Lipset, 1959).

Scarce values occasion social inequality, which has been considered as a main source of political violence. Moreover, inequality helps to determine class consciousness--a sense of belonging together --and thereby to encourage collective action. However, political violence is seen as being gradually moderated in post-industrial societies with the achievement of greater equality. The impact of economic and technological progress on economic equality has been approached in several ways. Kerr and his associates (1964) argue that economic growth primarily creates a large, relatively homogeneous

middle class by expanding the division of labor. Lenski (1966) contends that economic inequality is reduced through the production of a large surplus, which alleviates scarcity. Lipset (1960) believes that the collective bargaining power of working class organizations has an impact on obtaining a larger share of material wealth for the working class (see also Ahluwalia, 1976).

According to this perspective, greater equality reduces differences in status, outlook, and life style, and thereby undermines class consciousness. Where rigid class distinctions do not appear, the interests of various groups are more harmonious. Thus lower class has a stake in preserving and reforming the political system, and manifests higher levels of system support than in highly stratified systems. Members of the large middle class find themselves cross-pressured between a desire for upward mobility for themselves and their children and the relatively privileged status they enjoy. The upper class remains more moderate politically where it is clear that its continued prosperity is not fundamentally threatened (Lipset, 1960; Duverger, 1964; Lenski, 1966). Thus, the growth of social affluence reduces political violence by integrating all classes into the existing frameworks of politics. Political competition develops within the framework of the political system rather than against it. Although this perspective also suggests that additional factors such as social mobility, class inequality and political organization may have mediating effects (possibilities discussed below), an initial hypothesis to be tested is that:

H2.2: The higher the level of economic development, the lower the level of political violence.

It has sometimes been argued, however, that the relationship between the level of social affluence and political violence is curvilinear. Feierabend, Feierabend and Nesvold (1969a) contend that political violence is least likely to occur at the low and high levels of development. This argument embodies the basic axiom of the frustration-aggression theory, the idea that the greater the frustration, the grater the intensity of aggression. Accordingly, system frustration (measured by the ratio between want formation and want satisfaction) should be low both in traditional societies (where both expectations and their actual attainment are low) and in modern societies (where expectations are high and the level of attainment is also high). However, system frustration is apt to be high at the middle level of development, because exposure to modernity leads to rising expectations, but actual system performance is likely to be relatively poor (see Lerner, 1958). Thus, an alternative hypothesis to be tested is that the relationship between economic development and political violence resembles an inverse V-curve:

H2.2a: Political violence is greater in societies at middle levels of economic development than in societies at either low or high levels of development.

Previous research findings on the economic development-political violence relationship are unsettled. Again, some researchers have confirmed curvilinear versions of the relationship; others have supported the idea of a linear (either positive or negative) relationship; still others reported that economic development has no independent

impact on political violence. In a sample of 74 nations, Russett (1964) found that deaths from domestic group violence per million population 1950-62) was curvilinearly related to Gross National Product per capita (1957). This finding was replicated by Feierabend, Feierabend and Nesvold's (1969a) cross-tabular analysis, which discovered a moderate curvilinear relationship between political instability (1948-65) and level of economic development. That is, political instability is higher in transitional nations than in traditional nations, but is substantially lower in the most modern nations. A subsequent study by the Feierabends with Nesvold (1969b) reached much the same conclusion. Working with a sample of 108 nations, Hibbs (1973) provided strong support for the curvilinear relationship between energy consumption per capita (1960) and two dimensions of political violence (i.e., collective protest and internal war).

Although the direction of relationship involves controversy some previous researchers have contended that economic development is linearly related to political violence. In their longitudinal analysis of the time period 1800-1960, Flanigan and Fogelman (1971) found that domestic violence is negatively but linearly related to Gross National Product per capita and percentage of the labor force in agriculture. Sigelman and Simpson's (1977) comparison of 49 nations concluded that the impact of economic development (measured by Gross National Product per capita) on internal war was strong and inverse. In contrast, Yough and Sigelman's (1976) cross-national study of 61 less-developed nations suggested that the level of economic development should be positively related to political violence. Yough and

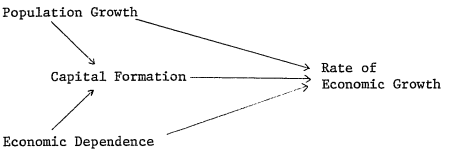
Sigelman regressed three dimensions of political violence (collective protest, internal war, and power transfers) on a set of explanatory variables including population size, rate of social mobilization, economic development, political institutionalization, and political-social imbalance. These factors together accounted for 46.6 percent of the variance in collective protest, and the contribution of economic development proved to be substantial and positive. However, the contribution of economic development was considerably weaker in the case of internal war.

In the same study, Yough and Sigelman (1976) found that level of economic development is not related to a more severe type of political violence--power transfers. Other quantitative studies have also reported that level of economic development has significant independent impact on political violence. Hudson's (1970) 63-nation study suggested that government instability tends to be associated with level of economic development but he found no significant relationship between civil disorders and economic development. In testing Huntington's approach to political violence, Schneider and Schneider (1971) reported that level of economic development accounted for 40% of the variance in political violence, but this relationship disappeared when the effects of other determinants were controlled.

Causal Links between Exogenous Variables and Economic Growth

We have now reviewed broad theoretical perspectives concerning the ideas that rapid change begets political violence and that violence

is muted by the attainment of affluence. In addition, since this study seeks to test a comprehensive model of political violence, we want to take a step back causally to the determinants of the rate of economic development. These determinants include population growth rate, economic dependence, and capital formation, all of which are commonly conceived to affect rate of economic development. Moreover, many theorists have suggested that these same factors are key explanatory variables in relation to economic inequality. Thus, we need to attend briefly to the direct and indirect relationships among these factors. These relationships might be pictured in the following way:



Capital Formation

Developmental economists generally agree that accumulating capital to increase future output is one of the major means of fostering economic development (Meier, 1964; Adelman and Morris, 1973; Chenery, Ahluwalia, Bell, Duloy, and Jolly, 1974). Economic growth necessitates investment; capital accumulates through increased investment; and ensuing capital accumulation stimulates further industrial development. Thus, a higher rate of capital formation usually leads

to a rapid growth of productivity and income. An obvious hypothesis is that:

IV2.1: The higher the level of capital formation, the higher the rate of economic growth.

Working with 74 less developed nations, Adelman and Morris (1967) reported that the correlation between rate of growth of real per capita GNP, 1950/51-1963/64 and gross investment rate was .63. That suggests that investment rate is a major factor affecting to rapid economic growth. In a factor analysis of 41 socioeconomic and political indicators, Adelman and Morris (1967) found that structure of foreign trade (a composite measure of the percentage of total exports accounted for by manufactured goods and the precentage of total exports accounted for by the four leading exports and the two leading exports) and gross investment rate formed a common dimension with economic growth rate. This result suggests a close link between gross investment rate and economic growth rate. In a study of 28 nations, Chase-Dunn (1975) regressed two measures of rate of economic growth (GNP per capita and kilowatt hours per capita) on domestic capital formation, separately, in conjunction with different measures of economic dependence. The effect of domestic capital formation on change in GNP per capita proved to be strong and positive in conjunction with investment dependence, but its effect on change in kilowatt hours per capita was found to be negligible. However, domestic capital formation did not contribute to both measures of rate of economic growth in conjunction with debt dependence.

Population Growth Rates

It is well known that rapid population growth is a phenomenon of less developed systems. That is, population grows more rapidly in poor nations and the more traditional sectors of modern nations (see Gill, 1967; Higgins, 1964; Adelman and Morris, 1973; Ahluwalia and Chenery, 1974). As Ahluwalia and Chenery (1974: 218) suggest, a high rate of population growth leads to a lower rate of growth of per capita income and of domestic saving among the poor and middle income groups. Rapid population growth, primarily associated with poverty groups, is likely to affect domestic savings because such groups are more likely to consume--and thus less apt to save--family income. According to the economic theory of dualistic development (see Higgins, 1964; Gill, 1967), a high rate of population growth, ceteris paribus, is likely to perpetuate the phenomenon of "surplus labor" (or "disguised unemployment"). That is, parts of the labor force are surplus to the extent that some labor can be withdrawn from them without reducing volume of total output; but, for lack of alternative employment opportunities in other sectors, the bulk of the increased population remain in these sectors. In technical terms, the marginal productivity of labor in overpopulated traditional sectors is believed to be almost zero. Thus, the additional labor force supplied by rapid population growth in such "labor surplus" economies contributes a declining per capita output. From this perspective, our hypothesis concerns the direct effect of population growth on domestic capital formation and economic growth rate.

IV2.2: The higher the rate of population growth, the lower the rate of economic growth and domestic capital formation.

Alternatively, Ahluwalia and Chenery (1974) argue that the growth of population may affect the rate of economic growth through its impact on the rate of savings. Since the growth in one area is accompanied with greater demand for its related area, the modern industrial sector of economy grows more than the traditional sectors. Thereby, the expansion of the modern sector is believed to open up employment opportunities, by which the growing "surplus labor" in the traditional sectors can be absorbed into productive modern sector (Gill, 1967). The continuous absorption of additional labor through productive investment thus makes it easier to raise the productivity of the traditional sectors. In summary, rapid population growth obviously lessens any increase in savings, which is one of the major sources of capital investment, but its negative impacts on the rate of economic growth can be minimized by a high level of capital accumulation for investment. From this perspective, an alternative hypothesis follows:

IV2.2a: There is no relationship between population growth and economic growth, controlling for domestic capital formation.

Economic Dependence

The effect of economic dependence on economic growth is central to neo-Marxists, who focus on the impact of international forces on the domestic political systems. The world production system is the analytic unit of neo-Marxist theory, in which nations are grouped

into the "core" and "periphery" on the basis of their degree of dominance and influence over production in the world division of labor. The capitalist mode of production is to maximize profits, but the market system in capitalism involves risks and uncertainties (Wallerstein, 1974; Greenberg, 1974). The basic instrument by which dominant economic actors seek to stabilize their environment and to guarantee themselves substantial profits is monopolization--controlling the price of the raw materials they buy, assuring the sources of raw materials, and expanding markets by means of direct investment. Neo-Marxist theory postulates that the global division of labor and its corresponding trade structure basically reflect this effort to secure profits and markets for the core nations.

Thus, a specific functional role assigned to the periphery in the world capitalist system is the production of raw materials for export, with the core nations concentrating on the production of manufactured goods. Accordingly, periphery economies are largely "complementary" to those of the core, and trade between the core and periphery is characterized as "vertical interaction" (or "unequal exchange") (Galtung, 1971; Mandel, 1975). Emmanuel (1972) and Mandel (1975: 53) also argue that different wage structures and attendant labor productivity differentials determine "unequal exchange"--"an exchange of less against more labor, which inevitably leads to a drain, an outward flow of value and capital from [the periphery] to the advantage of [the core]." This transfer of surplus value (i.e., something left over when production cost is subtracted from the value of

a man-made object) to the core is a central concern of neo-Marxist theory.

Exploitation of the periphery by the core, which means that the core appropriates the surplus value generated by the cheap labor and indigenous resources of the periphery, results from this "unequal" exchange. To neo-Marxist theorists (e.g., Myrdal, 1957; Mandel, 1975; Galtung, 1971), the fact that production in the periphery is concentrated in raw materials generates "backwash" effects, in which resources are gradually drained away, rather than "spread" effects, by which growth in one sector stimulates growth in other sectors. Since the channeling of profits and interest to the core drains the surplus value generated by the cheap labor of the periphery, "backwash" effects also stem from the penetration of the foreign capital and dependence on foreign credits. Such backwash effects reduce the domestic marginal propensity to accumulate capital and distort the periphery's potential for industrialization (Frank, 1969; Emmanuel, 1972; Griffin and Enos, 1970; Mandel, 1975). From this perspective, we hypothesize the existence of a direct link between economic dependence and domestic capital accumulation:

IV2.4: The higher the economic dependence, the lower the level of domestic capital formation.

Despite the wealth of speculation about the impact of economic dependence on domestic economic systems, empirical evidence concerning the relationship between economic dependence and capital formation is scarce. Adelman and Morris' (1967) study of 74 less-developed nations reported that structure of foreign trade (measured in terms of the

percentage of total exports accounted for by manufactured goods and by the four leading exports and two leading exports) is weakly but positively related to the gross investment rate (r = .19). This result tends to support the argument of comparative advantage, suggesting that concentration of export commodities in international trade has a positive effect on domestic economic systems. In contrast, some previous research provides support for the idea that economic dependence is inversely related to domestic capital formation. For example, in a cross-national study of 101 nations at three different points in time, Chenery and Syrquin (1975) regressed domestic savings and investment on Gross National Product (logged) and its squared term both with and without capital inflows. Domestic savings in conjunction with capital inflows provided greater overall predictive power than without it (R^2 changed from .320 to .710). The effect of capital inflows was found to be strongly inverse. However, its effect on investment was somewhat different. Chenery and Syrquin found that investment in capital inflows did not strongly improve predictive power (R^2 changed from .373 to .402). Nonetheless, the contribution of capital inflows proved to be marginally significant and inverse. These results provided some evidence that economic dependence is inversely related to domestic capital formation.

Neo-Marxists also contend that economic dependence retards further economic development. Central to dependency theory is the idea that the world division of labor creates obstacles to rapid economic growth in the periphery nations by impeding the structural

differentiation of their economies (Galtung, 1971; Hirschman, 1958; Young, 1971; Amin, 1974; Beckford, 1971; Frank, 1969; Dos Santos, 1970); Singer, 1971). As mentioned earlier, periphery nations are relegated in the international system to the production of raw materials for export. This does not permit a "spread" effect to occur, and periphery economies accordingly grow more slowly than those of the core nations (Hirschman, 1958; Galtung, 1971). Neo-Marxists do not deny that foreign investment has short-range positive effects, such as increases in national income, employment, and social overhead capital. In the long run, however, they contend that the penetration of foreign capital distorts economic growth in the periphery by directly "linking the different areas and sectors of the periphery countries with external world rather than with one another" (Chase-Dunn, 1975: 723; see also Ehrensaft, 1971; Frank, 1969; Singer, 1971). From this perspective, our hypotheses concerns a direct link between economic dependence and economic growth:

IV2.5: The greater the economic dependence, the lower the rate of economic growth.

Alternatively,

IV2.5a: The greater the economic dependence, the higher the rate of economic growth.

Empirical evidence on this relationship is quite diverse. Adelman and Morris (1967) found that the structure of foreign trade was moderately and positively related to rate of growth of real per capita GNP, 1950/51 - 1963/64 (r = .34). Similarly, Szymanski's (1972) comparison of Latin American nations reported that investment

dependence was positively related to change in GNP per capita from 1960 to 1968. Although they expected to find strongly inverse relationships between economic dependence and rate of economic growth, many other researchers have come to much the same conclusion. For example, Vengroff's (1975) cross-national study of 27 African nations reported that a composite measure of economic dependence was likely to vary positively with a diverse set of measures of rate of economic growth. McGowan's (1975) study of a sample of Black African nations and Kaufman, Chernotsky and Geller's (1975) study of Latin American nations concluded that the proposition that economic dependence is inversely associated with rapid economic growth is simply not supported by empirical evidence.

However, some previous studies have presented support for the central proposition of dependency theory. Working with 38 nations, Chase-Dunn (1975) regressed changes in two measures of economic growth on different measures of economic dependence. Chase-Dunn found that investment dependence has negative effects on change in GNP per capita. But there was no appreciable relationship between debt dependence and changes in level of economic development. In sample of 84 nations, Walleri (1975) provided strong evidence that economic dependence undermines rapid growth of the economy in the third world. Ragin and Delacroix (1977) in a 101-nation study produced mixed results. That is, primary products specialization proved to have a strong, inverse effect on changes in GNP per capita, whereas trade intensity (measured by a ratio between trade and GNP) had no appreciable relationship to

change in GNP per capita. To enable a more rigorous examination of the dependency theory, Ragin and Delacroix grouped nations based on level of economic development. Contrary to the expectation that there should be stronger support for dependency theory in less-developed nations than in transitional and in developed nations, Ragin and Delacroix found no relationship between economic dependence and change in GNP per capita.

The Direct Link Between Economic Dependence and Political Violence

It has been argued that change in the pattern of foreign trade is likely to be associated with disequilibriated social systems (e.g., Johnson, 1966; Brinton, 1952). However, little attention has been given to the relationship between economic dependence and political violence. Some interesting theoretical speculations about this relationship have, however, been presented by Gurr (1968) and Galtung (1964; 1971). Gurr's (1968) psychological approach to civil strife argues that strife varies directly with the intensity of relative deprivation. Gurr (1968) considers economic dependence (as measured by dependence on foreign private capital and trends in trade value) to be a chronic source of relative deprivation in "an era characterized by economic nationalism."

The link between economic dependence and aggressive behavior is a more central concern in Galtung's (1964; 1971) theory. As mentioned above (see hypothesis IV1.4), neo-Marxists believe that economic dependence inhibits structural differentiation and rapid economic

growth in the peripheral nations. Moreover, economic dependence shapes a class structure consisting of a small but dominant, trade-oriented elite, a weak manufacturing and industrial class, and an underpaid working class. The exploitation of workers continues through repression by the dominant class, whose interests are tied economically and politically to those of the core. Also the dominant class is likely to prevent the expansion of the manufacturing and industrial sectors, which need protection through the introduction of tariffs. Consequently, economic dependence accentuates mass resentment and group conflict. Galtung (1964) argues that economic dependence is a major source of disequilibriated social systems, where aggression is most likely to occur. Our hypothesis, then, concerns the direct effect of economic dependence on political violence.

H2.3: The higher the level of economic dependence, the higher the level of political violence.

Very little research has spoken even indirectly to the linkage between economic dependence and political violence. Working with a sample of 114 polities, Gurr (1968) investigated the relationship between relative deprivation and three dimensions of political violence (i.e., conspiracy, internal war, and turmoil). Moderate correlations emerged between "short-term" deprivation (a broad concept including inter alia, trends in trade value (1960-63 compared with 1950-60, and trends in trade value, 1957-60 compared with 1950-1960) and civil strife (r's ranging from .28 to .46). Short-term deprivation alone accounted for 23% of the variance in the total magnitude of civil strife. The association of "persisting" deprivation (again,

a broad concept including, inter alia, dependence on private foreign capital) with civil strife is somewhat weaker than that of short-term deprivation, but its effect was also moderate (r's ranging from .27 to .29). 13% of the variance in the total magnitude of civil strife was accounted by persisting deprivation. Moreover, Gurr found that short-term and persisting deprivation had the direct effect to civil strife even if the effect of other independent variables in his model was controlled. In short, Gurr's research provides at least some support for the idea that economic dependence as a source of relative deprivation is closely associated with political violence.

Specification of a Partial Model

From the overview of theoretical literature to this point, we can now specify a partial model of political violence as presented in Figure 2.1. The relationships in this partial model must be considered provisional. They will be incorporated into a even more comprehensive and complex model of political violence in a later section.

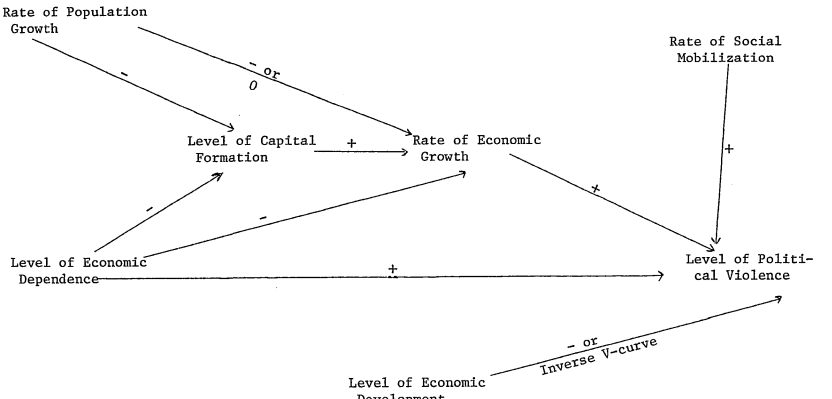


Figure 2.2: A Partial Model Linking Political Violence to Rates of Socioeconomic Change and Level of Economic Development.

CHAPTER III

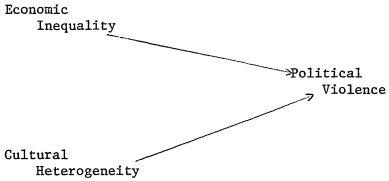
SOCIAL STRATIFICATION, ECONOMIC INEQUALITY, AND POLITICAL VIOLENCE

Inequality in the distribution of rewards constitutes the basis of a stratified social order. All societies are stratified, and struggles for rewards occur in every human society. Of course, stratification can be based on factors other than economic position. Group differentiation on grounds of religion, ethnicity, and other cultural dimensions can also be considered particular forms of social stratification (Lopreato and Lewis, 1974: 5).

The political implications of class structure and group differentation depend on the extent to which and the manner in which struggles over social distance and inequality are resolved. Aristotle helped to establish the notion that persisting group differentiations and inequalities are an essential basis of revolution. Explicit in this perspective is the proposition that the underprivileged revolt in order to improve their position, while the privileged fight to defend their own status (Aristotle; Tilly, 1969; Gurr, 1968; Duverger, 1964; Coser, 1957). Thus, conflict is seen as collective action by one class against other. Such conflict takes various forms, ranging from collective bargaining to strikes, rebellion, civil war, and revolution. It also requires the spread of class consciousness, which is the basis of internal cohesion for common action.

Marx argued that class consciousness, which binds people together culturally into a cohesive whole, stems from class inequality. However, inequality may be a necessary condition for the emergence of class consciousness, but it is usually not seen as a sufficient condition. Conventional sociological thought (e.g., Weber, 1947; Pareto, Lipset, 1960; Dahrendorf, 1959) contend that many factors emerge or impede class consciousness and conflict. Important among these factors, as we shall see, are class-based organizations and social mobility.

In this section, we focus on the impacts of cultural differentiation, inequality, and related factors on political violence. The relationships between the major explanatory variables and political violence should be pictured in the following way:



1. Economic Inequality and Political Violence

The idea that the unequal distribution of wealth plays an essential part in political strife and violence is a central statement of Marxist materialism. The opening lines of the Communist Manifesto state "The history of all hitherto existing society is the history of class war," a view which undergirds the Marxist view of political

violence (Marx and Engels, 1955: 9). To Marxists, class structure is closely linked to inequality in the distribution of social wealth, which results from the private ownership of the means of production--that is, capital, machinery, land, and labor. The bourgeoisie, which holds a dominant position in capitalist systems, owns the means of production, while proletarians own no economic resources except their own labor. Marx explained political struggle and revolution in terms of social conditions emerging from the mode of ownership and the interaction between social classes.

Marx (1961: 95) believed that in capitalist societies, "the worker becomes poorer the more wealth he produces." To him, the absolute poverty of the working class was due to exploitation by the capitalist; that is, the capitalist appropriated a large part of the surplus value generated by the worker. Moreover, the state, as an instrument for the dominant classes to maintain their privileges, was seen as repressing the demands of the working class (Duverger, 1964; Greenberg, 1974). Thus, Marxists see the capitalist system perpetuating tremendous inequality in the distribution of wealth, which is a necessary condition for the emergence of class consciousness--a sense of belonging together to a social class. Polarization and antagonism between two hostile camps with conflicting interests is an essential motivating force in political strife. Although Marx's long-term view of evolution of society is much more complex, Marx essentially predicted that exploitation, repression, and rebellion would be inevitable consequences of inequality between social classes.

More recently, the conflict of interest due to inequalities between social classes has become a central theme of Galtung's "structural theory of aggression" (1964) and "structural violence" (1969, 1971), which concern aggressive behaviors by individuals, groups, and nations. Explicit in Galtung's neo-Marxist theory is the premise that the hierarchical position of an individual or group is a major source of aggression. He believes that economic dependence deeply aggravates the cleavages between the small export-oriented elite and the working class, and that inequality between social groups accelerates the disharmony or "conflict of interest" among groups. Since the oppressed challenge the regime in the name of justice and the privileged attempt to maintain order, group conflicts are characterized by the pursuit of incompatible goals concerning living conditions (1971: 81). Thus, inequality in the relations between groups leads to "rank-disequilibrium"--the condition in which an individual or group has relative advantages over others in the distribution of some valued goods. From this perspective, Galtung (1964) hypothesizes that "aggressive behavior is most likely to arise in social positions in rank-disequilibrium."

Similarly, Arendt (1963: 14-15) also attributes political violence to the existence of economic inequality:

> These overthrows and upheavals, prompted by interest, though they could not but be violent and full of bloodshed until a new order was established, depended on a distinction between poor and rich which itself was deemed to be as natural and unavoidable in the body politics as life is in the human body.

Thus, inequality is seen as producing tension between social classes, which results in challenges by the underprivileged against the

existing social order and oppression by the privileged elite in order to maintain it. Arendt contends that the intensity of class conflicts depends on the degree of inequality in the distribution of wealth. From all of these diverse perspectives, it follows that:

H3.1: The greater the extent of economic inequality the greater the level of political violence.

More recently, Nagel (1974) has proposed a more complex, curvilinear interpretation of the link between economic inequality and political violence. Nagel begins with the assumption that objective conditions (in this case, economic inequality) affect behavior through subjective comparisons. His interpretation is deduced from three interrelated premises derived from psychological theory. First, Nagel argues that the anger or grievance emanating from the perceived discrepancy between one's own objective condition and that of others, is a direct linear function of objective inequality. Second, the tendency to compare one's position with that of others decreases as differences between other's position and one's own increase--that is, individuals are less likely to compare themselves with persons outside their own economic stratum. Accordingly, the tendency to compare is inversely related to the extent of objective inequality. Finally, the extent of discontent following from perceived deprivation is a multiplicative function of the extent of grievance and the tendency to compare. Combining these three premises,* Nagel predicts that maximum discontents

*Nagel's inference is based on the following equations:

(1) $D = T \times G$,

where D = discontent due to inequality, T = the tendency to compare, and G = the grievance resulting from comparison.

are likely to occur at intermediate levels of inequality. Since discontent is a motivating state for aggression, the implication for political violence is that:

> H3.1a: The less extreme the level of equality or inequality, the greater the level of political violence.

Recently, a growing body of empirical research has tested the relationship between a variety of measures of inequality and political violence. Working with a sample of 47 nations, Russett (1964) reported low to moderate correlations between the Gini index of land inequality and three dimensions of political violence--political instability, violent political deaths, and internal war ($r = .33, .46, .29$, respectively). Russett's multivariate model included other explanatory variables such as per capita gross national product, percentage of labor force in agriculture, land tenancy, and land distribution, along with land inequality. Including these variables did enhance the explanatory power of the model, accounting for 50% of the variance in violent political deaths per 1,000,000 population. Also, land inequality proved to be the most powerful predictor among the independent variables.

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(2) $G = a_2 g$,
where g equals inequality, and a_2 is a coefficient. That is, grievances are a direct linear function of inequality.

(3) $T = 1 - a_1 g$,
where a_1 is a coefficient. That is, the tendency to compare is an inverse function of inequality.

(4) By substituting equations (2) and (3) for the terms in equation (1), $D = (1 - a_1 g)\, a_2 g = a_2 g - a_1 a_2 g^2$. That is, discontent is a curvilinear function of inequality.

Comparing land inequality in 10 nations which experienced successful revolutions during 1955-60 with that of 40 nations which did not experience successful revolutions, Tanter and Midlarsky (1967) concluded that land inequality is positively associated with revolution. Similarly, Grenier (1976) revealed in a sample of 52 nations a moderate relationship between land inequality and death rate ($r = .321$). Sinden's (1977a) 52-nation study reported moderate relationships between four measures of political violence (Feierabend's index of political instability, and Gurr's three indices of civil strife--conspiracy, turmoil and its total score) and land inequality ($r = .43, .51, .29, .47$, respectively).

Nagel's (1974) research on the land inequality-violence relationship produced mixed results. In the analysis of 26 Vietnamese provinces, Nagel presented evidence consistent with his curvilinear interpretations. However, Nagel was unable to replicate the curvilinear hypothesis in his cross-national analysis of 54 nations. His multivariate model regressed seven different indicators of political violence on a set of determinants which included Gross National Product per capita, the growth rate of per capita GNP, and the Gini index of land inequality. No relationship was found to be substantial. On one occasion, conspiracy tended to be curvilinearly related to land inequality, but the coefficient was only marginally significant. Even more troublesome, the nature of the curvilinear relationship was directly opposed to his expectation. That is, in Nagel's study conspiracy was likely to be higher in systems where land inequality was either extremely dispersed or concentrated.

These studies employed land inequality as a measure of economic inequality. Others (Parvin, 1973; Grenier, 1976; Sinden, 1977a, 1977b) employed sectoral income inequality. When he regressed political unrest (deaths from domestic group violence) on a set of socioeconomic variables (per capita income, per capita income growth, intersectoral income inequality, socioeconomic mobility, urbanization, and communication intensity), Parvin (1973) expected to find a strongly positive relationship between inequality and political unrest. Directly opposite to this expectation, however, Parvin found that sectoral income inequality was moderately but inversely related to political unrest. In contrast, Grenier (1976) found a strong positive impact of sectoral income inequality on death rate ($r = .552$, $N = 52$). The more recent research reported by Sinden (1977a), which found that sectoral income inequality was weakly and positively related to four measures of political violence, provides less support for this relationship. In a subsequent study, Sinden's (1977b) multivariate analysis of 59 nations revealed that the contribution of sectoral income inequality was in the expected direction but the coefficient was insignificant.

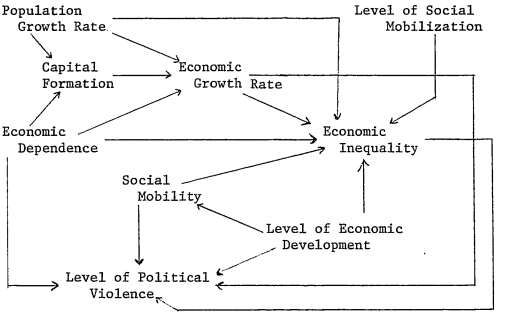
These empirical studies have employed land inequality or sectoral income inequality as a basic measure of economic inequality. But land inequality and sectoral income inequality may not be adequate measures of economic inequality. Focusing on inequality in land ownership obviously overlooks other economic bases of inequality. Sectoral inequality as a measure of the skewness in the distribution per worker product across economic sectors assumes that income within each sector

is equally distributed among economic actors within each sector. Accordingly, it does not capture the skewness in the distribution of income within sectors. Only one cross-national study (Sigelman and Simpson, 1977) of the inequality-violence relationship has employed personal income inequality. In a sample of 49 nations, Sigelman and Simpson (1977) presented moderate empirical evidence that personal income inequality is positively associated with internal war (combining with population size, $R^2 = .215$). Controlling, separately, for the effects of other explanatory factors (such as social mobility, cultural heterogeneity, affluence, and urbanization), however, Sigelman and Simpson concluded that there is only a weak--marginally significant--independent impact of inequality on political violence.

The Socioeconomic Determinants of Economic Inequality and Political Violence

The relationship between economic inequality and political violence may be obscured if the impact of other factors (both exogenous and predetermined endogenous variables) is not considered. Although it is impossible to unravel fully the comprehensive processes involved in determining the distribution of the economic product, we are able to consider certain factors that are linked to income inequality, including the population growth rate, social mobility, economic dependence, capital formation, social mobilization, economic development, and rate of economic growth. As we have seen above, many theoretical speculations also link some of these factors (i.e., economic growth rate,

economic dependence, economic development) directly to political violence. In addition, social mobility is also seen as having a direct impact on political violence. Thus, it is extremely interesting to test the direct impact of those exogenous variables, as well as their indirect effect, mediated by income inequality. The links between these factors can be pictured in the following way:



For analytic convenience, let us first review the direct relationship between social mobility and political violence and then review the relationship between these factors and economic inequality.

A. The Direct Link Between Social Mobility and Political Violence

It has long been central in the study of social stratification that the opportunity for social mobility has important socioeconomic and political consequences. However, the idea that political violence

is a direct function of the opportunity for social mobility has received little attention in the violence literature. At a general level, Lenski (1966: 86) argues that "the degree of class hostility will tend to vary inversely with the rate of upward mobility." The social dissatisfactions and frustrations engendered by blocked social mobility are more directly dealt with by Brinton (1952), whose theoretical framework incorporates the Marxist theory of class conflict into Pareto's conception of "elite circulation." Several decades ago, when he compared the class basis of the English, Russian, French, and American revolutions, Brinton found that the hindrance of elite circulation by the ruling elite accentuated "the feeling of frustration, of being excluded from good things," especially among middle class intellectuals and professionals. In these circumstances, the middle class ceased to support the ruling elite. To be sure, Brinton's primary concern was the impact of this middle-class discontent on revolution. However, he also observed that the frustration of the masses was organized into class action by the middle class. According to this view, a negligible chance for social mobility is thought to encourage anti-system frustration.

More recently, Gurr (1968: 294) has presented several sources of relative deprivation, which is defined as "actors' perceptions of discrepancy between their value expectations (the goods and conditions that they believe they are justifiably entitled) and their value capabilities (the amount of goods and conditions that they think they are able to get and keep)." To him, a negligible chance for social

mobility is an important source of relative deprivation. The opening up of chances for upward mobility may decrease anti-system frustrations, because "the impoverished masses in a highly stratified system may be less frustrated if there is a meaningful chance for them to improve their lot between the foreseeable future" (Sigelman and Simpson, 1977: 109). From these perspectives, our hypothesis concerns a direct link between social mobility and political violence.

H3.2: The lower the level of social mobility, the higher the level of political violence.

