

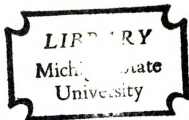
COMMUNAL CONFLICT:
A CROSS-NATIONAL COMPARISON

Dissertation for the Degree of Ph. D.

MICHIGAN STATE UNIVERSITY

CAROL BRETZ THOMPSON

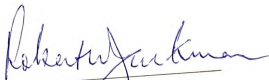
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ABSTRACT

COMMUNAL CONFLICT: A CROSS-NATIONAL COMPARISON

By

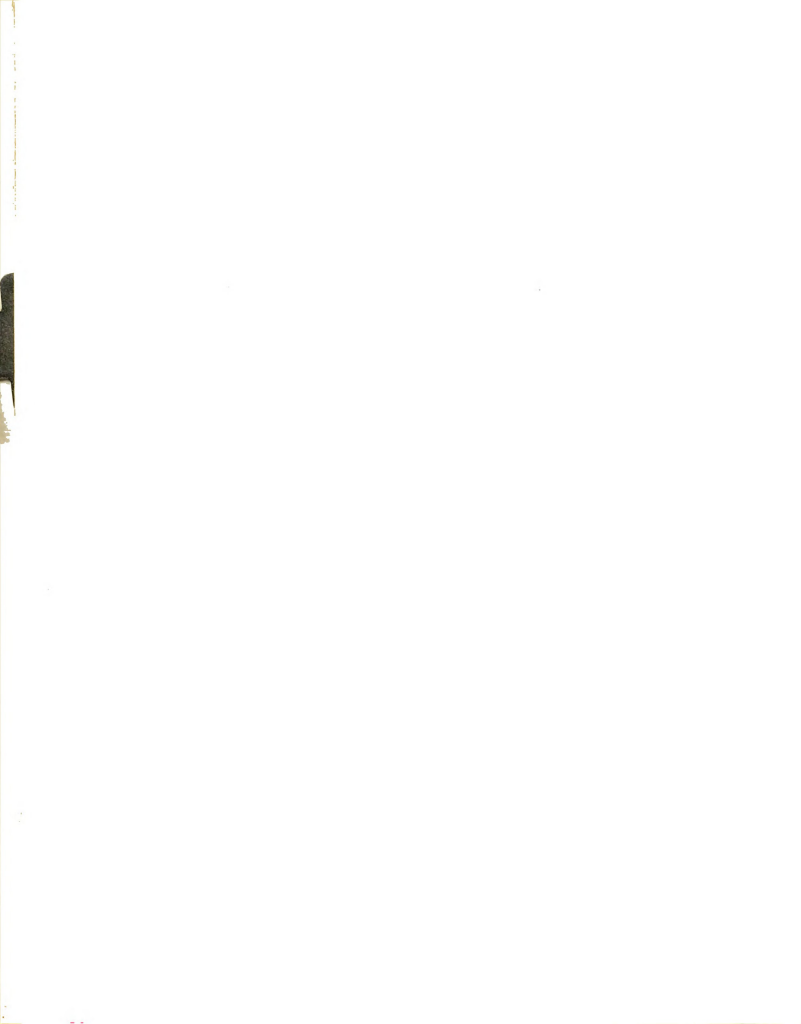
Carol Bretz Thompson

The intensity and bitterness of communal strife are known to most governments of the world, as they try to formulate public policy for polities divided by ethnic, linguistic and religious cleavages. Some theorists argue that normal political processes cannot resolve conflicts among such factions: communal cleavages cannot be overcome by political debate and economic concessions because the disputes are not based on negotiable interests. Questioning that assumption, this cross-national study is an empirical investigation of the impact of economic, social and political factors on communal conflict for sixty-two countries. With a greater understanding of the economic and political conditions of such conflict, public policies could become more effective in reducing the severity of communal strife.

Much of the literature on political development advocates the reduction of the scarcity of valued economic goods as one way to integrate the polity. Even though the economic distribution is not equal, the higher level of

consumption for all increases the allegiance of distinct groups toward the larger polity. One indicator used to test this idea is energy consumption which reflects the amount of production in the modern sector. A second measure of economic "development" is an index of social indicators which more closely reflects the quality of life of the people, not simply the level of industrialization of the nation. This index combines such factors as nutrition, health care, schooling and housing. According to this study, neither the social indicators nor a measure of income distribution explains the incidence of communal strife. In addition, the impact of economic development, as measured by energy consumption, is totally mediated by political factors. Consequently, the political system influences the impact of economic development on conflict among communal groups. Greater economic development alone does not reduce communal conflict.

The question of economic exploitation by the large powers of the Third World is one of the major international issues today. Dependence on other economies is often directly related to economic underdevelopment and political instability. Two indicators used to measure the effect of the international economic context on domestic politics are multinational corporations and a trade composition index. Multinational corporations were not significantly related to communal conflict, probably a reflection of the poor measure:



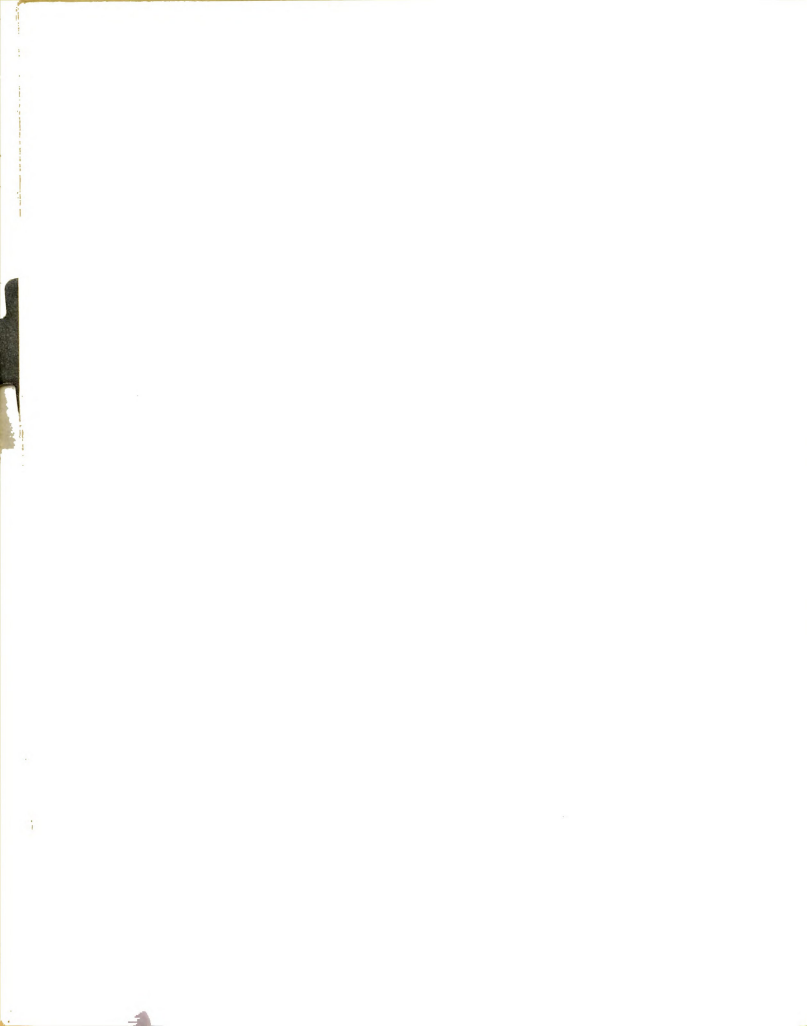
much data on multinational corporations still depend on the self-reporting by the private companies. The trade composition index indirectly reduces communal violence. It supports the dependence theorists' argument that countries which rely on primary products for export are more dependent economically on other nations which, in turn, limits domestic political capabilities. It is difficult for dependent governments to respond to demands for public goods; this limitation is often related to domestic political (communal) instability.

Contrary to other empirical studies that find social mobilization politically disruptive, this investigation shows that social mobilization has no adverse effect on communal conflict even within pluralist societies. Countries with greater literacy and a more developed communication infrastructure experience less communal violence. Yet pluralist nations do have more government restrictions on political participation. Acts of government repression increase, rather than decrease, communal protest and violence. A repressive regime does not guarantee political "stability."

Consistent with the findings on government repression, greater freedom of expression reduces communal violence. In addition, single parties are not found to be repressive and dictatorial as much of the literature argues. Single parties decrease social mobilization but indirectly decrease communal violence. The results are somewhat

ambiguous but are definitive enough to question that multi-party systems are the only political brokerage institutions which allow discussion and which ameliorate dissent.

Communal conflict is qualitatively different from mass general political strife; many of the theories about mass conflict are not supported for the subset, communal strife. Disaggregation of general mass conflict has also shown that communal protest and communal violence differ from each other. Communal protest remains difficult to explain: the only variable consistently influencing it was acts of government repression. For communal violence, which more severely affects the very existence of the political system, this study has found that governments can choose public policy that reduces violence. National political and economic policy does make a difference in the amelioration of conflict among subcultures. If negative sanctions are the choice, this empirical research predicts that more violence will come. If public policy to reduce coercion and to increase freedom of expression is the choice, even the most pluralist polities can endure.



COMMUNAL CONFLICT:
A CROSS-NATIONAL
COMPARISON

By

Carol Bretz Thompson

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
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1976



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For
Shamima Islam of Bangladesh
and
Josina Machel of Mozambique

whose countries were born in
the fire of communal violence.

Their wisdom from life experiences
has much to teach me and other
social scientists.



ACKNOWLEDGMENTS

A community of scholars and my extended family have made this dissertation possible. I would like to thank Robert W. Jackman who carefully read the manuscript several times and discussed it with me in all its phases. I especially appreciate his willingness to search for new concepts and theories to explain the political upheaval and progress in the Third World countries.

John Aldrich patiently guided me in the statistical analysis. His extensive knowledge of statistics, combined with an appreciation of the need for good political theory, taught me many lessons throughout the writing of the dissertation. Brian D. Silver shared his thorough knowledge of comparative theory, causing me to reconsider my position on some key points. Charles F. Cnudde encouraged the work.

I would like to give special appreciation to a study group of teachers-scholars who gave me much insight on the theories of dependence and underdevelopment. They shared their appreciation for good scholarship while critiquing the many assumptions underlying every step of social science research. This work would have been much more difficult without the support of Bud Day. He spent



many hours collecting data and editing the manuscript. More important, he gave me perspective on the relative importance of numbers and statistical techniques in contrast to the human suffering that continues every minute among peoples of all colors.

Throughout the entire project my extended family has affirmed my efforts. Finally, my husband Tom, gave me emotional support and editorial assistance; a humanistic teacher and poet, he also reminded me that

From the center of this web,
a circle much smaller than my gold ring,
a single strand spirals outward
binding each fiber
to all the other threads.



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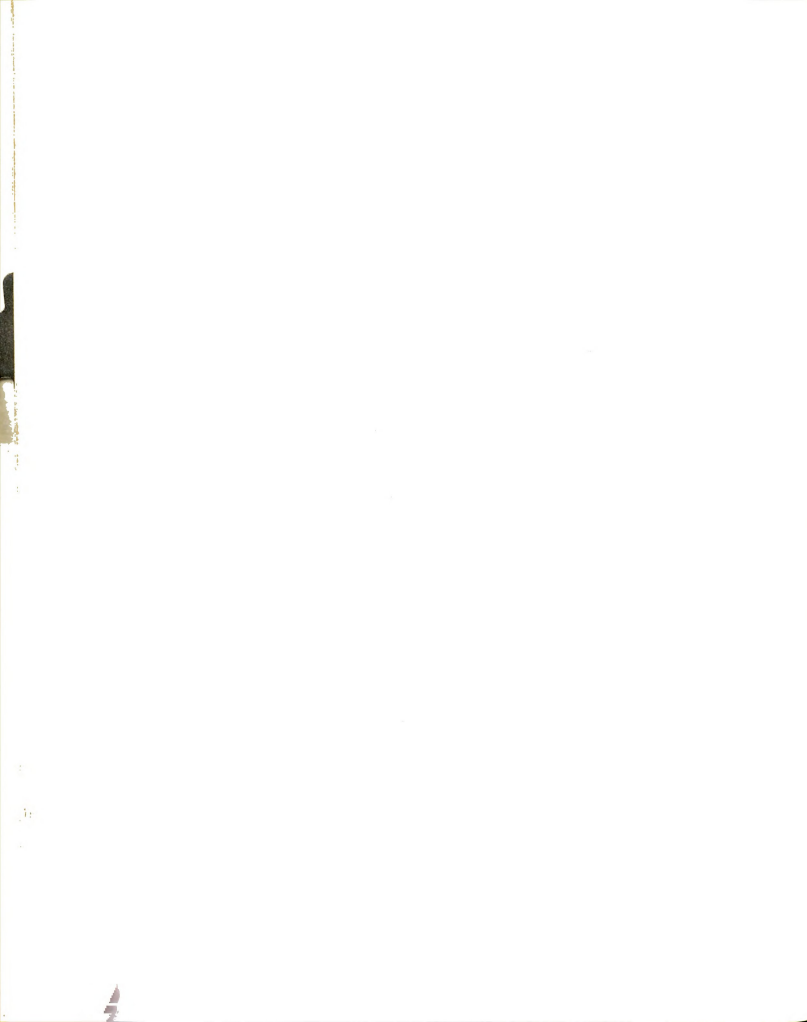
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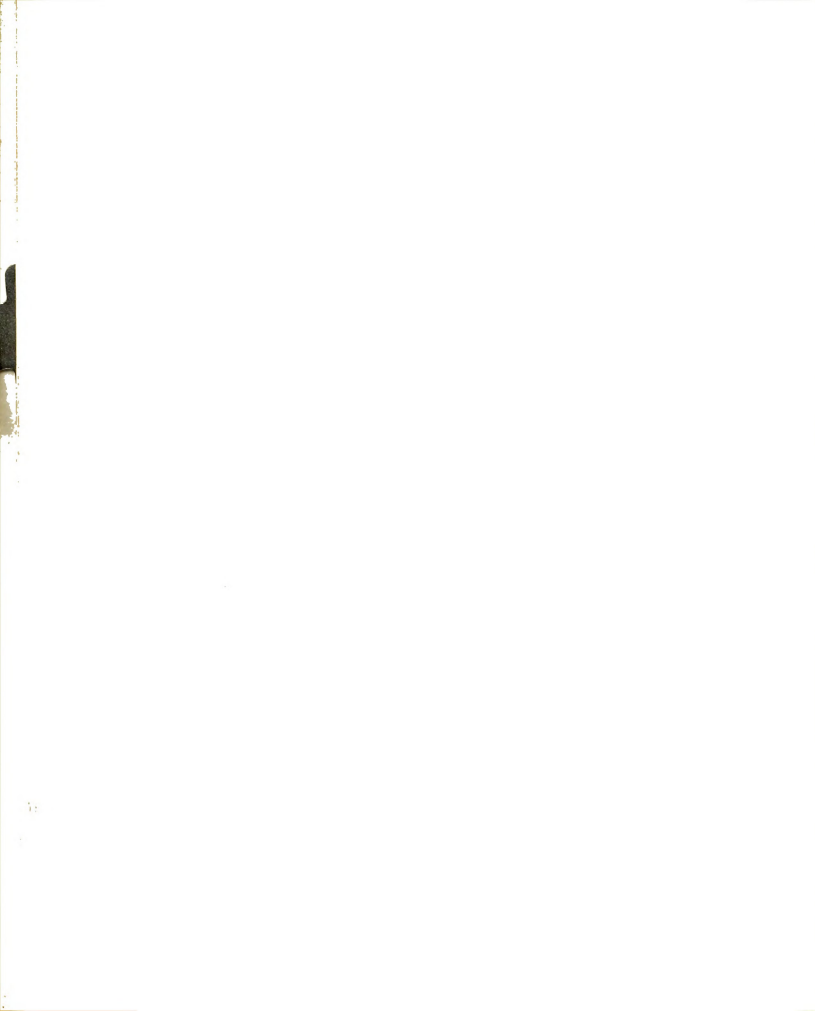
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CHAPTER I

INTRODUCTION

The problem of uniting individuals and their associations into political units is universal. No matter what the unit of analysis--sub-national entities, nation-states or aggregations at the international level--the process is not easy and is never finished. The problem of acceptance of procedural norms of a polity is difficult even if the individuals and associations are culturally homogeneous: ideological conflicts, class differences, and individual preferences must be reconciled. This difficulty is exacerbated by the presence of culturally and socially discrete groups. Sub-cultures which maintain distinct institutions are not always conducive to association or incorporation into a larger political unit.