It has sometimes been argued, however, that the impact of social mobility on political violence is more complex than depicted in H2.3. Brinton's (1952) perspective on the long-run, dialectic interaction between social classes provides a basis for a curvilinear interpretation of the relationship between the rate of social mobility and political violence. As mentioned, a negligible chance for social mobility may serve to alienate the absolutely or relatively impoverished masses from the political system and provide a favorable condition for them to join collective action. On the other hand, rapid, growing strength of newly emerging classes can be profoundly destabilizing, because it engenders greater demand for changes in the social order (Brinton, 1952; Olson, 1963; Huntington, 1968). In turn, perceiving threats to their survival, the dominant political and economic elite may resort to repressive action to defend its social status and political power. There is a good deal of historical evidence for this argument. Despite its growing numbers and wealth in Europe during the nineteenth century, as Brinton (1952) and Olson (1963: 533) argue,

the middle class was a major force leading to political upheavals against the regime--a situation that Marx termed contradiction between the new distribution of economic power and the old distribution of social prestige and political power. Similarly, Moore (1966) and Huntington (1968) contend that rapidly growing strength of the urban bourgeoisie has been the crucial factor in the major democratic revolutions. Also, as the modernization literature suggests, rapid social mobility among the lower social strata, which is closely tied to mobility from lower-paid employment in the traditional sector to better-paid industrial employment, induces structural and psychological strains within society that are frequently associated with violence and radicalization of working class movement. From this perspective, our hypothesis is that:

H3.2a: Political violence is greater in societies at either low or high levels of social mobility than societies at middle levels of social mobility.

Very little research has spoken to the linkage between society's opportunity structure and political violence. Somewhat suggestive about this relationship, however, is the 66-nation study of Rummel, Sawyer, Tanter and Guetzkow (1967), who found that three educational variables were negatively correlated with revolution. In particular, primary school enrollment ratio per age group proved to be a powerful predictor of revolution ($r = -.84$). In a subsequent study of successful revolutions between 1955 and 1960, Tanter and Midlarsky (1967) reached much the same conclusion ($r = -.31$, $N=16$). Gurr (1968) also found that persisting deprivation (a broad concept including,

inter alia, lack of educational opportunity--measured by subtracting primary plus secondary school enrollment ratio) proved to be a major contributor to civil strife. Similarly, Parvin (1973) revealed that socioeconomic mobility (measured by the availability of educational opportunity) was inversely related to political unrest. In a recent study of 49 nations, Sigelman and Simpson (1977) revealed that the contribution of social mobility (the adjusted school enrollment ratio) to internal war was strong and inverse, combining with population size to produce a respectable R^2 of .483. Sigelman and Simpson also included the Gini index of personal income inequality along with the measure of social mobility, and social mobility proved to have a significant independent impact on internal war. In sum, empirical research strongly suggests that the opportunity for social mobility is inversely related to political violence.

B. The Socioeconomic Determinants of Economic Inequality

Rate of Population Growth

Rapid population growth is a major source of economic underdevelopment, and perhaps an effect of underdevelopment as well. Beyond its direct impact on economic growth rate, population growth is widely seen as having an impact on economic inequality (Ahluwalia, 1976; Ahluwalia and Chenery, 1964; Adelman and Morris, 1973). As Adelman and Morris (1973; 105) note, higher rates of population growth, other things being equal, would increase economic inequality because poor

families tend to have more children than rich families, and because they contribute less to family income than they consume. Thus population growth, which is generally associated with low income groups and the traditional sector, leads to economic inequality, because it contributes to the impoverishment of the low income group and to differences in mean income between the traditional and modern sectors. Moreover, rapid population growth would increase "surplus labor" in the traditional sectors and unemployment in the industrial sector because, despite attempts to increase industrial employment, the absorption rate of labor is insufficient, especially in early industrialization (Gill, 1967: 88; Higgins, 1964). Rapid growth of such "surplus labor," then, is likely to increase the skewness of income distribution by forcing a large portion of the work force to remain in low income employment and in less productive and already congested traditional sectors of the economy (Ahluwalia, 1976). Accordingly, our hypothesis concerns the direct effect of population growth on economic inequality:

IV3.1: The higher the rate of population growth, the greater the economic inequality.

Working with a diverse set of 66 nations, Ahluwalia's (1974) used multiple regression to explain income inequality in terms of a diverse set of variables such as GNP per capita, primary school enrollment, secondary school enrollment, population growth rate, GNP growth rate, and two dummy ("developed" and "socialist" countries). Ahluwalia found a significant inverse relationship between the income share of the lowest 40 percent and the rate of population growth. Jackman's (1975) 60-nation study replicated this hypothesis which, he found,

14 percent of the variance in income inequality was explained by population growth rate. Similarly, in a subsequent study of 62 nations, Ahluwalia (1976) observed that the rate of population growth considerably reduces the income shares of the lower and middle groups while it raises the income share of the top 20 percent. In contrast, Stack (1977) could not find any relationship between the rate of population growth and income inequality in a sample of 32 nations.

Economic Development

It has often been argued that level of economic development has a long-term or secular relationship with economic inequality, while economic growth rate has a short-term impact on economic inequality. However, the principal hypotheses linking intercountry variations in the distribution of wealth with levels or rates of economic development are complex and contradictory. Perhaps the best known hypothesis is that of a curvilinear relationship between the level of economic development and inequality, as advanced by Kuznets (1955, 1963) and Myrdal (1957). The inverse V-curve relationship was inferred from complex processes of change in socio-demographic and economic structures attendant on industrialization. In the early stage of industrialization, dislocation of the traditional low-income sectors results from greater economic impetus to the modern high-income sectors (Ahluwalia, 1976; Ahluwalia and Chenery, 1974). Accordingly, growth in the modern sectors may be far greater than in the traditional sectors and, as Myrdal (1957) argues, upward spirals of economic activity in expanding sectors are likely to induce downward spirals in stagnant sectors. These

inter-sector income differentials in the early stage of economic development produce a phase of increasing inequality (Ahluwalia, 1976: 131; Ahluwalia and Chenery, 1974).

Adelman and Morris (1973: 189) express a similar but more pessimistic view concerning the shift of economic structure:

> The initial spurt of growth of the modern sector in a low-income country worsens the relative income distribution and this situation continues until the marginal product of labor in the agricultural sector rises to the level of the institutional wage in the industrial sector.

The tendency toward increasing inequality in early industrialization is further strengthened by the shift of population from the rural areas to industrial centers. Such a shift provides unskilled labor, which accelerates inequality within the industrial sector. Thus the early process of industrialization is seen as being accompanied by a decline in the relative position of less-advantaged groups, and perhaps even absolute impoverishment.

However, these trends are likely to be reversed in the later stages of industrialization (see Kuznets, 1955; Furtado, 1972; Galtung, 1971; Girvan, 1973). As Ahluwalia (1976: 130) points out, many factors contribute to the reduction of income inequality:

> As the modern sector expands, it absorbs larger proportions of the labor force into high income employment, thus reducing the pressure of population in the traditional sectors and thereby narrowing intersector income differentials. Equally important, there are long-term forces which operate to reduce inequality within the modern sector. The cumulative impact of an expanded education system and a long established modern sector is to create a highly trained labor force with a more equal dispersion of skills which generates both an increase in the share of wage income as well as greater equality in its distribution.

Thus a higher absorption rate of surplus labor, structural expansion of the economy, and improvement of human resources are considered to be major factors leading to greater income equality. Accordingly, the pattern of income distribution differs depending on the level of economic development. Treating these levels as sequential, our hypothesis is that:

IV3.2: Income inequality is greatest in nations at medium levels of economic development.

On the other hand, a simple linear relationship between level of economic development and economic inequality has often been posited in work on the long-term impact of industrialization on social stratification systems. Lenski's (1966) argument that the degree of economic inequality decreases as societies move from agrarian to industrial is based primarily on inferences from the impact of surplus product on the behavior of the dominant class. According to Lenski, economic and technical progress produce large surplus products, so that the political and economic elites can give up a share of their rewards without decreasing their absolute share of wealth (see also Cutright, 1967). Thus, the level of economic development is a major factor that contributes to greater equality. A similar result is suggested by the literature on post-industrial society, which contends that greater equality in advanced societies can be explained by the "logic of industrialization"--a convergent pattern of development in the stratification systems of all post-industrial societies, regardless of politics. Kerr and his associates (1964) contend that economic and technical progress expand the occupational structure and the division of labor, so

that a large middle class emerges, and extreme cases of wealth and poverty disappear. From these perspectives, an alternative hypothesis emerges:

IV3.2a: Income inequality varies inversely with level of economic development.

In recent years, a wealth of empirical research has probed the impact of economic development on income inequality. Some evidence suggests that the relationship between level of development and inequality is inverse. Cutright's (1967) 44-nation study documented a substantial negative linear correlation ($r = -.52$) between level of economic development and sectoral income inequality. Working with a sample of 25 predominantly developed nations, Hewitt (1977) regressed the income share of the top 20% of the population on a set of political and economic determinants that included democracy, socialism, economic development, and economic growth. These factors together accounted for a majority of the variance in the income share of the top 20% population, and the contribution of economic development proved to be very strong. In a sample of 35 nations, Sigelman and Yough (1978b) also provided evidence that equality of material reward (a composite measure of personal and sectoral income inequality) increases through industrialization ($r = .438$).

A comparative study of 48 American states by Aigner and Heins (1967) also suggested that level of economic development is associated with decreased economic inequality. Moreover, some longitudinal analyses of Western nations have concluded that change in income inequality

is a function of level of economic development. For example, Kravis' (1962) study of the United States between 1890 to mid-1950s concluded that income inequality had declined during this period, except for a slight increase during the period of the Great Depression. Working with a different time period (i.e., 1929-mid 1950s), Miller (1966) also confirmed that there had been a decline in income inequality in the United States. In a study of Great Britain between 1801 to 1960, Soltow (1968) presented evidence that income inequality had been considerably reduced, especially since 1913. In short, these previous empirical studies have supported the idea that level of economic development is negatively associated with income inequality.

However, others have warned that the relationship may be curvilinear. Kuznets' (1955) longitudinal study contended that relative income inequality had widened in Great Britain between 1780 and 1850 and in the United States and Germany between 1840 and 1890. Kuznets also provided evidence that income distribution in the U.S. between 1913 and 1930 was relatively stable, but there had been a considerable decline in income inequality between 1930 and the mid-1950s. From this longitudinal analysis, Kuznets inferred that income inequality is greater in developing nations than in nations at the very bottom of the development continuum, but is substantially lower in the most advanced nations. Some subsequent research has supported the Kuznets hypothesis. For example, Adelman and Morris' (1973) 74-nation study and a scatterplot analysis of 55 nations by Chenery and Syrquin (1975) observed a curvilinear relationship between level of economic

development and income inequality. In a sample of 60 nations, Jackman (1975) reported that a curvilinear model gave a considerably better fit than the linear model. A recent study of 62 nations by Ahluwalia (1974, 1976) has also provided strong evidence of the curvilinear relationship.

Research on income distribution in contemporary developing nations also presents some evidence of a curvilinear relationship, suggesting that at low levels of development economic growth is likely to induce greater inequality in the distribution of wealth. For example, in a study of Puerto Rico, Argentina, and Mexico between 1950 and 1963, Weisskoff (1970) found that growth in GNP per capita tends to increase income inequality. Similarly, Fishlow's (reviewed in Girling, 1973; and in Chenery and Syrquin, 1975) study of Brazil from 1960 to 1970, and Vandendries' (1974) study of Peru from 1954 to 1970 showed the same conclusion. In a cross-national study of 14 Black African nations, Vengroff (1976a) found that level of GNP per capita (1968) is strongly and positively correlated to income inequality ($r = .61$).

These longitudinal and cross-sectional analyses have strongly supported the curvilinear version of the relationship. However, a few researchers have suggested that there may be no direct relationship between economic development and income inequality. Chase-Dunn's (1975) research across 30 nations could not find any relationship between GNP per capita and the Gini index of income inequality. Although Kilowatt hours per capita (1970) tended to decrease with income shares of bottom 20% of population, Rubinson (1976) found that

kilowatt hours per capita made no contribution to Gini index of income inequality. Similarly, Stack's (1977) 32-nation study found no relationship between GNP per capita and income inequality. In sum, a rather muddled research literature suggests that the precise form of the relationship between level of economic development and income inequality bears close scrutiny.

Social Mobilization

Both the linear and curvilinear interpretations of the impact of economic development on social inequality are based on the processes of socioeconomic and demographic change occurring with modernization. Generally, the "modernization" process pertains to improvements in the quality of life. Recently, Adelman and Morris (1973) have contended that improvement in human resources is a major factor in the reduction of inequality. Harbison (1973) also argues that "the fullest possible development of skills, knowledge, and the capacities of the labor force" is a causal factor affecting more equitable distribution of material rewards. This view contends that, since the trained labor force can be absorbed into high income employment, a more equal dispersion of skills and knowledge through an expanded education system is prerequisite to greater equality (see also Ahluwalia and Chenery, 1975).

The quality of the labor force depends upon the extent of literacy and education. In the long run, urbanization is also likely to reduce economic inequality because a large proportion of "surplus

labor" in the traditional sectors can be absorbed into high income industrial employment. These processes are major components of social mobilization, a concept which subsumes the multidimensional process of social change. Although this view does not consider the effect of communication change, which is a major component of social mobilization, a massive number of empirical studies have found uniformly high correlations between variables pertaining to urbanization, education and communication (see especially Lerner, 1957; Deutsch, 1961; McCrone and Cnudde, 1967; Smith, 1969; Sigelman, 1971). From this perspective, we hypothesize that:

IV3.3: The higher the level of social mobilization, the lower the level of economic inequality.

Some previous studies (e.g., Adelman and Morris, 1973; Ahluwalia, 1974, 1976) have suggested that our understanding of economic inequality should be substantially improved by considering the key component process of social mobilization. Adelman and Morris (1973) found that improvement in human resources, a summary index composed of enrollment at the second and third levels of education as percentages of the appropriate age groups, is a major factor explaining income inequality across 44 nations. Adelman and Morris also showed that literacy rate is closely and negatively related to income inequality. Working with a sample of 66 nations, Ahluwalia (1974) regressed the income shares of three different groups on a set of determinants which included per capita income, primary school enrollment rate, secondary school enrollment rate, and rate of GNP share of agriculture in GDP. The education indicators were found to have a considerable impact on the relative share of the three

income groups. That is, broader-scale educational systems are associated with increased income shares for the middle and lower income groups, and with a reduced income share for the upper class. In a more recent study of 62 nations, Ahluwalia (1976) included in the regression model such additional explanatory variables as literacy rate and urbanization rate. Again, the secondary school enrollment rate, literacy rate, and urbanization rate proved to have significant impacts on income inequality. Similarly, Chenery and Syrquin's (1975) 55-nation study concluded that high levels of education induced a shift of income from the top 20 percent to the bottom 40 percent of income groups. Stack's (1977) research across 32 nations also found that education, measured in terms of the median number of years of education completed by the adult population, is a determinant of reduction of income inequality (explained variance = 17%). In sum, empirical research strongly contends that social conditions attendant on industrialization have utility in explaining income inequality.

Rate of Economic Growth

Olson (1963) contends that rapid economic growth should be positively related to income inequality (see also Adelman and Morris, 1973; Girling, 1973; Vendendries, 1974). While Lenski focuses on the impact of surplus product on the upper class in industrial societies, Olson is concerned with the relative gains or losses of the lower class in the process of economic growth and with the short-run disruptive effects of economic growth. According to Olson (1963: 536), rapid economic growth increases mean income but median income should actually decrease--a

situation in which "the gains of a small percentage of large gainers may be so large that they may exceed the combined losses of a large percentage of losers." The factors leading to this situation are "the tendency for wages to be more sticky than price" and technological changes that accompany with unemployment of the unskilled workers (Olson, 1963: 536-37). Olson suggests that the skewness of the economic distribution can significantly increase during a rapid economic growth (see also Ahluwalia, 1974).

IV3.4: The higher the rate of economic growth, the higher the level of income inequality.

Again, much evidence has been brought to bear on this relationship. The 44-nation study by Adelman and Morris (1973) investigated the relationship between the rate of growth of per capita GNP and the income share of the poorest 60% of the population. Adelman and Morris' findings did not support the hypothesis that rapid economic growth raises or reduces the share of the income of this poorest segment of the population. Similarly, Ahluwalia's (1974) scatterplot analysis of 18 nations suggested that there is only a minor relationship between higher rates of economic growth and growth rates of the income share of the lowest 40% of the population. In a more recent study of 62 nations, Ahluwalia (1976) reached the conclusion that there is simply no relationship between growth rate of Gross Domestic Product and income inequality.

However, some other evidence suggests that rapid economic growth increases income inequality. For example, Weisskoff (1970) showed that the income shares of the lower-income groups in Puerto Rico, Argentina,

and Mexico between 1950 and 1963 actually declined while per capita GNP was rapidly rising. Fishlow's (1972) study of Brazil observed a marked increase in income inequality between 1960 and 1970, even in the fact of rapid economic growth at the rate of 6% annually. Vendendries (1974) found the same evidence in Peru. That is, income inequality increased from 1954 to 1970 while annual rate of Gross Domestic Product marked 6%.

On the other hand, further empirical evidence contends that rapid economic growth reduces income inequality. In a sample of 62 nations, Ahluwalia (1974) included the rate of growth of GDP along with other explanatory variables in the regression model. Ahluwalia found that rapid economic growth reduces income inequality, especially through increases in the income share of the lower-income group. By employing "average annual percentage change in energy consumption per capita, 1950 to 1965" as a measure of the rate of economic growth, Jackman's (1975) 49-nation study also observed that income inequality decreases in the face of rapid economic growth. The same conclusion was reached in Stack's (1977) 32-nation study, which observed an inverse relationship between percentage change in GNP per capita and income inequality (explained variance = 76%). Hewitt's (1977) 25-nation study replicated these findings.

Social Mobility

A negligible chance for upward mobility is likely to increase anti-system frustrations. Beyond this, as scholars of the "logic of

industrialization" school contend, society's opportunity for upward mobility may have a mediating effect between economic development and class inequality. Obviously, a rigid stratification system tends to reinforce inequality in the distribution of wealth. It has often been suggested that society's opportunity and reward structures differ according to the level of development. The barriers to individual mobility in the developing nations are often strengthened by such socio-cultural influences as tradition and ascription, while the opportunity for individual mobility in the developed nations is strengthened by the diversification of the occupational structure generated by technical progress. The literature on post-industrial societies contends that economic and technical progress invariably expand the middle class-based occupations, thereby providing the chances for uplifting individuals from one class to another. Thus, societal affluence is seen as expanding the reward structure, by which a large middle class is formed (Kerr, Dunlop, Harbison and Myers, 1964; Lipset, 1960; Duverger, 1964). Moreover, because social mobility depends on individual ability and attainment of skills, education is an essential instrument for social mobility (Treiman, 1977). Consequently, more equal distribution of material rewards results from broadening chances for social mobility generated by structural diversification of economic systems (Kravis, 1960; Kuznets, 1955; Miller, 1966). This suggests that rates of social mobility are higher and the distribution of material rewards consequently more egalitarian in affluent societies.

IV3.5: The higher the rate of social mobility, the lower the level of economic inequality.

The pioneering cross-national research on the economic development--equality in society's opportunity relationship was Cutright's (1963) study, which discovered an impressive correlation of -.78 between national levels of educational development and percentage of labor force engaged in agriculture. Later studies (e.g., Olsen, 1968) have repeatedly turned up similar results for other indicators of economic development. Similarly, level of affluence is clearly tied to national rate of social mobility. In their study of twelve advanced nations, Fox and Miller (1966) concluded that rate of social mobility varies directly with per capita gross national product. Cutright (1968) came to much the same conclusion in his 13-nation study of intergenerational mobility, which, he found, could be accurately predicted from such stock indicators of economic development as energy consumption and communication capacity. Using a judgmental measure of social mobility, Adelman and Morris (1967) replicated these findings for a sample of 74 less developed systems. Thus, previous studies strongly support the idea that the societal opportunity structure is a function of the level of economic development.

As reviewed earlier, empirical research suggests that societal affluence is related to distribution of rewards, although the precise form of the relationship is subject to close scrutiny. Also it seems very likely that the distribution of rewards is responsive to openness in the societal opportunity structure--hence the direct link between opportunity for social mobility and income inequality. Particularly where national education systems are elitist in character, rates of social mobility are found to be low and rewards, including income,

very unequally distributed (Stiglitz, 1973). Cutright's (1967) cross-national test of the Lenski theory of social stratification, for example, found high correlations between national educational development and sectoral income inequality. Adelman and Morris (1967, 1973) also detected a similarly close relationship between the extent of social mobility (measured by a composite of educational opportunity, access to membership in the middle class, and racial and cultural barriers to mobility) and distributional pattern of income. More recently, Ahluwalia's (1974, 1976) study of a diverse set of nations has verified the importance of society's opportunity structure in reducing income inequality.

Economic Dependence

We have seen that differences in social inequality are likely associated with domestic socioeconomic conditions such as the level of economic development, social mobilization, rate of economic growth, society's opportunity for mobility, and population growth rate, although the precise form of these relationships bears scrutiny. Another approach to the comparative analysis of variations in the distribution of the economic product stresses the importance of economic dependence. According to neo-Marxist theorists (e.g., Mandel, 1975; Frank, 1972; Baran, 1957; Dos Santos, 1970; Galtung, 1971; Amin, 1974; Wallerstein, 1972; Myrdal, 1957), the world division of labor and its corresponding trade structure systematically affect economic inequality through their impacts on the structural diversification of industry and the resulting class relations. Thus both modernization and neo-Marxist theorists

contend that structural diversification has an important impact on economic inequality; what differs is the factors that are thought to underlie structural diversification.

Since growth in one sector stimulates growth in another sector, the structural diversification of the economy stimulates further expansion of interrelated areas. This structural diversification inevitably requires a trained labor force with high income employment and thus reduces inequality within the modern sectors (Ahluwalia and Chenery, 1974; Kuznets, 1955). Also the expanding the modern sector can absorb a large proportion of the "surplus labor" from the traditional sectors, which in turn reduces intersectoral inequality. As mentioned, however, neo-Marxist theory argues that dominant nations in the world system continue to secure their benefits by forcing the peripherial nations to concentrate on the production of raw materials and by making peripheral economies complementary to those of the core. This suggests that economic dependence is a major factor impeding structural diversification; variations in class structure among nations, then, reflect variations in power and control over the world system of production.

In the peripheral nations whose economic activities depend heavily on the external market and foreign capital, the dominant social class is a small economic elite based on the import export sector. This dominant class maintains strong links with foreign economic actors through mutual interests in keeping low wages of workers and in the production and export of primary goods complementary to economies of the dominant countries (Galtung, 1971; Baran, 1956). This political

and economic alliance between elites in the periphery and the core, in turn, prevents and suppresses the development of a domestic manufacturing and industrial bourgeoisie, whose predominant interests are directed toward the introduction of tariffs in order to protect infant industries. Consequently, extreme inequality between social classes in the periphery results from a class structure consisting of a small but dominant class, a weak national bourgeoisie and a large low income working class.

IV3.6: The greater the economic dependence, the greater level of economic inequality.

Empirical evidence has generally supported the proposition that economic dependence is one of the major factors affecting to inequality. In their 43-nation study, Adelman and Morris (1973) revealed that concentration of trade commodities increases income inequality largely through reducing the income share of the middle class, while concentration on the production of raw materials increases inequality through reductions of relative share of lower groups. Similarly, Chenery and Syrquin (1975) observed that concentration on the export of primary goods significantly contributes to increase in the relative share of high income groups. Jackman (1975) also reached the same conclusion in his 60-nation study. Chase-Dunn (1975) also found a significant positive relationship between income inequality and investment dependence, on the one hand, and debt dependence, on the other. Working with a diverse set of nations, Rubinson (1976) included several dependence measures along with other explanatory variables. Rubinson concluded that the contribution of economic dependence (i.e., debits on

investment income, exports as percent GDP, and imports as percent GDP) to income inequality is strong and inverse.

However, some researchers have suggested that certain measures of economic dependence may not be related to income inequality in the expected direction. For example, Rubinson did not find any effect of value of food exported and value of manufactured goods on income inequality. Chase-Dunn also reported that specialization in mining has no impact on income inequality. Vengroff's (1976b) study of 14 African nations found no appreciable relationship between three measures of economic dependence (aid donor concentration, trade partner concentration, and military partner concentration) and income inequality. But product concentration measured by principal export as percent of total export and minimum numbers of items making up 70% of export) was inversely related to income inequality (r - .31), directly contrary to expectations.

Specification of a Partial Model Linking Political Violence to Economic Inequality

From the overview of theoretical literature to this point, we can now specify a partial model linking political violence to economic inequality as presented in Figure 3.1. First, the bivariate relationship between economic inequality and political violence will be tested. There are basically two distinctive causal paths to political violence; one is the economic growth rate→inequality→political violence path; the other is the level of economic development→inequality→political violence path. Before overall evaluation of this partial model, the

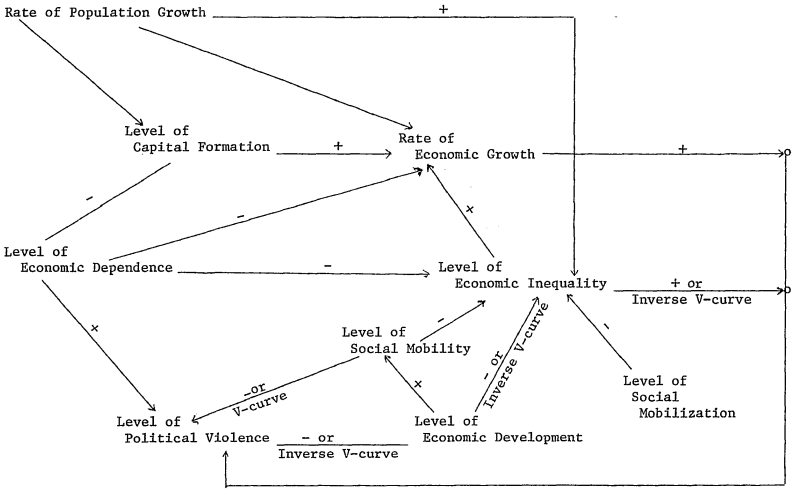


Figure 3.1: A Partial Model Linking Political Violence to Economic Inequality.

two distinctive causal paths will be separately tested. Also, findings of the previous section, which are concerned with the direct impact of such factors as rate of economic growth, economic dependence and level of economic development on political violence, will be incorporated in this section. These direct effects are expected to be spurious, mediated by the level of economic inequality. Again, the relationships in this partial model must be considered provisional. They will be incorporated into a more comprehensive and complex model of political violence in a later section.

2. Sociocultural Differentiation and Political Violence

Shared values and symbols can be seen as providing a fundamental basis of both cohesion within groups and cleavages between them. In the modernization literature, considerable attention has been given to the disintegrative impact of the sharp divisions within a society created by such communal allegiance as "primordial attachments" to religion, region, ethnicity, race, language, and customs (Lewis, 1961; Shils, 1963; Geertz, 1963; Eisenstadt, 1966; Bendix, 1967; Weiner, 1965). Attachments that, as Geertz points out, "seem to flow more from a sense of natural--some would say spiritual--affinity than from social interaction" place dangerous strains on political systems even in developed nations (see also Dahl, 1966; Liphart, 1971).

Despite the simple belief that cultural heterogeneity is closely associated with political violence, the theoretical perspectives that have been presented on this question are extremely diverse. Some (e.g.,

Deutsch, 1966) gives more emphasis to the political consequences of social mobilization, which follows growing interactions of members of a cultural group with members of other groups. Others (e.g., Geertz, 1963; Eisenstadt, 1966; Bendix, 1967) see political violence as deriving from the growing interactions between cohesive cultural groups which have potentially conflicting interests.

Theoretical propositions concerning the direct impact of sociocultural differentiation on political violence are largely based on difficulties in amalgamating and assimilating various social groups to the more inclusive national culture. However, although sociocultural heterogeneity is sometimes seen as a necessary condition for political violence, but it may not be a sufficient one. It has been argued that the effects of cultural heterogeneity are compounded by other factors. Some theoretical approaches contend that the interactions of cultural cleavages with other structural conditions such as the level of social mobilization (Deutsch, 1966) have a destabilizing effect. In a different manner, the effect of sociocultural heterogeneity on political violence can be mediated by other factors such as political separatism (Geertz, 1963; Kornhauser, 1964).

Direct Effect

Cultural heterogeneity can be considered a more fundamental form of social division than even class differences in third world polities. Indeed, cultural heterogeneity can threaten the existence, not only of a political system, but of the state itself. Looking at politics throughout the third world, Pye (1966: 135) notes that:

> The possibility of an insurrectionary movement arising and then employing organized violence depends upon the existence of sharp division within society created by regional, ethnic, linguistic, class, religious and other communal differences that may provide the necessary social and demographic basis for supporting the movement ...

The political violence that is associated with discontinuity, dislocation, and strain deriving from cultural cleavages is widely thought to have its roots in the transformation of political systems that is attendant on the modernization process.

The process of political change, according to Eisenstadt (1966: 20), has two closely related aspects--"that of disorganization proper of the existing patterns of life of various groups, and that of growing interconnection between different groups undergoing these processes, of their being brought together into common frameworks, and of their mutual impingement on one another." First, in the nations emerging from the downfall of traditional societies and colonial rule, new common integrative frameworks and organizations of a modern sovereign state require the search for new political symbols. However, the transfer of emotional attachments to the nation-state can be hindered by parochial loyalty to traditional values and by the internal cohesion of socially and culturally discrete groups (Shils, 1963; Geertz, 1963; Eisenstadt, 1966; Weiner, 1965; Bendix, 1967).

Secondly, the potential for group conflict is increased by the growing interactions between culturally diverse groups in the local contexts within the framework of the central political process. As Weiner (1973: 253) observed, the expansion of political participation

in multi-ethnic developing nations hinders the development of national identity. The continual competition for power among diverse cultural elites stimulates sentiments of parochialism, communalism and racialism, makes such communal differences politically salient, and thus may accelerate group antagonism and communal clashes (Geertz, 1963; Eisenstadt, 1966). Moreover, the alienation of some cultural groups and elites from the political system may provide the organizational basis for extremist movements. Eisenstadt (1966: 33) describes the characteristics of alienated groups and their ideological orientations toward protest as follows:

> One such orientation, usually called the "rightist" one, was rooted in the constant feeling, by groups attached to what they regarded as the previously prevailing order, of being ousted from existing positions and values. The second extreme, which may be called the "leftist" orientation, was geared to effecting far-reaching change in social structure, in the basic principles of allocation in favor of groups or classes which allegedly were deprived of advantageous position or of full participation.

These extreme ideological movements often have separatist tendencies and advocate the change of political boundaries.

From the foregoing discussion, our hypothesis concerns a direct link between cultural heterogeneity and political violence:

> H3.3: The higher the cultural heterogeneity, the higher the level of political violence.

Previous studies have uncovered a moderate positive relationship between cultural heterogeneity and political violence. Although he did not report the precise results of his statistical analysis, Hibbs (1973) suggested that the relationship was quite strong and positive. In his study of 57 nations, Cooper (1974) correlated two

dimensions of cultural heterogeneity (pluralism and racialism) with several measures of political violence employed by Gurr, Feierabend and Feierabend, and Bagley. Although he expected strong relationships between cultural heterogeneity and political violence, Cooper found only from weak to moderate correlations. However, the direction of relationships found to be consistent with his predictions. Working with 113 nations, Grove (1974) achieved more mixed results; ethnic pluralism proved to be moderately related to political violence (a composite index based on the measures of Gurr, Rummel, and Feierabend, Feierabend and Nesvold), but he could find no appreciable impact of racial pluralism. Green's (1975) comparison across 103 nations concluded that there is a positive relationship between cultural heterogeneity and civil strife. However, he warned that this impact varies along with the level of modernization. Finally, Sigelman and Simpson's (1977) cross-national study documented a strong positive impact (R^2 = 22%). Moreover, entering another dimension of cleavage (economic inequality) in their regression analysis did not affect the direct impact of cultural heterogeneity. In sum, the proposition that political violence is associated with cultural heterogeneity has achieved at least moderate support in previous studies.

Interaction Effect of Social Mobilization and Cultural Heterogeneity

The notion that political violence is closely associated with the interaction of cultural heterogeneity and social mobilization is suggested by Deutsch's (1966) communication theory of political integration, as operationalized by Hibbs (1973). Deutsch (1966: 129-130)

considers social mobilization to be essential for amalgamation or assimilation of diverse social groups into the dominant political culture; but at the same time, social mobilization in culturally heterogeneous societies is likely to increase political conflict:

> ... [the mobilized and differentiated groups] have been mobilized for intensive communication but have not been assimilated to the predominant language and culture. These persons have remained culturally and linguistically different from the members of [the mobilized and assimilated] group and they are frequently and acutely reminded of this difference by the intensity of social communications in which they must take part. The share of the mobilized but differentiated persons among the total population--is the firsr crude indicator of the probable incidence and strength of national conflict.

Deutsch (1966: 155) also indicates that political conflict deriving from cultural heterogeneity remains "dormant for a time until at some later stage intensive social communication is extended to these villages, or until large numbers of their inhabitants go forth to seek new occupations among the mobilized population" (see also Pye, 1966).

Explicit in this perspective is the assumption that political violence deriving from cultural heterogeneity cannot develop without the disruption and dislocation of established communal life which accompany social mobilization. Why is social mobilization in culturally heterogeneous society likely to encourage political violence? First, social mobilization leads to growing interaction among members of different cultural groups that are mutually antagonistic. Thus, group antagonism can be intensified by this process. Second, political violence deriving from cultural heterogeneity is latent until diverse cultural groups are mobilized into competition for scarce resource (Schermerhorn, 1967; Kuper, 1971; Rabuska and Shepsle, 1972). As

mentioned, mass political participation, expanded by social mobilization, tends to simulate and awaken parochial loyalty and communalism. Tilly (1969: 40) stresses a close link between the internal coherence of groups and political violence:

> A large proportion of collective actions on a communal basis results in violence, because the associational form gives the group a surer control over its own actions, and thus shows of force without damage or bloodshed.