The purpose of this study is to investigate the variations in communal conflict across nations. It is an attempt to clarify the concept of communal conflict as well as to propose explicit causal interpretations of why some nations are more integrated politically than others. Accepting the relative differences of cultural diversity within nations as given, this study will try to evaluate



the impact of economic, social and political factors and their interactions that influence the incidence of communal strife.

Considering the frequency and magnitude of disruption caused by ethnic, linguistic, or religious factions within polities, the theoretical literature is surprisingly inadequate and inchoate. If one looks further for empirically based interpretations of communal conflict, the field is even more penurious. Perhaps one reason for this absence of serious attention to the concept is the feeling that communal allegiances form a more fundamental form of social stratification than even class differences, and normal political processes cannot resolve conflicts among such factions. Clifford Geertz refers to such allegiances as primordial attachments, based on "natural" bonds which result from being born into a particular religious, ethnic, and/or linguistic community: " . . . for virtually every person, in every society, at almost all times, these attachments seem to flow more from a sense of natural--some would say spiritual--affinity than from social interaction."¹ Robert Dahl emphasizes the durability of these subcultures and suggests their presence might even preempt formation of a competitive political system: "That subcultural pluralism places a dangerous strain on the tolerance and mutual security required for a system of public contestation seems hardly open to doubt."²

W. Arthur Lewis also considers cleavage as the most difficult of all political problems:

. . . cleavage [describes] a situation where people are mutually antipathetic, not because they disagree on matters of principle, like liberals and socialists or because they have different interests, like capitalists and workers, but simply because they are historic enemies. Cleavage cannot be overcome merely by argument and economic concessions . . . because it is not based on disputes about principles or interests.³

The first assumption in this thesis is that ascriptive cleavages can be modified by political, social and economic interactions. The complexity of the conflicts is perhaps what deters theorists from approaching them: specific case studies abound because they permit inclusion of "unique" variables which "explain" a specific failure of political integration. The proposed attempt at a cross-national, empirically based analysis will help to clarify the various aspects of the concept of communal conflict enough to make it comprehensible and to enable an investigation of the causal relationships leading to its amelioration.

Because of the complexity of the concept, this study is necessarily extensive enough to be pertinent to several areas of interest within political science. First, a respect for the survival of discrete cultural entities has long been the stated goal in the literature of both democratic and socialist political theory. Of the major ideological positions in the modern world,



only fascism has explicitly advocated the annihilation of minority groups. The controversy among the theoretical camps rages at another level. The normative question is to what extent must the separate cultural groups be unified to permit the existence of one political entity. The "national question" has been a major concern of the communist countries since their inception. The valued goal is one world economic system which does permit cultural diversity.⁴ Western democratic theory advocates equality of social groups within existing national boundaries, but is equivocal about the subject of self-rule by culturally distinct groups. "Self-determination" is promoted at the same time that the question of "economically viable" states is raised. Allegiance to a social group larger than the family, ethnic or religious group is preferred. National views, not parochial interests, must be pursued in order to achieve the consensus necessary for the functioning of a democracy or "rule" by a majority. A factor which has also influenced theoretical considerations is modern technological requirements. Many theorists affirm that larger political entities have greater economic potential, and therefore, more potential for political power:

. . . many elements of national power are interrelated along a national size continuum. This implies that the size of a nation is a crucial variable in studying international political behavior . . . the most important variance in this variable can be measured by the sheer number of people in a nation.⁵



Although this normative question about the degree of integration will not be resolved by an empirical approach, it does point out the assumptions underlying this study. Amelioration of communal violence is a valued goal.

A second consideration with cross-national variations in communal strife is to explore further the difference between the "developing" nations and those which are developed economically. Reduction of the scarcity of valued economic goods is promoted as a way to integrate: even though the economic distribution is not equal, the higher level of economic consumption for all increases the allegiance of distinct groups toward the larger polity. The political environment appears to be conducive to economic rewards for all. Discussions of the "post-industrial" state affirm that economic development has provided sufficient goods (even if not equally distributed) to all so that traditional sources of political instability and conflict have been eliminated.⁶ The literature seems to imply that developed nations are qualitatively different from the others, that they have moved beyond a certain configuration of political problems to other ones. The ideological divisions between the extremes of poverty-radicalism and affluence-conservatism have been erased by economic development.

There is opposition to this "end-of-ideology" hypothesis. Many theorists assert that overall inequality

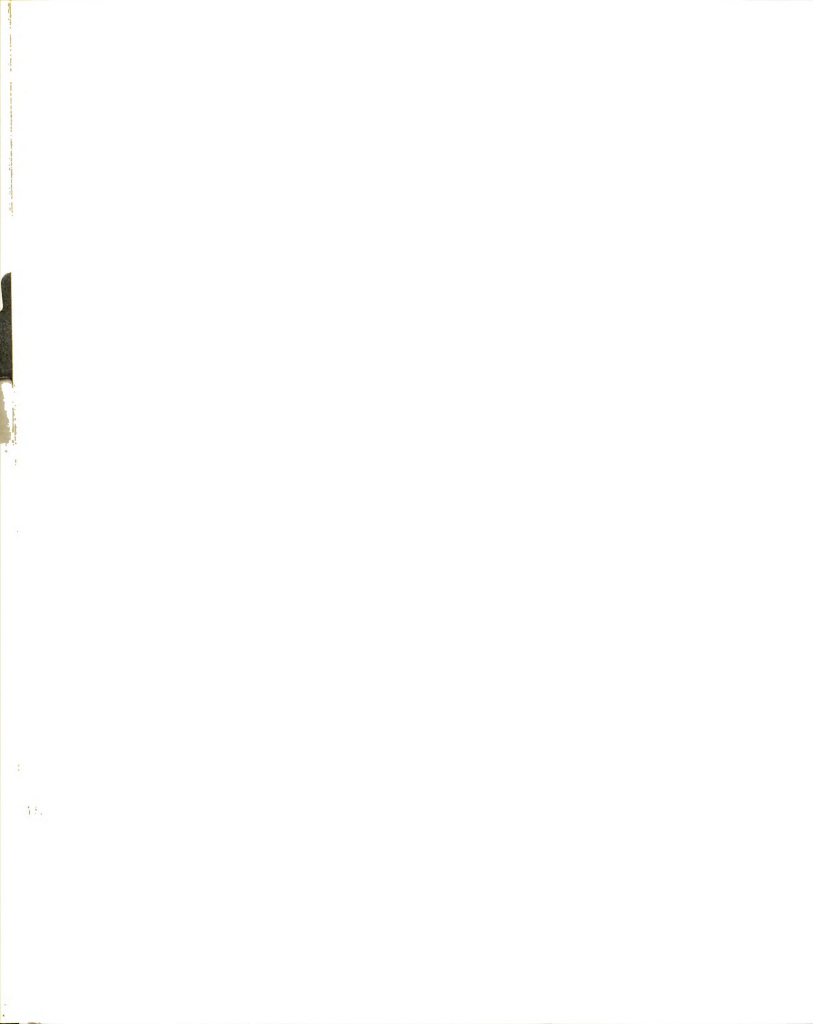


still exists; much social and political conflict is caused by relative deprivation, not by absolute levels of poverty.⁷ Even a superficial glance at current events reveals that ethnic, religious and linguistic factions disrupt the political performance of the oldest and wealthiest countries. This study will explore the role of economic development in reducing the intensity of communal conflict.

The difficulty of aggregating social groups has most often been analyzed in terms of political instability.⁸ Communal cleavages are a major cause of civil violence, but again the issue must be disaggregated into its several topics of discussion. First, there is the normative question of the desirability of stability. After the apogee of the theory of functionalism, stability is now often considered a deterrent to political change.

In a discussion of the tradition of comparative politics, James Bill and Robert Hardgrave describe the change of emphasis in the discipline:

The preoccupation with and glorification of modification in American social science has resulted in a serious state of underdevelopment in the overall study of political change. Patterns of conflict, tension, competition, and violence have been considered as aberrations and abnormalities in the political process. . . . The sterility of this exercise has become increasingly evident. The definition of development and modernization in terms of order in the midst of a world of change and in terms of stability in the midst of a world of instability was first criticized and questioned by those who studied either non-Western societies or subcultures within Western societies. . . . In



the recent drive to understand the more radical features of change, a number of social scientists have returned to the study of conflict and violence as fundamental processes in social and political relations.⁹

Many socialist theories also state that fundamental change is possible only by instability and even violence.¹⁰

This study will not try to resolve the issue. Instead, it looks at contention among communal groups as a public policy issue: can explicit government performance alleviate the severity of civil violence due to communal conflicts? What, in addition to police riots or government violence, can reduce the conflict between communal groups? I shall assume that the government in power wants to reduce conflict even if the opposition feels that it is necessary for real change. When the opposition gains power, it also will try to change public policy by purposeful government action, not by violence. (Occasionally, governments might actually include fomenting domestic violence, but the overwhelming long-term goal is the reduction of it.) The concern of public policy theorists has turned away from simple equality among the majority to respect for minority interests and a realization that minority problems are qualitatively different. The question posed is in fact whether political performance does have an impact on political integration.

A fourth interest in the study of communal conflict involves international economic relationships. The question of economic domination by the large powers of the Third

World is perhaps the major international issue today. Developing nations refer to their dependence on other economies as the direct cause of economic underdevelopment and political instability and inefficacy. The Western developed nations prefer to emphasize the need for such factors as technical and organizational skill, population control, reduction of corruption as the ingredients necessary for economic and political "development." This controversy between developed and developing countries impairs the ability of the international community to ameliorate more pressing human problems, including famines and food supply, energy production and consumption, population growth, and pollution. The international context does influence national conditions and domestic political policies. A limited consideration of this context will be presented by examining the effects of multi-national corporations and of trade composition on political integration within nations.

This perspective is also of methodological importance to political science: "Students of comparative politics tend to take the international environment for granted, as if national systems were immune to external influences and had full control over their own destinies."¹¹ Because of the spectre of Galton's problem, the fields of international and comparative politics have remained artificially distinct. By looking at international



variables measured at the national level, this study hopes to penetrate at least slightly this barrier between the disciplines. The major utility of the solution is that independence between cases does not need to be assumed. Adding an international interaction as a national attribute to the analysis does not violate the need for independent cases in regression analysis. It also avoids the ecological fallacy problem of making incorrect inferences because the level of analysis was changed. It is possible, therefore, to test empirically for the influence of the international relationships on domestic political attributes. The interdependence of political systems is a reality, and its effects certainly need more systematic analysis: " . . . by failing to consider the destabilizing (and occasionally devastating) effects of American power on other nations, the literature of comparative politics abstracts theoretical processes of modernization, development, and change from contemporary reality."¹²

Class Vs. Communal Divisions

With any social science research the question of measurement validity is a major one. When focusing on the expression of discontent from one identifiable source, the researcher must make some effort to verify that the source is in fact what it appears to be or what it is labeled. Some social scientists assert that class

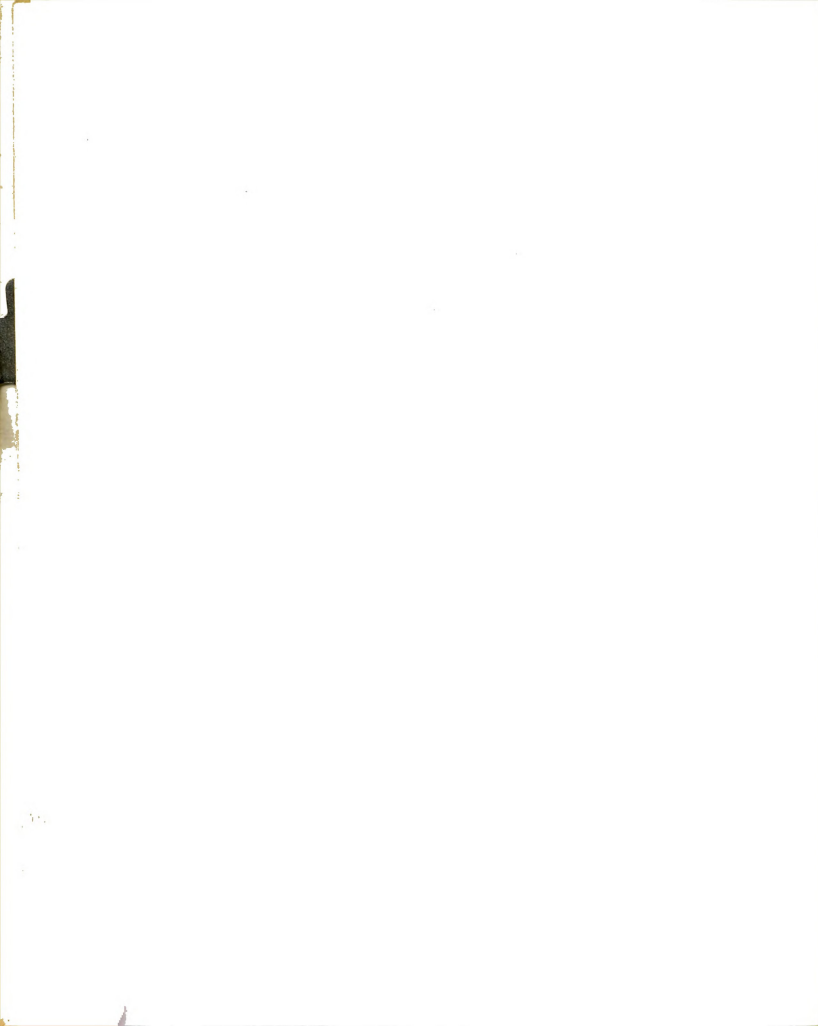


cleavages are the most fundamental division within a polity; other conflicts and divisions are derived from these.¹³ What may appear to be communal conflict really is conflict among social classes for economic or political public goods; the conflict only finds expression through the organization of the communal group. This argument is controversial, but it does point out the fact that class conflict should not be ignored in studies of civil strife. Yet only a few studies have even mentioned it as one variable to be considered.¹⁴

Although I affirm the importance of investigating class conflict, I do not agree that it is the exclusive source of political upheaval. Social scientists do not promote an understanding of civil strife by assuming that all sources of conflict are from economic divisions in the polity. Some theorists, such as Leo Kuper, challenge the class theorists by asserting that ethnic identity is the basic affiliation and the crucial variable in determining revolution:

. . . the racial [or ethnic] structure itself, including the mode of differential political incorporation, is the crucial variable in the analysis of revolutionary change in these societies and . . . it is a source of great confusion to interpret the political conflict between racial or ethnic section, in terms of class struggle and the relationship to the means of production.¹⁵

Common oppression because of racial or communal differences promotes a basis for interclass solidarity. Ethnic or



communal discrimination may mitigate class conflict among members of a given group. Although Kuper speaks of ethnic influences in all countries, other theorists who are observers of Third World politics also agree that familial and communal ties help to alleviate class conflict:

. . . the general absence of population pressure
 . . . and the nature of traditional rural economic systems--family centered with communal restraints upon the full play of individualism--mean that the range of pressures characteristic of . . . capitalist exploitation are [sic] much less in evidence.¹⁶

Given the importance of both class and communal conflict, let us go beyond the argument about which is most fundamental. Many theorists acknowledge that both social divisions in a polity can cause conflict and neither can be ignored by the government. The two types of social division are independent, and although they may interact in some politics, they rarely coincide perfectly. David Lane describes, for instance, how class and ethnicity were separate factors in the response to mobilization of the people by the Soviet state:

Ethnic solidarity bound together the local population against the Russian and now proletarian rulers. The very small indigenous proletariat was composed mainly of transient labourers and the Communist Party had in practice no organization among the native masses. This was a "class situation" far removed from any clear dichotomous and overt class conflict on Marxist lines. While class interests undoubtedly were at stake in Soviet Central Asia and Kazakhstan, both the native and European ethnic groups had a sense of ethnic solidarity. . . . Ethnic factors, in the shape of language and

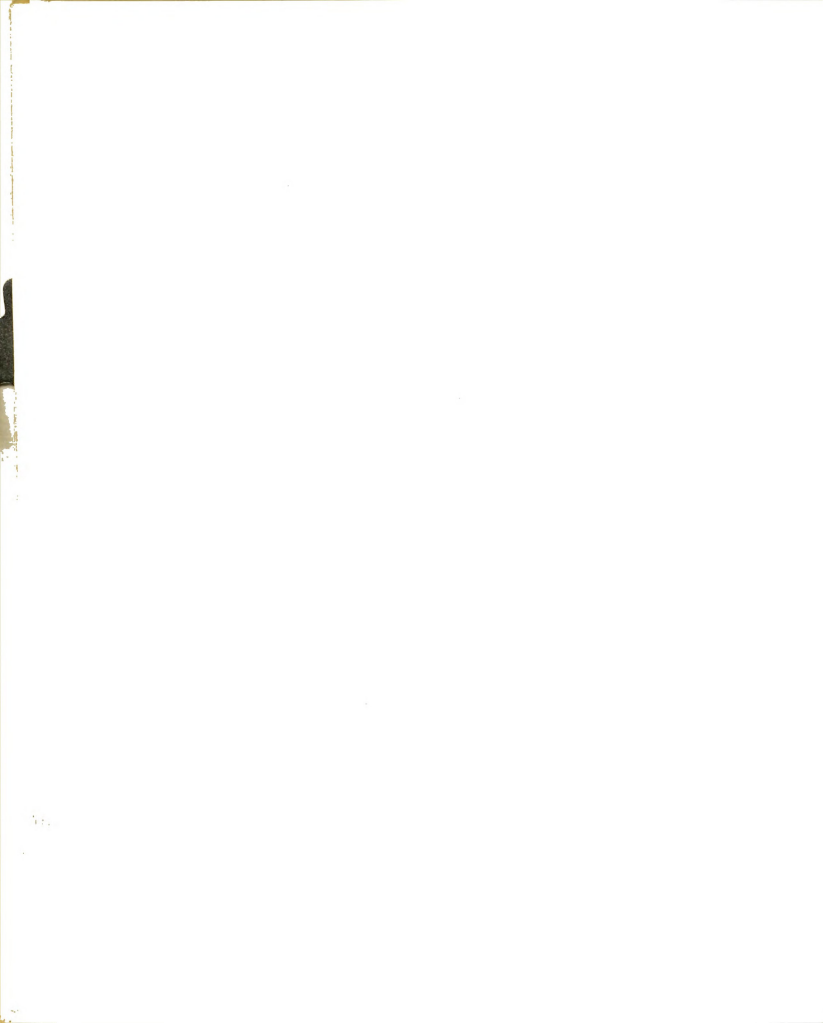
historical conditioning, therefore, must be considered as relatively independent influences affecting social behavior.¹⁷ (*Italics mine.*)

Ethnic or communal consciousness is a distinct attribute which can affect social class interaction. Governments and public policy analysts alike must often try to ameliorate politically salient communal conflict as well as possible class conflict:

Ethnic and racial minorities . . . rebel for corporate immunities and privileges--like special status for their language or religion or even for self rule. . . . Unlike social classes, minorities may go so far as to seek secession--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.¹⁸

Theorists who have researched one aspect of public influence on government policy--voting behavior--find that communal identity is at least as significant as class identity in determining the vote. Seymour Lipset and Stein Rokkan, Juan Linz, and Giovanni Sartori, documenting the inadequacy of class affiliation as a single determinant of voting behavior, cite religious loyalties as an important explanatory variable of voting preference. In Europe, even among the lower classes, the Catholic Church can be a significant competitor with the Communist Party for influencing working class votes.¹⁹

In a more recent study of political socialization, Andrew M. Greeley finds that there are apparently ethnic



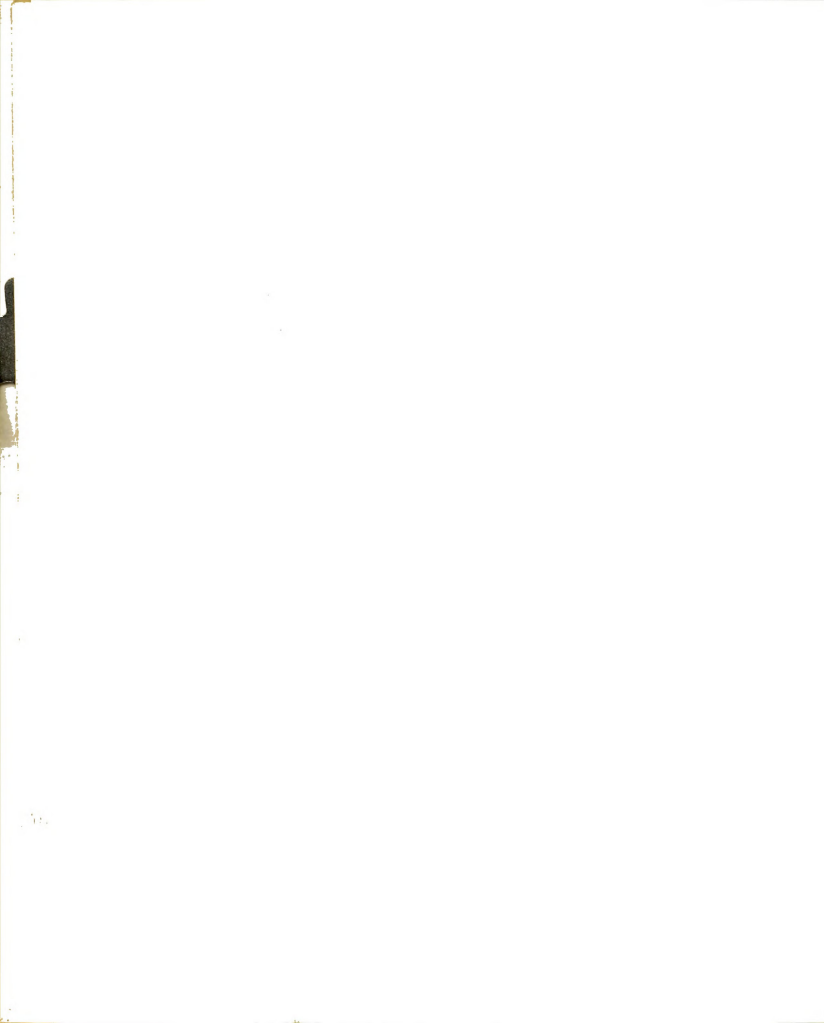
political subcultures that are passed on from generation to generation, with parental influence playing only a limited role in the communication of the political values. His results show that ethnicity is definitely separate from social class subcultures:

Ethnicity is a stronger predictor of adolescent values than is the social status of the family (as measured by the head of the family's education) six times out of nine [attitudes], and education is a stronger predictor than ethnicity only two of the nine times [on attitudes of civic tolerance and ideology]. . . . It would surely seem that there are ethnic political subcultures that are not the same as social class subcultures and which are transmitted across generational lines, in part at least, independent of direct influence of parents on children.²⁰

Daniel Bell agrees that ethnicity differs from social class allegiances and claims that ethnic groups in the United States will look to the political arena when the economic sector does not respond to their class interests:

Whether the blacks maintain an alliance with the labor movement, particularly in the political field, depends more on the behavior and response of labor than on that of the blacks. The political independence of the blacks is one of the realities of the politics of the seventies.²¹

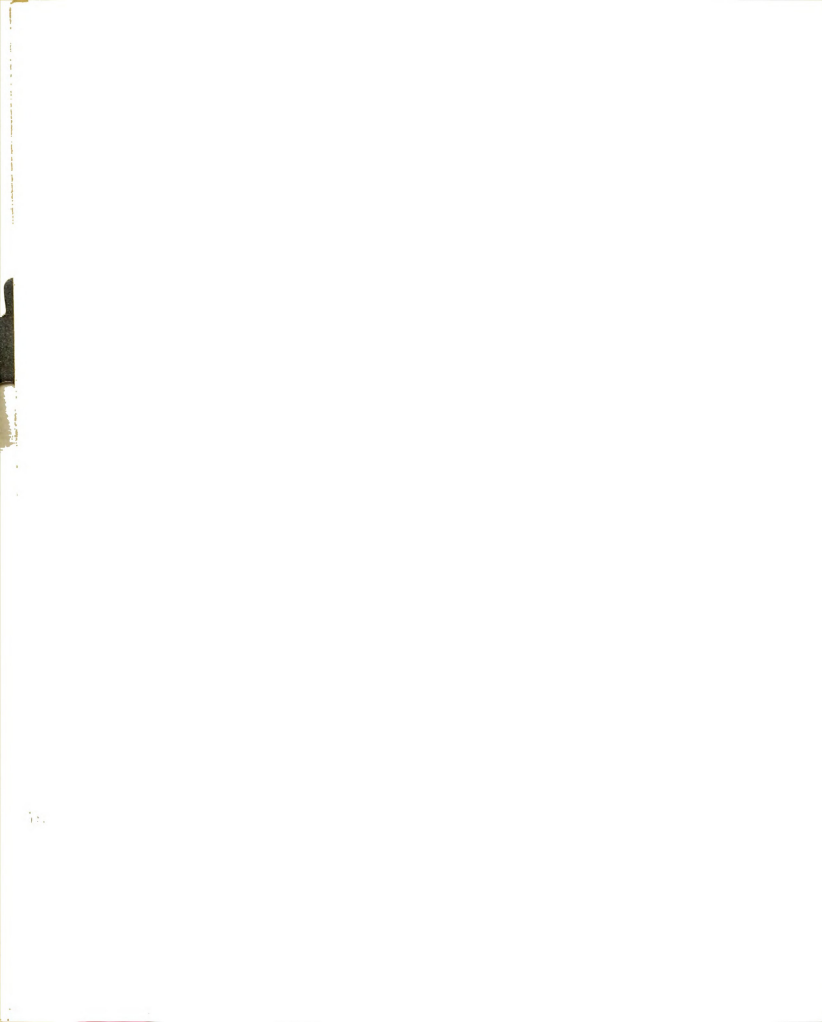
The theoretical tradition that is most hostile to the political relevance of communal conflict is Marxist-Leninist. Although Marx and Lenin certainly promote class struggle as the prime explanatory variable for social conflict, neither ignore what they refer to as "national" aspirations. Subordination of national interests to class interests is a goal, perhaps, but not



a reality: "Successful struggle against exploitation requires that the proletariat should be free of nationalism and be absolutely neutral, so to speak, in the fight for supremacy that is going on among the bourgeoisie of various nations."²² Both Marx and Lenin realized that national aspirations must be fulfilled before they could be overcome. Marx aligned himself with Polish national goals in his speech at the First International in 1865 which supported Polish national self-determination. Marx and Engels in their essays on The Civil War in the United States²³ were interested in the revolutionary implications of the war. They urged the North to wage a revolutionary war to abolish slavery. They perceived that the eventual emancipation of the American working class depended upon the preliminary destruction of black slavery. Any working class movement would be greatly hindered if it had to compete with black chattel labor. This idea was later reaffirmed in Capital where Marx stated, "Labor cannot emancipate itself in white skin where in the black it is branded."²⁴

To the present Marxist-Leninists the twentieth century wars of national liberation involve an interaction of class and national interests:

In a struggle which is national in character the class struggle takes the form of the national struggle, which demonstrates the identity between the two. On the one hand, for a given historical period the political and economic demands of the



various classes must not be such as to disrupt cooperation; on the other hand, the demands of the national struggle should be the point of departure for all class struggle. Thus there is identity in the united front . . . between the national struggle and the class struggle.²⁵

Insofar as the politically dominant communal group views its interests as common with foreign economic interests present in the country, the class struggle against the bourgeoisie and the communal struggle against the dominant communal group become one. The "anti-imperialist" doctrine of wars of national liberation asserts that the nationalist struggle is one mode of expression of the class interests. Amilcar Cabral, assassinated leader of the African Independence Party of Guinea and the Cape Verde Islands (P.A.I.G.C.), used a new term to reflect this interaction of class and communal interests: the "nation-class" is a united front of class and communal interests against the foreign economic interests and the local communal elite that is politically dominant.