This view suggests that greater differences between cultural groups and greater homogeneity within groups are closely related to political violence.

Indirectly suggestive on this point is the Marxist theory of revolution, which links the relations between cultural groups to a form of class and status relations. According to this view (e.g., Baran and Sweezy, 1957; Kuper and Smith, 1968: 27), some cultural groups are more advantaged by society's reward structure than others, and the persistent inequality between them is reinforced by institutional frameworks:

> Specific political features of social pluralism center in the corporate constitution of the total society. Under these conditions, the basic corporate divisions within the society usually coincide with the lines of institutional cleavage reinforcing and generally converting them into deep and rigid inequalities in social and political life.

Basically, the Marxist view applied the "internal colonial model" as a basis for analyzing interactions among cultural groups.

> Superordinate/subordinate relationships, in which the parties are classified by social categories, are fundamentally unstable and social violence is likely to occur when such an accommodative structure loses its viability (Grimshaw, 1970: 19).

This perspective contends that, as society becomes modernized, persistent inequality between cultural groups intensifies within-group cohesion as well as between-group antagonism.

From these diverse perspectives, our hypothesis concerns the interactive effect of social mobilization and cultural heterogeneity:

> H3.3a: The higher the level of social mobilization and cultural heterogeneity, the higher the level of political violence.

Two previous studies (e.g., Hibbs, 1973; Thompson, 1977) assessed the direct impact of the conjunction of social mobilization and cultural heterogeneity on political violence. Hibbs (1973) employed two models (i.e., multiplicative interaction model and log multiplicative model) in testing Deutsch's proposition, but he could not find any significant interaction effect with either model. Moreover, his log multiplicative model revealed that social mobilization was negatively associated with internal war. That is, a high level of social mobilization in heterogeneous societies was actually associated with a decreased magnitude of internal war. Hibbs' multiequation model, however, proved that this relationship is spurious. Working with 40 nations, Thompson (1977) reached much the same conclusions.

Mediating Effect

The propositions concerning the direct impact of cultural heterogeneity and the interactive impact of cultural heterogeneity and social mobilization are largely inferred from power competition among cultural groups in plural society and general stratification theory. Thus variables representing the orientations of less-privileged cultural

minorities or structural characteristics that affect the behavior of collective actors can be considered mediating conditions between discontent based on cultural differences and political violence. As Tilly (1978) notes, organized collective actions are determined by the mobilization of group interests as well as by political structure. Two variables considered here are political separatism, which measures the degree of demand for political change by the less-advantaged cultural minorities, and regime coerciveness, which refers to the control of the mobilization of gorup interest and collective action against government.

Many scholars (e.g., Geertz, 1963; Kornhauser, 1964; Deutsch, 1966; Eisenstadt, 1966) have suggested that the discontent of minority cultural groups may be epxressed in separatist movements, which can even threaten the integrity of the existing political boundaries. Kornhauser (1964: 153) Notes the potential for political violence by sociocultural groups:

> Ethnic and social minorites...rebel for corporate immunities and privileges like special social status for their languages or religions or even for self rule.... Unlike social classes, minorities may go so far as to seek succession ...to establish a separate state or to join another state. Finally, like social classes, minorities may seek assimilation into the political society. Rebellions against slavery caste, or other forms of racial or ethnic discrimination may facilitate the extension of full citizenship rights to members of minority groups.

Generally, the separatist movement is closely related to the high degree of dissatisfaction on the part of cultural minorities. Also, discontent and dissatisfaction tends to be higher in societies segmented into divergent cultural groups, because the multiplication of interacting units with narrow, parochial interests creates conflicting demands that

are difficult to accommodate (see Cooper, 1974). In this situation, the dominant cultural groups that perceive threats to system survival are likely to employ coercion in order to curtail excessive demands of minority groups and maintain political order through relying on coercion. In hypothetical form,

> H3.3b: The effect of cultural heterogeneity on political violence is likely to be mediated by the degree of political separatism and regime coerciveness.

The causal process depicted by Hibbs' (1973) multiequation specification provided strong evidence that the interaction effect of social mobilization and cultural heterogeneity is mediated by political separatism. He regressed internal war on a set of explanatory variables including political separatism, group discrimination and population size. These factors together accounted for 21 percent of the variance in internal war, and the contribution of political separatism proved to be substantial and positive. Also, he reported the powerful interactive impact manifested by the conjunction of social mobilization and cultural heterogeneity on political separatism ($R^2 = .306$). Based on this observation, Hibbs concluded that the interaction of social mobilization and cultural heterogeneity is positively associated with political separatism, which, in turn, increases internal war. However, the relationship between political separatism and collective protest was negligible.

Specification of a Partial Model

As presented in Figure 3.2, a partial model of political violence linking political violence to cultural heterogeneity can be drawn

from the foregoing discussion of theoretical literature. Again, the findings of this partial model will be incorporated into a more comprehensive and complex model of political violence in a later section.

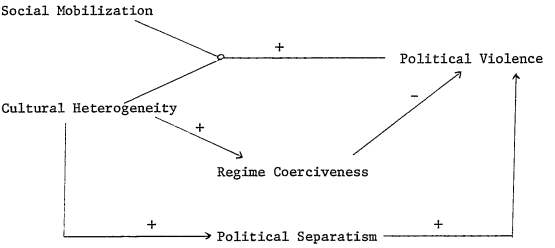


Figure 3.2: A Partial Model Linking Political Violence to Cultural Heterogeneity.

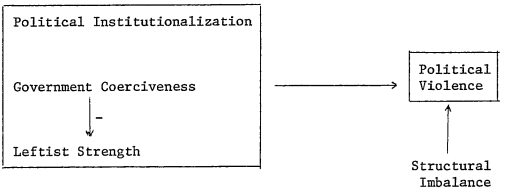
CHAPTER IV

POLITICAL STRUCTURE, IMBALANCE, AND POLITICAL VIOLENCE

The foregoing discussion has been focused on theoretical perspectives that concern the relationships between socioeconomic and cultural characteristics of nations and the occurrence of political violence. However, underlying theoretical speculations have been as much more complex. Indeed, these perspectives provide the basis for thinking that political violence is also closely associated with structural conditions in the political system itself. Explicit in this view is the assumption that the relationships between individuals or group discontent and its physical expression is mediated by a number of intervening political conditions (see Kornhauser, 1964; Gurr, 1968; Tilly, 1969, 1968). Huntington (1965, 1968) contends that political institutionalization can counterbalance the destabilizing effects of rapid socioeconomic change; in turn, a poor fit between political institutions and the social situation is a major source of system stress. Some scholars (e.g., Lipset, 1960; Duverger, 1964; Lenski, 1966; Yilly, 1978) argue that structural characteristics such as government repressiveness and leftist strength, which are closely related to a more open, participant political system, are contingent upon socioeconomic conditions, but also have independent impacts on political violence. To test these notions, three such political factors

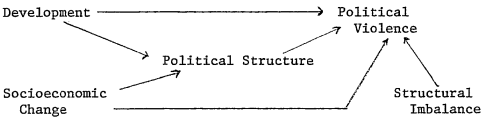
(political institutionalization, government coercive potential, and elite leftism) and one output measure (structural imbalance) are considered here. Obviously, there are many other political conditions, including government corruption, openness of political participation, and group facilitation. But such factors cannot be employed in this study because of the problem of data availability.

First model concerns the direct, bivariate relationship between the "political structure" block and political violence:



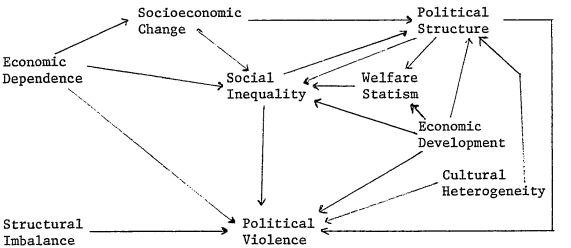
The causal ordering among political factors is drawn from the theoretical literature, which is examined below. This consideration of causal relationships between political factors within this block helps to delineate direct and indirect relationships between political factors and political violence. Since we do not at this point consider the effect of other blocks, the findings in this model are quite provisional.

The second model integrates the theoretical propositions concerning the socioeconomic determinants of political factors into the above partial model:



Detailed causal relationships between variables within the "development" and "socioeconomic change" blocks and variables included in "political structure" block will be discussed below. Causal relationships within first two blocks (e.g., development and socioeconomic change) are based upon the findings of the previous sections. A major purpose of this model is to observe whether the effects of "development" and "socioeconomic change" are mediated by political factors, whether they have significant independent effects, and whether the effects of "political structure" are spurious.

The third model and final model is formulated by incorporating the "Social Inequality," "Cultural Heterogeneity," "Economic Dependence" and "Political output" blocks into the Second model:



This final model delineates the relationships among the major predictors of political violence and thus provides a basis for overall evaluations of divergent notions of political violence.

Model 1: The Direct Impact of Political Structure on Political Violence

Ancient as well as contemporary theorists have stressed that the use of coercion is necessary to maintain social order and to control "the relations of conflict between sets of individuals that involve an incompatible difference of objectives" (Dahrendorf, 1959: 35). However, the manner in which conflict of political interests is regulated varies widely across nations. The primary means regulating the use of violence in conflicts of political interest involve repressing some relations of conflict and routinizing others--that is, enveloping them in rules accepted by both sides so that the relationship becomes gamelike and not disorienting (Johnson, 1966: 35). Thereby, the extent of repression and open competition is largely reflected in structural characteristics of political systems, which has been a classical concern of democratic theorists. A democratic system, which recognizes the right of the less-privileged to organize their own interests, the right of organized political opposition, free access to information, and expansion of mass suffrage (Lipset, 1960; Lenski, 1966), is less repressive and more tolerant toward political demands of the less-privileged.

Political Institutionalization
and Political Violence

The study of political institutions and institutional change has been closely related to a concern with the maintenance of stable patterns of interaction among social groups, which presupposes not only coercive sanctions against violent expression of conflict but also the development of social solidarity. The establishment and application of the rules and procedures, which are inseparable from a certain degree of routinization, play an important part in the process of political integration.

In modernization literature (e.g., Deutsch, 1961; Eisenstadt, 1964, 1966; Pye, 1965; Weiner, 1965; Almond and Powell, 1966; von Vorys, 1967), political development is seen as the building of viable political institutions which can cope with the problems attendant on the modernization process. But the direct link between the level of political institutionalization and political violence gained broad attention because of Huntington's (1965, 1968) influential work on developing nations. Huntington (1968: 8-111) perceives a primary function of political institutions as conflict management:

> In the total absence of social conflict, political institutions are unnecessary; in the total absence of social harmony, they are impossible....Historically, the political institutions have emerged out of the interaction among and disagreement among social forces, and the gradual development of procedures and organizational devices for resolving those disagreements.

This view suggests that the achievement and maintenance of political order is dependent upon the strength of political institutions.

However, the relationship between political institutions and social forces is not static, but changes over time. Huntington's systemic view of society explores environmental factors that affect the political-social balance and thus gives more emphasis to the dynamic equilibrium between changing social forces and institutionalization--defined as "the process by which organizations and procedures acquire value and stability" (Huntington, 1968: 12). In this view, the capacity of political institutions to adapt to changes in society and to "create new linkage between the particular interests of individuals and groups" becomes crucial for maintaining political stability (Huntington, 1968: 10). For Huntington, the greater the institutional capacity of the political system, the more likely that the system could effectively respond to challenges from the environment. Accordingly,

H4.1: The lower the level of political institutionalization, the higher the level of political violence.

Previous research findings have presented evidence that the effect of political institutionalization varies considerably with the types of political violence. In a sample of 28 Black African nations, Duvall and Welfling's (1973) recursive model of political violence included rate of social mobilization and political institutionalization (a composite measure based on party system characteristics) along with lagged measures of political violence. Political institutionalization was likely to have a significant independent impact on elite conflict (e.g., Coups), but it was not related to both turmoil and internal war. Similarly, Yough and Sigelman's (1976) study of 61 less-developed nations found that institutionalization is much more closely

related to the most severe type of political violence, power transfer, than to either collective protest or internal war. Although Hibbs (1973) also contended that institutionalization has differential effects on the types of political violence, his findings are somewhat different. That is, institutionalization tends to lessen internal war, but there are no realtionships between either collective protest or coups and institutionalization.

By employing one-dimensional measures of political violence, others (e.g., Lethinen, 1974; Ruhl, 1975; Rhoda, 1978) also have concluded that institutionalization encourages political instability. Working with a sample of 83 nations, Lethinen (1974) found a strongly negative correlation between political institutionalization and political instability. This finding was replicated by both Ruhl's (1975) study of Latin American nations and Rhoda's (1978) study of 51 nations. In a sample of 63 nations, however, Hudson (1970) could not find any significant effect of political institutionalization, as had Gurr (1968) for a sample of 113 nations. One previous study (Schneider and Schneider, 1971) presented an entirely contradictory finding. In their study of 10 developed nations, the Schneiders reported that institutionalization is strongly and positively related to political violence.

Regime Coerciveness and
Political Violence

Political conflict arises from competition for scarce resources among groups with conflicting interests. This competition requires the mobilization of interests, which can be considered as a necessary

condition for collective action. Collective action can occur either within a given institutional framework or outside of it. According to Durkheim, social control means the negative sanctions on collective action that occurs outside society's institutional framework. Thus, regime control and coercion are invariably related to a normative judgment concerning the rightness or wrongness, justice or injustice, and goodness or badness of the collective action. As Tilly (1978: 100) points out, government coercion can be directed against the mobilization of group interests, just as collective action can be directed at the government:

> Standard repressive measures such as suspending newspapers, drafting strikers, forbidding assemblies, arresting leaders illustrate the antimobilization avenue. Or government can operate directly on the costs of collective action by raising the penalties, making the targets of the action inaccessible, or including a waste of the mobilized resources...

Thus, the general level of government coercion depends upon the extent and the acceptability of the mobilization of group interests and of collective action.

Long ago, Hobbes deduced from what he saw as the nature of men the proposition that an absolute government (Leviathan) is essential to maintain civil order. According to Hobbes, all men are approximately equal in physical strength and have unlimited desire for securing their well-being. However, scarcity of resources creates a condition of war that is of "every man against every man." Hobbes believed that an absolute government is the only way to secure common interests, because man under Leviathan is equal: no man has power to exercise over

others. Thus, Hobbes contends that an absolute government is a sufficient mechanism to control violence.

Contemporary theorists continue to consider a system's extent of social control and coerciveness as inhibitors of political violence. For example, Gottschalk (1944) suggested that the immediate cause of revolution is the inability of the dominant elite to resist excessive demands on a political system. Similarly, Amann (1962: 39) says that "Revolution prevails when the state's monopoly of power is effectively challenged and persists until a monopoly of power is reestablished." Smelser (1963) argues that the effectiveness of agencies of social control is important in suppressing the occurrence of "hostile outbursts" and "value oriented movements" (including revolutions). Apter (1965: 66-67) suggests that the tensions created by the process of social change can be managed through "a high degree of government regulation of social life in order to introduce greater coherence of values and institutions." Johnson (1966: 91) believes that political order in "disequilibrated societies" depends increasingly upon the maintenance and deployment of force by the occupants of the formal authority statuses." Gurr (1970) also contends that the magnitude of political violence varies with the coercive capabilities of regime. All these perpectives suggest a lienar and inverse relationship between regime coerciveness and political violence:

H4.2: The lower the level of regime coerciveness, the higher the level of political violence.

However, some scholars (e.g., Andrzeweski, 1954; Eckstein, 1965; Johnson, 1966) suggest that the relationship is positive.

Andrzeweski (1954: 127) believes that the incidence of rebellions is higher in "a society, in which the distribution of power and, consequently, wealth, prestige, and other desirable things is settled by naked force, that is to say, by the use of threat of violence." Explicit in this perspective is the notion that inflexible, repressive responses by government to political demands intensify the frustration of dissidents and thus make them rely on more violent expression of their own interests. A similar notion is presented by Eckstein (1965: 154), who argues that the effects of repression:

> ...may be quite opposite to those intended. Incompetent repression leads to a combination of disaffection and contempt for the elite. Also, repression may only make the enemies of a regime competent in the arts of conspiracy; certainly it tends to make them more experienced in the skills of clandestine organization and sub rosa communication.

Johnson (1966: 91) also believes that:

> Of all the characteristics of the disequilibrated system, the one that contributes most directly to a revolution is power deflation--the fact that during a period of change the integration of a system depends increasingly upon the maintenance and deployment of force by the occupants of the formal authority statuses.

According to Johnson, coercion alone is ineffective, in the long-run if not the short, because it is more likely to intensify resistance on the part of the dissidents. In hypothetical form,

> H4.2a: The higher the level of regime coerciveness, the higher the level of political violence.

Empirical findings on this relationship have been unsettled. Some previous studies (e.g., Hibbs, 1973) have failed to uncover any relationship between coerciveness (measured by the size of internal

security forces) and political violence. Others (e.g., Gurr, 1968; Markus and Nesvold, 1972; Orbell and Rutherford, 1973) initially hypothesized an inverse relationship, but turned up a curvilinear or a positive linear relationship. In their cross-national studies of 84 nations, Feierabend and Feierabend (1971, 1972) concluded that regime coerciveness engenders further political violence. Anderson and Nesvold's (1972) 21-nation study compared the level of regime coerciveness with turmoil in 1948-1958 and in 1959; coerciveness, they found, is highly associated with a high level of political turmoil. Although they expected to find a strong negative impact of regime coerciveness on political violence, Orbell and Rutherford (1973) found in their 113-nation study that coercion by government increases political violence. Hibbs (1973) also agreed that negative sanctions are significantly associated with political violence. In a cross-national comparison of 117 nations during 1955-1964, Nesvold and Martin (1974) provided evidence that regime coerciveness is strongly and positively associated with political turmoil ($r = .66$).

On the other hand, several quantitative cross-national analyses have identified a curvilinear relationship between regime coerciveness and political violence, concluding that political systems at middle levels of the coercion scale are particularly prone to political violence. Walton (1965) classified 84 nations on the basis of the level of political instability and the extent of regime coerciveness/permissiveness. He found that almost all of the most unstable countries had intermediate levels of coerciveness. Bwy's (1968) study of Latin

American nations came to much the same conclusion, for he found that most countries with middle levels of coercive capability (measured by military expenditures as a percentage of Gross National Product) experienced a relatively high degree of anomic violence. Working with 114 nations, Gurr and Ruttenberg (1967), and Gurr (1968) concluded that the size of the regime's coercive force (measured by military and internal security size) is curvilinearly related to total magnitude of civil strife in 1961-65. Nesvold, Feierabend and Feierabend (1969) also noted a tendency toward curvilinearity in the 75 nations they observed. These empirical findings are compatible with the psychological argument that punishment increases the intensity of anger and aggressive behavior, but very high level of punishment promotes fears and thus decreases aggressive response.

Leftist Strength and Political Violence

Having seen that the use of coercion to maintain stable patterns of social interaction and to control the mobilization of group interests and collective action has complex and potentially dysfunctional consequences for the regime, let us now consider the impact of institutionalized political demands. Classes, groups, or individuals follow routine non-violent processes only insofar as a political system provides legitimate means of expression of their interests. Lipset (1960: xxii-xxiii) considers political parties one of the most effective institutional alternatives to violent dissent, arguing that "The underprivileged can impress their concerns on the social systems only

in polity in which they are free to organize in unions, parties, cooperatives, and the like." If a political system lacks an effective political demand structure mediating between masses and elites, unsatisfied interests and political discontent may be expressed by spontaneous demonstrations and violence. Many scholars (e.g., Dahrendorf, 1959; Kornhauser, 1959; Lipset, 1960; Almond and Powell, 1966; Gurr, 1968, among others) have stressed the importance of such political structures in minimizing political violence and instability.

The belief that leftist parties may provide the less-privileged with non-violent means of expressing their discontent follows from a broad perspective on the long-term, complex process of interaction among the electoral and ideological bases of political parties. Two interrelated assumptions are involved in this view. First, depending upon their attitudes toward the existing social order, especially toward distribution and/or redistribution of material rewards, political parties can be profiled in terms of their position on a left-right continuum (see Downs, 1957; Duverger, 1964; Sartori, 1966). The left advocates "programmatic demands for planned or enacted social change toward a more equal distribution of economic benefits, social status, and power" (Wrong, 1974: 46). There may certainly be many alternative salient bases of partisan cleavage, including such factors as religious, racial, ethnic, linguistic, and regional differences, conflicting orientations towards "modernity," and support for specific personalities. Nonetheless, ideological differentiation between political parties can still have important consequences for political systems.

Secondly, a major function of political parties everywhere is "their participation in the decision-making process, or at least the attempt at and a chance for such a mobilization for action" (Neuman, 1956). Political parties often do make an important contribution to the articulation and aggregation of diverse interests in the decision-making process, with leftist parties typically attempting to articulate and aggregate the interests of the less-privileged. Thus, discontent and alienation among the less-privileged can be mobilized into collective action through the egalitarian ideology of the leftist parties. Indeed, the origin of leftist parties in many nations is closely tied up with the rising working class movements, which provide the organizational basis of their mass membership (Deverger, 1954; Epstein, 1967). According to Mayer (1932: 234), "Mass-membership parties have originated as the political arm of a mass social or economic movement with a rather definite set of goals" challenging the existing order. As Barnes (1968: 111) aptly tells us, "The mass political party is a brilliant invention for mobilizing into collective action politically unsophisticated people in a highly stratified society."

However, these types of collective action vary along with the degree of ideological adherence to egalitarian social movements. Communist parties in non-Communist nations tend to advocate a more drastic, or even revolutionary, change of the existing social and political order. Despite their attempt to articulate and aggregate the interests of the less-privileged, moderate leftist parties are considered to have

a stabilizing effect on political systems. In competitive party systems where two or more parties holding divergent views freely compete for popular support, moderate leftist parties are seen as an established non-violent channel of political demands on the part of the less-privileged. According to Lipset (1960, 1964: 345), who considers election "the expression of democratic class struggle":

> The nature of such [social] inequality varies greatly.... However, in all countries, the more deprived strata, in income and status terms, continue to express their resentments against stratification or simply their desire to be represented by politicians who will seek to further redistribute...the goods of the society, by voting for parties who stand for an increase in welfare state measures and for state intervention in the economy to prevent unemployment and increase income vis-a-vis the more privileged strata.

Lipset's argument suggests that popular support for the leftist parties largely comes from the more deprived strata among the population. In order to secure their votes, in turn, the leftist parties actually or symbolically coordinate and channel their interests to the decision-making process. Thus, the strength of the leftist parties is likely to minimize political violence.

> H4.3: The greater the strength of the (non-Communist) leftist parties, the lower the level of political violence.

Only one cross-national study (e.g., Hibbs, 1973) has empirically assessed this relationship. Hibbs' 103-nation study regressed a set of political variables, including a Communist regime dummy, Communist membership, the strength of non-Communist left and population size, on Collective Protest and Internal War. He found that leftist strength exerts a significant negative impact on the level of collective protest.

However, its impact on internal war appeared to be negligible. These findings suggest that explanatory utility of the leftist strength may vary with the types of political violence.

Structural Imbalance and Political Violence

Long ago, Durkheim (1934) contended that discrepancy between the pace of structural change and the institutionalization of social control determines the nature of social order. In general, a systemic view of society (e.g., Easton, 1965a, Almond and Powell, 1955; Huntington, 1968) sees that both the nature of political demands and the capacity of a system to cope with demands as closely related to the manner in which political order is maintained. Explicit in this view is the idea that a dynamic equilibrium between changes in environment and development of political institutions is essential for system stability. In turn, a poor fit between political institutions and the social situations is a major source of system stress, which alters the normal pattern of system-environment interactions (see Easton, 1965; von Vorys, 1967). In Huntington's (1968: 5) words, "The primary problem of politics is the lag in the development of political institutions behind social and economic change."

The expansion of mass political participation, the socioeconomic and psychological dislocation and disorientation, rising expectations and sense of relative deprivation--all can be seen as being associated with large-scale socioeconomic change (see Lerner, 1958; Deutsch, 1961; Olson, 1963; Smelser, 1963; von Vorys, 1967; Riggs, 1968; Huntington, 1968). This rapid social mobilization can be politically destabilizing,

for social frustrations trigger intensified demands for change, and the expansion of political participation enforces those demands.

> Urbanization, increases in literacy, education, and media exposure all give rise to enhanced aspirations and expectations which, if unsatisfied, galvanize individuals and groups into politics. In the absence of strong and adaptable political institutions, such increases in participation mean instability and violence (Huntington, 1968: 47).

Huntington believes that effective political institutions can absorb the destabilizing effect of rapid mobilization. In short, unless a great variety of intensely-felt demands upon a political system is counterbalanced by high level of economic development, which reduces social frustrations, and political institutionalization, which increases political responsiveness, extensive social mobilization is apt to be profoundly disruptive of the political order. From this perspective:

> H4.4: The higher the structural imbalance, the higher the level of political violence.

The empirical findings on this relationship are quite diverse. Schneider and Schneider's (1971) study of developed nations provided a strong support for the idea that structural imbalance breeds political violence. Similarly, Yough and Sigelman's (1976) study of less-developed nations found that structural imbalance operated in the direction of theoretical prediction; however, they also concluded that it is much more closely related to the most severe type of political violence, power transfer, than to either collective protest or internal war. On the contrary, Hibbs (1973) could not find any significant effect of structural imbalance. One previous research (e.g., Ruhl, 1975) presented an entirely contradictory finding. In his study of Latin American

nations, Ruhl reported that structural imbalance is negatively related to political instability.

The Linkage Between Regime Coerciveness and Leftist Strength

Political competition requires the mobilization of political demands (interest articulation) and the conversion of these demands into general policy alternatives (interest aggregation). The systemic view of society (e.g., Easton, 1965a, 1965b; Almond and Powell, 1966) contends that both the nature of political demands and system's capability to respond to them are closely related to the maintenance of social order. A basic theoretical proposition of the Eastonian paradigm is that adaptability to normal variations in political demands is essnetial for persistence of a political system, but repression of excessive demands from the environment is also necessary for its persistence (see also, Johnson, 1966). According to Almond and Powell (1966: 100):

> In political systems where articulation is quite limited, as certain traditional systems, in which the majority of the population is bounded by custom and does not formulate autonomous goals, or where the articulation of demands are controlled from the center, as in totalitarian systems, the process of aggregating these demands may be managed successfully by a small elite. But in large and open systems, confronted by a wide range and variety of articulated interests, a more specialized and complex mode of aggregation is needed to prevent disruptions in system performance.

This view suggests that there is a close link between the extent of regime tolerance toward the articulation of political demands and aggregation structure of political systems.

Political parties are considered a major aggregation structure. In more open, tolerant systems, where individuals are free to articulate their interests, competition among political parties is "electoral" --so that a diverse set of political demands are aggregated into each party's policy "package." In particular, less restrictiveness by government on the independent operation of interest groups and media, which articulate interests on the part of the underprivileged, increases the probability that leftist parties will be unsuppressed and flourish. Accordingly,

IV3.1: The lower the level of regime coerciveness, the higher the leftist strength.

Very little research has spoken even indirectly to the government coerciveness--leftist strength relationship. Gillies and Janda (1975) investigated the relationship between the "government status" of political parties (a broad concept including, inter alia, discrimination against parties) and party aggregation of interests along several different cleavage lines. A moderate correlation emerged between governmental status and economic and educational aggregation, suggesting that regime tolerance of opposition is apt to be a decisive factor in ideological differentiation between parties. Coulter's (1971-72) 82-nation analysis concluded that such phenomena as freedom of press, freedom of group opposition, and political participation by the military are related to several characteristics of the political "demand structure," including the representative character of the regime, the nature of the electoral system, the number of functioning political parties, and the elite or mass character of political recruitment.

Coulter's findings are suggestive insofar as the first cluster of variables relates to regime coerciveness and the second bears (very roughly) on our notion of the leftist strength. Recently, Sigelman and Yough (1978b) investigated the impact of regime tolerance on party system polarization--a measure of party strength and ideological differences between parties. Their 35-nation analysis concluded that regime tolerance of opposition is a powerful predictor of ideological differences between parties. These studies strongly suggest that the operation of diverse parties, in general, and socialist parties, in particular, depends upon the extent of regime tolerance toward the mobilization of diverse interests into decision-making process.

Model 2: The Socioeconomic Determinants of Political Structure

1. The Impact of Modernization on Political Structure

Scholars since Aristotle have written of the salutary political effects of social affluence and related socioeconomic conditions, which are thought to facilitate the emergence of an open, democratic, participatory political system. Industrialization and social mobilization are commonly thought to introduce widespread mass political participation, a growing political role of various social groups, and attitudinal change among members of diverse social groups. According to this perspective, the salient political consequences of industrialization and social mobilization include the diffusion of political power and regime's tolerance on open competition for scarce resources.

Some scholars primarily emphasize the effect of the expansion of the middle class on democratization. Long ago, Marx attributed the evolution of parliamentary democracy to the rise and expansion of the bourgeoisie along with industrialization. This relationship between the bourgeoisie and democratization arose because the incongruence between emerging economic power and old social status of capitalist classes led to greater demand for their political power. Based on the same reason, Moore (1966) argues that the existence of a strong and organized urban middle class is a necessary condition for the evolution of a more open participatory political system. One important modern statement of this notion is Daniel Lerner's (1958) stage theory of the "secular evolution of a participant society," in which greater affluence and its related social conditions are said to trigger higher levels of mass political participation. Lipset (1960), a leader of the end of ideology school, is also closely associated with the idea that socio-economic development is a vital requisite for the operation of competitive political system.

Lenski's (1966) theory of social stratification also argues that politics involves competition for scarce values, and economic development produces a large surplus which alleviates scarcity and thus lower stakes for political competition. Lenski's contention that the distribution of political power among social classes is closely related to the size of the surplus is based on a systems view of society--that is, cooperation among social groups and accommodation of diverse interests are essential both for system survival and the efficient attainment of most other goals. To Lenski, the dominant elite in such surplus

economy is more tolerable to egalitarian social movements, because modest economic concessions on the part of the dominant elites does not necessarily mean any loss in absolute term. As a consequence, the legitimacy of the political system is not fundamentally threatened and the regime will be more likely to tolerate opposition and ideologically diverse parties.

Such studies imply that the levels of economic development and social mobilization affect the strength of socialist parties and the level of regime coerciveness. On the other hand, Huntington (1968), who considers modernization as a process of social mobilization and economic development, proposes a direct link between modernization and political institutionalization. According to him, modernization inevitably expands the extent of political participation and creates new social groups, especially both middle class and working class. Two alternative paths for a political system to respond to the political demands engendered by modernization are either political institutionalization or political decay:

> ...the system either provides for this participation in ways harmonious with the continued existence of the system, or alienates the groups from the system and produces overt or covert civil strife and secession. (Huntington, 1968: 140).

Huntington considers that political institutionalization involves the mobilization of the new social groups into politics and thus dispersion of power within the system.

These diverse perspectives present a direct link between modernization and political structure:

H4.2: The higher the level of social mobilization and economic development, the higher the level of political institutionalization.

H4.3: The higher the level of social mobilization and economic development, the greater the strength of socialist parties.

H4.4: The higher the level of social mobilization and economic development, the lower the level of regime coerciveness.

A truly massive amount of research, dating back to early studies by Lerner (1958) and Lipset (1960), has suggested that the maintenance of an open, democratic, participant political system is contingent upon certain social conditions, most notably those associated with socio-economic development. Despite a relative consensus on the operationalization of socioeconomic development, however, empirical studies have employed a variety of indicators as a measure of the characteristics of political systems. The studies of the determinants of democracy and party competitiveness have suggestive utility for testing the link between socioeconomic factors and regime coerciveness, since they focus on phenomena such as the degree of freedom of opposition and press, egalitarian social movement, political participation and competition for political power.

Probably the best-known of these is Cutright's (1963) study of 76 nations, which emphasizes the important role of social and economic factors in determining democratic political development. A second generation of empirical studies, including the research undertaken by Alker (1966), Tanter (1967), McCrone and Cnudde (1967), Olsen (1968), Needler (1968), and Smith (1969), extended Cutright's basic analysis

by rendering causal interpretation of the determinants of democratic development. In a more recent study, Coulter (1975) has found uniformly high correlations among several aspects of "liberal democracy" (including competitiveness, participation, and public liberties) and variables pertaining to urbanization, education, communication, and economic development in 85 nations. Despite their differences in sample size, time period, and operationalization of key concepts, all of these causal analysis concluded that an open, participant political system is fundamentally a product of socioeconomic forces.

A handful of research directly examined the relationship between political institutionalization and socioeconomic development. Contrary to their expectation, Duvall and Welfling's (1973) study of Black African nations could not find any significant impact of social mobilization on party system institutionalization. On the other hand, some studies (e.g., Coulter, 1972; Feldberg, 1970; Obell and Rutherford, 1974) have provided strong support for the notion of socioeconomic determinants of regime coerciveness. It is well understood that the police and the military tend to play a more neutral political role in more affluent and homogenous societies. Coulter (1972) found some substantial correlations between a judgmental variable summarizing the political role of the police and several socioeconomic variables, and Feldberg (1970) has documented similar findings for the military. Also Obell and Rutherford (1974) reported that "Leviathanness" is negatively associated with socioeconomic development. Sigelman and Yough (1978a) also reported that the correlations between regime tolerance and socioeconomic factors were relatively strong. However, their path analysis

provided strong indication of an indirect relationship between affluence and regime tolerance, mediated by equality of opposition and reward. In sum, the previous studies generally support that political institutionalization and regime coerciveness are closely related to socioeconomic conditions.