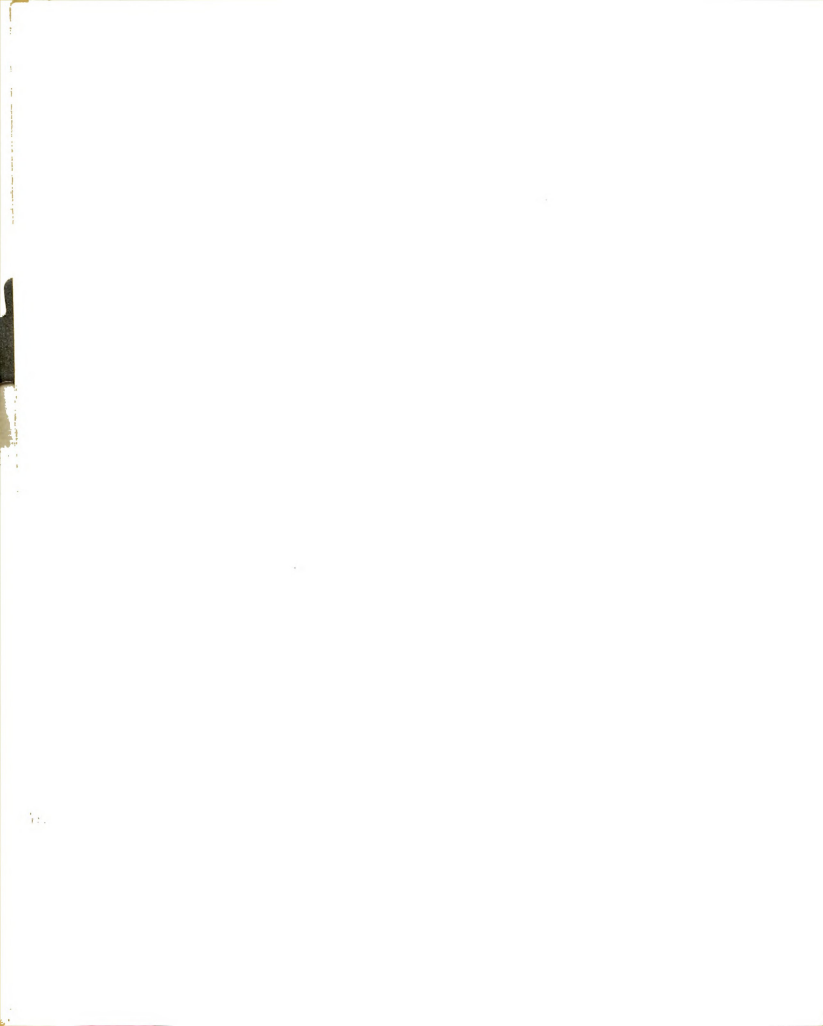
In Chapter IV this research explores empirically the international context of domestic communal conflict. It investigates the effect of foreign economic influence on domestic communal conflict. If the foreign economic influence is transmitted by a distinct ethnic group, the level of communal conflict may be more intense for it will reflect the interaction of these conflicting economic (class) and communal interests.



It is true that communal interests cannot always be separated from class interests; communal groups that are discriminated against are often in the lower class economically also. The two interests, communal and class, do occasionally coincide, but not always. Upper class communal groups have been known to protest and riot (Ibos in Nigeria) or even form a separate state (the independence of Singapore and apartheid in South Africa). At the same time lower classes of the dominant communal group often refer to their communal identity to elevate their social status (poor whites in Appalachia, black-white hostility among American labor). Given the many roles that a person has, this study focuses on communal expressions of discontent as identified by participants in the protests. Investigating the economic and political systemic reasons for communal conflict does not negate the validity of other affiliations that persons in a communal group might have. It does propose that communal affiliations are social divisions that can separately affect political behavior.

Methodology

The assumption behind the estimation of models is that the variables and the causal patterns underlying them have been fully specified by comprehensive theories. In a "true" model, the independent variables should be clearly



defined and should explain almost all the source of variation in the dependent variable.²⁶ This exact specification is rarely possible in the social sciences, since social science theories are seldom fully developed. In particular, the assumption of an exact specification is clearly not valid for this research. As mentioned previously, many case studies have been written about the conflicts caused by communal cleavages, ranging from new states formed after 1945 to the ghetto riots in the U.S.A. The case studies offer specific, idiosyncratic explanations for each particular success or failure of integration: individual country profiles cannot provide comprehensive theories involving generalizations across political systems. In regression terminology, the case studies seem to emphasize the importance of the idiosyncratic elements which are captured by the disturbance terms (u_{ij}). These disturbance terms are deviations from the properties characterizing a particular regression function; they are not explained directly by the regression function. Case studies do offer suggestions for improving the specification of the regression function by discussing the importance of variables which might have been left out; analysis of the residuals can offer clues for improved specification. Emphasis here, however, will be on the properties of the regression function;



this focus requires comprehensive theories which try to generalize across political systems.

Although most of the variables are considered in depth in case studies, terminology across cases remains ambiguous. Hypotheses remain specific to singular cases. This situation makes it impossible to specify models which can fully represent a generalized theory of causal mechanisms and relationships. Hubert Blalock affirms the need for general empirically based theories:

. . . it is far better to spell out explicitly exactly what one means by a statement such as "the whole is greater than the sum of its parts" than to use this kind of pious statement to avoid the difficult task of analyzing our analytic procedures. . . . I see no alternative to the processes of abstraction, omission of details, analysis and synthesis. The trick is to accomplish these in such a way that we do not become dissatisfied and disillusioned with necessarily incomplete and imperfect models of reality.²⁷

Neither the path of the pure "empiricist" nor the pure "theorist" will be followed. These are extreme positions and neither is tenable. The purpose of empirical research is to decide between two or more conflicting theories; the data do not speak for themselves in choosing the functional form which best fits the data. As stated earlier, the theories only suggest possible variables and broad features of the functional form. No one theory can be relied on exclusively. Yet a correctly specified model means that all the relevant variables are included; they are ordered sequentially; and their

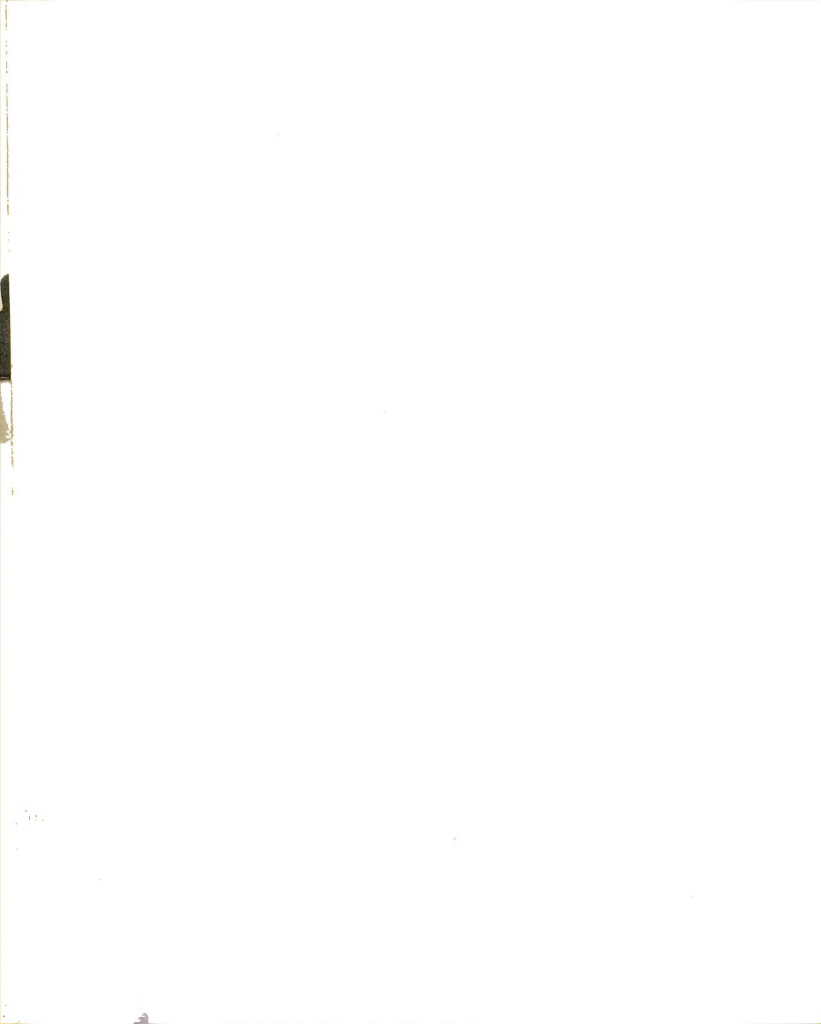


parameter signs and functional forms are given. In order to meet these requirements, a comprehensive and well-developed theory is needed. Thus, it is obvious that empirical research involves a necessary dialectic between specification and estimation of the models. In order to proceed with a rigorous and systematic evaluation of hypotheses, therefore, the methodology will involve a sequential development of models. The analysis will begin with "single equation" hypotheses and "partial" theories which indicate potential causal determinants of political integration. Preliminary, modest specification will lead to provisional estimation: further specification of additional variables will lead to new estimation.

The statistical test criterion to select variables will follow the suggestion of Hibbs:

Independent variables suggested by such hypotheses and partial theories that are estimated to have coefficients at least twice their respective standard errors are provisionally retained as significant direct causal influences. . . . This is not a particularly demanding standard, but it is appropriate to the exploratory purpose of the [initial] chapters.²⁸

This criterion is only a guideline, for the decision to reject or retain a variable is a theoretical as well as a statistical consideration. Statistical criteria are not sufficient, for the size of regression coefficients may be affected by many factors. For instance, a small sample size makes it difficult to pass significance tests. Therefore, variables may not be considered



statistically significant even if they are important for theoretical reasons. With a model that is underspecified, the left-out variables may cause a negative bias in the regression coefficients. This negative bias could reduce the coefficient to zero even if the variable has a "true" positive and significant regression coefficient.²⁹ A simple statistical test is not always appropriate, for the theoretical importance of the variable must also be taken into consideration. A variable may be retained for theoretical reasons even if its estimated coefficient is not significantly different from zero.

Because economic development is often described as the critical variable for resolution of civil strife, the study will begin by considering the effects of general economic development. This first very simplified model will include the dynamic effects of economic change and population growth as well as the gross aggregate levels of economic development. A further elaboration of the model will occur in subsequent chapters as we investigate the social and political factors which mediate economic development as well as those which have their own independent effect on the dependent variable. A series of hypotheses is in that way accumulated, and they build the final integrated model. In this way, the relative importance of economic, social, and political variables on political integration can be tested first separately



from each other and then in relationship to each other. For instance, it is hypothesized that economic dependence on another country will restrict integration of communal groups. This hypothesis will be tested and then it will be extended to state that the effects of economic dependence might be less severe for economically developed countries. The economic dependence of Canada on the United States might be less disintegrating to the polity than the dependence of Chile. Thus, the primitive model will be elaborated by further specification. Some mediating factors will help to interpret the effects of economic development, but other social and political factors will hopefully explain more of the variance of the dependent variable.

The sequential model building will be done with regression analysis on forty cases. When collecting the data, it was found that twenty-two of the sixty-two cases recorded no communal conflict for the decade. With over one-third of the cases zero, states with no communal conflict would unduly determine the regression results; the distribution of the dependent variable would very skewed. To avoid this problem, the decision was made to use probit analysis on the final models for the full sample. The dependent variables can be ordinal n-chotomous for probit whereas ordinal dependent variables are unsuitable for regression analysis. Probit analysis is discussed in Chapter VIII



where the dependent variables are trichotomized into zero, medium, and high incidence of protest and violence. The preliminary models, therefore, are done with regression analysis on forty cases. The final multivariate analyses are done with both regression (forty cases) and probit (sixty-two cases) analyses with the results compared.

Plan of the Research

In Chapters III-VI, hypotheses asserted by other theorists will be tested empirically. Each hypothesis will be accepted or rejected as a foundation for the integrated specification of a causal model for communal conflict in the final chapter. Chapter III begins the sequential modeling by analyzing the effects of different levels of economic development as well as the rate of economic change on communal strife. Chapter IV continues the emphasis on economic factors, but introduces international economic relationships. Because international economic status seems to be crucial to many domestic issues, this chapter will try to test the effect of the international context on domestic issues. Social factors are considered in Chapter V as social mobilization and social pluralism are introduced. Social mobilization continues the economic theme while the effects of social pluralism may or may not be intervening between economic development and political integration. Chapter VI



finally tries to assess the influence of explicit public policy. Government centralization and government repression are indices which might explain some variation in the dependent variable. Freedom of political expression is a single-indicator variable. Appendix A gives the operational indicators of these variables and the sources of the data.

Taken by themselves, the results of each chapter remain provisional in the sense that they are explicitly not fully specified. This violation of the prerequisite for estimation of parameters produces biased estimates. Most often the bias will be to overstate the direct effects of the independent variables on the dependent variable. Although this bias prevents estimation of "true" relationships at their preliminary stage, one can still employ statistical and theoretical criteria for rejecting variables. In these simplified models, parameter estimates which are not significantly different from zero would remain such in the final model and can easily be rejected early in the provisional model. Thus, even though the direct effects of variables are overstated, they can be retained for further evaluation.

The dialectic between theory building and empirical testing can be pursued by this cumulative model building. One can evaluate hypotheses which in turn



provide an empirical basis for a more complete specification of the causal model in the final chapter.

Plural societies are here to stay. Many have written about their attributes in terms of flexibility, tolerance, cultural richness, and dynamism. Plural societies have also caused, however, a great deal of human suffering, for sub-entities often seem to feel that theirs is the natural, spiritual, or correct way. Allocation of scarce resources often follows the social lines of discrimination. This study is an attempt to unravel and clarify some of the complexity of the process of integrating plural societies into a single political unit. It investigates the structural facilitators of integration and tries to suggest their relative influence. Some theorists have affirmed that uniting a group of diverse peoples only intensifies conflict; reduction of communal conflict cannot be promoted by the political or economic institutions or policies. Given the continuance of pluralism, however, and the survival of large nation-states and world-wide economic development, it is suggested that researchers might address themselves more to the question of how to diminish the hostility of communal groups toward national policy. Perhaps the development of a more rigorous theory might help promote the integrating effect of public policy.



CHAPTER I--NOTES

¹Clifford Geertz, ed., Old Societies and New States (New York: Free Press, 1963), p. 110.

²Robert Dahl, Polyarchy (New Haven: Yale University Press, 1971), p. 168.

³W. Arthur Lewis, Politics in West Africa (London: Allen and Unwin, 1965), p. 66.

⁴Joseph Stalin, "The Foundations of Leninism: The National Question," in The Essential Stalin, ed. Bruce Franklin (Garden City: Doubleday and Co., 1972), pp. 145-54.

⁵R. J. Rummel, The Dimensions of Nations (Beverly Hills: Sage Publications, 1972), p. 225.

⁶Ralf Dahrendorf, Class and Class Conflict in Industrial Society (Stanford: Stanford University Press, 1959), pp. 241-318; M. M. Postan, An Economic History of Western Europe, 1945-64 (London, 1967); F. X. Sutton, "Social Theory and Comparative Politics," in Comparative Politics: A Reader, eds. Harry Eckstein and David Apter (New York: The Free Press, 1963), pp. 67-81.