2. The Linkage Between Socioeconomic Change and Political Structure

In the modernization literature, it is generally contended that a high level of modernization has a long-term stabilizing impact on political structure, while socioeconomic change has a short-term destabilizing effect. In Huntington's (1968: 41) words, "Modernity breeds stability, but modernization breeds instability." As we have seen, most prominent theories of political violence, which consider large-scale social and economic change as a major source of system stress, also deal with the relationship between such change and political structure. In the theoretical literature, both political institutionalization and regime coerciveness are assumed to be associated with social and economic change.

The idea that rapid socioeconomic change undermines the capacity of political institutions to respond to political demands and thus increases government coercion is largely inferred from structural and psychological change associated with modernization process. The processes of rapid economic development and social mobilization pose the basic problem of regulating interaction among members of society, since they are commonly thought to introduce social disorganization by uprooting

and dislocating social, cultural, economic and political institutions and processes of long standing; moreover, modernization inevitably expands the politically relevant strata and their political aspirations and expectations (see Kornhauser, 1959, Deutsch, 1961; Smelser, 1963; Eisenstadt, 1966; von Vorys, 1967; Riggs, 1968; Huntington, 1968). Thus, rapid social mobilization and economic development can be seen as producing mounting pressures for the transformation of policies, political processes and institutions.

Again, an assumption underlying this notion is that extensive socioeconomic change is likely to lead to a variety of intensified demands, which, in turn, are related to system stress. According to Deutsch (1961: 395),

> If it [government] proves persistently incapable or unresponsive, some or many of its subjects will cease to identify themselves with it psychologically; it will be reduced to ruling by force where it can no longer rule by ....persuasion; and if political alternatives to it appear, it will be replaced eventually by other political units, ..., which at least promise to respond more effectively to the needs and expectations of their people.

Demands, especially those which threaten the existing structure, institutions, and norms of the political system, require a great deal of time and resources on the part of government, and intensified demands can undermine government's capacity to transform governmental structures, processes, and policies. Moreover, if demands challenge the viability of the system, the political system can suppress demands by resorting to coercion. From this perspective, it follows that:

> IV4.5: The higher the rates of social mobilization and economic growth, the lower the political institutionalization and the higher the government coercive potential.

A handful of research has correlated socioeconomic change to political institutionalization and regime coerciveness. Working with 28-Black African nations, Duvall and Welfling (1973b) observed no relationship between rates of social mobilization and party system institutionalization. Similarly, Feierabend and Feierabend with Howard's (1972) study of 84 nations for the period between 1935 and 1961 did not support the idea that rapid socioeconomic change increases regime coerciveness. However, Hibbs (1973) achieved mixed results. That is, rates of social mobilization had no appreciable relationship to political institutionalization, while rates of economic development were positively related to political institutionalization. In a sample of 61 less-developed nations, Yough and Sigelman (1976) reported that social mobilization undermines political institutionalization, but economic development increases political institutionalization. Thus, empirical findings concerning the relationship between socioeconomic change and political structure are unsettled. But the latter two studies suggest that rapid economic growth itself is far less politically destablizing than had previously been supposed and it even can stimulate political institutionalization.

Model 3: Economic Dependence, Socioeconomic Differentiation, and Political Structure

The theoretical perspectives linking economic dependence and socioeconomic differentiation to political structure are complex and often contradictory. Two political factors (regime coerciveness and the strength of leftist parties) and one output measure (welfare

statism) are considered in this study. The theoretical propositions concerning the link between economic inequality and political structure are extremely diverse, and thus provide the basis for specification of a nonrecursive model. Welfare statism is employed to tap the possibility of a mediating effect between economic inequality and political structure.

1. The Linkage Between Economic Inequality and Political Structure

The issue of the relationship between formal structural characteristics of political systems, modernization, and social inequality has been the focus of a great deal of stratification theory and research. In the theoretical literature, four different perspectives have been presented on these relationships. As we saw earlier, the first view is that economic and technological progress lead to greater equality through their effects on structural diversification of the economy and on attitudinal changes among the affected population (see Kuznets, 1955; Ahluwalia, 1976). This view does not lay any emphasis on political factors as determinants of the material reward structure. Second, the traditional view, which follows from John Stuart Mill's and James Bryce's arguments about the supremacy of democracy over other forms of government, is that democracy leads to greater equality in the distribution of wealth (see Duverger, 1964). Third, some scholars (e.g., Lenski, 1966) contend that an open, democratic, participant political system is contingent upon societal conditions, most notably those associated with material abundance, but that affluence and democracy

have independent impacts on social equality. Explicit in this perspective is the assumption that the institutional frameworks of political systems have a certain autonomy within given socioeconomic conditions. Finally, an alternative view (e.g., Lipset, 1960) argues that affluence and equality are vital requisites for the operation of an open policical system. The fourth view is sharply different from the first three in the sense that the direction of causation is entirely reversed.

The foregoing discussion of the theoretical literature to this point have presented a variety of hypotheses linking socioeconomic development and its related conditions with economic inequality and political structure. By combining those hypotheses into the linkage between economic inequality and political structure, which follows immediately below, these divergent views can be tested in a more inclusive and comprehensive manner.

The thesis that political articulation and aggregation structures have an important impact on the distribution of material wealth is largely inferred from Lenski's (1966) theory of social stratification. Lenski (1966: 315-25) formulates the distributional significance of the relative strength of socialist parties and autonomous interest groups in terms of two contradictory propositions. First, the dominant elites who control government "are able to determine the rules governing the competition for reward in society, and by virtue of this power are able to influence profoundly the outcome of this competition." Thus, the dominant elites can determine the distribution of nearly all the surplus possessed by a society/ However, a stable pattern of interaction between subsystems requires cooperation and mutual adjustment.

His second proposition concerns system survival and stability: "cooperation [among social groups] is absolutely essential both for survival and for the efficient attainment of most of other goals." To him, the extent of concession by the dominant elite for the sake of system stability depends upon the size of the economic surplus, the strength of egalitarian social movements, and the collective bargaining power of working class organizations (see also, Lipset, 1959; Ahluwalia, 1976).

Literature on political party systems also concerns the impact of the strength of the leftist parties on the behavior of conservatives and thus the outcome of political competition. For example, Downs' (1957) spatial model of party competition deduces from the axiom that parties seek to maximize popular vote the redistributional significance of leftist parties. According to Downs, if the left gain a considerable popular vote, the conservatives become more or less committed to the adoptation of social policies, actual or symbolic in order to secure popular votes (see also Duverger, 1964). Moreover, once parties of the left have the opportunity to win office, "governments ideologically committed to improving the positions of the underclass can bring about certain changes in the overall balance of rewards and opportunities" (Parkin, 1971: 114). Similarly, Alford (1964: 300) finds that "lower income groups [in nations where the relative power of leftist parties is greater] are able to secure more of the national products than where the left has less power." Rose (1969) believes that the strength of leftist opposition stimulates government activities intended to provide social benefits for the sake of its citizens. In short, the strength

of leftist parties and autonomous interest groups leads to greater equality, because the political power of the less-privileged force conservatives to adopt redistribution and welfare policies for the sake of system stability:

> IV4.6: The stronger the leftist parties and the lower the regime coercive potential, the lower the level of economic inequality and the higher the level of welfare statism.

However, Lipset (1960) has argued that economic inequality affects the strength of socialist parties and regime coerciveness. The idea here is that stratification is an indispensable prerequisite for the generation of societal power and the central dynamics of stratification systems are comprised of power, class consciousness, and social mobility. Socialist parties are predicted to be stronger where absolute levels of deprivation are high. As Lipset argues, egalitarian movement did at least originate with the fundamental purpose of changing distributive systems in favor of the lower class, and popular support for socialist parties comes from this class. However, greater equality and higher rates of social mobility are said to reduce status, outlook, and life style differences, thereby undermining class consciousness. Where the interests of various classes are more homogeneous and rigid class distinctions do not appear, the basis of political diversity overlap, and the interests of various groups are more harmonious. Parties with a heterogeneous social base are less likely to be concerned with ideological matters than are cohesive parties (Rose and Urwin, 1969: 27). On the other hand, a "dissatisfied state of mind"

engendered by social inequality can be politicized by active campaign for egalitarian movements of socialist parties.

Also greater inequality and a negligible chance for social mobility are thought to encourage anti-system frustrations, which call into question the legitimacy of the political system. Perceiving threats to system survival, the political elite may move to curtail the acceptable range of dissent by restricting mass political participation and the independent operation of interests different from those of the regime. Greater equality, on the other hand, is said to create a reservoir of political support and to moderate the stakes of political conflict, for dissatisfactions are less acutely felt in an affluent, egalitarian system. As a consequence, the legitimacy of the political system is not fundamentally threatened and the regime is more likely to tolerate political opposition. From these perspectives, it follows that:

IV4.6a: The greater the economic inequality, the stronger the socialist parties and the higher the regime coercive potential.

Empirical findings on these relationships are quite diverse. Cutright's (1967) cross-national test of the Lenski's theory of social stratification found that democracy is strongly and inversely associated with sectoral income inequality, and the egalitarian effect of democracy is significant, even controlling for the effects of economic development. Stack's (1977) study of 32 nations replicated the findings that political democracy has a significant independent impact on economic inequality. Working with 60 nations, however, Jackman (1975) found that the

impact of democratic performance on sectoral income inequality was significant, but this bivariate relationship disappeared when economic development entered into his regression model. Recently, Rubinson and Quilan (1977) reassessed this relationship by employing Jackman's and Cutright's indices of democracy and personal income inequality for 32 nations. They found that Jackman's index of democracy is significantly related to personal income inequality, even controlling for the level of economic development. But their instrumental variable estimation suggested that the causal flow ran from equality to democratization rather than vice versa. Similarly, Sigelman and Yough (1978a) also detected moderate impact of equality of opportunity and reward on regime tolerance of opposition.

Some empirical studies have dealt with the relationship between the strength of socialist parties and economic inequality. Parkin's (1971) study of Western capitalist nations tested the impact of socialist government on income differentials between occupational groups, but it failed to find any significant relationship between them. Similarly, Jackman (1975) also concluded that the strength of socialist parties has no effect on sectoral income inequality. However, the most recent study reported by Hewitt (1977) found that socialist party strength is strongly and negatively associated with two measures of economic inequality (e.g., r of -.53 with the income share of the top 5% and r of -.57 with the income share of the top 20%) and positively associated with the redistributive effect of the government budget (r = .58). His multiple regression model included economic growth rate and economic development along with the strength of socialist parties. Regardless

of the effect of economic variables, the strength of socialist parties has a significant negative effect on income inequality. These studies hypothesize the strength of socialist parties as a causal factor in explaining economic inequality. On the contrary, Sigelman and Yough (1978a) investigated the effect of economic inequality on left-right polarization in party systems, which can be considered evidence of a highly ideological political style. They found no significant relationship between inequality and polarization.

The above studies have the relationship of development and political structure to objective social condition, inequality. However, some previous studies have employed welfare statism as a dependent variable, and found that politics does indeed affect social welfare effort. Pryor's (1968) comparison of "Communist" and "capitalist" nations found that system age and the strength of labor unions are strongly related to health and welfare spending, but economic development is not related to this spending. However, he warned that the relationships may differ along with across-time and across-nations, for his time-series analysis revealed that economic development is a most important factor in explaining change of welfare spending across time. Similarly, Peter's and Klingman's (1977) longitudinal comprison of three Scandinavian nations reported that both political factors (such as the strength of leftist parties and labor unions) and economic development have significant independent impacts on social security expenditures, but the significance of political factors in these relationships are likely to decline as the level of industrialization

increases. Thus, it was suggested that politics is important in determining government commitment to social welfare at the earlier stages of development.

Several recent studies have reassessed the relative importance of economic development and political structure in explaining differences in welfare effort across nations. For example, Hibbs (1973) supported the proposition that the strength of socialist parties is closely related to government effort to improve social welfare. A similar finding is reported by Miller (1976) for the relationship between characteristics of the political system and social welfare spending. Jackman (1975) also observed that diverse measures of political systems such as democratic performance, institutional longevity, and the strength of socialist parties and labor unions are likely to influence social welfare effort; but, in his overall evaluation of a final model, Jackman suggested that the institutional longevity of political systems alone is significantly related to social insurance program experience. However, Williamson and Weisse's (1978) path analysis of 39 nations revealed somewhat different patterns; institutionalization of the welfare bureaucracy is influenced by the level of economic development and the strength of egalitarian political movements (measured by the strength of socialist parties and unions), which, in turn, affect social welfare effort.

Thus, empirical findings concerning the linkages between economic inequality, welfare statism, regime coerciveness and the strength of socialist parties are quite unsettled. Some researchers have concluded that economic inequality and welfare statism are not strongly

related to regime coerciveness and socialist strength. Others have found support for the proposition introduced above, but controversies still exist in these findings; that is, some researchers have presented evidence of a strong positive impact of socialist strength and a strong negative impact of regime coercion on inequality and welfare statism, while others detected the opposite relationships.

The Linkage Between Socioeconomic Development and Welfare Statism

As noted earlier, many explanations of social inequality has emphasized the importance of economic resources. The same logic has often been applied to the linkage between socioeconomic development and welfare statism (see, among others, Lenski, 1966; Jackman, 1975). The central premise in this view is that social stratification systems originate from scarce values, and that politics involve competition for these scarce values. However, economic and technical progress alleviate scarcity through the production of a larger surplus and thus lead to lower stakes for political competition. Lenski's (1966: 437) argument that industrialization increases government commitment to the achievement of greater equality is largely based on the impact of society's surplus product on the behavior of the dominant class:

> So long as the economy is unable to produce a large surplus, the political and economic elite can reinforce inequality to ensure the existence of a surplus and their own position of privilege. Populations in industrialized societies will demand equal distribution of the society's product and, because the amount of the surplus is so vast, the elite can afford to give up some of the surplus and allows the masses to rise above the subsistence level. Society with high levels of economic development will have an elite willing to make concessions and a population demanding equality.

In the long run, the cumulative concessions on the part of the dominant class can increase the political power of the lower class, which, in turn, forces the dominant elite to move further toward the welfare state for the sake of system stability. From this perspective, we hypothesize that:

IV4.7: The higher the level of socioeconomic development, the higher the welfare statism.

Much evidence has been brought to bear on this relationship. Cutright's (1965) classic study of 76 nations observed that both economic development and political representativeness are strongly and positively related to social security programs, but, when the effect of economic development is controlled, the direct effect of political representativeness is considerably decreased. In a subsequent study, Cutright (1967) reached much the same conclusion, arguing that the level of economic development is the most important determinant of social security program experience. Despite differences in indicators, sample, and time period, several other studies replicated Cutright's basic findings. For example, Aaron's (1967) study of 22 nations and a subsequent study by Pechman, Aaron and Taussig (1968) identified a strong direct effect of per capita national income and insignificant effects of institutional longevity. Jackman (1975) investigated the direct and indirect impacts of socioeconomic development and democratic performance on social welfare efforts. He found that socioeconomic development and democratic performance are closely related to social insurance program experience and social welfare, but his multivariate analysis could not find any direct effect of democratic performance.

Verner's (1979) recent study of 102 nations employed a variety of indicators of educational policy outputs and characteristics of political systems and reached much the same conclusions. Working with a sample of 64 nations, however, Wilensky (1975) discovered that both GNP per capita and elite ideology do not have a direct impact on social security efforts. In that study, Wilensky found that the effect of GNP per capita is mediated through the age structure of the population. These findings were upset by Miller's (1976) reanalysis of Wilensky's data, for Miller found that GNP per capita has a direct effect. Thus, these studies generally contend that economic development is the most important factor in explaining welfare effort across nations and political factors are at least not strongly related to it.

The Linkage Between Welfare Statism and Social Equality

As we have seen earlier, in the theoretical literature economic resources and political structures are considered important determinants of social equality. Another political dimension, the size and strength of government commitment to welfare state, is thought to have a direct effect on social equality. Central to government commitment to the welfare state is the notion that egalitarian policies help to increase the status of lower income groups in society. The progressive tax system directly aims at income redistribution from the higher income group to the lower, and it is considered the most important means of income redistribution (see Paukert, 1967; Wilensky, 1975). On the other hand, social welfare policies aim at helping to establish

minimum standards of living and alleviating distress resulting from sickness, old age, unemployment, etc. Thus, income redistribution is only a part of the broad objectives of social welfare policies.

However, much political debate and controversy are likely to surround the distributional effect of social welfare policies. As Sharkansky (1967) points out, the institutionalization of welfare policies and high levels of spending do not necessarily imply high levels of services and outcome. Obviously, the sources of the expenditure and the actual benefit of the target groups must be taken into account in order to investigate the redistributional effect of social welfare policies. As Wilensky (1975: 90) contends, the aged are likely to be a large fraction of the poor; the aged and the poor are more likely to be sick; family allowances and public assistance are likely to go to the poor; and unemployment and job-injured are likely to be concentrated among low-income families. Thus, social welfare programs can help the lower income group so that it can supplement other instruments of income redistribution Policy (see Paukert, 1967; Wilensky, 1975; Jackman, 1975). In hypothetical form:

IV4.8: The higher the welfare statism, the lower the social inequality.

Although most hypotheses linking environment and politics to welfare effort are largely drawn from theoretical perspectives that concern social equality, only one cross-national study (e.g., Jackman, 1975) has paid attention to testing the impact of welfare effort on social equality. Jackman's (1975) partial models found that social

welfare, social insurance program experience and civilian government expenditure per capita are likely to produce greater equality. In his overall evaluation of a multivariate model, Jackman also found that civilian government expenditure per capita and social welfare index have significantly direct effects on sectoral income inequality. Thus, this study provides evidence that government commitment to welfare state contributes to achieve greater equality.

PART TWO: OPERATIONALIZATION OF CONCEPTS AND EMPIRICAL TEST

CHAPTER V

MEASUREMENT, DATA, AND SAMPLE

Data

In order to test the propositions outlined above, data were assembled for the seven-year time period from 1961 to 1967. This time period is compatible with both the availability of data on explanatory variables and the date of independence of many new nations, especially in Africa.* Indicators of any variable employed in time-lag analysis pertain to the seven-year period immediately preceding 1961 (i.e., 1954-60). Log or square root transformations are used to normalize highly skewed indicators so that they will be appropriate for statistical analysis (Richards, 1971; Kurskal, 1968; Rummel, 1970; Schuessler, 1971). Complex concepts are tapped in terms of multiple indicators and principal components analysis is employed to test the convergent validity of multiple indicators. Summary indices are constructed by

*Twenty-one nations in our sample became formally independent during the 1960-67 period. In 1960, Chad, Cyprus, Dahomey, Gabon, Ivory Coast, Malagasy Republic, Niger, Nigeria, and Senegal became independent; in 1961, Sierra Leon and Tanzania; in 1962, Trinidad-Tobago and Uganda; in 1963; Kenya; in 1964, Malawi and Zambia; in 1965, Rhodesia; in 1966, Barbados, Botwana and Guyana. Because statistics are usually not available for nations in the preindependent period, 1960 is really the initial year for which large-scale cross-national comparisons are feasible. However, 1961 is selected as the base year in our study in order to eliminate the intensity of violent events surrounded with nationalist movements in the preindependent period.

adding the standardized values (T-scores) of each component indicator, weighted by factor score coefficients.* As noted in Table 5.1, the primary data sources are the UN Statistical Yearbook, the UNESCO Yearbook, the UN Demographic Yearbook, and the World Handbook of Political and Social Indicators compiled by Charles L. Taylor and Michael C. Hudson.

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*The standardization procedure is employed to transform a set of raw values without changing their essential meaning. A standardized score, which indicates how many standard deviations above or below the mean a given observation lies, is often used to combine observations based on different metrics. The best-known transformation into standard form is a Z-score, which is given as:

$$Z_X = \frac{X_i - \bar{X}}{S},$$

where $\bar{X}$ is the mean of the distribution of X_i's and S is the standard deviations. The mean of any Z-distribution equal 0 and the standard deviation, 1. Z-scores can themselves be transformed into a distribution with any mean and standard deviation one specifies. A commonly employed transformed Z-score is the T-score, defined as:

$$T_X = 50 + 10\ (Z_X).$$

Like the Z-score, T-scoring does not affect the shape of distribution, but does standardize the metric; the mean of any T-distribution equals 50 and the standard deviation, 10. Summing the T-scores of the component indicators will yield a composite index. The T-score is perfectly correlated within Z-score and produce exactly the same result.

As Sigelman and Yough (1978a) indicate, T-scores may be somewhat more convenient to use than Z-scores, since they eliminate plus and minus signs and thus are more appropriate for second-order variables. On the other hand, factor score coefficients, which are estimated from the least-square regression method, have been used in weighting the component indicators of a concept. Obviously, if the component indicators are highly intercorrelated and thus equally contribute to a common dimension, there are no compelling reasons to weight them because a composite scale weighted by factor score coefficients is likely to be little different from an unweighted scale. If not, the researcher may consider weighting them on intercorrelation grounds. For this study, we employ the weighted T-scoring technique. For a more detailed discussion, see Sigelman and Yough (1978a).

Table 5.1: Concept, Indicator and Data Source

	Concept	Indicator	Source
C1	Total Population, 1961-67		UN Demographic Yearbook, 1961 et seq.
C2	Population Growth Rate, 1961-67		" " " " " "
C3	Level of Economic Development	GNP per Capita, 1961-67	UN Statistical Yearbook, 1961 et seq.
		Electricity Consumption per Capita, 1961-67	" " " " " "
		Energy Consumption per Capita, 1961-67	" " " " " "
		% GDP (Industry), 1961-67	" " " " " "
C4	Level of Social Mobilization	Newspapers per 1,000 Population, 1961-67	" " " " " "
		Radios per 1,000 Population, 1961-67	" " " " " "
		Literacy Rate, 1961-67	UNESCO Statistical Yearbook,
		School Enrollment Rate (1st & 2nd) per Age Group, 1961-67	" " "
		% Population in Cities over 100,000, 1961-67	UN Demographic Yearbook, 1961 et seq.
C51	Urbanization	% in Cities, 1961-67, less	" " " " " "
		% in Cities, 1954-60	" " " " " "
C52	Improvement in Human Resources	Literacy Rate, 1961-67, less Literacy Rate, 1954-60	UNESCO Statistical Yearbook
		School Enrollment Rate, 1961-67, Less School Enrollment Rate, 1954-60	" " " " " "

(continued)

Table 5.1 (continued):

	Concept	Indicator	Source
C53	Communication Development	Newspapers, 1961-67, less Newspapers, 1954-60	UN Statistical Yearbook
		Radios, 1961-67, less Radios, 1954-60	" " "
C6	Cultural Heterogeneity	Ethno-linguistic Fractionalization Index	Taylor and Hudson (1972)
C7	Economic Dependence	Trade Concentration (export Commodities) Index	Taylor and Hudson (1972)
		Debits on Investment as % of GDP	IBRD (1973)
C8	Political-social Imbalance	Political Institutionalization	
		Economic Development	
		Social Mobilization	
X1	Domestic Capital Formation	Domestic Savings as % of GDP, 1961-67	UN Statistical Yearbook
X2	Economic Growth Rate	GNP per Capita, 1961-67, less GNP per Capita, 1954-60	" " "
		Electricity Consumption, 1961-67, less Electricity Consumption 1954-60	" " "
		Energy Consumption, 1961-67, less Energy Consumption, 1954-60	" " "
		% GDP (Industry), 1961-67, less % GDP (Industry), 1954-60	" " "

(continued)

Table 5.1 (continued):

	Concept	Indicator	Source
X3	Political Institutionalization	Age of National Constitution	Taylor and Hudson (1972)
		Effectiveness of Legislature	Banks (1971)
		Age of the Oldest of two Major Parties	Banks (1976)
X4	Regime Coercive Potential	Military Manpower per Working Age Population	Taylor and Hudson (1972)
		Internal Security Force per Working Age Population	" " " "
X5	Leftist Strength	% Vote for Leftist Parties	US State Department
X6	Social Mobility	School Enrollment Rate at 3rd Level per 1,000 Population, 1961-67	UNESCO Statistical Yearbook
X7	Economic Inequality	Gini Index of Personal Income Inequality	Jain (1975)
X8	Welfare Statism	Social Insurance Program Experience	US Social Security Administration
		% Expenditure on Health	UNESCO Yearbook of National Account Statistics
X9	Political Separatism		Gurr (1966)

(continued)

Table 5.1 (continued):

	Concept	Indicator	Source
Y1	Collective Protest	Demonstrations, 1961-67	Taylor and Hudson (1972)
		Riots, 1961-67	" " " "
		Political Strike, 1961-67	Banks (1971)
		Negative Sanctions, 1961-67	Taylor and Hudson (1972)
Y2	Violent Power Transfers	Revolutions, 1961-67	Banks (1971)
		Irregular Executive Change, 1961-67	Taylor and Hudson (1972)
		Assassinations, 1961-67	Banks (1971)
		Armed Attacks, 1961-67	Taylor and Hudson (1972)
		Purges, 1961-67	Banks (1971)
Y3	Deaths from Domestic Violence	Deaths from Domestic Violence, 1961-67	Taylor and Hudson (1972)
Y4	Regime Coercion	Press Freedom Index	Kent (1972)
		Freedom of Group Opposition	Banks and Textor (1963)
		Role of Police	" " " "

Final Endogenous Variables:
Dimensions of Political Violence

Political violence is obviously a multidimensional concept. In this study, political violence refers to all conflict events which have an anti-system or pro-system character, political significance, and largely a collective nature. Thirteen indicators are employed in measuring political violence: protest demonstrations, riots, armed attacks, deaths from domestic violence, irregular executive change and negative sanctions (Taylor and Hudson, 1972), revolutions, assassinations, political strikes, and purges (Banks, 1971), press freedom (Kent, 1972), freedom of group opposition, and political role of police (Banks and Textor, 1963). These indicators have been aggregated into a seven-year time period (1961-67) where data are available. Natural log or square root transformations are performed on these indicators, if they are highly skewed.

As summarized in Table 5.2, four factors were extracted from a principal components analysis of these transformed indicators, which together accounted for 71.77% of the total variance. High loaders on the first factor (explained variance = 24.58%), which is labelled "Collective Protest," are protest demonstrations, riots, political strike, and negative sanctions. The second factor (explained variance = 21.64%) includes revolutions, irregular executive power transfers, assassinations, armed attacks, and purges, and is accordingly labelled "Violent Power Transfers." Press freedom, freedom of group opposition and role of police factor on a third dimension, which accounts for

Table 5.2: Principal Factor Analysis of Political Violence Indicators

	Factors[a]				
	I	II	III	IV	h^{2}[b]
Demonstrations*	.926	.000	.062	-.085	.869
Riots*	.877	.157	-.004	.212	.839
Political Strikes*	.908	-.005	-.002	.022	.825
Sanctions*	.623	.434	.198	.237	.671
Revolutions**	-.033	.780	.130	.064	.630
Irregular Executive Change**	-.075	.658	.282	.080	.525
Assassinations**	.107	.621	-.218	.147	.467
Armed Attacks*	.422	.605	-.385	.074	.697
Purges	.255	.792	-.099	-.102	.712
Press Freedom	.031	.117	.751	.248	.640
Group Opposition	.172	-.070	.853	-.059	.765
Role Police	-.150	.346	.628	-.513	.800
Deaths from Domestic Violence*	.109	.205	.107	.908	.890
% Factor Variance	33.93	30.16	21.89	14.05	100.03%
% Total Variance	24.35	21.64	15.71	10.07	71.77%

a. Orthogonally rotated varimax method; factor loadings over .600 are blocked (i.e., blocked loadings >.600) to construct a composite index from variables identified as common to a dimension.

b. The communality of a variables (designed h_j^2) refers to the total variance of the variables accounted for by the combination of all common factors.

* Logarithmic transformation.

** Square root transformation.

15.71% of the variance, labelled "Regime Coercion." Deaths from domestic violence alone form distinctive factor (explained variance = 10.07%).

The magnitude of conflict events is, ceteris paribus, likely to be a function of population size. However, unpercapitized data were employed in the factor analysis, because ratio measures are obviously sensitive to errors in the measurement of the denominators, and because the correlation between explanatory variable and political violence deflated by population size may be spurious when the variance of population size is much larger than that of conflict events. Rather than computing percapitized versions of the violence variables, this study follows the precedent of Hibbs (1973) and others (e.g., Sigelman and Simpson, 1977) in employing population size as an independent variable in all equations for collective protest, violent power transfers, and deaths from domestic violence.

Exogenous Variables

Economic Development is measured by four indicators--gross national product per capita, energy consumption per capita, electricity consumption per capita, and percent of gross domestic product originating in industrial activities (UN Statistical Yearbook, 1961 et seq.) --all which have frequently been employed in previous cross-national research. These indicators are highly intercorrelated, with correlation coefficients for the 73-nation sample ranging between .56 and .92.*

*The nature and composition of sample are discussed in Chapter IV.

Principal components analysis of the four indicators reveals that a single factor accounts for 83.7% of the overall variance. Accordingly, a composite index of economic development was constructed by adding the t-score of the four variables, weighted by their factor score coefficients.

The relationships between component indicators, the summary index of economic development, and political violence are given in Table 5.3.* First, there is evidence that each component indicator is strongly correlated to the index of economic development, ranging from .75 to .92. Second, each indicator and the composite index of economic development are only negligibly associated with collective protest and power transfers. However, the association with deaths from domestic

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*As Hibbs (1973) notes, the magnitude of conflict events is, ceteris paribus, likely to be a function of population size, so that this size variable is employed as an independent variable in our models. Accordingly, it might be appropriate to employ partial betas, controlling for the effect of population size, in examining patterns of convergence in the relationships between component indicators, the summary index, and political violence. However, the underlying dimensions of political violence proved to be the same for percapitized and unpercapitized data. In other words, population size did not significantly affect the dimensionality of political violence. Thus, patterns of convergence in the strength and directionality of the associations involving political violence can not be sharply different for simple correlations than they are for betas. Since our primary purpose here is to observe whether the associations of component indicators and summary indices with political violence are internally coherent and convergent rather than testing causal models, examination of simple correlations is also appropriate for this purpose. It should of course be borne in mind that the relationships between any composite index and the violence dimensions may be considerably altered when the impacts of other explanatory variables (including population size) are considered.

Table 5.3: Correlations between Indicators of Economic Development and Political Violence (N=73)

	(2)	(3)	(4)	INDEX	Collective Protest	Power Transfers	Deaths	Regime Coercion
(1) GNP/Capita**	.92	.63	.56	.90	-.13	-.17	-.48	-.51
(2) Energy Consumption**		.67	.58	.92	-.08	-.18	-.43	-.48
(3) Electricity*			.47	.75	.11	-.05	-.28	-.36
(4) % Ind. GDP				.80	-.09	-.06	-.25	-.26
INDEX					-.12	-.09	-.43	-.47

*Logarithmic transformation
**Square root transformation

violence and regime coercion are moderate. Electricity consumption per capita and percent of gross domestic product originating in industrial activities are less strongly related to deaths from domestic violence and regime coercion, but these differences are hardly major. Third, there is evidence of similarity in the directionality of the relationships. The component indicators and the summary index of economic development are all negatively associated with political violence.

Level of Social Mobilization. In measuring the level of social mobilization, five indicators are employed: newspapers per 1,000 population (UN Statistical Yearbook, 1961 et seq.), literacy rate, primary and secondary school enrollment rate per age group (UNESCO Statistical Yearbook, 1961 et seq.), and percent of population residing in cities over 100,000 (UN Demographic Yearbook, 1961 et seq.). The single factor solution extracted from a principal components analysis accounts for 77.3% of their total variance. As with the index of economic development, the five indicators have been combined by using their factor score coefficients to weight their combined t-scores.

Table 5.4 presents evidence that each component indicator is strongly associated with the index of social mobilization (with correlations ranging from .80 to .96). Moreover, there are no differences in the direction of relationships between each indicator, the social mobilization index, and the violence dimensions. Finally, urbanization

Table 5.4: Correlations between Indicators of Social Mobilization and Political Violence (N=73)

						Political Violence			
	(2)	(3)	(4)	(5)	INDEX	Collective Protest	Power Transfers	Deaths	Regime Coercion
(1) Newspaper**	.88	.81	.85	.71	.96	-.14	-.18	-.55	-.54
(2) Radio**		.78	.79	.65	.91	-.18	-.06	-.46	-.46
(3) Literacy*			.86	.66	.90	-.20	-.07	-.41	-.50
(4) School Enrollment**				.68	.92	-.21	-.08	-.45	-.54
(5) Urbanization*					.80	-.10	-.08	-.28	-.28
INDEX						-.19	-.08	-.49	-.53

*Logarithmic transformed indicators

**Square root transformation

is more weakly associated with the political violence dimensions than the other indicators, but these differences are hardly major. Thus, it is concluded that the component indicators of the level of social mobilization are internally consistent and convergent. However, there is only one instance (the correlations between electricity consumption with collective protest) of different directions of the relationships. However, the magnitude of this correlation is again negligible. Accordingly, it is concluded that there are internally coherent and converging patterns of associations between the component indicators, on the one hand, and the composite index and the political violence dimensions on the other.

Rate of Social Mobilization. The same five indicators employed in measuring the level of social mobilization are used to operationalize its rate in terms of the change between the 1954-1960 and 1961-1967 periods. Rather than calculating annual percent change scores, a residualization procedure was employed. The average score of each indicator during the second period was regressed on its first period counterpart; then, the difference between the observed value in the second period and the predicted value was calculated for each nation, and this residual was adopted as the measure of change. The primary advantage of this procedure is that it insures that a nation's change score will be statistically independent from, and thus not an artifact of, its mobilization level during the base period, 1954-1960 (Van Meter, 1974).

Whereas a single factor solution adequately summarizes the level of social mobilization, three factors can be extracted from a principal components analysis of change scores, together accounting for 66.0% of the total variance (see Table 5.5). Because the high loaders on the first factor (explained variance = 23.5%) are literacy rate and primary-secondary school enrollment rate, this factor is labelled "improvement in human resources." Changes in newspaper circulation per 1,000 population and radio transmitters per 1,000 population factor on a second dimension (22.1% of explained variance), which is labelled "communication development." The third factor (explained variance = 20.4%) includes only urbanization change, and is thus labelled "urbanization." Each summary index of three dimensions of social change was created by adding the weighted t-scores of component indicators.

Table 5.5: Principal Factor Analysis of Rates of Social Mobilization Indicators.

	Factors[a]			
	I	II	iii	h^2
School Enrollment	.590	.252	.351	.535
Literacy	.809	-.203	-.113	.709
Newspaper	-.150	.860	.087	.768
Radio	.389	.508	.292	.495
Urbanization	.012	-.025	.890	.795
% Total Variance	23.53	22.06	20.42	66.01 %
% Factor Variance	35.64	33.42	30.93	99.99 %

[a]Orthogonally rotated Varimax Method; blocked loadings > 0.508.

As presented in Table 5.6, the correlations between three dimensions of rate of social mobilization are negligible. Each summary index is, however, strongly related to the component indicators of which it is composed. Except the association of urbanization with violent power transfers, none of the correlations between the summary indices and political violence, and between the component indicators and political violence are statistically significant. Thus, there are also converging patterns in the strength of association with political violence.

Cultural Heterogeneity. Like several other concepts introduced above, social cleavage is obviously multidimensional (see Geertz, 1963; Rae and Taylor, 1970). Race, ethnicity, religion, and language are only a few of the components of cultural differentiation. As a measure of cultural differentiation, we employ the ethnologuistic fractionalization index computed by Taylor and Hudson (1972) from data collected by the Atlas Narodov Mira, published by the Department of Goedesy and Cartography of the State Geological Committee of the UUR (Academy of Sciences, Moscow). The index was constructed in terms of the measure of fragmentation devised by Rae and Taylor (1970):

$$ELF = 1 - \sum_{i=1}^{N} \left(\frac{n_i}{N}\right)\left(\frac{n_i - 1}{N-1}\right)$$

where n_i is number of people in the i^{th} group and N is total population. The index varies from 0 to 1, with high scores indicating great heterogeneity, depending on the number of differentiated groups and the

Table 5.6: Correlations between Component Indicators of Rates of Social Mobilization and Political Violence

	(2)	(3)	(4)	(5)	(6)	(7)	Collective Protest	Power Transfers	Deaths	Regime Coercion
(1) School Enrollment	.331	-.018	.173	-.023	.059	.680	-.18	-.01	.18	.10
(2) Literacy		.047	.090	.047	.068	.681	-.13	.01	.17	.06
(3) Newspapers			.156	.038	.702	-.010	.01	-.11	-.08	.11
(4) Radios				.047	.702	.142	.05	.12	.12	.16
(5) Urbanization					.061	.159	.02	.24	.18	.12
(6) Communication Development						.093	.04	.03	.05	.08
(7) Improvement in Human Resources							-.16	.03	.05	-.08

proportion of the total population in each of them. The Atlas makes little distinction between ethnic and linguistic differences, characterizing groups not by their physical characteristics but by their roles, their descent, and their relationship to others. Thus, as Taylor and Hudson note, the Atlas takes into account ethnolinguistic assimilation.

Economic Dependence. Economic dependence has been operationalized by previous researchers in terms of the direct penetration of foreign capital investment and reliance on foreign credit, aid, and markets. For this study, direct economic penetration and dependence on external markets are employed as the measures of economic dependence. Core nations attempt to secure external markets for their products and to insure the supply of raw materials. In turn, periphery nations concentrate heavily on producing of raw materials for export (Chase-Dunn, 1975; Rubinson, 1976). The index of concentration of export commodities (Taylor and Hudson, 1972) has adopted as a measure of dependence on external markets. The index was computed by the following formula (Taylor and Hudson, 1972: 366);

$$\text{Export Concentration} = \sum_{i=1}^{N} P_i^2$$

where P_i is proportion of total value of exports accounted for i^{th} commodities. The 52 divisions of commodities included in the index are based on the Standard International Trade Classification.

Direct penetration of foreign capital is said to undermine the development of the periphery because "profits on foreign investment

and interest on foreign credit transfer value from the periphery to the core" (Chase-Dunn, 1975). Direct economic penetration in measured in terms of value of debits on investment income (International Bank for Reconstruction and Development: The World Table, 1973). The value indicates the amount of all profits made by foreign direct investment in the "host" country. Based on the work of Chase-Dunn (1975) and Rubinson (1976), the value of debits as a percentage of gross domestic product was employed as a measure of direct economic dependence.

Principal components analysis of the two indicators of economic dependence (i.e., trade concentration index and debits on investment income) reveals that a single factor accounts for 61.27% of the overall variance. Accordingly, a composite index of economic dependence has been constructed by adding the t-scores of the two variables, weighted by their factor score coefficients.

Political-Social Imbalance. Like the change scores introduced above, the gap between social mobilization on the one hand and political institutionalization and economic development on the other was computed by regressing social mobilization on political institutionalization and economic development and then calculating the residual (the difference between the observed and the predicted values) (R^2 = 74.6%).* High positive residuals denote nations more mobilized than

*The concept of political institutionalization and its operationalization will be discussed in the section, predetermined endogenous variables. The measure of political-social imbalance is presented prior to the discussion of political instutionalization because it is an exogenous variable in this study.

expected on the basis of their institutionalization and economic development; high negative residuals carry the opposite meaning; and negligible residuals characterize balance between mobilization and institutionalization-development.

Population Size and Growth. The use of ratio variables has several pitfalls under certain circumstances, depending upon the mean and variance of the numerator and denominator variables (Schuessler, 1974; Rangarajan and Chatterjee, 1969; Madansky, 1964; Fuggit and Lieberson, 1973-1974). The correlation between two variables deflated by a common denominator may be spurious when the mean and variance of the denominator is much larger than that of the numerators. As noted above, to avoid the problem that often accompanies the use of ratio variables containing common terms, the indicators of political violence were not percapitized in this study. Thus, the natural log of average size of population during 1961-67 (UN Demographic Yearbook, 1961 et seq.) was introduced as an exogenous variable. Since population size is highly skewed, it is transformed by the natural log in order to maximize the linear effect of population in each regression in this study. Including population size as an independent variable constitutes a recognition of Hibbs' contention that the total magnitude of political violence might, ceteris paribus, be a partial function of population size. In Hibbs' terms, this procedure "allows a judgment about the impact of variables of central importance in presence of the logically prior but theoretically uninteresting size variable" (Hibbs,

1973: 25). Population growth between 1961 and 1967 was measured by the same residualization procedure detailed above (FR^2 = .752).

Predetermined Endogenous Variables

Economic Growth Rate. The same three indicators used to tap level of development are employed as measures of economic growth--gross national product per capita, energy consumption per capita, and electricity consumption per capita. Again, the residualization procedure was followed in calculating a change score. Principal components analysis of the residual scores accounted for 61.2% of their total variance. Once again, the three indicators were combined by using factor score coefficients to weight their combined t-scores.

As evidenced in Table 5.7, the component indicators are moderately and strongly related to the summary index of rate of economic development (r's ranging from .56 to .74). The component indicators and the composite index display internally coherent patterns in the direction of association with political violence. Except the relationship between GNP per capita and collective protest, all component indicators have no significant simple correlation with political violence. However, the index of economic growth rate is significantly associated with collective protest.

Domestic Capital Formation as a percentage of Gross Domestic Product was obtained from the United Nations Statistical Yearbook (1962 et seq.). Mean domestic capital formation is calculated over the 1961-1967 period to test hypotheses drawn from neo-Marxist theory.

Table 5.7: Correlations between Component Indicators of Rate of Economic Growth and Political Violence.

	(2)	(3)	INDEX	Collective Protest	Transfers	Deaths	Regime Coercion
(1) CNP per Capita	.13	.12	.56	-.24	-.08	-.03	-.04
(2) Energy Consumption		.28	.74	-.08	-.02	-.10	-.18
(3) Electricity			.66	-.03	.01	.02	-.18
INDEX				-.24	.07	-.05	-.03

Social Mobility. Indexing the openness of social stratification systems is always problematic in cross-national research. Achieving measurement equivalence is a most difficult--perhaps impossible--task (Treiman, 1977a). Comparable data on rates of social mobility are available for only a few industrial nations (see Treiman, 1977b). In this situation, some previous researchers (e.g., Adelman and Morris, 1967; Parkin, 1973; Sigelman and Simpson, 1977; Sigelman and Yough, 1978) have measured social mobility in terms of the breadth of public access to education. Such an operationalization is supported by research findings suggesting that education is mainly a channel of upward social mobility (Treiman and Terrell, 1975; Treiman, 1977a, 1977b; Blau and Duncan, 1967). On the basis of Hewitt's (1977: 455) assertion that "it seems reasonable to use access to higher education as a measure of opportunity," it was decided here to operationalize social mobility in terms of the number of studnets in higher education

per million population (UNESCO Statistical Yearbook, 1961 et seq.). Since this indicator is highly skewed, a log transformed score is used in this study.

Economic Inequality. The Gini index, the best-known measure of economic inequality, is calculated as the deviation for a Lorenz curve from theoretical equality. The Lorenz curve depicts the relation between the cumulative distribution of income shares on the y-axis and the cumulative percentage of population shares arrayed from lowest to highest on the x-axis (see Figure 5.1). The Gini index is the ratio of the area between Lorenz curve and the line of perfect equality to the area under the diagonal. Gini values vary between 0 for perfect equality and 1 for a situation of perfect inequality. Of course, many other teachniques have been presented for measuring inequality. As Champernowne (1974: 787) points out, there should be no single best measure of inequality, since "there are a number of distinctive aspects of inequality in which one may be interested and some coefficients are most suited to reflect one aspect and some another." Thus, the selection of an index will depend on research purpose. Empirically, the choice of the Gini index over other indices may be trivial in terms of research findings, since the different measures of inequality produce results which are very highly intercorrelated with each other (see Champernowne, 1974; Russett and Alker, 1966; Jackman, 1975).

Recently, due to the work of Jain (1975), data on the distribution of personal and household income have become available for 81

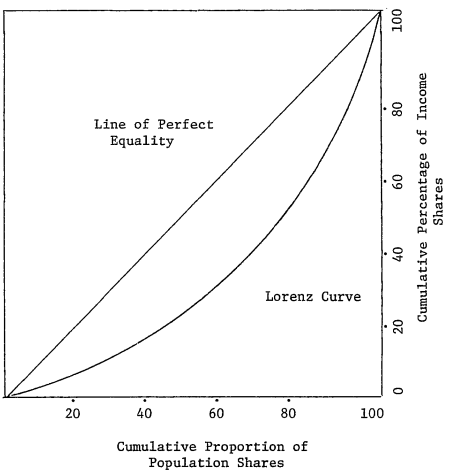

Figure 5.1: Hypothetical Lorenz Curve of Income Inequality

nations. For this study, the Gini index compiled by Jain is the basic measure of inequality. Missing data do present something of a problem, for Jain's compilation does not include data for four nations in our sample--Bolivia, Italy, Niger and Nigeria. We attempted to resolve this difficulty by taking advantage of the correlation between the inequality data compiled by Paukert (1973) and Jain ($r = .885$, $n = 51$) to estimate values missing from Jain's set of Gini values. This refression approach allowed us to handle missing data in a most satisfactory fashion.

The theoretical propositions related to income inequality are rather complex. The Gini index is suitable for testing most of these propositions, but is less appropriate for examining other propositions--such as Davis' notion of the "stable economy" and the Marxist perspective on the process of democratization. As an indicator of deviation from the stable economy, Sigelman and Simpson (1977) employed the absolute values of the mean deviations, with high scores indicating either extreme concentration or extreme dispersion of incomes. Recently, Rubinson (1977: 616) interpreted the relative income shares received by particular quintiles of income recipients as indicators of class structure. Underlying Rubinson's measurement decision is empirical evidence that "inter-country differences in inequality are largely function of the relative strength of the middle class groups in a country" (Rubinson, 1977: 616; see also Paukert, 1973). For this study, the relative shares of the third and fourth quintiles of the population, which can be interpreted as a measure of the strength of

the middle class, are used to test alternative hypotheses on inequality--political violence relationship and the inequality--regime coerciveness relationship.

Political Institutionalization. Much modernization literature considers political development to be a process of building institutions that are capable of handling the problems which accompany social change. Despite this common perspective, many diverse views have been presented concerning the core meaning of this popular concept. Some scholars focus on increasing government efficiency and capability to meet changing demands (Organski, 1965; Pye, 1965; von Vorys, 1967). Others give more emphasis to structural differentiation and continuity (Eisenstadt, 1966, 1964, 1962; Riggs, 1968; Hudson, 1970). Still others are more interested in functional differentiation (Parsons, 1956; Almond and Coleman, 1960; Almond and Powell, 1966).

The concept of political institutionalization has gained currency in the literature of comparative politics largely through Huntington's (1965, 1968) influential work on political development and decay. According to Huntington, the strength of political organizations depends on the scope of their external support and on their level of institutionalization, which is defined as "the process by which organizations and procedures acquire value and stability" (1968: 12). Huntington stresses in particular the stability, differentiation, and effectiveness of political organizations--aspects of institutionalization which can be measured in terms of adaptability, complexity,

coherence, and autonomy. According to Huntington (1968: 12-24), the persistence of a nation, which can be measured by the simple chronological age of national political institutions, is an ex post facto test of adaptability. Autonomy is seen as involving functional differentiation between political organizations, on the one hand, and social forces, on the other. Complexity refers to both structural differentiation of political organizations and a relatively stable pattern of interaction among subsystems. And coherence largely refers to the degree of legitimacy of the system.

Many scholars (e.g., Kesselman, 1969; Ben-Dor, 1975) have commented on the difficulties involved in studying--and particularly in measuring--this most challenging concept. As a result, its operationalization has varied considerably from study to study. For example, Duvall and Welfling (1973a, 1973b), whose sophisticated research is superior in many other respects, measure institutionalization purely in terms of aspects of party systems, wholly ignoring other political structures and processes. On the other hand, Hudson's (1970) institutionalization indicators are quite diverse but suffer from an obvious liberal democratic bias. Others (e.g., Hibbs, 1973; Schneider and Schneider, 1971) include indicators of cheer government size (e.g., revenue and expenditure) along with structural characteristics.

In this study, the institutionalization of civilian political processes and structures is measured in terms of three indicators: the age of the oldest of the major national political parties (Banks,

1976) and the age of the national constitution (Taylor and Hudson, 1972), both of which are employed by Hibbs (1973) as the measures of institutional coherence, and a legislative effectivness score assigned by Banks (1971). The latter score, according to Banks, summarizes the functional autonomy of legislatures. Again, a summary index was created by adding the t-scores of the component indicators, weighted according to their factor score coefficients (explained variance = 56.4%).

The relationships between indicators, the index of political institutionalization and political violence are given in Table 5.8. Correlations between each indicator and the index of political institutionalization (r's ranging from 1.71 to .79) again suggest convergence. Moreover, all component indicators and the index of political institutionalization are negatively associated with political violence. The associations of the age of the oldest major party and the age of the national constitution with collective protest are weaker than the other relationships, but none of the correlations with these dependent variables is of very substantial magnitude. This examination reveals convergence among the multiple indicators of institutionalization.

Regime Coercive Potential. An operationalization of the degree of regime coercive control is a very difficult task, because the concept is inherently related to a normative judgment concerning the actions of the regime. Certainly no simple and no direct measure of regime coercive control is available. In this situation, Gurr (1971) recommends measuring the extent of a regime's coercive control in terms

Table 5.8: Correlations between Component Indicators of Political Institutionalization and Political Violence (N=73)

	(2)	(3)	INDEX	Collective Protest	Power Transfers	Deaths	Regime Coercion
(1) Age: Constitution	.35	.35	.79	.10	.09	-.33	-.37
(2) Age: Oldest Major Party		.33	.75	.06	-.09	-.31	-.37
(3) Effectiveness: Legislature			.71	-.12	-.29	-.37	-.51
INDEX				.07	-.20	-.57	-.44

Table 5.9: Correlations between Indicators of Regime Coercive Potential and Political Violence (N=73)

	(2)	INDEX	Collective Protest	Power Transfers	Deaths	Coercive Potential
(1) Military Manpower	.17	.73	-.07	-.05	-.05	-.04
(2) Security Force		.73	-.08	-.02	-.01	.07
INDEX			-.06	-.03	.00	.05

of the capacity for force. The point to make here is that, if governments have large coercive force, they can more readily resort to repression. Following Gurr's suggestion, two indicators were employed in this study to measure regime capacity for force. These are internal security force per working age population and military manpower per working age population (both from Taylor and Hudson, 1972). A single factor solution accounted for 76.21% of the total variance in these two indicators. Once again the indicators were combined by adding their weighted t-scores.

The correlations between the component indicators of the coercive potential index and the four political violence indices are given in Table 5.9. Each indicator converges strongly with respect to its impact on the composite index. And no relationships with collective protest, power transfers, deaths from domestic violence, and regime coercion are appreciable. Thus, this examination reveals that there are internally coherent and converging patterns of association with the composite index and political violence.

Table 5.9: Correlations between Indicators of Regime Coercive Potential and Political Violence (N=73).

	(2)	INDEX	Collective Protest	Transfers	Deaths	Potential
(1) Military Manpower	.17	.73	-.07	-.05	-.05	-.04
(2) Security Force		.73	-.08	-.02	-.01	.07
INDEX			-.06	-.03	.00	.05

Welfare Statism. Welfare statism refers to active governmental commitment to a wide range of social services, by which "minimum standards of income, health, housing, and education" can be assured "to every citizen as a political right, not as charity" (Wilensky, 1975: 1). Programs to establish these standards as well as the size and source of government funding for these programs vary widely across nations. Thus welfare statism can be operationalized in terms of the extensiveness of welfare programs and/or the size of government funding to these programs (Paukert, 1968; Jackman, 1975).

Welfare effort has often been measured in terms of patterns of social security expenditure (Aaron, 1967; Paukert, 1968; Galenson, 1968; Wilensky, 1975; Miller, 1976). Unfortunately, the International Labor Organization's data on social security expenditures do not pertain to a sufficiently large and diverse set of nations to meet our needs. Thereby, we decided to measure the size of welfare effort in terms of the percentage of general government expenditures devoted to health (UN Yearbook of National Account Statistics, 1961 et seq.), which has also been frequently seen as an important component of welfare policies in comparative analyses of public policy (e.g., Pryor, 1968; Dye, 1975).

The index of social security program experience developed by Cutright (1965) and used in several previous studies (e.g., Aaron, 1967; Pryor, 1968; Wilensky, 1975; Jackman, 1975; Miller, 1976; Rubinson, 1976) is employed have to measure the extensiveness of social security programs. This index relates to five different types

policies: work-injury programs; sickness and/or maternity programs; old age, invalidism, and death programs; family allowance plans; and unemployment insurance programs (U.S. Social Security Administration, 1972/73). On the basis of Cutright's precedent and the previous studies mentioned above, the age of each program in existence as of 1968 was computed. A single factor was then extracted from a principal components analysis of these five scores, which accounted for 73.6% of the total variance. A summary index was constructed by adding the t-scores of the five indicators, weighted by factor score coefficients.

Correlations between multiple indicators, the index of social insurance program experience, and the political violence dimensions are given in Table 5.10. First, while family allowance programs are less heavily weighted in the composite index ($r = .77$), the other programs are evenly weighted (ranging from .85 to .93). Second, without exception, the individual indicators and the composite index are negatively related to political violence. Third, the associations with deaths from domestic violence and regime coercion are moderate and those with collective protest and power transfers are negligible. From this examination, it is concluded that there are internally coherent and converging patterns of association with the composite index and political violence.

Principal components analysis of the two indices (i.e., welfare effort and social insurance program experience) reveals that a single factor accounts for 56.5% of the overall variance. Accordingly,

Table 5.10: Correlations between Multiple Indicators of the Index of Social Insurance Program Experience and Political Violence (N=73)

	(2)	(3)	(4)	(5)	INDEX	Collective Protest	Power Transfers	Deaths	Regime Coercion
(1) Old Age	.80	.77	.72	.63	.93	-.08	-.08	-.46	-.48
(2) Sickness		.68	.67	.48	.85	-.00	.02	-.39	-.35
(3) Injury			.62	.54	.85	-.13	-.01	-.47	-.34
(4) Unemployment				.68	.88	-.06	-.15	-.37	-.49
(5) Family Allowance					.77	-.05	-.09	-.35	-.32
INDEX						-.10	-.08	-.51	-.32

a composite index of welfare statism has been constructed by adding the t-scores of the two variables, weighted by their factor score coefficients.

Leftist Strength. The term "leftist" refers to "programmatic demands for planned or enacted social change toward a more equal distribution of economic benefits, social status, and power" (Wrong, 1974: 46). Although such factors as cultural cleavages, regional differences, sociodemographic distinctions, and support for specific personalities also serve as salient bases of popular support for political parties, locating parties along a left-right continuum also has a good deal of analytic utility (e.g., Sartori, 1966; 1976). For example, some previous studies have explored the determinants of the ideological positions of political parties (e.g., Gillis and Janda, 1975; Thomas, 1975; Hewitt, 1977) or ideological polarization in party systems (e.g., Sigelman and Yough, 1978); others have been more interested in the impact of ideological distance between parties on government stability (e.g., Taylor and Herman, 1971; Dodd, 1975); and still others have focused on the impact of certain types of political parties on political violence (e.g., Hibbs, 1975) or on social welfare policies and social equality (e.g., Jackman, 1975; Miller, 1976).

Measuring leftist strength means that we must be able to categorize parties in terms of their standing on the left-right continuum and calculate the total support enjoyed by the "leftist" parties. Our primary data source is World Strength of the Communist Party Organization, a document published yearly by the U.S. State Department. Party

strength--the percentage of the popular vote by each "leftist" party --was coded in national elections from 1960 to 1968 rather than relying on a single, possible idiosyncratic election, and the mean share of the popular vote for each "leftist" party in elections during this period was calculated. This involved averaging party strength over two or (more frequently) three elections for each nation.

But which parties are "leftist?" This is obviously a far more difficult problem. Kenneth Janda's Comparative Political Parties Project (Janda, 1970, 1975; Gillies and Janda, 1975) has coded parties in 52 nations according to their issue orientations, including a "positive state" scale which summarizes party support for government ownership of the means of production, the government's role in economic planning, redistribution of wealth, and governmental provisions for social welfare; Lawrence Dodd (1974) has assigned scores to parties in 17 nations according to their support for government intervention in the economy; John C. Thomas (1975) has undertaken a similar analysis of the economic policy positions of parties in 12 nations; and Taylor and Herman (1971) have ranked parties from left to right in 19 countries. Unfortunately, the time period encompassed by the Janda data (1950-1962) is not congruent with our research interests; Dodd's data, which pertain to the 1945-1972 period, are only slightly more apt in this respect; and in any event Dodd, along with both Thomas and Taylor and Herman, does not consider parties in a sufficiently large and diverse set of nations to meet our needs.

Because it is impossible to rely on any of these sources for left-right characterizations of parties, we decided to make use of the ideological characterizations of political parties presented in the same U.S. State Department publications from which data on party strength were derived. The State Department document uses a four-point scale to characterize the predominant ideology of each party: Communist (1), non-Communist leftist (2), centrist (3), and conservative (4), with independent representatives or parties incapable of being placed on the left-right continuum coded as "other."

Obviously, a four-point scale running from "Communist" on the left to "conservative" on the right is a rather blunt instrument. To test the reliability of the coding, the left-right scores assigned by the State Department were compared to the "positive state" scale developed by Janda (1975; Gillies and Janda, 1975), which ranges from -20 on the extreme right to +20 on the extreme left, and the "economic cleavage" dimension coded by Dodd (1974, 1976), which varies between -7 on the left to +7 on the right. The simple correlations between the codings assigned by the three sources are quite strong--a simple correlation of -.756 between the Janda and State Department data for the 53 political parties which could be paired in the two data sets, and a correlation of .877 between the Dodd and State Department data for the 64 political parties coded by both. These very substantial correlations with the well-documented and independently-coded Janda and Dodd data provide strong evidence of the overall reliability of the State Department codings. Once these data were assembled, each

nation's leftist strength score was calculated by totalling the percentages of popular votes won by the (non-Communist) leftist parties.

Political Separatism. As conceived by Ted Gurr (1966: 75-76), political separatism identifies the degree of "widespread demands for greater political autonomy" by regional or ethnic groups which are "dissatisfied with the polity, of which they are formally members." The index of political separatism is operationalized in terms of the percentage of regional or ethnic populations who are associated with "any region that was transferred one polity to another, or was once autonomous but was incorporated in another polity," or who are associated with "the presence of organized and extensive advocacy of greater regional autonomy or independence" at any time during the twenty years from 1940's to early 1960's (see Gurr, 1966: 76-78). We have adopted this index as our measure of political separatism.

From the overview of theoretical propositions presented in Chapters II, III and IV and the operationalization of concepts presented in this chapter, we can specify a comprehensive model of political violence as presented in Figure 5.2. There are basically two distinctive causal paths to political violence; one is the Economic Dependence $\longrightarrow$ Economic Growth Rate $\longrightarrow$ Economic Inequality $\longrightarrow$ Political Violence path; the other is Socioeconomic Development--Political Structure $\longrightarrow$ Economic Inequality $\longrightarrow$ Political Violence path. As we have seen, however, often contradictory hypotheses have been drawn from a variety of theoretical speculations. For the simplification of analytic procedure, competing hypotheses, including curvilinear and

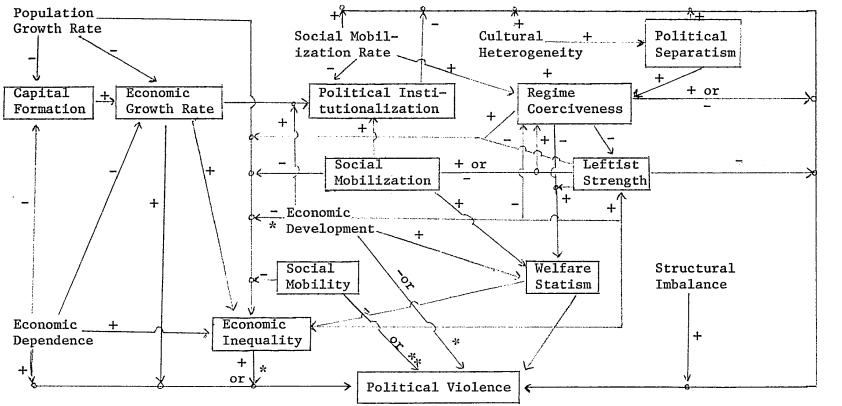

Figure 5.2: A Comprehensive Model of Political Violence

NOTE: *Indicates an inverse V-curve relationship; ** Indicates an V-curve relationship.

and non-recursive, will be tested first and, then, some variables will be eliminated on empirical grounds. The findings at this stage will be incorporated into overall evaluation of the model.

Sample

The sample for this study consists of 73 nations in Africa, Asia, Europe, Latin America, North America, and the Middle East. Although the sample encompasses more than half of the world's nations as of the late 1960's, the selection of nations was guided by the availability of data rather than randomization. Since a major goal of this study is to test general propositions concerning political violence, the sample, even if it is not random, must adequately represent the universe of nations. Accordingly, we have conducted a series of comparisons between the 73-nation sample and the 136-nation population in order to gain a perspective on the question of sample representativeness. For this purpose, we have compared whether the central tendencies and the dispersions of indicators vary from sample to population. We have also examined the simple correlations between indicators in the sample and the population, respectively; the reasoning here was that if similar patterns of correlation emerge for the sample and population, then findings from the sample nations can legitimately be generalized to the population.

We first computed sample and population means, standard deviations, and minimum and maximum values for 19 of the indicators which are employed in this study. These 19 indicators are all of those for which data for the 73-nation sample can be compared with data for the

larger populations of nations. Table 5.11 reveals that there are only small differences between the sample and population in terms of mean values and standard deviations. Moreover, in every instance (with the exception of population size and growth) minimum values are identical or only slightly different between sample and population. However, the maximum values of five indicators of the level of social mobilization and economic development appear to be higher in the universe of nations than in the sample. Because these differences are due to the exclusion of only a single nation (the United States), however, we conclude that our 73-nation sample adequately represents the central tendencies and dispersions of variables in the universe of nations.

To gain a further perspective on sample representativeness, we have compared the correlations between the same indicators in the sample and in the population. As presented in Table 5.12, in 217 out of the 240 instances, only small differences (less than 110) emerge between sample and population correlations. However, discrepancies between the sample and population range from .10 to .20 in 23 instances. Of these 23 instances, eight involve size variables (i.e., population size and growth), and collective protest or internal war, neither of which is deflated by population size. Since our sample does not include three of the world's four largest nations (Red China, the U.S., and the U.S.S.R.), where populations are over 200 million, and nine of the fifteen smallest nations (Congo-Brazzaville, Lesotho, Mauritius, Kuwait, Luxembourg, Gambia, Malta, Iceland, and the

Table 5.11: Comparison of Sample Statistics and Population Parameters

Variables		N	Mean	Minimum	Maximum	S.d.
Total Population, 1965						
	Sample	73	3.90	2.39	5.69	0.64
	Population	136	3.78	1.99	5.85	0.67
Population Growth Rate, 1960-65						
	Sample	73	2.36	0.50	4.4	1.02
	Population	135	2.25	-.06	10.4	1.28
Urbanization Over 10,000 1965						
	Sample	73	20.01	0.00	63.00	15.14
	Population	136	16.76	0.00	100.00	15.79
Newspaper per 1000 Population, 1965						
	Sample	63	103.63	0.0	505.0	137.53
	Population	110	110.75	0.0	505.0	138.75
Radios per 1000 Population, 1965						
	Sample	71	135.51	5.4	518.9	125.33
	Population	124	144.54	4.0	1223.5	156.66
Adjustment School Enrollment, 1965						
	Sample	72	59.89	6.0	101.0	23.55
	Population	130	57.78	5.0	105.0	27.06
Students in Higher Education, 1965						
	Sample	69	4290.13	20.0	21000.0	4535.08
	Population	121	4173.04	6.0	28400.0	4897.81
Energy Consumption/Capita, 1965						
	Sample	72	1130.69	13.0	7653.0	1556.40
	Population	129	1240.99	8.0	12077.0	1956.85
GNP per Capita, 1965						
	Sample	73	577.83	47.0	2549.0	662.03
	Population	135	573.22	38.2	3574.5	723.77

(continued)

Table 5.11 (continued):

Variables		N	Mean	Minimum	Maximum	S.d.
Rate: GNP per Capita, 1965						
	Sample	60	2.53	-1.6	7.8	1.60
	Population	85	2.86	- .16	8.4	1.81
Concentration of Export Commodity, 1960s						
	Sample	67	0.28	0.06	0.99	1.60
	Population	101	0.31	0.06	0.99	1.21
% Agricultural GDP, 1965						
	Sample	65	26.51	3.0	80.0	15.82
	Population	97	26.71	3.0	80.0	16.45
% Industry GDP, 1965						
	Sample	65	24.15	3.0	48.0	11.07
	Population	94	26.11	3.0	74.0	14.14
Physicians per 1000 Population, 1965						
	Sample	62	3.29	1.42	5.02	0.89
	Population	136	3.74	1.18	6.0	1.48
Age of Constitution, 1968						
	Sample	73	1940.47	1809	1969	42.31
	Population	131	1943.73	1787	1969	39.39
Degree of Freedom of Group Opposition						
	Sample	55	1.44	1.0	4.0	0.71
	Population	98	2.01	1.0	4.0	1.08
Role of Police						
	Sample	64	1.48	1.0	2.0	0.50
	Population	100	1.34	1.0	2.0	0.50
Hibbs' Collective Protests Index						
	Sample	67	3.64	0.0	7.33	1.76
	Population	108	3.25	0.0	7.33	1.78
Hibbs' Internal War Index						
	Sample	67	4.80	0.0	9.93	2.50
	Population	108	4.44	0.0	11.17	2.88

Table 5.12: Comparison of Correlations, Sample and Population*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) Total Population		-.05	.24	.09	.03	.07	.16	-.38	.08	-.10	.02	.30	.31	-.01	.15	.10
		(73)	(73)	(72)	(72)	(73)	(60)	(67)	(67)	(73)	(54)	(67)	(67)	(71)	(69)	(72)
(2) Population Growth Rate	-.16		-.20	-.58	-.35	-.47	-.35	.29	-.30	.26	-.04	.02	.36	-.35	-.22	-.39
	(136)		(73)	(63)	(72)	(72)	(60)	(67)	(65)	(73)	(54)	(67)	(67)	(71)	(69)	(72)
(3) Urbanization	.28	-.13		.62	.65	.64	.26	-.38	.57	-.45	.24	.11	-.19	.60	.72	.62
	(136)	(135)		(63)	(72)	(73)	(60)	(67)	(65)	(73)	(54)	(67)	(67)	(71)	(69)	(72)
(4) Newspapers	.09	-.42	.54		.75	.87	.31	-.45	.47	-.68	.60	-.11	-.59	.74	.63	.77
	(110)	(110)	(110)		(61)	(63)	(51)	(57)	(56)	(63)	(54)	(58)	(58)	(62)	(59)	(62)
(5) School Enrollment	.05	-.22	.56	.70		.66	.46	-.37	.54	-.46	.54	-.01	-.33	.64	.64	.71
	(130)	(110)	(130)	(107)		(72)	(59)	(66)	(64)	(72)	(53)	(66)	(66)	(70)	(68)	(71)
(6) GNP per Capita	.07	-.43	.46	.77	.62		.33	-.41	.58	-.62	.58	-.16	-.53	.82	.72	.92
	(129)	(134)	(135)	(109)	(130)		(60)	(67)	(65)	(73)	(54)	(67)	(67)	(71)	(69)	(72)
(7) Rate: GNP	.11	-.37	.18	.17	.43	.22		-.29	.35	-.07	.10	-.14	-.26	.30	.31	.27
	(85)	(85)	(85)	(73)	(83)	(85)		(56)	(59)	(60)	(54)	(62)	(67)	(58)	(59)	(60)
(8) Trade Concentration	-.40	.42	-.38	-.42	-.33	-.25	-.34		-.12	.30	-.31	.04	.15	-.41	-.41	-.38
	(101)	(110)	(110)	(83)	(100)	(101)	(79)		(60)	(67)	(59)	(62)	(62)	(65)	(64)	(67)
(9) % GDP: Industry	.17	-.43	.41	.57	.61	.53	.41	-.26		-.34	.02	-.06	-.35	.63	.42	.65
	(94)	(94)	(94)	(83)	(93)	(94)	(79)	(78)		(65)	(62)	(67)	(67)	(63)	(63)	(65)
(10) Age: Constitution	-.15	.21	-.38	-.61	-.38	-.61	.02	.28	-.27		-.36	.21	.41	-.50	-.53	-.57
	(135)	(110)	(131)	(106)	(125)	(130)	(84)	(100)	(93)		(54)	(67)	(67)	(71)	(69)	(72)
(11) Role of Police	-.04	-.18	.31	.59	.43	.60	.04	-.28	.14	-.43		-.16	-.44	.48	.46	.52
	(100)	(100)	(100)	(82)	(95)	(100)	(70)	(73)	(74)	(99)		(58)	(58)	(53)	(54)	(54)
(12) Collective Protest	.42	.05	.20	-.06	.07	-.02	-.22	.04	-.03	.03	-.06		.57	.02	.09	-.08
	(108)	(108)	(108)	(93)	(107)	(108)	(79)	(88)	(86)	(96)	(88)		(67)	(65)	(64)	(67)
(13) Internal War	.29	.26	-.13	-.47	-.21	-.43	-.36	.23	-.33	.24	-.36	.61		-.36	-.41	-.41
	(108)	(108)	(108)	(93)	(107)	(108)	(79)	(88)	(85)	(108)	(88)	(108)		(65)	(64)	(67)
(14) Radios	.09	-.17	.56	.65	.58	.81	.17	-.27	.59	-.55	.47	.03	-.16		.62	.80
	(124)	(114)	(124)	(105)	(122)	(124)	(80)	(98)	(90)	(121)	(95)	(103)	(103)		(67)	(70)
(15) Student in Higher Education	.26	-.24	.65	.56	.62	.73	.21	-.43	.44	.53	.41	-.09	-.26	.75		.63
	(121)	(121)	(121)	(103)	(118)	(121)	(84)	(94)	(91)	(117)	(94)	(103)	(103)	(114)		(69)
(16) Energy Consumption	.10	-.02	.58	.64	.62	.92	.32	-.26	.69	-.50	.47	.08	-.25	.79	.70	
	(129)	(129)	(129)	(106)	(127)	(129)	(82)	(101)	(94)	(124)	(97)	(108)	(108)	(121)	(119)	

* The Figures in the upper diagonal are the pearsonian correlations for the sample, followed in parentheses by the sample size; the figures in the lower diagonal are the correlations for all nations for which data are available.