⁷W. G. Runciman, Relative Deprivation and Social Justice (Berkeley: University of California, 1966); Richard Titmus, Income Distribution and Social Change (Toronto: University of Toronto Press, 1962).

⁸Ted Robert Gurr, Cross-National Studies of Civil Violence (Washington, D.C.: Center for Research in Social Systems, American University, 1969); Donald Morrison and Hugh Stevenson, "Integration and Instability: Patterns of African Political Development," American Political Science Review 65 (September 1972): 902-28.



⁹James A. Bill and Robert L. Hardgrave, Jr., Comparative Politics--The Quest for Theory (Columbus, Ohio: Charles E. Merrill Publishing Co., 1973), p. 82.

¹⁰Karl Marx did not hesitate in justifying the need for the proletarian revolution to invoke fundamental change: it was to overthrow the bourgeoisie and abolish private property. Georges Sorel sees violence as a purifying agent. It acts as a stimulus to the consciousness of the proletariat and generates in the workers the heroic spirit necessary for the triumph of socialism. Franz Fanon extends the idea of violence as a psychological purge necessary for an oppressed race to regain its self-identity and self-esteem. Karl Marx, "The Manifesto of the Communist Party," in Marx-Engels Reader, ed. Robert Tucker (New York: W. W. Norton, 1972), pp. 331-63; Georges Sorel, Reflections on Violence (London: Collier Books, 1950--originally published 1906); Franz Fanon, The Wretched of the Earth (New York: Grove Press, 1963), especially pp. 86, 93, 94.

¹¹James Rosenau, ed., Linkage Politics: Essays on the Convergence of National and International Systems (New York: Free Press, 1969), p. 6.

¹²Mark Kesselman, "Order or Movement? The Literature of Political Development as Ideology," World Politics 26 (October 1973): 150.

¹³European theorists sympathetic to a socialist analysis have been extremely zealous in their application of class analysis. See Raymond Barbe, "Les classes sociales en Afrique noire," Economie et Politique (Paris: 1964) for a mechanistic treatment of class analysis for Africa. For explanations of communal conflict based on the international divisions of classes, see the following: Immanuel Wallerstein, "Class and Class Struggle in Africa," Monthly Review 26 (February 1975): 34-51; Immanuel Wallerstein, "Social Conflict in Post-Independence Black Africa: The Concepts of Race and Status-Group Reconsidered," in Racial Tensions and National Identity, ed. Ernest W. Campbell (Nashville, Tenn.: Vanderbilt University Press, 1972), pp. 207-26.

¹⁴Alvin Rabushka and Kenneth Shepsle, Politics in Plural Societies: A Theory of Democratic Instability (Columbus, Ohio: Charles Merrill Publishing Co., 1972); Charles Tilly, "Does Modernization Breed Revolution?" Comparative Politics 5 (April 1973): 425-47.



¹⁵Leo Kuper, "Race, Class and Power: Some Comments on Revolutionary Change," Comparative Studies in Society and History 13 (January 1971): 400.

¹⁶Giovanni Arrighi and John Saul, Essays on the Political Economy of Africa (New York: Monthly Review Press, 1973), pp. 81-82.

¹⁷David Lane, "Ethnic and Class Stratification in Soviet Kazakhstan--1917-39," Comparative Studies in Society and History 12 (April 1975): 165-89.

¹⁸William Kornhauser, "Rebellion and Political Development," in Internal War, ed. Harry Eckstein (New York: Free Press, 1964), p. 153.

¹⁹Seymour Lipset and Stein Rokkan, "Cleavage Structures, Party Systems, and Voter Alignments," in Party Systems and Voter Alignments, eds. Lipset and Rokkan (New York: Free Press, 1967), pp. 46-50; Juan Linz, "Cleavage and Consensus in West German Politics," in Party Systems and Voter Alignments, eds. Lipset and Rokkan (New York: Free Press, 1967), pp. 283-321; Giovanni Sartori, "European Political Parties: The Case of Polarized Pluralism," in Political Parties and Political Development, eds. LaPalombara and Weiner (Princeton: Princeton University Press, 1966), pp. 144-45.

²⁰Andrew M. Greeley, "A Model for Ethnic Political Socialization," American Journal of Political Science 19 (May 1975): 193.

²¹Daniel Bell, The Coming of Post-Industrial Society (New York: Basic Books, 1973), p. 145.

²²V. I. Lenin, "The Right of Nations to Self-Determination," May 1914, Collected Works 20 (Moscow: 1960-70): 424.

²³Karl Marx and Frederick Engels, Civil War in the United States (New York: International Publishers, 1937).

²⁴*Ibid.*, Introduction, p. xiv.



²⁵ Mao Tse-Tung, "The Question of Independence and Initiative," Selected Works of Mao Tse-Tung, vol. 2 (Peking: 1961-65), p. 215.

²⁶ The lack of true specification distorts the estimators. When a variable is included that does not belong, variance of the estimators is increased without bias. When a variable is left out, the estimate will, in general, be biased, but may be more precise. See note 29.

²⁷ Hubert Blalock, Theory Construction (Englewood Cliffs, N.J.: Prentice-Hall, 1969), p. 6.

²⁸ Douglas Hibbs, Mass Political Violence (New York: John Wiley & Sons, Inc., 1973), p. 5.

²⁹ If the true specification is

$$Y = \alpha + \beta_{11} X_1 + \beta_{12} X_2 + \epsilon$$

and if a variable is mistakenly left out and the following equation is estimated instead,

$$Y = \alpha + \beta_{21} X_1 + \epsilon$$

there is bias introduced, for $\hat{\beta}_{21}$ does not necessarily equal β_{11} . The least-squares estimate of β_{21} in the above equation is

$$\hat{\beta}_{21} = \beta_{21} + [\beta_{12} \cdot b_{21}]$$

where $b_{21} = \Sigma X_1 X_2 / \Sigma X_1^2$. If the general expression in the square brackets is negative, $\hat{\beta}_{21}$ underestimates the true effect. $\hat{\beta}_{21}$ may be close to zero even if its "true" measure is positive and significant. The null hypothesis would be falsely accepted. $\hat{\beta}_{21}$ overestimates β_{11} when β_{12} and b_{21} have a positive product; it is an unbiased estimate of β_{11} when X_1 and X_2 are uncorrelated. Most often the underspecified equation will overestimate the effect of the independent variables which are included in the equation, since $\beta_{12} \cdot b_{21}$ is generally positive. Potluri Rao and Roger Miller, Applied Econometrics (Belmont, Calif.: Wadsworth Publishing Co., 1971), pp. 29-32 and 60-67; J. Johnston, Econometric Methods, 2d ed. (New York: McGraw-Hill, 1972), pp. 168-76.



CHAPTER II

COMMUNAL CONFLICT: ITS SCOPE AND MEASUREMENT

Clarifying the theoretical concept of communal conflict and its operational definition is crucial to formulating theory, for much debate and misunderstanding about this type of social upheaval originates in the measurement process. The purpose in this chapter is to clarify "communal conflict," the dependent variable, and to describe how it is measured by aggregated indicators.

The word "communal" is a composite term which includes ethnic, religious, or linguistic subcultures within a country. A subculture may be distinguished by only one of these characteristics and still express communal opposition (e.g., northern Ireland). More frequently, a group may be defined by two or all of these characteristics (e.g., Ibo vs. Hausa in Nigeria). "Communal" remains a composite term because its defining characteristics are theoretically similar in that they are observable expressions of fundamentally similar subcultures. A second reason for retaining the composite term is that these cleavages tend to overlap empirically.



For example, political division occurred in northern India between those in the Punjab who are predominantly Sikhs and speak Punjabi and those in Haryana who are predominantly Hindu and speak Hindustani. Using the composite term avoids trying to separate arbitrarily cultural characteristics that are often complex and interrelated. Thus, ethnic, religious, and linguistic subcultures are defined as communal groups because these characteristics are theoretically similar as well as empirically intertwined.

Social pluralists would oppose the idea that "communal" dimensions or "trait cleavages" should remain intertwined. Seymour Lipset, Arend Lijphart, Douglas Rae, and Michael Taylor agree that conflict occurs most intensely, and is often non-negotiable, when communal cleavages are in fact composite; democratic governments are difficult to achieve in a plural society that does not have cross-cutting cleavages. However, they propose that if cleavages are cross-cutting--two members share one group (language), but are in different second groups (ethnic identities)--attitudes and allegiances are less intransigent as citizens try to relate to the political goals of both groups.¹ In order to test empirically the effect of cross-cutting allegiances, it would be necessary to separate the cases where language, ethnicity, and religion accumulate to



define one group from the cases where only one or two lines of cleavage exist.

The empirical restraints prevent us from investigating these theories cross-nationally. For example, the World Handbook of Political and Social Indicators combines ethno-linguistic fractionalization and then also gives a separate, single dimension for religious fractionalization.² It is not possible to determine the cases where the two dimensions might, in fact, be cross-cutting. Rae and Taylor discuss cross-cutting cleavages on only two dimensions.³ Therefore, although it would be theoretically interesting to investigate the effect of cross-cutting cleavages, the measurement problems are insurmountable at this time. The available aggregated data record separately the communal dimensions of societies. The event data for this study collected from Keesing's Contemporary Archives also do not permit the measurement of the degree of cross-cutting allegiances. Theories about membership in more than one social group ameliorating conflict can best be tested by cross-national survey research, but existing survey research data give very small samples that are inadequate for cross-national theoretical generalizations. Finally, although it would be interesting to test the effect of the cross-cutting cleavages, there are also good theoretical reasons, as



stated above, for leaving the term composite: religion, ethnicity, and language are observable characteristics of fundamentally similar subcultures.

My use of the term "conflict" follows much of the literature on political instability and domestic violence.⁴ Study of political strife is a major theoretical concern within comparative politics, yet there has been little or no attempt to disaggregate conflict data into what groups are protesting or why. Workers, students, military elites, factions within political parties as well as communal groups are all aggregated in most of the empirical studies on civil strife. This research, therefore, is a modest beginning at overcoming a major criticism of the civil conflict literature; critics have pointed out that little attempt has been made to investigate the complexity of civil strife.⁵ Communal conflict is a persistent feature of political upheaval and one that is especially threatening to the existence, not only of a political regime, but of the state itself. Communal groups, more than any others, have separatist tendencies and advocate the change of political boundaries as many groups are identified with a specific territory.

The conflict measure reflects a typology of protest behavior ranging from demonstrations which are nonviolent to the comparatively subversive or revolutionary violence of armed attacks. It does not include conflict



within the normal political process, such as debates within political parties or legislatures. It, therefore, reflects the most serious and strongest mass opposition to the government. Given that it reflects mass protest behavior, the measure does underrepresent the total amount of disagreement among communal groups within the polity.

The measurement records actual acts of opposition against the political system or other communal groups. The events were significant enough to be noticed by the local news media, national press, or international wire services. The selection of communal conflict was based on the self-identity of the groups. Given that each individual has multiple identities, ethnic, familial, class, etc., the designation of communal conflict reveals the prominent, but not necessarily exclusive, identity of the protesting group. Groups protesting government policy had a distinct communal identity.

The classification of events as expressions of communal conflict followed certain criteria. First, the conflict must be primarily of a political, not an economic, nature. Strikes for higher wages, for example, were excluded. The protest could be directed toward either the political institutions, the political elite or toward another communal group. Second, to be



included as an act of communal violence, the event had to be a mass activity and not an isolated act such as an armed robbery or homicide performed by individuals with no political objectives. Hijacking and kidnapping, although carried out by only a few, were included if the goals were political as stated by the group performing the act. Finally, the major distinction of this research is the selection of these (1) political, (2) mass actions, that were expressions of (3) communal grievances. Communal conflict is treated as a distinguishable subset of domestic political conflict.

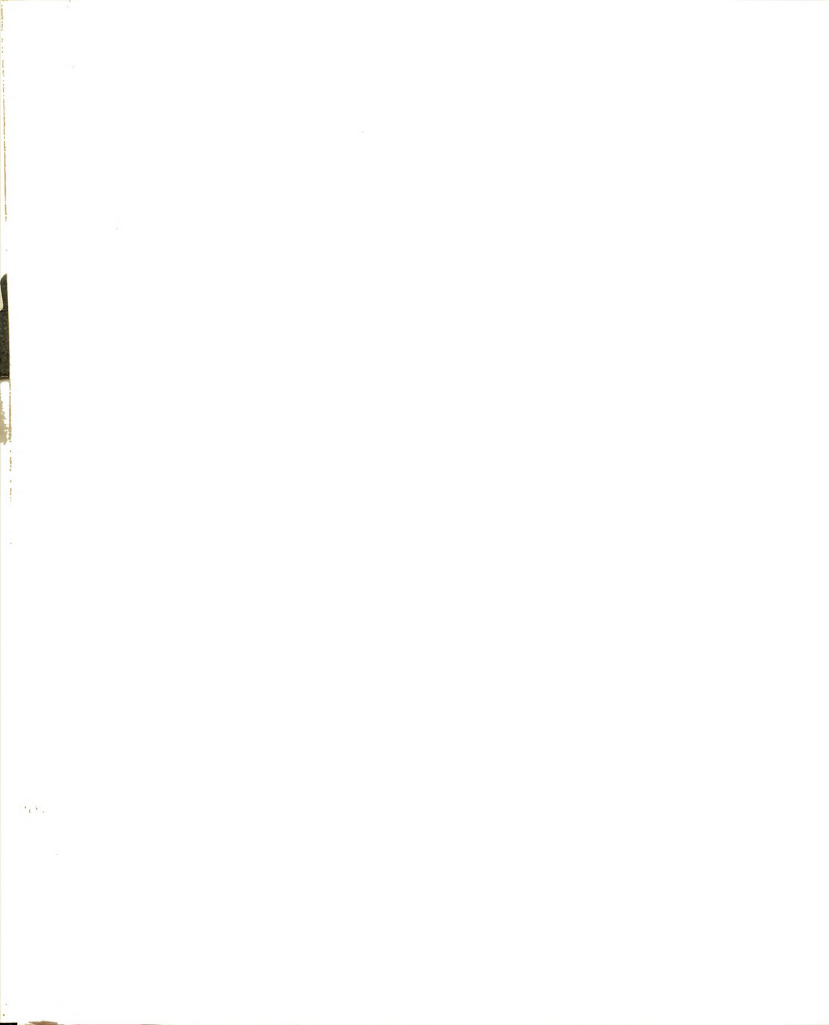
Coding criteria for the event data classification follow closely the categories in the World Handbook of Political and Social Indicators in an attempt to build a data set that is complementary though not an exact replication.⁶ The data were categorized into the following five events. Protest Demonstrations--mass rallies or demonstrations which start and end peacefully--This type of event excludes rallies that might be considered part of the normal political process, such as election meetings or political party rallies. Protest demonstrations are public expressions of grievances by a communal group against the system or against the relative influence of another communal group. Political Strikes--work stoppage to protest a government political policy that relates directly to one or more communal groups--



The strike may be of government employees against the government or of other employees who express dissatisfaction with the political system by refusing to work. The nation-wide strike in East Pakistan after the election of the Awami League in 1971 in opposition to West Pakistani control is one example. Riots--violent expressions of opposition against the government or other communal groups--Riots usually have little or no leadership and are often unpredictable acts of violence against property and persons. A demonstration that began peacefully but became a riot was coded as a riot. Armed Attacks--systematic acts of violence organized and directed by cadres--They can be directed against government personnel or property or against whole villages. The measure excludes full-scale war between countries such as the Arab-Israeli wars of 1967 and 1973; it includes acts of terrorism by guerrillas or commandos which occur against the communal populations even during the war. Deaths from Political Violence--a body count from acts of communal political violence--It excludes those listed as "critically wounded" and specified simply as "casualties."