Maldives), where populations are under one million, the sample does tend to be biased in terms of population size. Because all Communist nations have been excluded from this study due to the problem of data availability, the findings in this study undeniably raise the problem of generalization to Communist nations. With the exception of population size and population growth rate, the sample of 73 nations does appear to provide a basis for broader generalization for non-Communist nations.

CHAPTER VI

EMPIRICAL FINDINGS

The overall model of political violence that was presented earlier is complex, for it includes curvilinear and non-recursive relationships in addition to linear, recursive linkages. Before an overall evaluation of the model is undertaken, the model will be simplified on empirical grounds. At this simplification stage, competing hypotheses involving curvilinear, interactive, and non-recursive relationships will be tested along with the linkages between exogenous and predetermined endogenous variables. Then these findings will be used for a preliminary revision and simplification of the general model.

1. Preliminary Statistical Analyses

A simultaneously determined system of interrelationships in the final model was specified on the basis of many different theoretical perspectives concerning political violence. However, the absence of any single theory that specifies a comprehensive multiequation model means that this analysis must proceed by means of step-by-step solutions for distinctive causal paths. Ordinary least squares (OLS) regression analyses are performed on all recursive relationships. But as many competing hypotheses suggest, some relationships may be non-linear, and non-linear hypotheses need to be subjected to empirical test before the simultaneously determined system can be solved. In this study, the non-linear relationships involve curvilinear and inter-

action effects. Moreover, several hypotheses, when considered in conjunction with one another, imply relationships that are non-recursive in nature. In non-recursive relationships, the same variables in effect show up on both sides of regression equations in a simultaneously determined system; in that case, those variables will be correlated with error terms, violating an assumption central to ordinary least squares (OLS) regression.

Two different analytic techniques will be employed in order to test for curvilinear relationships. A V-curve relationship (including an inverse V-curve) can be tested by polynominal regression, in which both the original independent variable and its squared term are included as predictors. A significant positive coefficient for the original measure and a significant negative coefficient for the squared term indicate an inverse V-curve relationship. In turn, a V-curve relationship is revealed by a significant negative coefficient for the original measure and a significant positive coefficient for its square term. Logarithmic regression, which employs the logged term of the original measure as a predictor, is applied to a logarithmic (upward or downward) curve--a curve that initially slopes upwards or downwards but then levels off at higher levels of a predictor. The choice of one technique over another depends upon the nature of curvilinearity involved in the hypothesis. However, empirical observations often deviate from theoretical expectations, and theoretical propositions are sometimes not precise in the nature of curvilinearity. Thus, it seems safe to employ both techniques for testing curvilinearity.

Interaction effects mean that, while a variable may or may not have a significant effect on a dependent variable, it shares a joint effect on the dependent variable with other variable. Two techniques will be employed to test for interaction effects. Multiplicative regression includes a multiplicative interaction term as a predictor along with original measures of the two variables that are thought to have an interactive effect on a dependent variable. A significant coefficient for the multiplicative interaction term indicates that an interaction effect is involved in the relationship. A logarithmic interaction model, which employs the logged terms of two variables as predictors, is the expression of the multiplicative interaction term in a logarithmic form (see Hibbs, 1973: 19).* For an interaction effect, all the coefficients for the logged terms are significant and positive.

For equations involving non-recursive relationships, instrumental variables/two-stage least squares (IV-2SLS) regression is

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*An interaction effect can be expressed by the following equasion:

$$Y = \alpha \cdot X_1^{\beta 1} \cdot X_2^{\beta 2} \cdot \varepsilon$$

Where Y denotes a dependent variable, α is constant, X_1 and X_2 refer to predictors that are considered as having a joint effect on Y, B_1 and B_2 are coefficient for X_1 and X_2, respectively, and ε denotes error term. This equation can be solved by the following logarithmic transformation;

$$\text{In } Y = \alpha + B_1 \text{ In } X_1 + B_2 \text{ In } X_2 + \varepsilon$$

Multicollinearity may be less of a problem in the logarithmic intercation model, because it does not include a separate multiplicative interaction term.

For a detailed discussion, see Hibbs (1973) and Jackman (1975).

employed. The IV-2SLS procedure helps to remove the so-called "simultaneity bias" from non-recursive models (Johnston, 1972). In the first stage, each of the jointly-determined endogenous variables is regressed on all of the exogenous and predetermined endogenous variables. In the second stage, each of the endogenous variables that is correlated with the error term is replaced by its predicted values. In this way, the problem of simultaneity bias can be eliminated from the model (see Hibbs, 1973).*

Test of Non-Linear Hypotheses

Many competing arguments were presented above concerning the relationship between socioeconomic conditions (economic development, social mobilization, social mobility, and economic inequality) and political violence. Before testing these arguments, it is necessary to examine the impact of population size, because the indicators of political violence were not percapitized to avoid the problems that often accompany the use of ratio variables containing common terms (Hibbs, 1973; Yough and Sidelman, 1976; Schuessler, 1974; Sigelman and Simpson, 1977). The simple correlational analysis summarized in

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*The model must be identified to apply IV-2SLS. Basically, there are two conditions in model identification (Blalock, 1969; Hibbs, 1973). Necessary but not sufficient is the order condition; for the i^{th} equation to be identified, at least M-1 variables must be excluded from the equation on the basis of prior theoretical knowledge (where M denotes the number of equations in the model). A necessary and sufficient condition is the rank condition: $P(A\ \phi^i) = M-1$, where A equals the matrix of coefficients for a multiequation model, and ϕ is a common vector that summarizes all prior theoretical information. If a model satisfies these two conditions, unbiased estimates can be obtained by using IV-2SLS.

Table 6.1 reveals that collective protest, violent power transfers, and deaths from domestic violence are indeed related to population size (r = .31, .23, and .26, respectively), but that regime coercion is not (r = .04). Thus, it is indicated that population size alone explains 9.6% of the variance in collective protest, 5.3% of the variance in violent power transfers, and 6.8% of the variance in deaths from domestic violence, but only 0.2% of the variance in regime coercion. Since regime coercion is empirically unrelated to population size, the population size variable will not be entered into regression equations involving regime coercion.

With respect to economic inequality, H3.1 predicted a positive effect on political violence, while H3.1a presented an inverse V-curve interpretation of the same linkage. Table 6.2 shows the results of a series of multiple regression analyses undertaken in order to test these two competing hypotheses. Linear regression 1 provides only minimal support for the hypothesis that economic inequality contributes to political violence; the extent of personal income inequality is associated with deaths from domestic violence (R^2=.133), although the magnitude of this relationship is modest; the impact of income inequality on collective protest, violent power transfers, and regime coercion is negligible. Thus, initial support for the simple linear interpretation is found only in the case of deaths from domestic violence.

To explore the question of curvilinearity, four different regressions were employed. Polynominal regression, which includes personal income inequality and its squared term as predictors along with

Table 6.1: Simple Correlations Between Variables (N=73)

	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
(1) Population (log)	.45	.12	-.06	-.33	-.02	.22	-.12	.05	.25	.08	-.04	-.07	.12	.43	-.13	.13	-.09	-.09	.31	.23	.26	.04
(2) Population Growth Rate		-.01	-.01	.09	-.02	.08	.05	.04	-.03	.05	.06	-.14	-.01	.26	-.07	.19	-.10	.01	-.04	-.01	-.05	-.00
(3) Economic Development			.85	-.30	.54	.67	.33	.22	.26	-.16	-.31	-.43	.70	-.26	.19	.43	.62	.02	-.12	-.09	-.43	-.47
(4) Social Mobilization				-.26	.53	.78	.28	.17	.24	.04	-.34	-.58	.72	-.38	.23	.53	.63	.50	-.19	-.08	-.49	-.53
(5) Economic Dependence					-.11	-.34	.19	.09	-.24	.26	.43	.16	-.38	.03	.07	-.10	-.28	.07	-.13	.16	.24	.14
(6) Capital Formation						.43	.40	.22	-.36	.05	-.25	-.29	.36	-.28	.24	.11	.17	.16	-.24	-.24	-.29	-.23
(7) Social Mobility							.11	.10	-.27	-.04	-.32	-.38	.63	-.21	.16	.32	.47	.34	-.12	-.01	-.35	-.43
(8) Economic Growth Rate								.27	.08	.11	.13	-.37	.07	-.34	.43	.12	.04	.08	-.24	.07	-.05	-.03
(9) Improvement in Human Resources									.09	.16	.01	-.29	.10	-.09	.18	.20	.09	.01	-.16	.03	.05	-.08
(10) Communication Change										.06	-.22	-.10	.22	.03	.06	.10	.03	.01	.04	.03	.00	-.07
(11) Urbanization											-.04	-.08	-.21	.08	-.10	.04	-.14	.41	.02	.24	.18	.12
(12) Economic Inequality												.12	-.31	-.10	-.24	-.11	-.20	-.10	-.18	.13	.07	.24
(13) Cultural Heterogeneity													-.33	.43	-.28	-.49	-.39	-.43	.22	.01	.40	.25
(14) Political Institutionalization														-.22	-.01	.49	.59	-.02	.07	-.20	-.57	-.44
(15) Political Separatism															-.13	-.25	-.31	-.30	.50	.07	.47	.21
(16) Regime Coercive Potential																-.00	-.03	.09	-.06	-.03	.00	.05
(17) Elite Leftism																	.43	.26	-.08	.00	-.27	-.56
(18) Welfare Statism																		.13	-.10	-.08	-.51	-.32
(19) Structural Imbalance																			-.18	.08	-.18	-.14
(20) Collective Protest																				.30	.34	.10
(21) Violent Power Transfers																					.45	.15
(22) Deaths From Domestic Violence																						.25
(23) Regime Coercion																						

Table 6.2. Linear and Curvilinear Regressions of Economic Inequality on Political Violence.

	Linear Regressions			Polynominal Regressions	Logarithmic Regressions
	(1)	(2)	(3)		
I. Collective Protest					
Constant	53.19	42.43	42.76	94.67	55.01
Population (log)	4.45(1.65)*	4.93(1.65)*	4.91(1.67)*	5.14(1.65)*	4.46(1.64)*
Gini	-16.12(10.67)			-207.14(97.58)*	
Gini (log)					-56.82(35.76)
Gini (square)				206.11(104.74)	
$\lvert .5 - \text{Gini} \rvert$		33.67(17.94)			
$\lvert \bar{x} - \text{Gini} \rvert$			28.40(20.51)		
R	.352	.373	.346	.413	.356
R^2	.124	.139	.120	.171	.127
Adj. R^2	.099	.114	.094	.135	.102
F	4.968	5.640	4.751	4.789	5.087
II. Violent Power Transfers					
Constant	39.43	49.25	49.12	14.59	38.05
Population (log)	3.40(1.68)*	2.91(1.66)	2.87(1.68)	2.98(1.71)	3.38(1.68)*
Gini	13.28(10.86)			127.64(101.14)	
Gini (log)					45.92(36.43)
Gini (square)				-123.46(108.56)	
$\lvert .5 - \text{Gini} \rvert$		-36.10(18.09)*			
$\lvert \bar{x} - \text{Gini} \rvert$			-35.00(20.63)		
R	.268	.321	.299	.298	.270
R^2	.072	.103	.089	.089	.073
Adj. R^2	.045	.077	.063	.049	.046
F	2.701	4.011	3.431	2.239	2.751

(continued)

Table 6.2 (continued)

	Linear Regressions (1)	(2)	(3)	Polynominal Regressions	Logarithmic Regressions
III. Deaths					
Constant	-.40	1.42	1.07	1.56	-.65
Population (log)	.52(.21)*	.46(.22)*	.50(.22)*	.55(.22)*	.51(.21)*
Gini	3.16(1.38)*			-5.84(12.93)	
Gini (log)					10.48(4.64)
Gini (square)				9.72(13.88)	
|.5 - Gini|		-3.29(2.39)			
| $\bar{x}$ - Gini|			.33(2.75)		
R	.364	.304	.261	.372	.362
R^2	.133	.092	.068	.139	.131
Adj. R^2	.108	.066	.041	.101	.106
F	5.351	3.553	2.549	3.705	5.280
IV. Regime Coercion					
Constant	47.34	51.17	51.42	40.74	46.78
Gini	5.68(10.09)			35.49(92.78)	
Gini (log)					19.44(33.89)
Gini (square)				-32.15(99.46)	
|.5 - Gini|		-13.62(16.96)			
| $\bar{x}$ - Gini|			-16.89(19.07)		
R	.067	.095	.105	.077	.068
R^2	.004	.009	.011	.006	.005
Adj. R^2	-.010	-.005	-.003	-.012	-.009
F	0.316	.645	.784	.208	.329

NOTE: The first entry for each predictor is the parameter estimate, b; the figure in parentheses is the standard error of b.

*Starred (*) estimates are more than twice their standard errors. This criterion is same as examining the t ratios associated with each coefficient and rejecting those not statistically significant at approximately the .05 level.

population size, will provide support for the inverse V-curve hypothesis if a significant positive coefficient emerges for the original inequality measure and a significant negative coefficient emerges for the squared term. As presented in the polynominal regression in Table 6.2, personal income inequality does appear to be curvilinearly related to violent power transfers and regime coercion, but in the case of collective protest and deaths from domestic violence the curvilinear version of personal income inequality operates in a wrong direction, indicating a tendency towards a V-curve relationship. Moreover, none of the parameter estimates for the squared terms is statistically significant. Similarly, the logarithmic regression, which includes the logged term of personal income inequality along with population size, does not improve predictive power in any of the equations and does not change any patterns of relationship from those depicted in the linear model.

However, the nature of curvilinear relationships may be more complex than the logarithmic and polynominal specifications imply. Davis's (1948) notion of the "stable economy" suggested that extreme concentration or wide dispersion of income lead to revolution and civil war, for the former spurs mass resentment and the latter engenders elite dissatisfaction. Following Sigelman and simpson's (1977) procedure for testing this V-curve interpretation, the absolute value of the deviation of personal income inequality from the empirical mean or the theoretical midpoint (.5) of Gini values is employed in Linear regressions 2 and 3. According to these regressions, the direction

of relationships with four measures of political violence is inconsistent with these theoretical predictions, except for the relationship between collective protest and the deviation from the theoretical midpoint of Gini values. Moreover, none of parameter estimates is statistically significant. The regressions summarized in Table 6.2, then, do not provide very strong empirical support for a simple interpretation of the economic inequality-political violence link, but none of the nonlinear interpretations improves significantly upon the linear fit. Accordingly, parsimony dictates retaining the simple linear interpretation for inclusion in the test of the overall explanatory model.

With respect to social mobility, some have argued that social mobility is inversely related to political violence (H3.3), while others contend that political violence is greater in societies with either low or high levels of social mobility than societies with Middle levels of mobility (H3.a).. Table 6.3 presents the results of the linear, logarithmic, and polynominal regression analyses involving the mobility indicator, population size, and the violence dimensions. The linear regression provides empirical support for the simple linear hypothesis; for all four measures of political violence, the parameter estimate for social mobility is much greater than twice the associated standard error of the estimate and the direction of its impact is, as predicted, consistently inverse. Social mobility alone explains more than 18% of the variance in regime coercion, and including the index of social mobility along with population size improves the variance

Table 6.3: Linear and Curvilinear Regressions of Social Mobility on Political Violence.

	Linear Regressions	Polynominal Regressions	Logarithmic Regressions
I. Collective Protest			
Constant	46.71	47.05	52.54
Population (log)	5.20(1.68)*	5.31(1.71)*	5.58(1.68)*
Mobility	-.49(.002)*	-.81(.01)*	
Mobility (log)			-3.62(1.61)*
Mobility (square)		.265(.000)*	
R	.365	.368	.396
R^2	.134	.136	.156
Adj. R^2	.109	.098	.132
F	5.393	3.606	6.493
II. Violent Power Transfers			
Constant	46.07	44.70	43.78
Population (log)	3.50(1.73)*	3.05(1.74)	3.03(1.76)
Mobility	-.14(.002)*	.12(.009)*	
Mobility (log)			1.00(1.68)
Mobility (square)		-.11(.000)*	
R	.235	.300	.238
R^2	.055	.090	.057
Adj. R^2	.028	.050	.030
F	2.041	2.274	2.099
III. Deaths			
Constant	1.43	1.54	2.42
Population (log)	.68(.20)*	.72(.21)*	.69(.21)*
Mobility	-.14(.00)*	-.25(.001)*	
Mobility (log)			-.68(.20)*
Mobility (square)		.90(.00)*	
R	.489	.503	.443
R^2	.239	.253	.196
Adj. R^2	.218	.221	.174
F	11.006	7.793	8.558
IV. Regime Coercion			
Constant	53.53	53.08	59.18
Mobility	-.94(.002)*	-.61(.007)*	
Mobility (log)			-4.13(1.41)*
Mobility (square)		-.28(.000)*	
R	.429	.432	.328
R^2	.183	.187	.108
Adj. R^2	.172	.164	.095
F	16.005	8.039	8.562

explained in collective protest by 1.8% and in deaths from domestic violence by 17.3%. However, social mobility does not add any predictive power in the power transfers equation. Thus, the magnitude of mobility's effect varies along with the types of political violence.

H3.3a presents the V-curve relationship between social mobility and political violence. In the polynominal regression, the effect of social mobilization is consistent with theoretical expectations in the case of collective protest and deaths from domestic violence, but overall explanatory power is not substantially improved. The situation is worse in the case of violent power transfers, which shows a negative coefficient for the squared term, and regime coercion, which displays negative effects for both social mobility and its square term. Consequently, it seems safe to conclude that the relationship between social mobility and political violence is linear and negative.

Theorists and researchers have often presented contradictory hypotheses and findings concerning the impact of socioeconomic development on political violence. The inverse linear hypothesis (H2.1) suggests that higher levels of economic development are likely to encourage political stability. An alternative interpretation (H2.1a) is that the relationship between economic development and political violence resembles an inverse V-curve. The linear regression presented in Table 6.4 reveals that economic development has no significant linear impact on collective protest or violent power transfers; but, as expected, it does decrease the number of deaths from domestic violence (R^2 = .068 for population size alone versus .281 for population size

Table 6.4: Linear and Curvilinear Regressions of Economic Development on Political Violence.

	Linear Regression	Logarithmic Regression	Polynominal Regression
I. Collective Protest			
Constant	53.03	81.90	97.26
Population (log)	4.84(1.66)*	4.81(1.65)*	4.24(1.69)*
Eco. Dev.	-.16(.11)		-1.80(1.04)
Eco. Dev. (log)		-21.68(13.31)	
Eco. Dev. (square)			.15(.01)*
R	.349	.358	.391
R^2	.122	.128	.153
Adj. R^2	.097	.104	.116
F	4.846	5.159	4.142
II. Violent Power Transfers			
Constant	51.34	65.83	4.68
Population (log)	3.53(1.69)*	3.46(1.69)*	4.16(1.71)*
Eco. Dev.	-.12(.11)		1.62(1.06)
Eco. Dev. (log)		-11.98(13.65)	
Eco. Dev. (square)			-.16(.01)*
R	.258	.249	.320
R^2	.067	.062	.102
Adj. R^2	.040	.035	.063
F	2.506	2.319	2.615
III. Deaths			
Constant	3.88	12.84	1.07
Population (log)	.61(.20)*	.58(.20)*	.63(.20)*
Eco. Dev.	-.58(.01)*		.22(.12)
Eco. Dev. (log)		-7.00(1.58)*	
Eco. Dev. (square)			-.72(.00)*
R	.530	.521	.534
R^2	.281	.271	.285
Adj. R^2	.260	.250	.254
F	13.666	13.025	9.174
IV. Regime Ceorcion			
Constant	69.93	132.28	63.44
Population			
Eco. Dev.	-.40(.09)*		-.16(.87)
Eco. Dev. (log)		48.69(11.20)*	
Eco. Dev. (square)			-.22(.01)*
R	.466	.459	.467
R^2	.217	.210	.218
Adj. R^2	.206	.199	.196
F	19.705	18.913	9.765

and economic development) and regime coercion (R^2 = .217). The same trends were found in the logarithmic and polynominal regressions. Since the curvilinear regressions do not substantially improve the predictive power of the linear models, parsimony again dictates acceptance of the assumption that the relationship between economic development and political violence is linear.

The linear, logarithmic, and polynominal regressions between level of social mobilization and political violence are markedly similar to those involving economic development, which should come as no surprise in light of the very strong relationship (r = .85) between level of social mobilization and economic development (see Table 6.5). Here again, there is no indication of a curvilinear relationship. In the linear regression, however, one different trend is found in the case of violent power transfers: social mobilization is inversely related to violent power transfers, although the magnitude of this relationship is weak. Consequently, social mobilization appears to be linearly and negatively associated with violent power transfers, deaths from domestic violence and regime coercion.

Many divergent interpretations have been provided of the linkage between a regime's coercive potential and political violence. Some believe that the relationship is lienar and positive (H4.2), and others contend that the relationship is linear and negative (H4.2a). Combining these two contradictory interpretations could produce an inverse V-curve interpretation, but the theoretical literature contains no hint of such a relationship. However, some empirical studies (e.g.,

Table 6.5: Linear and Curvilinear Regressions of Level of Social Mobilization on Political Violence.

		Linear Regression	Logarithmic Regression	Polynominal Regression
I.	Collective Protest			
	Constant	55.40	87.93	90.42
	Population (log)	4.76(1.64)*	4.77(1.63)*	4.65(1.63)*
	Soc. Mobilization	-.20(.11)*		-1.60(1.10)
	Soc. Mobilization (log)		-25.22(12.3)*	
	Soc. Mobilization (square)			.13(.01)*
	R	.374	.383	.399
	R^2	.140	.147	.159
	Adj. R^2	.115	.122	.123
	F	5.683	6.014	4.362
II.	Violent Power Transfers			
	Constant	50.00	59.12	1.99
	Population (log)	3.41(1.69)*	3.38(1.69)*	3.57(1.67)*
	Soc. Mobilization	-.87(.11)		1.83(1.13)
	Soc. Mobilization (log)		-7.96(12.79)	
	Soc. Mobilization (square)			-.18(.01)*
	R	.246	.239	.313
	R^2	.060	.057	.098
	Adj. R^2	.033	.030	.059
	F	2.247	2.118	2.506
III.	Deaths			
	Constant	4.20	12.83	-3.38
	Population (log)	.57(.19)*	.56(.19)*	.59(.18)*
	Soc. Mobilization	-.63(.01)*		.24(.18)
	Soc. Mobilization (log)		-6.97(1.45)*	
	Soc. Mobilization (square)			-.29(.001)*
	R	.570	.574	.616
	R^2	.325	.299	.380
	Adj. R^2	.306	.279	.353
	F	16.860	14.952	14.078
IV.	Regime Coercion			
	Constant	72.73	137.93	59.34
	Soc. Mobilization	-.45(.09)*		.81(.90)
	Soc. Mobilization (log)		-52.02(10.06)*	
	Soc. Mobilization (square)			-.51(.01)*
	R	.513	.523	.535
	R^2	.282	.274	.285
	Adj. R^2	.272	.263	.265
	F	27.900	26.746	14.002

Walton, 1965; Gurr and Ruttenberg, 1967; Bwy, 1968; Gurr, 1968) have unexpectedly uncovered such an inverse V-curve relationship and, ex post facto, have interpreted this finding on the basis of psychological argument that punishment increases the intensity of anger and aggressive behavior, but very high levels of punishment promote fear and thus decrease aggressive responses. Thus, it seems necessary to test the curvilinear interpretation before undertaking an overall evaluation of the model linking major variables to political violence.

Table 6.6 summarizes the results of the linear and curvilinear regression analyses involving regime coercive potential. The linear regression provides only minimal support for H4.2, which predicted that political violence increases with regime coercive potential; according to Table 6.6, coercive potential is not related to collective protest or violent power transfers, but does affect deaths from domestic violence and regime coercion. Even in the case of deaths from domestic violence, including the index of regime coercive potential along with population size does not really improve explanatory power (.1% increase). Regime coercive potential explains only 0.2% of the variance in regime coercion. Similarly, in the logarithmic regression none of the parameter estimates proves to be statistically significant. In the polynominal regression, the inverse V-curve interpretation receives some support in the case of deaths from domestic violence and regime coercion, although its impact is extremely weak. Consequently, regime coercive potential appears to be linearly and negatively associated with deaths from domestic violence and regime coercion.

Table 6.6: Linear and Curvilinear Regressions of Regime Coercive Potential on Political Violence.

		Linear Regression	Logarithmic Regression	Polynominal Regression
I.	Collective Protest			
	Constant	46.14	47.98	46.05
	Population (log)	4.51(1.69)*	4.52(1.69)*	4.51(1.7)*
	Coercive Potential	-.12(.07)		-.89(.28)*
	Coercive Potential (log)		-1.46(9.46)	
	Coercive Potential (square)			-.23(.001)*
	R	.309	.309	.310
	R^2	.096	.096	.096
	Adj. R^2	.070	.070	.057
	F	3.709	3.705	2.437
II.	Violent Power Change			
	Constant	45.65	40.71	36.89
	Population (log)	3.32(1.71)	3.38(1.71)	3.25(1.71)
	Coercive Potential	.13(.07)		.30(.28)
	Coercive Potential (log)		2.96(9.57)	
	Coercive Potential (square)			-.21(.001)*
	R	.228	.230	.261
	R^2	.052	.053	.068
	Adj. R^2	.025	.026	.028
	F	1.913	1.964	1.683
III.	Deaths			
	Constant	.94	.33	.69
	Population (log)	.51(.22)	.51(.22)*	.51(.22)*
	Coercive Potential	.31(.01)*		.12(.04)*
	Coercive Potential (log)		.45(1.25)	
	Coercive Potential (square)			-.65(.00)*
	R	.263	264	.264
	R^2	.069	.069	.070
	Adj. R^2	.043	.045	.030
	F	2.062	2.612	1.734
IV.	Regime Coercion			
	Constant	48.75	41.43	40.97
	Coercive Potential	.26(.06)*		.28(.26)
	Coercive Potential (log)		5.12(8.75)	
	Coercive Potential (square)			-.19(.001)*
	R	.047	.069	.133
	R^2	.002	.004	.018
	Adj. R^2	-.012	-.009	-.010
	F	.158	.343	.631

Contradictory hypotheses concerning the linkage between economic inequality and socioeconomic development have been presented in stratification theory and research. Some have argued that economic inequality is inversely related to economic development and social mobilization (IV 3.2a), while others believe that economic inequality is greatest at medium levels of economic development (IV 3.2). In the case of social mobilization, the theoretical literature provides no curvilinear interpretations of the relationship with economic inequality, but this possibility needs to be checked because of the close relationship between economic development and social mobilization.

Table 6.7 reveals that economic development and social mobilization are associated with decreased income inequality, although these linear relationships are perhaps not as strong as may have been expected (R^2 = .09 and .11, respectively). While the log-transformed score of inequality yields significant parameter estimates, there is no indication that the logarithmic curve provides a better fit than the linear model: the amount of variance explained in the logarithmic regression is actually decreased slightly. The polynominal regression, on the other hand, yields significant parameter estimates and improves upon the explanatory power of the linear interpretation by 4% in the case of economic development and by 11% in the case of social mobilization. Overall, a curvilinear interpretation fits better for social mobilization and economic development. This finding of curvilinearity could cause some difficulties in evaluating the overall model, because of the obvious multicollinearity associated with including both the

Table 6.7: Linear and Curvilinear Regressions of Socioeconomic Development on Economic Inequality.

	Linear Regression	Logarithmic Regression	Polynominal Regression
I. Economic Development			
Constant	.62	1.06	.97
Eco. Dev.	-.31(.00)*		.17(.01)*
Eco. Dev. (log)		-.35(.14)*	
Eco. Dev. (square)			-.18(.00)*
R	.31	.28	.37
R^2	.09	.08	.13
Adj. R^2	.08	.08	.11
F	7.43	6.09	5.56
II. Social Mobilization			
Constant	.64	1.06	-.22
Soc. Mobil.	-.34(.00)*		.30(.01)*
Soc. Mob. (log)		-.35(.13)*	
Soc. Mob. (square)			-.33(.00)*
R	.34	.30	.47
R^2	.11	.09	.22
Adj. R^2	.10	.08	.22
F	9.11	7.07	10.03

social mobilization index and its square term (r = .995). The linear model does deflate the parameter estimates of social mobilization and economic development, but since this deflationary effect is relatively slight and since the final endogenous variable is political violence, assuming that social mobilization has a linear effect on economic inequality should not distort the underlying structure of the model of political violence.

Test of Interactive Hypotheses

Three different versions of the linkage between cultural heterogeneity and political violence were presented above. A simple

linear interpretation (H3.4) holds that political violence is positively related to cultural heterogeneity. An interactive model (H3.4a) contends that social mobilization in culturally heterogeneous societies is likely to induce political violence, but that cultural heterogeneity alone does not have any separate effect on political violence. Still another hypothesis (H3.4b) suggests that the effect of cultural heterogeneity on political violence is mediated by political separatist movements.

Table 6.8 presents the results of a series of multiple regressions testing these divergent ideas. The linear regressions reveal that cultural heterogeneity is associated with collective protest and deaths from domestic violence (R^2 = .096 and .068, respectively, for population size alone, versus .155 and .245 for population size and cultural heterogeneity). But it shows no appreciable relationship with violent power transfers or regime coercion (R^2 = .052 and .062, respectively).

Two regression analyses (a logarithmic interaction model and a multiplicative model) were employed to test H3.4a, which predicted a joint effect of cultural heterogeneity and social mobilization on political violence. A joint effect would be indicated by a significant parameter estimate for the interaction term in the multiplicative model and by singificant parameter estimates of both the logged terms of social mobilization and cultural heterogeneity in the logarithmic model. In the logarithmic interaction regression, the parameter estimates are either insignificant or, as is the case for deaths from

Table 6.8: Linear and Interaction Models for the Linkage between Cultural Heterogeneity and Political Violence.

	Linear Model	Logarithmic Interaction Model	Multiplicative Interaction Model
I. Collective Protest			
Constant	41.99	73.89	38.07
Population (log)	4.78(1.62)*	4.98(1.63)*	4.66(1.63)*
Culture	7.83(3.53)*		29.19(20.82)
Culture (log)		3.18(2.68)	
Soc. Mobilization			.89(.21)*
Soc. Mobilization (log)		-16.12(14.51)	
Culture x Soc. Mobil			-.49(.42)
R	.393	.405	.421
R^2	.155	.164	.178
Adj. R^2	.131	.127	.129
F	6.405	4.502	3.671
II. Violent Power Transfer			
Constant	45.40	54.20	62.79
Population (log)	3.33(1.70)	3.46(1.71)*	3.58(1.7)*
Culture	.72(3.70)		-27.64(21.75)
Culture (log)		1.11(2.81)	
Soc. Mobilization			-.32(.22)
Soc. Mobilization (log)		-4.75(15.22)	
Culture x Soc. Mobil.			.55(.44)
R	.229	.243	.287
R^2	.052	.059	.082
Adj. R^2	.025	.018	.028
F	1.933	1.447	1.522
III. Deaths			
Constant	.31	10.06	4.32
Population (log)	.55(.20)*	.60(.19)*	.60(.19)*
Culture	1.76(.43)*		-1.99(2.39)
Culture (log)		.63(.31)*	
Soc. Mobilization			-.72(.02)*
Soc. Mobilization (log)		-5.16(1.68)*	
Culture x Soc. Mobil.			.58(.05)*
R	.495	.582	.602
R^2	.245	.338	.362
Adj. R^2	.223	.310	.325
F	11.352	11.768	9.649
IV. Regime Coercion			
Constant	47.00	129.07	83.66
Culture	7.13(3.3)*		-20.30(17.01)
Culture (log)		2.01(2.19)	
Soc. Mobilization			-.64(.17)*
Soc. Mobilization (log)		-46.13	
Culture x Soc. Mobil.			.37(.35)
R	.249	.531	.547
R^2	.062	.282	.299
Adj. R^2	.039	.262	.269
F	4.676	13.765	9.829

domestic violence, run in the "wrong" direction. In the multiplicative interaction regression, a significant interaction effect of social mobilization and cultural heterogeneity is found only for the deaths from doemstic violence equation, where the explanatory power of the simple linear interpretation is increased by 11.7%. Thus, cultural heterogeneity appears to have a direct effect as well as an interactive effect on deaths from domestic violence.

According to the model specified in this study, however, this direct or interactive effect may be mediated by intervening conditions such as political separatism and regime coercive potential. Cultural heterogeneity is indeed associated with political separatism ($r = .43$), but, unexpectedly, its association with regime coercive potential is negative ($r = .28$). However, further analysis reveals that this negative relationship is spurious, for the direct relationship disappears when exogenous and predetermined endogenous variables with respect to coercive potential are entered into the regression equation along with cultural heterogeneity and political separatism. Furthermore, although the simple correlation between political separatism and coercive potential is insignificant ($r = .13$), the multivariate analysis uncovers a significant effect of political separatism on coercive potential. Thus, the preliminary findings do indicate that the impact of cultural heterogeneity on coercive potential is mediated by political separatism.

On the basis of this observation, Table 6.9 presents the results of a series of multiple regression analyses further exploring

Table 6.9: Linear and Interaction Models for the Linkages between Cultural Heterogeneity, Political Separatism, Coercive Potential, and Political Violence.

	(1)	(2)	(3)	(4)	(5)
I. Collective Protest					
Constant	45.11	39.97	44.06	36.44	34.04
Population (log)	1.90(1.77)	4.91(1.65)*	1.98(1.81)	1.78(1.8)	1.93(1.84)
Cultural Hetero-geneity	1.57(3.85)	8.36(3.72)*	1.88(4.05)	23.86(19.7)	26.01(2.33)
Political Separ-atism	.25(.08)*		.25(.08)*	.25(.08)*	.25(.08)*
Coercive Potential		.34(.07)*	.17(.07)*		.32(.07)*
Social Mobilization				.17(.20)	.18(.20)
Heterogeneity x Mobilization				-.47(.40)	-.50(.41)
R	.515	.397	.515	.529	.531
R^2	.265	.158	.265	.279	.282
Adj. R^2	.233	.121	.222	.226	.217
F	8.280	4.302	6.143	5.198	4.319
II. Power Transfers					
Constant	44.93	45.05	44.43	61.35	63.37
Population (log)	3.76(1.98)	3.36(1.73)	3.80(2.03)	4.22(2.0)*	4.20(2.05)*
Cultural Hetero-geneity	1.65(4.31)	.81(3.9)	1.80(4.54)	-.26(21.9)	-26.65(22.66)
Political Separ-atism	-.38(.09)*		-.38(.09)*	-.56(.09)*	-.55(.09)*
Coercive Potential		.58(.07)*	.84(.07)*		-.29(.08)*
Social Mobilization				-.34(.22)	-.34(.22)
Heterogeneity x Mobilization				.54(.44)	.54(.46)

(continued)

Table 6.9 (continued)

	(1)	(2)	(3)	(4)	(5)
R	.234	.229	.234	.295	.295
R^2	.054	.052	.055	.087	.087
Adj. R^2	.014	.011	.000	.019	.004
F	.333	1.273	.989	1.281	1.052
III. Deaths					
Constant	.571	-.521	-.19	4.22	3.26
Population (log)	.31(.23)	.60(.20)*	.37(.23)	.42(.22)	.48(.22)*
Cultural Heterogeneity	1.23(.49)*	1.98(.45)*	1.45(.51)*	-2.32(2.36)	-1.46(2.40)
Political Separatism	.22(.01)*		.20(.01)*	.15(.01)*	.14(.01)*
Coercive Potential		.14(.01)*	.13(.01)*		.13(.008)*
Social Mobilization				-.67(.02)*	-.63(.02)*
Heterogeneity x Mobilization				.59(.05)*	.46(.05)*
R	.540	.523	.561	.624	.638
R^2	.292	.274	.315	.389	.407
Adj. R^2	.261	.242	.275	.338	.354
F	9.484	8.659	7.822	8.547	7.564

(continued)

Table 6.9 (continued)

	(1)	(2)	(3)	(4)	(5)
IV. Regime Coercion					
Constant	46.95	43.23	43.21	83.42	78.31
Cultural Heterogeneity	5.65(3.86)	8.15(3.43)*	6.14(3.77)	-21.02(17.23)	-16.34(17.62)
Political Separatism	.65(.08)*		.68(.07)*	.22(.06)*	.21(.06)*
Coercive Potential		.69(.06)*	.69(.06)*		.69(.06)*
Socil Mobilization				-.64(.17)*	-.61(.17)*
Heterogeneity x Mobilization				.37(.35)	.30(.35)
R	.273	.277	.299	.548	.561
R^2	.075	.077	.090	.301	.315
Adj. R^2	.035	.050	.050	.260	.265
F	2.453	2.902	2.264	7.309	6.171

the direct, mediating, and interactive effects of cultural heterogeneity, political separatism, and coercive potential on political violence. Regression 1, which includes political separatism along with cultural heterogeneity, provides general support for the idea that the effect of cultural heterogeneity is mediated by separatist movements, for cultural heterogeneity has no significant effect on political violence, except for deaths from domestic violence. Moreover, political separatism adds 11% and 4.7% to the variance in collective protest and deaths from domestic violence, respectively, accounted for by heterogeneity. But the inclusion of political separatism does not improve upon overall explanatory power in the case of power in the case of power transfers (R^2 change = .02) and coercive potential (R^2 change = .013), indicating that its effect on these two dimensions of political violence is not strong.

It was concluded above that cultural heterogeneity is not directly related to regime coercive potential. This conclusion finds further support in regression 2, which includes regime coercive potential as a predictor along with cultural heterogeneity; the basic patterns depicted in the equation including cultural heterogeneity alone (see the linear regression in Table 6.8) are not changed at all, and both cultural heterogeneity and coercive potential have significant independent impacts on political violence, except for power transfers. However, the fact that coercive potential does not improve the predictive power of any of the equations indicates that its contribution to political violence is not strong. Also, the direct effect of cultural

heterogeneity in this equation should be considered provisional, for regression 1 indicates the possibility that its effect is indirect, being mediated by political separatist movement.

Regression 3 includes cultural heterogeneity, coercive potential, and potential separatism as predictors to further explore this possibility. The basic findings in this regression analysis are that the effect of cultural heterogeneity on collective protest, power transfers, and regime coercion is spurious; that political separatism, which mediates the effect of cultural heterogeneity on regime coercive potential and political violence, and coercive potential both have a significant independent impact on political violence; and that, in the case of deaths from domestic violence, cultural heterogeneity tends to have a direct as well as indirect effect through separatist movements. However, the variance accounted for by these predictors varies along with the types of political violence, ranging from 26.5% down to 5.5%.

As presented above (see the multiplicative regression in Table 6.8), a significant interaction between social mobilization and cultural heterogeneity was found only in the deaths from domestic violence equation. It still seems possible, however, that political separatism or coercive potential may be suppressing the interaction effect on other dimensions of political violence; alternatively, the interaction effect on deaths from domestic violence may disappear if political separatism and/or coercive potential are entered into the equation. However, the inclusion of political separatism along with the

multiplicative term (regression 4 in Table 6.9) does not change the basic patterns revealed in the multiplicative regression in Table 6.8. Thus, it seems safe to assume that higher levels of social mobilization and cultural heterogeneity jointly increase deaths from domestic violence.

The results of all these tests of curvilinear and interactive hypotheses are summarized in Figure 6.1. H3.1, which held that economic inequality would be associated with political violence, was supported in the case of deaths from domestic violence; but the inverse V-curve interpretation (H3.1a) was not supported. For the two contradictory hypotheses concerning social mobility, there was support for H3.3, which predicted that social mobility would be inversely correlated with political violence; again, there was no indication of the curvilinear interpretation predicted by H3.3a. As for the linear (H2.1) versus curvilinear (H2.1a) interpretation of the impact of economic development and social mobilization on political violence, only the linear approach was supported in the case of deaths from domestic violence and regime coercion. For the two different interpretations of the linear relationship concerning the effect of regime coercive potential, the case of deaths from domestic violence and regime coercion, there was support for H3.2, which predicted that coercive potential would increase political violence rather than decrease it; however, the relationship is extremely weak. With respect to economic inequality, the findings concerning the linear (IV3.3) versus curvilinear (IV3.3a) interpretation for the effect of socioeconomic

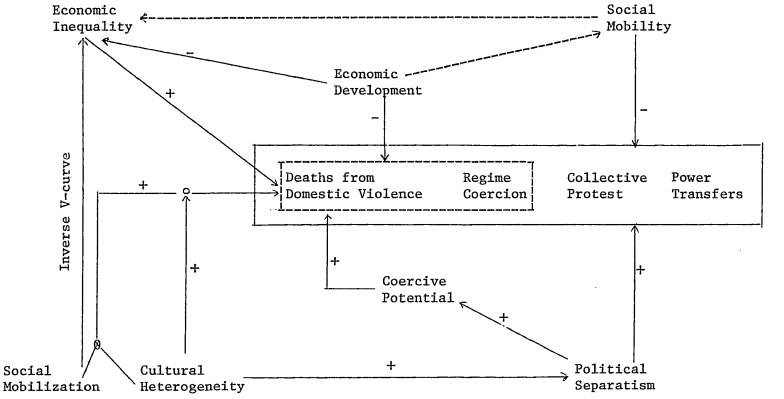

Figure 6.1: A Revised Partial Model on The Basis of Test of Non-linear Hypotheses

NOTE: Broken arros (------->) indicates an existence of causal relationship, which is not reported at this moment.

development indicated mixed results; that is, economic development is inversely related to economic inequality, but that relationship can also be seen as curvilinear, with inequality highest at the middle level of social mobilization. Findings on the linkage between cultural heterogeneity and political violence provided mixed support for the theoretical propositions. H3.4, which held that cultural heterogeneity would increase the extent of political violence, received moderate support in the case of deaths from domestic violence. Also, H3.4, which predicted that higher levels of cultural heterogeneity and social mobilization jointly increase political violence, was supported in the case of deaths from domestic violence. And there was general support for H3.4b, which predicted that the effect of cultural heterogeneity on political violence is mediated by the extent of political separatist movements on the part of cultural minority groups.

These findings indicate that OLS regression can safely be used to evaluate the multi-equation model, except for the equation involving as interaction of social mobilization and cultural heterogeneity on deaths from domestic violence. This exception presents no problem, however, for the level of social mobilization will be eliminated from the model, because its effects on political structure and political violence are markedly similar to those of economic development with which it is very highly correlated ($r = .85$). Including both social mobilization and economic development in the model would be redundant; in statistical terms, the result would be extremely unreliable parameter estimates, and in some cases, large standard errors of estimate.

Substantively, all the above findings should be considered as provisional, for variables not included in these analyses may affect these relationships.

Tests of the Linkage between Exogenous and Predetermined Endogenous Variables

Population growth rate (IV3.1) and dependence on external markets as well as capital (IV3.4) are widely thought to have negative impact on domestic capital accumulation. How accurate are the predictions? According to the "capital formation" equation presented in Table 6.10, economic dependence appears to decrease domestic capital formation, although the magnitude of its impact is not strong, while population growth rates display no appreciable relationship to domestic capital formation (R^2 = .013). Thus, these findings provide initial support for IV3.4 but no support for IV3.1.

With respect to economic growth rate, domestic capital formation is predicted as having a negative effect (IV2.5a); also population growth rates should have either a negative effect (IV2.2) or no effect (IV2.2a) on the rate of economic growth. The "economic growth rate" equation in Table 6.10 reveals that, even controlling for the effect of economic development, domestic capital formation is related to economic growth in the expected direction; that economic dependence is negatively related to economic growth rate; but that the parameter estimate for the rate of population growth is statistically insignificant. Overall, these four predictors together explain barely more than one-quarter of the variance in the rate of economic growth (R^2 = .261).

Table 6.10: Regression Analysis for the Linkages between Exogenous and Predetermined Endogenous Variables.

	Capital Formation	Economic Growth Rate	Economic Inequality (1)	Economic Inequality (2)	Institution-alization	Coercive Potential	Elite Leftism	Welfare Statism
Constant	20.75	16.23	.41	.43	20.72	45.95	-54.82	3.44
Economic Dependence	-.37(.04)*	.20(.07)*	.20(.00)*	.21(.00)*				
Population Growth Rate	-.21(1.78)	.97(3.08)	.74(.03)*	.45(.03)*				
Capital Formation		.56(.24)*	-.39(.00)*					
Eco. Development		.27(.13)*	-.13(.00)*	-.99(.00)*	.72(.09)*	-.28(.26)	-.52(.40)	.66(.21)*
Eco. Growth Rate			.20(.00)*	.33(.00)*	-.16(.09)	.78(.20)*		
Mobility			-.18(.00)*	-.69(.00)*		.30(.006)*	-.27(.01)*	
Coercive Potential				-.21(.11)			-.30(.18)	-.12(.09)
Elite Leftism				-.17(.00)*				.86(.07)*
Welfare Statism				-.74(.00)*				
Eco. Inequality						-52.45(18.4)*	13.09(27.8)	
Communication Change					.32(.06)*	-.43(.12)*		
Improvement in Human Resources					-.29*.06)*	.10(.13)		
Urbanization					-.20(.22)	-.87(.44)		
Cultural Heterogeneity						-6.66(6.94)		
Political Separatism						.56(.12)*		
Political Institutionalization							.95(.39)*	.35(.20)
R	.115	.511	.523	.598	.726	.571	.512	.679
R^2	.013	.261	.273	.358	.527	.326	.262	.461
Adj. R^2	-.015	.217	.207	.266	.491	.231	.207	.429
F	.471	6.000	4.135	3.897	14.900	3.391	4.762	15.547

NOTE: The first entry for each predictor is the parameter estimate, b; the figure in parentheses is the standard error of b.
*Starred (*) estimates are more than twice their standard errors. This criterion is same as examining the t ratios associated with each coefficient and rejecting those not statistically significant at approximately the .05 level.

Turning to economic inequality, stratification theory suggests a variety of socioeconomic and political determinants of economic inequality. Chief among these are the rate of population growth (IV3.1), level of economic development (IV3.2a), economic growth rate (IV3.4), social mobility (IV3.5), economic dependence (IV3.6), regime coercive potential (IV4.3), elite leftism ((V4.6), and welfare statism (IV4.8). To explore the relative importance of socioeconomic and political factors, two different regressions were employed. "Economic inequality" equation 1, which includes only the socioeconomic variables, does provide general support for the theoretical propositions. IV2.1, which predicted that high population growth rates would be associated with greater economic inequality, is supported. This analysis also provides moderate empirical support for the hypothesis (IV3.2a) that even controlling for the effect of capital formation, the level of economic development decreases economic inequality; also, the effect of economic growth rate is consistent with the expectations (IV3.4) that it would be positively related to economic inequality; IV3.5, which predicted that higher rates of social mobility would lead to more equal distribution of material rewards, is also supported; the effect of economic dependence is, as predicted (see IV3.6), consistently positive, suggesting that dependence on foreign markets and capitals does indeed increase economic inequality; and finally, domestic capital formation, as a strong predictor to economic growth, is negatively related to economic inequality. All these socioeconomic factors together explain 27.3% of the variance in economic inequality.

"Economic inequality" equation 2 includes three political factors (regime coercive potential, elite leftism, and welfare statism) as predictors along with the socioeconomic factors. There are no major changes in any patterns of relationships between socioeconomic factors and economic factors. The parameter estimates for elite leftism and welfare statism are much greater than twice the associated standard errors of the estimates and the direction of their impacts are, as predicted, inverse, suggesting that elite leftism (IV4.6) and welfare statism (IV4.8) do decrease economic inequality. However, the parameter estimate for regime coercive potential is insignificant as well as in the "wrong" direction. Nonetheless, including these three political factors along with socioeconomic variables improves the variance explained in economic devleopment by 8.5% (R^2 = .353). This improvement is perhaps not as large as may have been expected, but it provides evidence that elite leftism and welfare statism have significant independent impacts on economic inequality.

By hypothesis, the level of socioeconomic development should increase political institutionalization (IV4.2), while the rate of socioeconomic change should increase political instutitonalization (IV4.5). The "institutionalization" equation presented in Table 6.10 provides some partial support for these hypotheses. Economic development, as predicted, has a significant positive effect on political institutionalization. Among the four dimensions of socioeconomic change, rapid improvement in human resources does decrease political institutionalization. Although economic growth rate and urbanization

operate in the direction anticipated by theoretical expectations, neither of the parameter estimates is statistically significant. However, communication change is positively related to political institutionalization. Overall, because of the contributions of economic development, communication change, and improvement in human resources, the five variables together explain more than half of the variance in political institutionalization (R^2 = .523).

Theorists have suggested a diverse set of determinants of regime coercive potential. These include socioeconomic development, socioeconomic change, economic inequality, cultural heterogeneity, and political separatism. IV4.4 predicted that regime coercive potential is negatively related to level of socioeconomic development, and IV4.5 held that coercive potential is positively related to rate of socioeconomic change. IV4.6a posited a positive effect of economic inequality and a negative effect of social mobility on coercive potential. Also cultural heterogeneity and its related conditions such as political separatism (see H3.4, H4.4a, and H 3.4b) were seen as having positive effect on coercive potential.

According to the "coercive potential" equation presented in Table 6.10, five variables (social mobility, economic inequality, communication change, urbanization, and cultural heterogeneity) operate in the "wrong" direction, while four variables (economic development, economic growth rate, improvement in human resources, and political separatism) operate in the expected direction. None of the parameter estimates for communication change, urbanization, cultural

heterogeneity, economic development, and improvement in human resources is statistically significant. However, social mobility and economic inequality yield significant parameter estimates; but, unexpectedly, social mobility is found to have a positive effect on coercive potential and economic inequality appears to be negatively related to coercive potential. Both economic growth rate and political separatism have a significant effect on coercive potential. Thus, initial support for a diverse set of hypotheses concerning the determinants of coercive potential is found in the case of economic growth rate and political separatism. All nine predictors jointly explain 32.6% of the variance in regime coercive potential.

With respect to elite leftism, IV4.1 suggested that elite leftism is inversely related to coercive potential and positively related to political institutionalization. Also some theorists contend that elite leftism is determined by socioeconomic conditions; thus, IV4.3 predicted that economic development encourages elite leftism; IV4.6a also predicted that elite leftism is positively related to the level of economic inequality and negatively related to social mobility.

The "elite leftism" equation in Table 6.10 summarizes the results of a multiple regression analysis of these hypotheses. Although the directions of the relationships are consistent with theoretical expectation, the parameter estimates for economic development, coercive potential, and economic inequality are insignificant, suggesting that these factors have no direct effect on elite leftism. However, the parameter estimate for social mobility is much greater than twice the

associated standard error of the estimate, and the direction of its impact is, as predicted, inverse. The most powerful predictor of leftist strength is political institutionalization, which is positively related to leftist strength. Despite the contribution of political institutionalization, coercive potential and social mobility, the five predictors together explain barely more than one-quarter of the variance in elite leftism ($R^2 = .262$).

Many competing arguments were presented above concerning the relative importance of socioeconomic conditions and political factors in explaining welfare statism. IV4.7 held that welfare statism is primarily determined by socioeconomic development. But IV4.6 contended that political factors (political institutionalization, coercive potential, and elite leftism) play an important role in government commitment to the welfare state. The final equation in Table 6.10 provides general support for these arguments. Economic development can be seen to have a strong impact on welfare statism. Also elite leftism has a direct and positive effect. Although the directions of the relationships are consistent with the theoretical expectation, however, the parameter estimates for political institutionalization and coercive potential are insignificant. In the case of political institutionalization, its simple correlation with welfare statism is strong ($r = .59$), but it appears to have no direct effect. This observation implies that the effect of political institutionalization is mediated by elite leftism.

The empirical findings concerning the linkages between exogenous and predetermined endogenous variables can be summarized as in Figure 6.2. Capital formation has been employed in this study to explore a possible mediating effect between economic dependence and economic growth rate, and population growth rates have been introduced as a control variable. Since capital formation and population growth rates are of no particular theoretical interest in explaining political violence, these two variables will be eliminated from the model. The findings summarized in Figure 6.2 (except population growth rates and capital formation) will be incorporated into an overall evaluation of the final model that will be presented below.

Retest of Non-recursive Relationships

To this point in the analysis, the complex linkages between exogenous and predetermined endogenous variables have been trimmed on the basis of solutions for single equations. The comprehensive model that was presented earlier specified non-recursive relationships between economic inequality and political factors, but the preliminary analyses uncovered such relationships; economic inequality was inferred to have a negative impact on coercive potential, but not vice versa, and both elite leftism and welfare statism were seen to have a significant negative impact on economic inequality. However, in a simultaneously determined system, the single equation solutions may yield inconsistent parameter estimates for non-recursive relationships. Although the single equation analysis was quite approrpiate for an

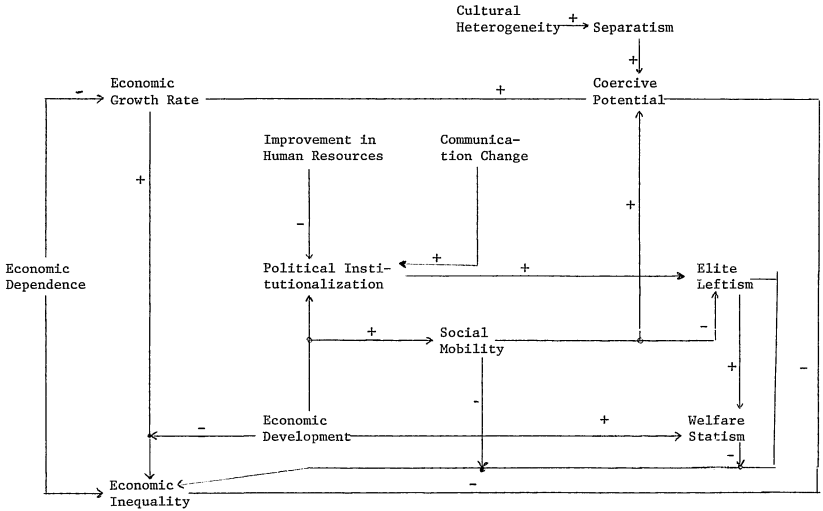

Figure 6.2: A Revised Model of the Linkages between Exogenous and Predetermined Endogenous Variables.

initial trimming stage of complex model, instrumental variables/two stage least squares regression must be employed to test equations that involve non-recursive relationships. Table 6.11 presents the results of a series of IV-2SLS regression analyses. The IV-2SLS regression was based on the findings of the previous analysis because of the problems of model identification. According to these results, the single equation analyses are quite consistent with the IV-2SLS analyses. The "economic inequality" equation 1, which included the instrumental variable of regime coercive potential along with economic dependence, economic growth rate, economic development, and social

Table 6.11: IV-2SLS Regressions for Non-Recursive Relationships.

Predictors	Economic Inequality (1)	(2)	Coercive Potential	Leftism
Constant	.41	.41	13.16	-32.85
Eco. Dep.	.19(.001)*	.20(.001)*		
Eco. Gr. Rate	.14(.001)*	.19(.002)*	.69(.18)*	
Eco. Dev.	-.20(.002)*	-.25(.002)*		
Soc. Mobility	-.27(.001)*	.11(.000)	.84(.11)*	.54(.04)*
Separatism			.26(.12)*	
Institutionalization				1.23(.33)*
Commun. Change			-.22(.12)	
IV: Coer. Pot.	-.14(.08)			
IV: Elite Left.		-.46(.001)*		
IV: Eco. Ineq.			-.17(.016)*	.19(.15)
R	.499	.499	.442	.510
R^2	.249	.249	.195	.260
Adj. R^2	.193	.193	.148	.228
F	4.448	4.434	4.431	8.079

mobility, reveals that coercive potential has no appreciable impact on economic inequality. The "economic inequality" equation 2 includes the instrumental variable of elite leftism instead of coercive potential. The parameter estimate of elite leftism is statistically significant and negative, indicating that elite leftism is associated with decreased economic inequality. In that equation, however, social mobility is positively associated with economic inequality. Turning to the effect of economic inequality on political structure, economic inequality has a causal effect on coercive potential, but no effect on elite leftism. Except for the relationship between social mobility and economic inequality in the "economic inequality" equation 2, the overall patterns of relationships are the same in the single equation analyses as in instrumental variables/two stage least squares analysis. Thus, it can safely be concluded that the hypotheses concerning non-recursive relationships between economic inequality and political structure are not supported in this study.

II. Estimates for the Model of Political Violence

The simultaneously determined system of the political violence model is relatively complex, including many linkages between exogenous, predetermined endogenous, and final endogenous variables. Having observed in the preliminary analyses that none of the linkages involves curvilinear relationships, it is safe to apply OLS techniques to the evaluation of the model. However, the effects of many theoretically interesting variables on political violence have been untested so far, some of which may have no significant effect or may operate in the

direction contrary to theoretical expectation. Thus, path coefficients for the linkages are not presented at this stage. Findings will be presented on the basis of the types of political violence in order to simplify presentation of the results. Then a summary section will focus on the differential effects of variables across the types of political violence.

Collective Protest

Table 6.12 summarizes the results of a series of multiple regression analyses of political violence. According to the "collective protest" equation, eight variables (economic development, social mobility, urbanization, coercive potential, elite leftism, cultural heterogeneity, political separatism, and structural imbalance) operate in the theoretically-expected direction, and the parameter estimates for all variables except cultural heterogeneity are much greater than twice the associated standard errors of the estimates; however, seven variables (economic dependence, economic inequality, political institutionalization, welfare statism, economic growth rate, communication change, improvement of human resources) are in the "wrong" direction, and, among them, economic growth rate, economic inequality and political institutionalization are not significantly related to collective protest. With respect to collective protest, then, there is no support for the hypotheses that predicted positive effects of economic inequality (H3.1) and cultural heterogeneity (H3.4). Similarly, the hypothesis that held a negative effect of political institutionalization is not supported in this analysis. The situation is worse in the

Table 6.12: Estimates for the Final Model

	Collective Protest			Power Transfers			Deaths			Regime Coercion		
Predictors	b	Beta	Stand. Errors	b	Beta	Stand. Errors	b	Beta	Stand. Errors	b	Beta	Stand. Errors
Constant	54.20			46.87			-.11			71.26		
Population (log)	2.79	.19	2.34	5.13*	.35	2.52	.44	.23	.26			
Eco. Dependence	-.29*	-.05	.10	.12	.19	.10	-.53*	-.01	.01	-.44*	-.01	.07
Eco. Developmt.	-.74*	-.08	.21	-.10	-.11	-.22	-.22*	-.17	.02	-.23	-.27	.15
Eco. Growth Rate	-.11	-.01	.15	.69*	.07	.16	.12*	.09	.02	.78*	.09	.11
Communication Change	-.17*	-.00	.08	.18*	.03	.09	-.37*	-.04	.01	.96*	.16	.06
Human Resources	-.89*	-.12	.09	-.25*	-.04	.09	.11*	.13	.01	.14*	.00	.06
Urbanization	.71*	.03	.35	.39	.16	.37	.31*	.10	.04	.15	.07	.26
Soc. Mobility	-.36*	-.15	.01	.41*	.17	.01	-.48*	-.00	.00	-.19*	.09	.00
Coercive Poten.	.47*	.08	.09	.30*	.01	.09	.14*	.17	.01	.23*	.04	.07
Eco. Inequality	-13.23	-.14	14.42	.64	.01	15.53	2.04	.16	1.58	-9.81	-.12	10.38
Elite Leftism	-.14*	-.03	.06	-.22*	-.06	.06	-.36*	-.07	.01	-.14*	-.39	.04
Welfare Statism	.80*	.13	.10	.99*	.16	.11	-.95*	-.12	.01	.13	.24	.07
Cultural Heterogeneity	1.83	.06	5.37	2.03	.06	5.79	1.25*	.30	.59	-3.41	-.12	3.94
Separatism	.22*	.37	.10	-.74*	-.13	.10	.18*	.23	.01	.19*	.04	.06
Institutional-ization	.25	.03	.19	-.29	-.30	.20	-.13*	-.10	.02	-.32*	-.37	.14
Imbalance	.64*	.03	.10	.16	.08	.35	.20*	.01	.04	-.24	-.14	.24
R	.568			.442			.717			.718		
R^2	.323			.196			.515			.516		
Adj. R^2	.130			.034			.376			.389		
F	1.669			.852			3.710			4.053		

cases of economic dependence (H2.3), which shows a negative effect, and welfare statism, which displays a positive effect.

However, some support is found for the effect of socioeconomic conditions. With respect to socioeconomic change, urbanization alone appears to be positively related to collective protest. The parameter estimate for economic growth rate is insignificant, and the effects of communication change and improvement of human resources are unexpectedly negative, indicating that rapid improvement of human resources and communication change decrease collective protest. Thus, the hypothesis (H2.1) that rapid socioeconomic change increases political violence is supported only in the case of urbanization. H2.2 predicted that economic development decreases the level of political violence. The preliminary analysis presented earlier found no such effect. However, in the multivariate analysis it can be observed that economic development does indeed have a negative impact on collective protest. Also social mobility (H3.3) is related to decreased collective protest.

Hypotheses concerning the effect of political structure on political violence receive general support. Political separatism (H3.4b), which is greatly affected by cultural heterogeneity, has a direct positive effect on collective protest. This finding is consistent to that of the preliminary analysis. On the contrary, the preliminary analysis failed to find any appreciable relationship between coercive potential and collective protest, but the multivariate analysis reveals that coercive potential is positively related to collective protest. Thus, among the two competing hypotheses, there is

support for H4.2, which predicted that regime coercive potential increases collective protest rather than decreases it. H4.3, which predicted a negative effect of elite leftism on political violence, is also supported in this analysis. One of the core variables in the mobilization approach to political violence is structural imbalance, which is considered as having a positive effect on political violence (H4.4). Structural imbalance does indeed increase collective protest.

On balance, the parameter estimates for the less than half of the fifteen variables are statistically significant and consistent to the theroetical expectation. The overall explanatory power of the model of collective protest is moderate (R^2 = .323, Adjusted R^2 = .130). And even these summary statistics overstate the explanatory power of the model, for they include four instances in which the contribution of independent variables run in the wrong direction.

Violent Power Transfers

The "power transfers" equation presented in Table 6.12 summarizes the results of the particular multiple regression analysis. Among the fifteen variables, eleven (economic development, economic dependence, economic growth rate, communication change, urbanization, economic inequality, coercive potential, elite leftism, political institutionalization, structural inequality, and cultural heterogeneity) operate in the direction of theoretical expectation, but only four of these economic growth rate, communication change, coercive potential and elite leftism display statistically significant effects. The effects of four variables (improvement of human resources, social

mobility, welfare statism, and political separatism) are inconsistent with the theoretical expectation, but all the parameter estimates for these variables are statistically significant.

With respect to violent power transfers, then, there is no support for the hypotheses concerning negative effects of economic development (H2.2) and political institutionalization (H4.1); also there is no support for the hypotheses concerning the positive effects of economic inequality (H3.1) and structural imbalance (H4.4). In the relationships of social mobility and political separatism with power transfers, there are sharp differences between the results of the bivariate analyses and those of multivariate analyses; the bivariate analyses revealed that, as predicted, social mobility decreases power transfers, while political separatism increases regime coercive potential; in the multivariate analyses, however, social mobility appears to have a positive effect, while political separatism appears to have a negative effect. It cannot be determined why these anomalies exist, but one possibility is that undetected covariation of social mobility and political separatism with unmeasured variables may have suppressed the true nature of the relationships.

However, some partial support for the model is found in the linkages between socioeconomic change and power transfers. Both economic growth rate and communication change have significant positive effects on power transfers. As noted earlier, urbanization is related to power transfers in the expected direction, but its parameter estimate for improvement of human resources is significant, but it tends to

decrease power transfers rather than increase it. Thus, H2.1, which predicted that socioeconomic change is positively related to political violence, is supported only in the cases of economic growth rate and communication change vis-a-vis power transfers.

Among the political factors, coercive potential and elite leftism satisfy theoretical expectations. The preliminary finding that was presented earlier could not find any significant impact of coercive potential on power transfers. However, coercive potential appears to be positively related to power transfers in the multivariate analysis. Thus, the conclusion reached in the linkage of coercive potential with collective protest is true in the case of coercive potential vis-a-vis power transfers; that is, coercive potnetial increases power transfers rather than decreasing them. Again, just as in the case of collective protest, elite leftism does exert a significant negative effect on power transfers. Hence the strength of leftist elites does avert outbreaks of power transfers.

On balance, only four variables (economic growth rate, communication change, coercive potential and elite leftism) satisfy theoretical expectations. Overall, the explanatory power of the model of power transfers is extremely low (R^2 = .196, Adjusted R^2 = .034), and these statistics include the contribution of four independent variables that operate in the wrong direction.