Hudson and Taylor give the following interpretation of event data as a measure of civil strife:

Violence or change in our dataset is an occurrence judged important enough by a professional journalist or editor to merit reporting in a daily newspaper, a daily wire-service file or a specialized publication dealing with politics in a particular area.



An event is an occurrence that took place within a twenty-four hour period and is "noteworthy" for at least another twenty-four hour period.⁷

The magnitude or intensity of the civil disorder is, therefore, somewhat crudely captured by the duration of the events in twenty-four hour periods and by the number of deaths over the ten-year period. When the number of events seemed ambiguous in the news index, reference was again made to the criteria of Hudson and Taylor:

If rioting were reported to have continued for three days and no other information were available, the coder would make the minimal assumption that there was one riot a day and enter three events on the date of this report. If "demonstrations were reported in three cities," again the minimal assumption would be made that there was only one demonstration in each city, and a value of three would be reported for that date.⁸

A summary of the total number of events for each component of communal conflict is as follows:

<u>Events - 1964-1975</u>	<u>Raw Scores</u>
Protest Demonstrations	341
Political Strikes	101
Riots	659
Armed Attacks	1686
Political Deaths	123187

The data were coded from Keesing's Contemporary Archives⁹ and the reporting of events was cross checked with regional indices such as Africa Diary, Africa Digest, Asian Recorder and Facts on File. Keesing's reports from the Third World more frequently and in more detail than the New York Times Index, for it includes events reported in newspapers of the countries of origin of the conflict.



With the additional check of the regional indexes, the underreporting of events from the developing countries is avoided as much as possible.

The sample includes sixty-two countries total; the cases are given in Appendix B. The total N was determined by data availability for the independent variables. In spite of the difficulty of collecting aggregated data for developing countries, an effort was made to obtain adequate representation of countries in various regions of the world. As a result the sample includes the following number of countries for each region: Europe and North America--17, Latin America--14, Africa--12, Asia--10, and Middle East--9.

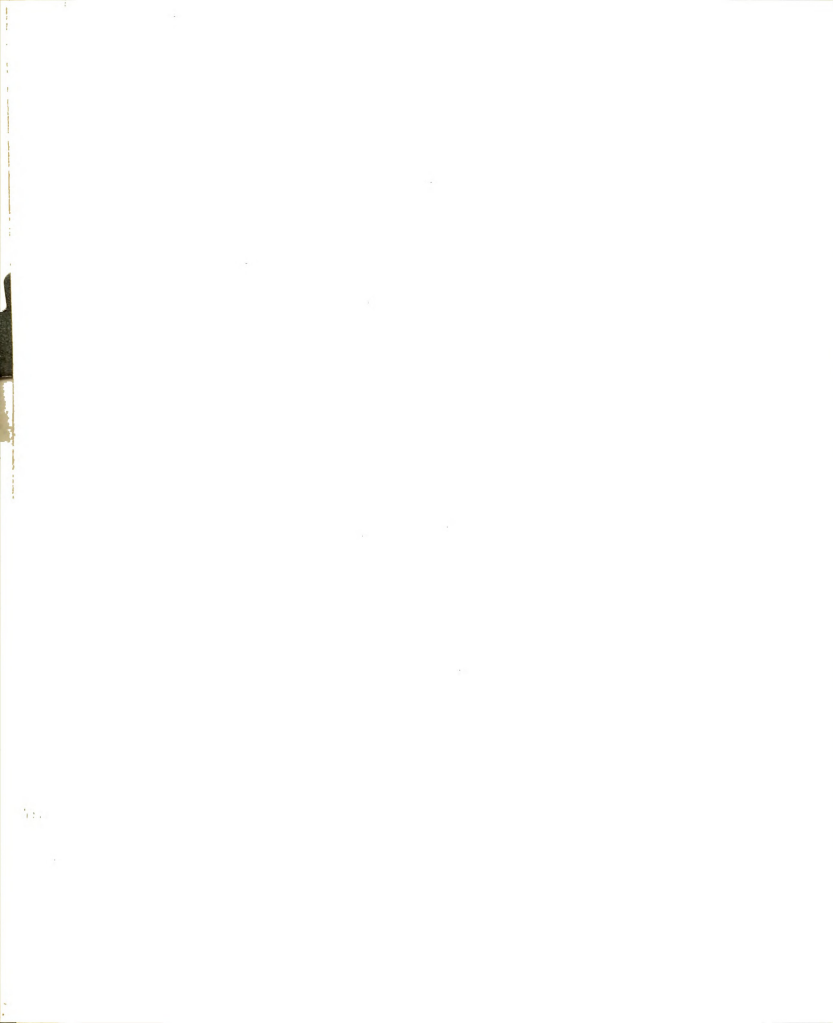
Dimensions of Communal Conflict

Given the many expressions of civil violence, several researchers have tried to determine if they represent a smaller number of dimensions. Leo Hazlewood tested the stability of the dimensions of conflict behavior across time, region, and statistical technique. Using data from studies by Rudolph Rummel, Bruce Russett, Raymond Tanter, and Douglas Bwy, he found that their various measures of "turmoil" correlated at .99 and their measures of "revolution" at .98.¹⁰ The data for the studies covered the following periods: 1955-57, 1958-60, 1955-60, 1962-64, and 1964-66. Factor analysis has frequently revealed that resort to violence is indeed

a threshold in separating forms of civil conflict.¹¹ "Turmoil" or "protest" usually includes protest demonstrations, political strikes, and riots. More serious opposition aggregates indicators such as kidnapping, hijacking, guerrilla attacks, deaths, and assassinations into dimensions called "internal war" or "revolution." These studies therefore suggest that a factor analysis of the five indicators of communal conflict could be pursued in order to determine if this subset of domestic violence reveals any similar underlying dimensions. Composite measures could be formed to reflect more adequately the theoretical concept.

The application of factor analysis requires certain assumptions about the data. First, the data for each case are assumed to be equally important and are given equal weight. For instance, the number of protest demonstrations for Bolivia is assumed to be of equal importance as the number of protest demonstrations for Indonesia. Because the goal of this study is to explain the general characteristics of communal conflict for a large number of nations, the assumption seems valid and necessary.

The second assumption is that the relationships among the variables are linear, for factor analysis allows us to see whether some underlying pattern of relationship exists from an array of correlation coefficients. Scattergrams of the five indicators with



each other were examined to determine the pattern of the relationships and the existence of outliers. From these observations it was decided that a logarithmic (natural) transformation of each variable was necessary to maximize the linear relationships. Logarithmic transformations preserve the rank order of the cases for each variable but cause a major change in the scaling of a variable. As Tufte states, this rescaling pulls the large observations toward the middle and spreads out the small, clustered ones:

Note how the rescaling of the variables by taking logarithms reduces the nonlinearity in the relationship and removes much of the clutter resulting from the skewed distributions on both variables; in short, the transformation helps clarify the relationship between the two variables.¹²

Figure 2-1, which shows the relationship between the logged and nonlogged variables of communal violence (armed attacks and deaths), illustrates how the logarithmic transformation pulls in the outliers and spreads the lower values. The correlation between the logged and nonlogged variables of .53 reflects the major change in the scaling which occurred when the variable was logged. Through this rescaling of the variables which maintains the rank order, the transformation increases the linearity between the variables.

The factor analysis of the five indicators of communal violence was used as a data reduction technique,



not as a causal model which asserts that the factors are source variables accounting for the observed inter-relations in the data. As Douglas Hibbs states, there is no agreement concerning the best factor analytic technique given this limited objective.¹³ Two different methods were used to test whether there was any agreement across methods in the selection of factors: principal components and principal factors with squared multiple correlations in the diagonals. The first method is a defined factor or an exact mathematical transformation of the original data. The second is an inferred factor, for it allows inferential assumptions about the structure of the variables and their source of variation.¹⁴

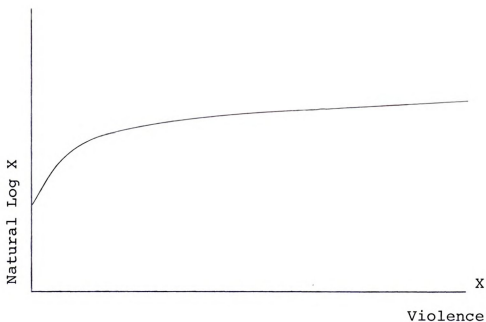


Fig. 2-1. Communal Violence vs. the log of Communal Violence.

The principal components method avoids the estimation of the amount of unique variance or of its complement, the communality. Components are defined until all the variance in the data is exhausted. Thus, barring perfect linear relationships, there will be as many orthogonal dimensions as there are variables. One asks what would be the best linear combination of variables which would account for more of the variance in the data as a whole than any other combination. The first component is the single best summary of linear relationships exhibited in the data. The second component is the second best linear combination that is orthogonal to the first. Each additional component accounts for the most remaining variance after the effects of previous components are removed from the data.

The principal factor with squared multiple correlations in the diagonal assumes that the correlations among the indicators are based on some underlying regularity in the data. Various determinants, some of which are shared by the other indicators, influence the observed variable. The unique part of the variable does not contribute to the relationship among the variables. Therefore, any correlation among variables is due to common factors. The technique can be explained as a way in which a minimum number of hypothetical variables are specified so that after controlling for

them, all the remaining (partial) correlations between variables would become zero.

The estimates of the communality for these principal factors are the squared multiple correlations between a given variable and the rest of the variables in the matrix. By replacing the diagonal elements in the correlation matrix we are taking out the presumed unique variance of each variable and only analyzing the remaining portions of the variables. Since communality is defined as that proportion of a variable sharing something in common with other variables, the communality of a variable cannot be smaller than the squared multiple correlation between a variable and others in the set. The principal components in the first factor analytic technique give the total (common, specific) variance of a variable explained (unity); in contrast, the principal factor with squared multiple correlations in the diagonal allows one to analyze only the variance common to more than one of the indicators.

The results of the two methods are in Tables 2-1 and 2-2. The factors were orthogonally rotated by means of the varimax technique. Two distinct dimensions do emerge from both factor analytic techniques. The indicator "riots" is more ambiguous than the others as to which factor it belongs. We will choose to include it with "protests" and "political strikes" for the

TABLE 2-1
PRINCIPAL COMPONENTS ANALYSIS COMMUNAL CONFLICT

Variables ^a	Factors ^b		Variance Reproduced
	I	II	h^2
Protest demonstrations	.075	.874	.77
Riots	.566	.595	.68
Political strikes	.131	.868	.77
Armed attacks	.917	.152	.86
Deaths	.931	.082	.87
% Total Variance	41.2	38.1	79.3
% Common Variance	52.1	48.1	100.2

^aAll variables have been logarithmically transformed.

^bOrthogonally rotated, varimax method.

TABLE 2-2
PRINCIPAL FACTOR ANALYSIS^a COMMUNAL CONFLICT

Variables ^b	Factors ^c		Variance Reproduced
	I	II	h^2
Protest demonstrations	.102	.747	.57
Riots	.481	.553	.54
Political strikes	.139	.776	.62
Armed attacks	.865	.189	.78
Deaths	.873	.123	.78
% Total Variance	35.5	30.5	66.0
% Common Variance	53.9	46.3	100.2

^aSquared multiple correlations in the diagonal.

^bAll variables have been logarithmically transformed.

^cOrthogonally rotated, varimax method.

TABLE 2-3

LINEAR REGRESSIONS OF COMMUNAL CONFLICT INDICES ON THEIR
COMPONENT PARTS (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Protest, 1964-75	.5463*	.0687	.460
Political Strikes, 1964-75	.2584*	.0938	.164
Riots, 1964-75	.5312*	.0531	.535
Constant	.5073		
	R^2		
	.927	F	151.79
b. Communal Violence			
Armed Attacks, 1964-75	.3262*	.0579	.174
Political Deaths, 1964-75	.8029*	.0292	.851
Constant	.3468		
	R^2		
	.986	F	1334.02

^aStarred parameter estimates are more than twice their standard errors.

theoretical reasons that riots often evolve from peaceful demonstrations and are generally unorganized acts of opposition. The second factor does reveal a more violent component of armed attacks and deaths.

From the variables loading heavily on each factor, two indices will be constructed. A "representative variable" will not be used because data reduction of several items is more comprehensive; single items can often misrepresent a complex concept. Without losing information through choosing a particular representative variable, the choice of index here is a simple sum of the event variables that index a particular dimension. Given the distributions of the component variables, the natural log of the sums will form the composite indices. A major disadvantage with composite indices made from factor scores is that the interpretation of regression parameter estimates, unlike correlation coefficients, is problematic. The metric has no clear substantive or theoretical meaning; the exact composition of each factor score is unique to each study. The summed index is interpretable; the logarithmic transformation is necessary given the distribution of the variables.

One way to verify the appropriateness of the indices is to check their internal validity. Argument for use of logged summed indices is stronger if in fact they measure the variables of communal protest and violence.

We will examine the extent to which the composite indices are related to the events included in the indices themselves. Communal protest and communal violence were regressed on their event data components, and the results are in Table 2-3. The regression of communal protest has an R^2 of .927 with all the components significant at the .001 level. It is clear, however, that political strikes contribute less to the index (slope = .2585), but it is still significantly related. The regression of communal violence has a quite high R^2 of .986 with both political deaths and armed attacks significant at the .001 level. Political deaths do dominate the index, probably because of its larger raw score, but 1.000 armed attack increases communal violence by .3262 (political deaths held constant), a significant contribution to the index and should not be dropped.

The external validity of the index must really rely on face validity, for there are no other studies that measure communal conflict known to the researcher. As mentioned earlier, however, studies about general mass conflict in a polity have the same basic dimensions as this study: the degree of violence separates acts of "turmoil" or "protest" from acts of "internal war" or "violence."

Douglas Hibbs used aggregated event data for his study of mass domestic violence. His data also sort out

according to two dimensions that he calls protest and internal war. Although his study is of general mass political conflict for an earlier decade (1958-67),¹⁵ Pearson's r 's were calculated to determine the relationship between the two data sets. As expected, the correlations were low at .35 for protest and .47 for violence. Although the correlations do not offer an external validation for the communal indices, they do show support for the proposition that communal conflict differs from general political conflict. This hypothesis will be investigated throughout this research by testing whether theories for general political strife explain the incidence of communal conflict.