Deaths from Domestic Violence

The same fifteen explanatory variables are included in the "deaths" equation in Table 6.12. All of these variables except two

(economic dependence and communication change) display consistent trends in the theoretically expected direction. Moreover, the parameter estimates for all the variables in the equation except the Gini index of income inequality are more than twice the respective standard errors, and thus appear to have significant independent effects on deaths from domestic violence. Among these predictors, cultural heterogeneity, political separatism, economic development, coercive potential and improvement of human resources exert the strongest impacts on deaths from domestic violence. Thus, while the hypothesis that predicted positive effects of inequality (H3.1), economic dependence (H2.3) and communication change (H2.1) are not supported in this analysis, the rest of hypotheses that concerned direct linkages with political violence receive some empirical support. All these predictors together produce a respectable R^2 of .515 (Adjusted R^2 = .376). Thus, it is concluded that the model of deaths from domestic violence possesses moderate to strong explanatory power.

The preliminary analysis suggested that there may be a joint effect between cultural heterogeneity and social mobilization on deaths from domestic violence. Analysis of the interaction effect indicates significant parameter estimates for both cultural heterogeneity and the multiplicative term of cultural heterogeneity and social mobilization. However, the multiplicative term of cultural heterogeneity and social mobilization does not improve predictive power over that achieved in the simple linear model. Because cultural heterogeneity has a direct impact on deaths from domestic violence in

the multiplicative interaction regression, and because the multicollinearity associated with including a multiplicative term (the correlation between cultural heterogeneity and the multiplicative term is .959) inflates error terms, it seems advisable to retain the simple linear interpretation in preference to the multiplicative model.

Regime Coercion

According to the "regime coercion" equation presented in Table 6.12, ten variables (economic development, economic growth, communication change, improvement of human resources, urbanization, social mobilization, social mobility, coercive potential, leftist strength, political separatism, and political institutionalization) operate in the direction of theoretical expectation, and all these variables except economic development and urbanization have significant effects on regime coercion. However, the effects of five variables (economic dependence, income inequality, cultural heterogeneity, welfare statism, and structural imbalance) are in a direction inconsistent with the theoretical prediction; of these, however, only the parameter estimate for economic dependence is statistically significant, and the magnitude of its relationship with regime coercion is nominal. Among the predictors, economic development, economic growth rate, elite leftism and political institutionalization have the greatest impacts on regime coercion.

Thus the hypotheses that predicted positive effects of urbanization (H2.1), economic inequality (H3.1), cultural heterogeneity (H3.3) and structural imbalance (H4.4), and that predicted a negative

effect of economic development (H2.2) do not receive any empirical support. Also H2.3, which predicted that economic dependence encourages regime coercion, is not supported. However, a majority of the hypotheses that concerned the direct linkages between the rest of the predictors and regime coercion receive moderate support. All these predictors together produce R^2 of .516 (Adjusted R^2 = .389). Thus, it appears that overall explanatory power of the model of regime coercion is in the moderate to strong range.

An Overview of the Findings

These findings are most readily summarized in conjunction with the theoretical expectations that were outlined in Figure 5.2. H2.1 predicted that political violence would be positively related to socioeconomic change. The statistical findings concerning this relationship indicate mixed support for this proposition. Urbanization appears to encourage collective protest and deaths from doemstic violence; in fact, of all the measures of socioeconomic change, only urbanization is significantly related to collective protest. By contrast, communication change exerts direct positive effects on power transfers and regime coercion. Economic growth rate and improvement of human resources have significant positive effects on deaths from domestic violence and regime coercion; in addition, economic growth rate also increases power transfers.

These findings reveal that the effects of socioeconomic change vary with the type of political violence. Although these differential

effects of socioeconomic change cannot be conclusively interpreted, some inferences can be based on theoretical speculations. Urbanization atomizes large segments of population at the same time that it encourages greater mass political participation (Kornhauser, 1959; Moore, 1966). This may help to explain why urbanization is more closely related to spontaneous mass violence (collective protest) and the intensity of conflict (deaths from domestic violence) than it is to irregular power transfers or regime coercion, which are largely related to elite conflict and government action toward perceived threats. On the other hand, the expansion of communication facilities does not affect mass protest or intensity of conflict, but seems to provide an effective means by which government can deter perceived threats and elites can conspire to subvert the regime. The fact that economic growth rate does not increase collective protest can be interpreted as meaning that rapid economic growth creates a basis for mass system support. Similarly, improvement of human resources can also increase higher levels of expectation for a better future, and thus improve the legitimacy of the system. Thus, improvement of human resources may not increase mass political protest or elite conflict.

H2.2, which predicted that high levels of economic development would decrease political violence, receives moderate support in the cases of collective protest and deaths from domestic violence. Although the parameter estimates for economic development with respect

to other dimensions of political violence are statistically insignificant, the direction of these relationships is consistent with the theoretical prediction. For H2.2a, the alternative hypothesis to H2.2, there is no indication that the economic development-political violence link resembles an inverse V-curve. These statistical findings suggest once more that economic and technological progress induces higher levels of system support by alleviating resource scarcities and by expanding the collective bargaining power of working class organizations, and thus decreasing spontaneous mass protest and the intensity of conflict. However, this is not the case for irregular power transfers and regime coercion, suggesting that there may be many conditions which intervene between economic development and political conflict among elites or violence initiated by government.

H2.3 predicted that political violence would be positively associated with economic dependence. There is no support at all for this hypothesis. Economic dependence is positively related to power transfers, but the parameter estimate for economic dependence is insignificant. The situation is worse with respect to other dimensions of political violence, on which economic dependence shows significant negative effects. Similarly, H3.1, which held that economic inequality should encourage political violence, does not receive any empirical support. In two cases (the linkage of income inequality with power transfers and deaths from domestic violence), the relationships operate in the expected direction but fall short of statistical significance. The other two occasions (the linkage of income inequality

with collective protest and regime coercion) yield unexpectedly negatively parameter estimates; however, these estimates are insignificant. There is also no support for H3.1a, which presented an inverse V-curve interpretation of the inequality-violence linkage.

Thus, these findings do not provide any empirical support for the hypotheses involving two focal concepts of stratification theory (economic dependence and economic inequality). The theoretical implications of these observations are extremely diverse. Economic inequality and economic dependence may be too broad concepts to entail theoretical utilities. Or the subjective perception of economic inequality and economic dependence may not correspond very closely to the "realities" of situation. If true, this could certainly help explain why economic inequality and economic dependence have not consistently emerged as strong predictors of political violence. It is also possible that between objective conditions and subjective perceptions, there may be many intervening factors such as the degree of cross-cutting cleavages (Sigelman and Simpson, 1977) and the strength of class-based organizations (Lipset, 1960; Tilly, 1978). Alternately, cross-national test may not adequately capture the theoretical propositions concerning long-term, dynamic effects of economic inequality and economic dependence on political violence.

H3.2 held that a high level of social mobility would decrease the level of political violence. This hypothesis receives moderate support, except for the social mobility-power transfers link, which

unexpectedly displays a significant positive coefficients. Alternative hypothesis H3.2a, which predicted an inverse V-curve relationship, receives no support. These findings suggest that the opening up of chances for upward mobility decreases antisystem frustrations and thus decreases mass political protest and the severity of conflict. Since higher levels of opportunity for upward mobility generate higher levels of system support, government does not need to rely on coercion to maintain the existing order. However, the lack of support for the linkage between social mobility and power transfers suggests that elite conflict may be more directly influenced by political conditions than socioeconomic conditions.

H3.3, which predicted that cultural heterogeneity would encourage political violence, receives empirical support only in the case of deaths from domestic violence. There is also no strong indication of an interaction effect of cultural heterogeneity on political violence. However, H3.3b, which held that the effect of cultural heterogeneity on political violence would be mediated by the degree of political separatism, receives moderate support, except for the political separatism-power transfers link. These findings reveal that the intensity of conflict is higher in societies segmented into divergent cultural groups, because the multiplication of interaction units with narrow, parochial interests may induce conflicting demands that are difficult to accommodate. Also high degree of cultural heterogeneity can lead to political separatism on the part of disadvantaged cultural minority, which, in turn, increase political violence

except irregular power transfers. Again, it is indicated that elite conflict may be more directly related to other political conditions.

H4.1 predicted that political institutionalization would decrease political violence. The multivariate analysis turns up strong support for H4.1 in the case of regime coercion and moderate support in the case of deaths from domestic violence, but no significant support in the cases of collective protest and power transfers. Thus, H4.1 performs quite inconsistently across the various dimensions of political violence. These findings reveal that a high capacity of political institutions to adapt to changes in society considerably decreases the intensity of conflict. Also, political elites may tend to resort to coercive sanctions as an alternative means of maintaining political order when the institutional capacity of the political system is low. With respect to collective protest and power transfers, however, political institutionalization may exert only indirect effects which are mediated by other political conditions.

There were two competing hypotheses concerning the effect of regime coercive potential on political violence; H4.2 predicted that regime coercive potential would decrease political violence, while H4.2a held that regime coercive potential would increase political violence. The data provide empirical support for H4.2a; although the magnitude of its impact is not particularly strong, regime coercive potential is significantly and positively related to all the dimensions of political violence. It can be seen that inflexible, repressive responses by government intensify the frustrations of dissidents and

thus make them rely on more violent expressions of their own interests. Such responses are, from the regime's perspective, counterproductive, in that they tend to be associated with outbreaks of the very types of behaviors they are designated to prevent.

H4.3, which predicted that elite leftism would decrease political violence, also receives general support. Elite leftism is negatively related to all the dimensions of political violence. Its association with regime coercion is fairly strong, but its relationships with the other dimensions of political violence are a good deal weaker. Since leftist parties actually or symbolically coordinate and channel the interests of the less privileged, it is not unexpected that their strength should decrease the occurrence of political violence.

H4.4 held that political-socioeconomic imbalance would elicit political violence. The multivariate analysis provides minimal support for this hypothesis in the case of collective protest. The lag in the development of political institutions behind socioeconomic change considerably increases spontaneous mass protest. Despite a wealth of speculations, however, there are no indications that imbalance is associated with power transfers, deaths from domestic violence, or regime coercion. The question of why this proposition, drawn from a prominent approach to political violence, receives such poor empirical support cannot be adequately addressed at this moment, but the possibilities will be explored within the context of specification error, theory, concept, measurement, and method below.

In explaining political violence, some scholars have laid more emphasis on the importance of socioeconomic conditions, while others have contended that political factors are much more important than socioeconomic conditions. In order to gauge the relative importance of socioeconomic and political factors, Table 6.13 summarizes the accuracy of the predictions concerning all the independent variables employed in this study. No variables concerning socioeconomic conditions satisfy the theoretical expectations across all four dimensions of political violence. Among the ten socioeconomic variables, moderate support for the theoretical propositions occurs in the cases of economic growth rate, social mobility, and political separatism, all of which are related to three dimensions of political violence in the expected directions. Urbanization, communication change, improvement of human resources, and economic development receive partial empirical support for the theoretical propositions, for they are related to two dimensions of political violence in the expected directions. But economic inequality is not significantly related to any dimension of political violence, while economic dependence consistently operates in the direction contrary to theoretical expectations. Cultural heterogeneity satisfies the theoretical prediction only in the case of deaths from domestic violence. Thus, eleven of the forty tests of linkages between socioeconomic factors and the four dimensions of political violence receive moderate empirical support, and seven of the linkages show weak but significant impacts on political

Table 6.13: Accuracy of Predictions of Independent Variables

	Collective Protest	Power Transfers	Deaths	Regime Coercion
(1) Socioeconomic Factors				
Economic Growth Rate	-	++	++	++
Urbanization	+		++	
Communication Change	-	+	--	++
Improvement of Human Resources	--	-	++	+
Economic Development	+	-	++	-
Economic Dependence	--	-	--	--
Economic Inequality	-	-	-	-
Social Mobility	++	--	++	++
Cultural Heterogeneity	-	-	+	-
Political Separatism	+	--	++	+
(2) Political Factors				
Institutionalization	-	-	++	+
Coercive Potential	++	+	++	+
Elite Leftism	+	+	++	+
Structural Imbalance	++	-	-	-

NOTE: "++" indicates that parameter estimate is at least four times greater than its associated standard error, suggesting moderate support for the hypothesized link; "+" indicates that parameter estimate is two times greater than its associated standard error, suggesting weak support for the hypothesized link; "--" indicates that parameter estimate is two times greater than its associated standard error but operates in the direction inconsistent to the theoretical prediction; and "-" indicates that the relationship is statistically insignificant.

violence; however, fifteen of the linkages do not reveal any appreciable relationships with political violence, and seven are significant but the direction opposite from the theoretical predictions.

With respect to the linkages between political factors and political violence, the effects of coercive potential and elite leftism are significant and consistent with theoretical predictions. Political institutionalization is related to deaths from domestic violence and regime coercion in the expected direction, but it is not related to collective protest and power transfers. The weakest support for the theoretical propositions is found in the case of structural imbalance, which does not have any appreciable relationships with political violence except for its impact on collective protest. Five of the sixteen linkages between the political factors and the four dimensions of political violence display moderate statistical relationships, and six of the linkages also satisfy the criteria of statistical significance and directionality. However, five of the linkages do not show any significant relationships, but no relationships run in the direction opposite from that suggested by the theoretical propositions.

Overall, political factors tend to operate much more consistently with theoretical expectations than do socioeconomic factors, although the overall explanatory power of the political factors is rather modest. This greater explanatory power does not, however, necessarily mean that political factors are more important in explaining political violence. It is possible that the weak performance of

socioeconomic factors may be related to certain problems and limitations faced by studies like the present one, which will be discussed below. Moreover, the complexity of causal structure underlying political violence can be best captured by employing both socioeconomic and political factors.

On balance, the statistical results suggest that the complex model of political violence that was presented earlier does not perform very impressively. The fifteen predictors along with population size jointly explain only 32.3%, 19.6%, 51.5%, and 51.6% of the variance in collective protest, power transfers, deaths from domestic violence, and regime coercion, respectively. And even these mediocre summary statistics overstate the explanatory power of the model, for they include several instances in which more than half of the variance is explained and 80% of predictors satisfy conditions of both statistical significance and directionality of theoretical prediction. The model fits regime coercion fairly well; more than half of the cross-national variance is explained and more than half of the independent variables display statistically significant parameter estimates which operate in the predicted direction. However, the model of collective protest fits poorly, for the explained variance is relatively weak, and almost all of the predictors are not significantly related to collective protest and/or display relationships that run counter to prediction. Finally, the model has an extremely poor fit with power transfers. Although most relationships run in the expected direction, very few of the parameter estimates are statistically significant.

Accordingly, these findings indicate that the validity of the theoretical propositions outlined earlier varies with the type of political violence that is being considered.

PART THREE: CONCLUSION

CHAPTER VI

CONCLUSION: THE FINAL MODEL, AND PROBLEMS AND PROSPECTS FOR CROSS-NATIONAL VIOLENCE RESEARCH

This study has reconsidered the theoretical propositions tested by Yough and Sigelman (1976) and Sigelman and Simpson (1977), in that each relates political violence to a limited set of factors (social mobilization and economic inequality, respectively), by embedding them within a complex model of political violence devised from an extensive search of the literature. The estimates presented in Table 6.12 reveal that some variables have no significant impact on political violence, and that other variables operate significantly but in the opposite direction from what was anticipated. In order to draw final inferences concerning the underlying causal structure of political violence, such variables can be eliminated from the structural equations, while the findings of the linkages between exogenous and predetermined endogenous variables can be incorporated into these structural equations. The estimation results of the revised structural equations presented in the form of path diagrams, provide a convenient means of summarizing the results of this study. After the path analysis results have been considered, the problems involved in the present analysis will be spelled out.

The Final Model: A Summary Via Path Analysis

The path model summarized in Figure 7.1 represents the best model that can be drawn on the basis of the extensive theoretical literature, available data, and empirical observations for the sample of 73 nations analyzed here.

According to the model, economic dependence does undermine economic growth rate and increase economic inequality, as predicted in neo-Marxist theory. However, economic dependence does not seem to have any systematic independent impact on political violence. Among the predictors of economic inequality, economic dependence and economic growth rate display moderately positive effects, while economic development and social mobility display moderately negative effects. However, the effect of political factors (elite leftism and welfare statism) appears to be weak. Again, economic inequality fails to display any direct impact on political violence.

The large path coefficient for the linkage between cultural heterogeneity and political separatism supports the proposition that political separatism is more intense in culturally differentiated societies. Political separatism is strongly related to collective protest, moderately related to deaths from domestic violence, and weakly related to regime coercion. In the case of deaths from domestic violence, cultural heterogeneity appears to have a direct effect as well as an indirect effect through political separatism. However, neither cultural heterogeneity nor political separatism influences power transfers.

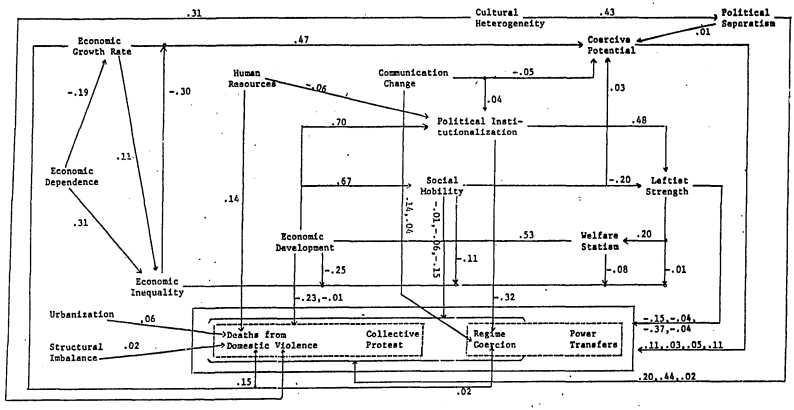

Figure 7.1: A Path Model of Political Violence.

Many competing arguments were presented above concerning the linkages among socioeconomic conditions, political structure, and political violence. With respect to the linkages between socioeconomic conditions and political structure, economic development strongly increases political institutionalization and welfare statism, but it is not related to coercive potential or elite leftism. The linkages between socioeconomic change and political structure produce mixed results. A large path coefficient indicates that economic growth rate strongly encourages regime coercive potential. Although the magnitude of the relationships is not strong, improvement of human resources, which can be seen as inducing greater popular expectations and thus greater political demands, appears to decrease the capability of political institutions to adapt to environmental change, but it does not have any direct effect on regime coercive potential. As for the expectations that communication change is negatively associated with political institutionalization and positively associated with regime coercive potential, the empirical results suggest the opposite. It may be inferred that the expansion of communication facilities provides effective means for governments to contact and manipulate the masses and, thus, provide an alternative to outright coercion. Despite a wealth of discussion concerning the destabilizing effects of urbanization, urbanization is not related to any one of the political factors.

Turning to political violence, regime coercive potential appears to have a direct positive effect on political violence, but the magnitude of its effect is rather weak. Elite leftism, which

indicates the strength of interest articulation and aggregation structure on the part of the less-privileged, decreases deaths from domestic violence and regime coercion, but has only a weak effect on collective protest and power transfers. Political institutionalization significantly undermines regime coercion. However, empirical observations do not support the propositions that institutionalization directly affects the other dimensions of political violence. Again, the causal process depicted in Figure 7.1 suggests that political institutionalization indirectly decreases political violence through its impact on elite leftism.

With respect to socioeconomic change, improvement of human resources considerably increases deaths from domestic violence, but there are no indications of direct effects on collective protest, power transfers, or regime coercion. The causal structure depicted in Figure 7.1 provides a basis for inferring that improvement of human resources indirectly increases regime coercion by way of its negative effect on institutionalization. Communication change has also a moderate direct effect on regime coercion and a weak direct effect on power transfers. Economic growth rate exerts a direct positive influence on deaths from domestic violence and, to a lesser degree, on regime coercion. It can also be seen that economic growth rate indirectly promotes political violence through its effect on regime coercive potential. Urbanization has a weak but direct positive effect on deaths from domestic violence.

The level of economic development, which alleviates society's scarcity of resources, considerably decreases deaths from domestic

violence and, to a lesser degree, collective protest. The manner in which economic development affects regime coercion is indirect, mediated through political institutionalization. However, there is no evidence of its direct as well as indirect effect on power transfers. A social condition which is closely related to economic development is social mobility. It was anticipated that social mobility would decrease the anti-system frustrations of the masses and undermine political violence. The model provides evidence that high levels of social mobility diminishes regime coercion, but mobility's negative effects on deaths from domestic violence and collective protest are not strong.

These findings provide some partial support for the mobilization-institutionalization approach, but structural imbalance which is the major variable in this approach, performs very poorly. However, there was even less support for the theoretical propositions drawn from stratification theory, for economic dependence and economic inequality where not related to any one dimension of political violence. However, social mobility satisfied the theoretical predictions. Although some of these findings are similar to those of recent studies by Hibbs (1973), Yough and Sigelman (1976) and Sigelman and Simpson (1977), such broad comparisons are risky because these studies have employed different solutions of the dimensions of political violence.

Overall, the estimations of the structural equations of political violence indicate mixed results. The empirical observations support some theoretical propositions, but fail to support many

hypotheses drawn from prominent approaches to political violence. However, while this hardly builds confidence in these approaches, it would be inappropriate to discard these approaches on the basis of this or any other cross-national test. Such tests of theoretical perspectives on political violence are themselves beset with numerous difficulties, and it would be well to spell out some of the problems and limitations studies like the present one faced.

Problems and Prospects

Certain issues remain unresolved in this study. Chief among these are why the relationships between the explanatory variables and political violence vary with the types of political violence, and why many major propositions drawn from prominent approaches to political violence produce such poor empirical results. Consideration of these issues raises questions of specification error, theory, concept, measurement, and method.

Specification errors in a causal model are largely due to omission of relevant variables and inappropriate choice of functional forms for relationships involved in the model. This study has tried to avoid specification errors by carefully examining theoretical and empirical literature, by patterning measurement decisions on the best of the existing empirical studies, and by employing a large number of variables of theoretical interest. Nonetheless, some variables which have a great deal of theoretical interest have had to be omitted from this study.

One of these omitted variables is an environmental factor. Some scholars (e.g., Simmel, 1955; Coser, 1957; Rosenau, 1969) have presented a variety of theoretical propositions which contend that political violence is closely linked to foreign policy behavior, especially with foreign conflict. Explicit in this view is the assumption that group consciousness and the identification of a common enemy often bind the members of a group together into a cohesive whole. Thus, conflict with other nations is seen as helping to strengthen internal cohesion and national unity and reducing internal stress (see Simmel, 1955). It is also possible that if society lacks basic solidarity, foreign conflict and threats from other nations may lead to anomie rather than cohesion (see Coser, 1957). Alternatively, since conflict with other nations can accelerate internal cohesion, a nation experiencing internal stress could engage in foreign conflict in hopes of temporarily alleviating its internal problems (Rosenau, 1969). Also, foreign conflict behavior is likely to be determined by socio-economic and political conditions such as levels of economic development and political structure (see Rosenau, 1969). Thus, including foreign conflict behavior in the model could help to capture a more complete causal structure of political violence (Yough and Sigelman, 1969). This is clearly a direction in which future cross-national tests of complex models of political violence ought to proceed.

Other potentially fruitful variables which have been omitted from the model are leadership and organizational characteristics of both dissidents and the regime, and institutionalized violence.

Collective action requires the mobilization of group interests. Obviously, there are many alternative courses of action to express mass dissatisfaction. That is, the very same environmental conditions could lead dissidents to choose different strategies for getting what they want. Some scholars (e.g., Gottschalk, 1944; Brinton, 1952; Gurr, 1971; Tilly, 1978) contend that effective leadership and organization on the part of the dissidents are vital in determining the outbreak of political violence and the specific choice of courses of action. Widespread discontent may be or may not be expressed in a variety of violent forms, depending upon the political and organizational skills of dissident leaders. Nor should the political values, attachments, outlooks, and skills of the incumbent regime be overlooked. Although such factors are very difficult to deal with in cross-national research, it seems highly likely that characteristics of those who are in power strongly influence the extent of political violence and the manner in which it is expressed. Moreover, previous success in attaining their ends through violence may lead dissidents to try again and again. Accordingly, violence may become an institutionalized, "normal" form of political behavior. The implication is that past levels of political violence may predict current levels rather well (see Gurr, 1971; Tilly, 1978). However, these potentially interesting variables are not incorporated in the model tested here, largely because of problems of data availability and model specification.

In relation to the problem of specification error, it should be also noted that almost all theoretical speculations concerning

violence use "objective" social and political conditions as proxy variables for subjective perceptions, which are presumed ultimately to have violent expressions. However, as Dahl (1966) points out, the causal chain connecting objective conditions with citizen's attitudes and behavior is long and tenuous. Thus, it may not be surprising to find no strong empirical support for the model of collective protest, which is largely related to mass violence, or the model of power transfers, which is largely related to elite conflict; on the other hand, the model of deaths from domestic violence, which can be interpreted as indicating the severity or result of conflict, and regime coercion, which is more closely related to direct actions toward environmental challenge, are supported relatively well. Although this interpretation is necessarily highly speculative, it seems possible that mass and elite conflicts may be more influenced by the long causal chain between objective conditions and subjective attitudes, beliefs, and values than the results of conflict and the regime's response to perceived challenges. Obviously, including measures of subjective attitudes and intervening conditions in the model would help to improve its explanatory power as well as to capture a more complete causal structure. But data on attitudinal dimensions are extremely scarce for cross-national comparisons.

The above discussion also suggests that some theoretical refinements may also be in order. The extent of correspondence between objective conditions and political behavior may differ across nations (Scase, 1973), depending upon some intervening variables which enter between structural conditions, subjective perceptions, and behavioral

expressions. For example, the potential for political violence should be greater, if other bases of cleavages--including religious, racial, ethnic, and linguistic differences, reinforce economic inequality; where economic inequality cuts across other cleavages, in turn, the basis for collective action could be diminished and thus the extent of political violence may be low (Sigelman and Simpson, 1977). Some scholars (e.g., Lipset, 1960; Tilly, 1978) have emphasized the importance of class-based organization and group facilitation for collective action. However, overlooked have been many factors (e.g., the intensity of perceived relative deprivation, individuals' attitudes towards their rulers and political institution, and so on) which encourage or impede the formation of group identity and internal cohesion for common action.

This study has also revealed that rapid social mobilization and economic change are far less politically destablilzing than some theorists have supposed. Preoccupation with the disfunctional aspects of rapid socioeconomic change can cause one to overlook the potential of such change for creating higher levels of political support (Hirshman, 1973; Yough and Sigelman, 1976). Theoretical speculations concerning the effects of economic development, economic inequality, and economic dependence are largely based on long-term historical perspectives, and thus the effect of short-term conditions such as sharp decline in economic growth (Davies, 1962) and political factors that affect the legitimacy of the system (Gurr, 1971; Tilly, 1978) have tended to be ignored.

Some conceptual refinement may also be in order. Most theoretical treatments of political violence have not anticipated that different types of political violence may be caused in quite distinct fashions. The subtleties involved in various forms of political conflict are often overlooked when theorists employ terms like "instability" and "violence" in unidimensional summary fashion without specifying precisely what such terms entail. The lack of an empirical construct of the concept of political violence often leads empirical studies to rely on "raw empiricism," which, largely by employing factor analysis on a set of indicators, explores empirically determined dimensions of a theoretically ambiguous concept. Obviously, factor analysis is a useful technique for data reduction, but empirical dimensions of political violence and their component indicators vary from study to study, depending upon sample size, time period, and choice of indicators. These differences make empirical findings difficult to cumulate across separate studies.

Moreover, some dimensions of political violence can be thought to be theoretically interrelated such as a link between violence initiated by the masses and by the regime (see Johnson, 1966); but "raw empiricism" conceptually treats them as being independent. These possibilities were not explored in the present study, but this study has at least made it clear that the concept of political violence needs to be greatly refined in order to clarify the domain of and interrelationships between its dimensions (see Tilly, 1973). The unanticipated empirical multidimensionality of political violence may help to

account for failures to affirm what theoretical propositions have stipulated. The relatively poor showing of the model may reflect in part the fact that some forms of political violence are alternative to one another. In similar situations, one form may be chosen in one country and an entirely different form in another country. If true, this tendency would randomize statistical relationships for any particular form of political violence. The theoretical implication of this conceptual problem is that greater attention must be paid to specifying the conditions under which particular forms of violence seem especially likely to occur.

Problems of measurement must also be acknowledged. Despite a great deal of recent effort, most social and political indicators are still scarce and/or imprecise. Thus, even if the operationalization of political violence captures conceptual subtleties, appropriate data are unavailable for tapping such subtleties. It would be especially useful, for example, to be able to disaggregate conflict events according to the issue, actors, and targets of such actions. For example, stratification theory focuses on conflict events generated on the part of the less-privileged. At the present stage, however, data on conflict events on the basis of issues, actors, and targets, which seem worthwhile to pursue, are simply unavailable for a large enough set of polities to permit systematic analysis. Until more refined data on political violence become available, it simply cannot be certain whether failures to provide empirical support for theoretical propositions are due to an insufficient measurement or empirical observations reflect the true nature of causal structure.

Similarly, the lack of explanatory power of economic dependence, economic inequality, and political institutionalization may be due, at least in part, to the multi-faceted nature of these concepts as well as to measurement problems. Indeed, the summary measures of economic dependence and political institutionalization explain only 61.27% and 56.4%, respectively, of the variance of their component indicators--a clear indication that these concepts are not unidimensional. Also, as Betz (1974) contends, economic inequality is a broad concept, which may entail multidimensionality. Theorists who emphasize these factors have apparently not contemplated the implications of this possibility, and have thus inappropriately treated these concepts in unidimensional fashion.

At the measurement level, "personal income inequality" seems to be simply one aspect of social inequality in general and economic inequality in particular. Thus, personal income inequality may not tap the subtleties and complexities of theoretical speculations that concern the impact of inequality on political violence, particularly since such speculations usually center on popularly perceived rather than mathematically-defined inequality. Findings of previous research, as well as the present one, have consistently provided very weak support for a variety of theoretical propositions involving economic dependence and political institutionalization. In light of this weak support, it seems necessary to refine indicators of economic dependence, which can more adequately tap political penetration and economic exploitation by imperialist and neo-colonialist nations, and political

institutionalization, which can more adequately capture the complexity, adaptability, coherence, and autonomy of political institutions. Until more refined conceptual frameworks and data become available on economic inequality, economic dependence, and political institutionalization, conceptual and measurement problems must be held out as a possible explanation of the poor showing of these factors in the present analysis.

With respect to methods, this study has employed a static, cross-sectional research design. Such a design is perfectly appropriate when attention is focused on explaining differences across nations in the occurrence of political violence. However, cross-national analysis is fundamentally irrelevant to the specification of longitudinal relationships (see, e.g., Sunshine, 1973). It is entirely possible that some of the theoretical perspectives examined here would perform substantially better if they were tested over time within nations rather than at a point in time across nations. As noted above, some of the theoretical speculations examined here concern the effects of long-run structural change on political violence. For example, the Marxian theory of revolution predicts a close link between the progressive degradation of the proletariat and revolution; the stabilizing effect of economic development and the destabilizing effect of economic dependence were largely inferred from long-term structural changes associated with those factors. Thus, some of the theoretical propositions which did not receive empirical support at the cross-national level may be highly predictive to political violence

within nations over time. This is not to say that longitudinal analysis is "better" than cross-sectional analysis. The choice between the two depends upon what one is trying to explain. But theoretical perspectives are best tested both cross-sectionally and longitudinally, and such dynamic analyses are another obvious direction that future tests of comprehensive models of political violence should take.

This study has tested the model of political violence on the basis of data on nations aggregated for the period of 1961-67. Two issues must be considered in cross-national aggregate data analysis for a certain time-period: one is that particular historical trends of certain nations may affect cross-national comparisons; and the other is the issue of the aggregation bias involved in cross-national comparisons. The choice of a seven-year time period in this study was intended to eliminate idiosyncratic events, especially those related to nationalist movements during the pre-independence and immediate post-independence periods. Also, the seven year aggregation is long enough to smooth out any short-term historical trends which may be involved. On the other hand, the possibility of aggregation bias exists in this study. Some major variables such as political factors, economic development, economic growth, and economic dependence are basically macro-level national phenomena. This is not true for variables such as social mobilization, economic inequality, cultural heterogeneity, and political separatism which can be considered individual-level sub-national phenomena as well. Thus, findings

at the cross-national level may not adequately reflect the relationships between subnational units. Extension of the model to subnational and/or individual micro-level analyses is another obvious direction for statistically oriented research on political violence to take.

Finally, this study has emphasized the global regularities underlying political conflict. However, there may be different patterns of relationships across various subgroups of nations. Indeed, it would be useful to test general theoretical propositions within broadly varying sets of cases, usually by selecting a group which will maximize the between-group variations of the independent variables in the relation to the within-group variations (Johnston, 1971). Subgroup analysis is undertaken to identify whether within-group relationships are different between groups. If different patterns of relationships are found between groups, estimating separate patterns for various subgroups of nations would help to identify factors that underlie political violence under widely different conditions. However, two problems are involved in stratifying nations: one is the small number of cases in each group when the sample is split into several groups, and the other is the possibility of erroneous inferences about underlying common factors. This study has not employed subgroup analysis because the relatively small number of cases in combination with the large number of variables significantly reduces the degree of freedom in parameter estimation. Nonetheless, preliminary analysis of residuals of the model of political violence reveals no systematic pattern across developmental levels or regions.

It cannot be determined at this point whether the anomalies that remain within the overall model of political violence reflect problems of measurement error, indicator information, model specification, or some combination thereof. This study leaves as tasks for future research the attainment of greater precision, the utilization of more valid indicators, and specification of more sophisticated models. For the present, this study must be content to have cast doubt on the general applicability of the model employed here and to have suggested some of the possible reasons for the model's mediocre performance.

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