Summary

The proposed subject for investigation is the protest behavior of communal groups as measured by events of domestic conflict involving mass actions for political goals. Communal groups may be identified by one or more of the following social characteristics: religion, ethnicity, language. Selection of an event as one of "communal" conflict was based on the self-identity of the protesting group. This study is, therefore, a modest attempt to disaggregate general conflict behavior by identifying what groups are protesting and why. Communal groups not only disrupt the political regime, they often challenge the very existence of the state itself.

Dimensional analysis of the event data disclosed two underlying clusters that are distinguished by the amount of violence. This distinction is analogous to the dimensions found in the literature on general civil strife. The two dependent variables for this study are (1) Communal Protest, indexed by protests, political strikes and riots by communal groups; (2) Communal Violence, indexed by armed attacks and political deaths. The indices are logged sums of the event data for the years 1965-1974.

CHAPTER II--NOTES

¹Arend Lijphart, The Politics of Accommodation (Berkeley: University of California Press, 1968); Seymour Lipset, "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," American Political Science Review 53 (March 1959): 69-105; Douglas Rae and Michael Taylor, The Analysis of Political Cleavages (New Haven, Conn.: Yale University Press, 1970).

²Charles Taylor and Michael Hudson, World Handbook of Political and Social Indicators, II, Section I, Cross-National Aggregate Data (Ann Arbor: Inter-University Consortium for Political Research, 1973), pp. 73-76.

³Rae and Taylor, Political Cleavages, pp. 92-105.

⁴A partial list of empirical studies on civil conflict includes the following: Douglas Bwy, "Political Instability in Latin America: The Cross-Cultural Test of a Causal Model," Latin American Research Review 3 (Spring 1968): 17-66; Ivo and Rosalind Feierabend, "Aggressive Behaviors within Polities, 1948-62: A Cross-National Study," Journal of Conflict Resolution 10 (1966): 249-71; Ted Gurr with Charles Ruttenger, Cross-National Studies of Civil Violence (Washington, D.C.: American University, 1969); Ted Gurr and Muriel McClelland, Political Performance: A Twelve Nation Study (Beverly Hills: Sage Publications, 1971); Douglas Hibbs, Mass Political Violence: A Cross-National Causal Analysis (New York: Wiley, 1973); Michael Hudson, Conditions of Political Violence and Instability (Beverly Hills: Sage Professional Papers, 1972); Donald Morrison and H. M. Stevenson, "Cultural Pluralism, Modernization and Conflict: Sources of Instability in Black Africa," Canadian Journal of Political Science (March 1972); Rudolph Rummel, "Dimensions of Conflict Behavior Within Nations, 1946-59," Journal of Conflict Resolution 10 (1966): 65-73; Charles Tilly and J. Rule, Measuring Political Upheaval (Princeton: Center of International Studies, Princeton University, 1965).

⁵A. MacIntyre, "Ideologies, Social Science and Revolution," Comparative Politics 5 (April 1973): 321-42; Sheldon Wolin, "The Politics of the Study of Revolution," Comparative Politics 5 (April 1973): 343-58.

⁶For a detailed discussion of the coding criteria with guidelines for decisions about ambiguous events, refer to Charles Taylor and Michael Taylor, World Handbook of Political and Social Indicators (New Haven, Conn.: Yale University Press, 1972), pp. 66-81.

⁷Ibid., p. 61.

⁸Ibid., p. 68.

⁹Keesing's Contemporary Archives (London: Keesing's Publications, Ltd., Annuals, 1964-75).

¹⁰Leo A. Hazlewood, "Concept and Measurement Stability in the Study of Conflict Behavior within Nations," Comparative Political Studies 6 (July 1973): 171-96.

¹¹Hibbs, Political Violence, pp. 9-11; Raymond Tanter, "Dimensions of Conflict Behavior Within and Between Nations, 1958-69," Journal of Conflict Resolution 10 (1966): 41-64.

¹²Edward Tufte, Data Analysis for Politics and Policy (Englewood Cliffs, N.J.: Prentice Hall, 1974), p. 110. For other works that discuss log transformations, see the following: N. R. Draper and H. Smith, Applied Regression Analysis (New York: John Wiley and Sons, Inc., 1966), Chapter 5; Edward Tufte, "Improving Data Analysis in Political Science," World Politics 21 (July 1969): 652-53.

¹³Hibbs, Political Violence, p. 11.

¹⁴Carl-Gunnar Janson, "Some Problems of Ecological Factor Analysis," in Quantitative Ecological Analysis in the Social Sciences, eds. Mattei Dogan and Stein Rokkan (Cambridge: M.I.T. Press, 1969), pp. 301-41; R. J. Rummel, "Understanding Factor Analysis," Journal of Conflict Resolution 15 (1971): 444-79.

¹⁵Hibbs, Political Violence, pp. 239-44.

CHAPTER III

ECONOMIC DEVELOPMENT AND COMMUNAL CONFLICT

In this chapter we begin the examination of single equation hypotheses and partial theories by investigating the effects of economic development on communal conflict. Various aspects of economic development are frequently cited in studies of the variations in domestic political instability. Since the outbreak of civil violence in several industrialized countries in the late 1960s, the role of economic development in alleviating mass strife has been seriously debated. The controversy continues as more social scientists question the validity of equating greater economic production with a better quality of life. These issues are of interest in this study because we can explore whether theories about general mass conflict explain the intensity of communal strife. Evaluating the economic development theories about political strife in the context of communal strife will help to clarify the impact of economic development on political instability.

This chapter addresses several issues about the relationship between economic development and communal

conflict. First, it raises the question whether countries with higher levels of economic development have less communal strife. Second, the theory about the rapid rate of economic growth as a destabilizing factor for the political system will be discussed. Third, criticisms about the relevance of economic development for abating mass protest will be examined. The criticisms suggest that we investigate the influence of income distribution, not just the level of development, on communal strife. Finally, an index of social indicators of the level of economic development is presented as a more exact indicator of the quality of life; the index is empirically tested to determine whether it explains more fully the variation in communal strife across nations.

Levels of Economic Development and Communal Conflict

The theoretical link between the level of economic development and civil conflict relies on the assumption that mass political violence results from competition for scarce goods and services. Even with higher levels of development, some groups are relatively less well off. Ted R. Gurr has formulated the concept of relative deprivation to summarize the perceptions that lead to aggression:

It is the actors' perceptions of discrepancy between their value expectations (the goods and conditions of life to which they believe they are justifiably entitled) and their values capabilities (the amounts of those goods and conditions that they think they are able to get and keep).¹

This psychological theory predicts that one response to perceived deprivation is anger that is, in turn, a motivating force for aggression. Feierabend and Feierabend refer to domestic conflict as systemic frustration which is defined as the reciprocal relationship between social want satisfaction and social want formation.² Economic development is not a sufficient condition for meeting rising expectations, but it is a necessary one. Countries with higher levels of economic development have a lower incidence of domestic strife. Douglas Bwy speaks of the complementary concept of "systemic satisfaction" (measured by GNP or public welfare) as a deterrent to political instability.³ Even though these theories vary in terminology ("expected need satisfaction," "value expectations," and "social expectations") and in operational variables, the theoretical concept is quite similar. It is a social-psychological explanation of civil violence: those who feel relatively deprived will be more likely to join mass political protests.

The theoretical advances Gurr has forged are seriously restricted by methodology. The most fundamental difficulty is the necessity for major inferential leaps from systemic aggregated measures to descriptions of "states of mind." Validity of the measure is highly questionable, as is reliability. Robert Burrowes points

out that the relationships which emerge are susceptible to alternative theoretical interpretations:

Gurr and the Feierabends infer opposite psychological meaning from data on literacy. . . . Each of these inferences regarding the psychological effects of literacy unfortunately seems equally plausible and equally farfetched.⁴

For Gurr, literacy is a highly valued goal which gives a sense of want fulfillment. For the Feierabends literacy is an indicator of exposure to modernity which induces rising expectations that is destabilizing.

Johan Galtung does not accept Gurr's idea of frustration as a prime cause, for he finds that economic-social structural changes are the basis for political disequilibrium.⁵ Other theorists accept Gurr's systemic measurements of disequilibrium, but prefer to leave the explanation at the structural level of analysis as Galtung does. In this way, they avoid the problem of measuring attitudes with aggregated indicators of economic and social change. For example, Douglas Hibbs speaks of "structural imbalances" as the provocateur of civil violence: economic development (GNP/capita) does reduce the probability of violence by facilitating institutionalization and elite accountability.⁶

The clarification pertinent here is that individual feelings or frustrations are not addressed in this research. Expressed discontent of particular groups against the national political system is the object of analysis, not the intent or "relative deprivation" of individuals or

leaders within the group. Gurr's proposal of an intervening variable of relative deprivation between structural imbalances and strife (structural imbalances \longrightarrow relative deprivation \longrightarrow strife) cannot be adequately tested with aggregated measures. A researcher would really need to conduct survey analysis of the members of the communal group to determine feelings of relative deprivation; such data are not available cross-nationally for a large sample.

To state that civil conflict is a negative linear function of economic development, one must assume that higher levels of economic development alleviate most poverty conditions; the increased wealth in the economy is shared by enough of the people to raise the general standard of living. The new wealth reduces discontent with the regime which, in turn, reduces communal strife. In a study which includes the period 1800 to 1960, Flanigan and Fogelman found that the relationship of political violence and GNP was negative and linear.⁷ The Feierabends and Nesvold also hypothesized that political instability is negatively related to indicators of economic and social development.⁸ Further, case studies of national political integration suggest that economic development is necessary for integration of plural societies.⁹

Theorists have tested the hypothesis that political strife is a negative linear function of economic development

only with indicators of general mass conflict. The adequacy of the linear hypothesis as an explanation for communal conflict can be readily evaluated with the following equation:

$$3-1 \quad Y = a - b_1X_1 + b_2X_2 + e$$

Y = Measure of communal conflict, 1965-74

X_1 = Economic development, 1968

X_2 = Population, 1969 (in thousands)

e = Stochastic disturbance

The relationship was tested for both communal protest and communal violence, the dependent variables discussed in Chapter II. Recall that the measures of communal conflict were not given as a ratio to population. The summed indices were not made ratios in order to avoid the spurious correlations that may arise when both the independent and dependent variables are deflated by a common one. However, other things being equal, countries with a higher population are probably more likely to have at least a few distinct subcultures and a greater incidence of mass communal protest. Communal protest and communal violence are probably functions of population size. Population, therefore, will be used as a control variable throughout this study. In this way, other variables can be evaluated

in the presence of the logically prior, but theoretically less interesting, population control variable.

The indicator for economic development is energy consumption per capita expressed in kilograms of coal equivalents.¹⁰ It is highly correlated with both Gross National Product (GNP) and Gross Domestic Product (GDP): $r > .91$. It measures, as they do, economic production and is sensitive to the degree of industrialization of a country.

The estimates in Table 3-1 on the next page show that economic development has no linear effect on either communal protest or communal violence. None of the parameter estimates is significant, and the R^2 's are extremely small. The hypothesis that economic development reduces conflict among communal groups in a direct and linear way is not substantiated.

However, other theorists have postulated a curvilinear relationship between economic development and civil conflict where violence occurs in the middle stages of development, but then tapers off. Middle levels of economic development tend to be more disruptive as the social structures adjust to demands that a higher level of economic production requires: more transportation, more educated personnel, greater urbanization, etc. Some groups find they are "left behind" and do not participate as much in the new production. Social cohesion

TABLE 3-1
LINEAR REGRESSIONS ON LEVEL OF ECONOMIC DEVELOPMENT (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Energy Consumption per capita, 1968	.0001	.0001	.211
Population, 1969	.8520 x 10 ^{-5*}	.2298 x 10 ⁻⁵	.505
Constant	1.4778		
	$\frac{R^2}{.325}$		$\frac{F}{8.92}$
b. Communal Violence			
Energy Consumption per capita, 1968	-.0003	.0002	-.197
Population, 1969	.7465 x 10 ⁻⁵	.5798 x 10 ⁻⁵	.206
Constant	4.5449		
	$\frac{R^2}{.071}$		$\frac{F}{1.41}$

^aStarred parameter estimates are more than twice their standard errors.

around families and more traditional organizations are challenged as new modes of production create new elites and new expertise. Styles of life change as technological innovations make some jobs obsolete. A ghetto or bidonville on the edges of a large city replaces village life.

As some refuse to accept new roles or life styles, others become more aware of social injustices. Economic development, because it leads to higher income for some who were previously at a lower standard, will stimulate rising expectations for more goods and services. Demands on the government often increase more quickly than the government's ability to respond. Alexis de Tocqueville was one of the first students of political systems to point out that reforms increase the demand for more reforms.¹¹ People who are starving are desperately quiet. It is after economic development has ameliorated the worst economic deprivations that mass demand for more economic amenities increases.

These theories are relevant to a study of communal conflict because the groups that might be "left behind" could possibly have a communal identity (allegiance to a traditional ruler or religious leader). At the same time some communal groups could benefit disproportionately from economic development which would initiate conflict with less fortunate communal groups.

Several empirical studies have found that the middle stages of economic development are potentially

disruptive and cause greater conflict. For example, Bruce Russett found that a curvilinear model describes the relationship between the log of Deaths from Domestic Violence (per million population) and the log of GNP per capita for the period 1950-1962.¹² In a study of eighty-four countries, the Feierabends concluded that there was a moderately curvilinear relationship between political instability and economic development.¹³

Even at higher levels of economic development, more industrialization does not reduce conflict. One possible reason why the relationship could be curvilinear is that the measure of economic development most often used, GNP, does not measure the distribution of increased wealth. At higher stages of economic development, income distribution could remain sufficiently inequitable to perpetuate economic and political competition for "scarce" goods. Catholics in Northern Ireland are not starving to death, but as a communal group they also represent the lower class and are less affluent than the Protestants. In the United States, black Americans are still discriminated against economically; their average income is lower; they are the first to lose jobs in a recession economy. Economic survival can be possible for all groups in a country with a higher level of economic development; however, economic discrimination is a

political question and can cause political conflict.

Frank Myers describes this interaction of political and economic factors for the May 1968 strike in France:

Affluence among the upper-working class and certainly in the middle-class participants in the strike was probably a contributing factor, since the strike could not have been carried on for so long had the strikers not possessed adequate savings. The remarkable event was the transformation of economic issues into political ones, . . . it was the interlocking of political and economic structures that resulted in an economic issue's bringing down a government.¹⁴

According to the curvilinear hypothesis, therefore, mass political conflict still occurs at high levels of economic development, but it does tend to be more severe at middle stages of development.

In order to test the null hypothesis of no curvilinear relationships between economic development and communal strife, two models depicting curvilinearity were used:

$$3-2 \quad Y = a + b_1X_3 + b_2X_2 + e$$

$$3-3 \quad Y = a + b_1X_1 - b_2X_4 + b_3X_2 + e$$

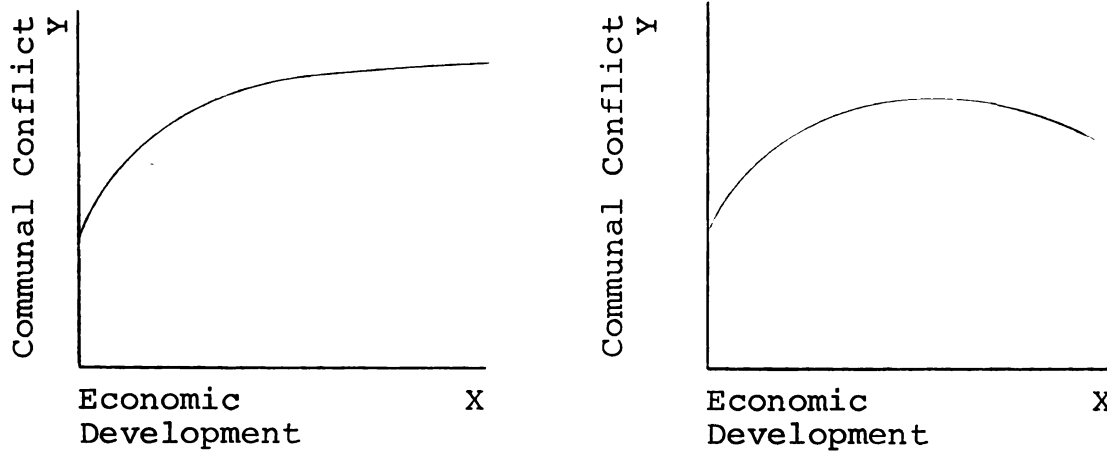
X_3 = ln Energy consumption per capita, 1968

X_4 = Energy consumption per capita, 1968,
squared

All other variables are the same as 3-1.



The difference between the two forms of curvilinearity is depicted in the following diagrams:



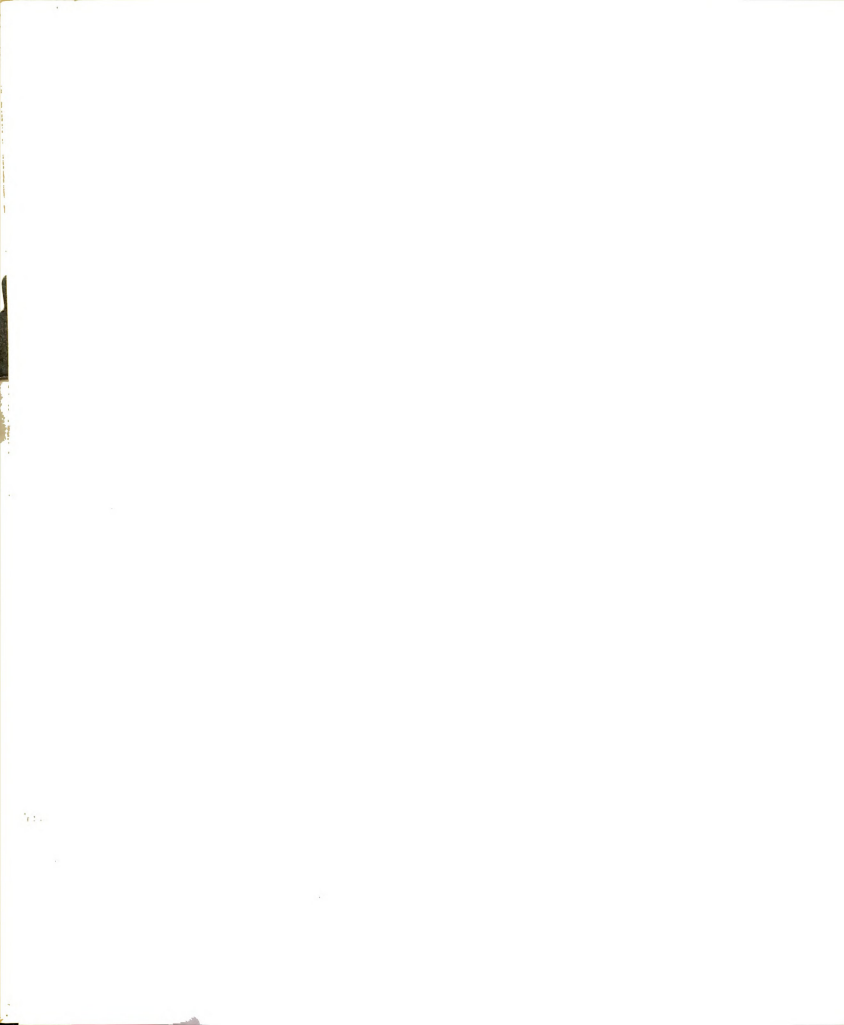
For equation 3-2, the incidence of communal conflict increases faster at the middle stages of economic development, but does not decline even at the higher stages of economic development. The amount of conflict simply levels off. The polynomial curvilinear model (3-3) shows communal conflict increasing in the same way as the logarithmic model, but at higher levels of development, communal conflict is less. Developing countries would have more strife, but after a certain threshold of development is reached, the conflict declines.

Theories about "post-industrial" countries state that the polynomial curvilinear model only describes the relationship between economic development and general mass conflict. The amount of communal conflict increases for the highly developed countries. Daniel Bell, the sociologist who has developed the theory of "post-industrial"

societies most thoroughly, states that the new high levels of economic productivity require new analyses. The major conflicts or cleavages in the affluent societies are not among classes; competition for scarce economic goods has been reduced.¹⁵ The major political conflicts will be among groups that have more recently defined themselves as politically relevant (ethnic groups, women, youth, etc.):

Among the highly industrialized nations some will undoubtedly encounter greater obstacles to sustained change because of social heterogeneity or regional diversity, but all of them have attained at least the economic capability to create, in U Thant's words, "the kind and scale of resources they decide to have." Decisions to develop and invest system capabilities in particular resources, however, are essentially political acts--especially in an age of rapid technological-scientific change and ecological decay. Accordingly, political variables of post-industrial change assume particular significance in assessing the prospects of future transformation.¹⁶

Most conflicts will be in the political arenas, not at the factory gates. Groups will compete to participate in the political decision-making, to affect the allocation of political as well as economic goods. Bell states that most problems will be resolved by technicians and managers, not by increasing economic growth. He sees the political groups as more definitive; cross cutting cleavages that alleviated some of the economic conflicts (religion, as well as class, influences vote or political party allegiance as does membership in voluntary associations) will not be relevant for these political cleavages.



The groups, such as black or Chicano Americans, have defined themselves according to their primordial allegiances. The identity is not negotiable, nor are the demands mitigated by other equally important ones. In the post-industrial state, conflict will be less extensive, but perhaps more severe as compromise and negotiation are more difficult.¹⁷

Empirical studies have tested two parts of the post-industrial theory. Working with cross-national aggregated data for 108 countries, Douglas Hibbs tested the hypothesis that affluent societies have significantly less mass political violence. However, he did not find a curvilinear relationship between economic development and mass political strife.¹⁸ A study by Robert Jackman suggests one possible explanation for Hibbs' findings. Using measures of income distribution and social welfare, Jackman tested the proposition that more industrialized countries have greater social equality. Again, the results did not support the post-industrial hypotheses.¹⁹ More highly industrialized countries did not have a more equitable distribution of income or of welfare services. Therefore, as Douglas Hibbs discovered, any mass political strife, resulting from economic deprivation, would not necessarily be lower. This study can investigate a third, related hypothesis of the post-industrial theories that other social cleavages, such as communal cleavages, will

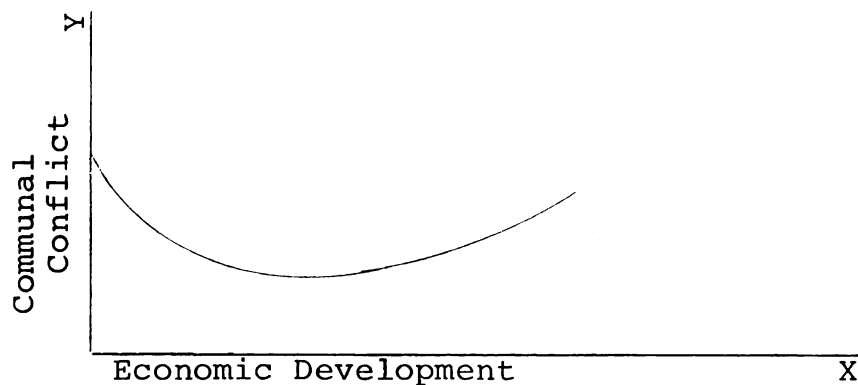


produce more strife in post-scarcity societies. As class divisions become less divisive, political conflict occurs among other social groups. The model to test the hypothesis would be a polynomial curvilinear one as in 3-3, but the signs of the parameter estimates would be reversed to show an increase in communal conflict:

$$Y = a - b_1X_1 + b_2X_4 + b_3X_2 + e$$

All the variables are the same as 3-3.

The model describes the following curve:



Tables 3-2 and 3-3 give the results for the two curvilinear models. Only the log of energy consumption is significant for communal violence. Yet the sign is in the opposite direction as hypothesized by the theories. The middle stages of development tend to reduce communal conflict, not increase it. It may be that any development reduces conflict at least a little. These findings will be further tested in the next chapters. Finally, the post industrial



TABLE 3-2

CURVILINEAR (LOGARITHMIC) REGRESSIONS ON LEVEL OF ECONOMIC DEVELOPMENT (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
ln Energy Consumption per capita, 1968	.1357	.1245	.150
Population, 1969	.8908 x 10 ⁻⁵ *	.2317 x 10 ⁻⁵	.528
Constant	.8397		
	R^2		F
	.304		8.07
b. Communal Violence			
ln Energy Consumption per capita, 1968	-.6214*	.2986	-.318
Population, 1969	.6815 x 10 ⁻⁵	.5556 x 10 ⁻⁵	.188
Constant	7.9379		
	R^2		F
	.134		2.87

^aStarred parameter estimates are more than twice their standard errors.

TABLE 3-3
CURVILINEAR (POLYNOMIAL) REGRESSIONS ON LEVEL OF ECONOMIC
DEVELOPMENT (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Energy Consumption per capita, 1968	.0002	.0003	.289
Energy Consumption per capita, 1968, squared	-.6380 x 10 ⁻⁸ *	.3053 x 10 ⁻⁷	-.084
Population, 1969	.8650 x 10 ⁻⁵	.2409 x 10 ⁻⁵	.512
Constant	1.4432		
	$\frac{R^2}{.326}$	$\frac{R^{-2}}{.243}$	$\frac{F}{5.81}$
b. Communal Violence			
Energy Consumption per capita, 1968	-.0008	.0007	-.576
Energy Consumption per capita, 1968, squared	.6725 x 10 ⁻⁷	.7627 x 10 ⁻⁷	.411
Population, 1969	.6098 x 10 ⁻⁵	.6019 x 10 ⁻⁵	.168
Constant	4.9096		
	$\frac{R^2}{.091}$	$\frac{R^{-2}}{.016}$	$\frac{F}{1.20}$

^aStarred parameter estimates are more than twice their standard errors.

theory that politically active sub-cultures are a source of political strife is not supported.

Rates of Economic Change and
Communal Conflict

If discrete levels of economic development are not consistently associated with different levels of communal conflict, the actual process of industrialization, the rate of economic change, might have an influence. Many observers of political development assume that economic growth leads to political stability. Mancur Olson disagrees with this view and maintains that rapid economic growth is a destabilizing force.²¹ Changing technology and new production require adaptation to new methods, new environments, and often to new hierarchies. Factory work makes different demands on the workers than farm work and is often alienating when the primary relationship is with a machine rather than with one's family or with the vagaries of nature. Jobs which become obsolete cause social dislocation. New expertise challenges some of the traditional authorities and beliefs; allegiance to one set of specialists changes as the means of production change. If the country moves from a basic agricultural economy to an industrialized one, the social dislocation can be severe. A rapid change in economic growth, with these social dislocations, can lead to revolution.



The empirical findings are somewhat ambivalent in defining the relationship between political instability and economic growth. Ted Gurr finds that high economic growth rates reduce violence.²² The Feierabends, in an extensive cross-national study, show that economic change does increase violence.²³ One explanation for the conflicting results may be that the impact of economic change is mediated by indicators of the political system which are intervening variables between destabilizing growth and political conflict. The effect of economic change may differ according to the type of political system.

William Kornhauser viewed economic growth as modifying the functions of organizations in the political process and creating the phenomenon of "mass politics," which involves "large numbers of people [engaging] in political activity outside of the procedures and rules instituted by a society to govern action."²⁴ The same type of social upheaval could also occur as an industrialized economy based on unlimited resources and growth tries to adjust to real resource and pollution limitations to that growth. The state of industrialization is not the distinguishing fact, but rather the rate of change. Economic transformations can occur faster than institutional and personal abilities to adjust.

Political institutions as possible intervening variable between destabilizing economic growth

and communal conflict will be pursued in Chapter VI. At this point, we can test the bivariate relationship between economic growth and the measure of communal protest and violence. The measure of the rate of economic change is based on the energy consumption per capita growth rates, 1963-72. The average rate for the period was calculated by using the following continuous growth rate formula:²⁵

$$R = 100 \times \ln (V_2/V_1) / n$$

V_1 = value (energy consumption per capita)
at first point in time

V_2 = value at second point of time

n = number of years between points

\ln = natural log

The linear relationship between rate of economic change and communal conflict is as follows:

$$3-4 \quad Y = a + b_1 X_5 + b_2 X_2 + e$$

Y = Communal conflict, 1965-1974

X_5 = Energy consumption per capita growth rate
for 1963-1972

X_2 = Population, 1969

e = Stochastic disturbance

Table 3-4 shows that the rate of economic change does not influence communal conflict. Neither of the estimates is significant. There is no effect even when the growth rates are controlled for levels of economic development. At this preliminary stage, it appears that theories relating economic development and economic growth rates to general mass political conflict do not hold for communal conflict. For this data set, there is no difference across levels of economic development in the incidence of communal strife. Greater wealth for the total society does not ameliorate conflict among communal groups.

The next section raises criticism of the indicator of economic development used in empirical research of these theories. Perhaps the null hypotheses hold only for this measure of economic development. Another measure that emphasizes less industrialization and takes into consideration the distribution of the new capital might reveal an influence on communal strife.

A Reevaluation of Economic Development:
Toward a Measure of Human Development

Gross National Production (GNP) and its proxies (e.g., energy consumption per capita) are important indicators of industrialization and of market-oriented production. In recent years, however, critics have questioned the validity of using the measure as the sole indicator of economic development. GNP may be a good indicator of economic growth, but large inferences have to be made

TABLE 3-4
LINEAR REGRESSIONS ON RATES OF ECONOMIC
CHANGE (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Energy cons. growth rates, 1963-72	-2.9268	4.6106	-.089
Population, 1969	$.8785 \times 10^{-5}$	$.2357 \times 10^{-5}$.520
Constant	1.8018		$\frac{F}{7.52}$
	$\frac{R^2}{.289}$		
b. Communal Violence			
Energy cons. growth rates, 1963-72	9.6800	11.4541	.136
Population, 1969	$.7161 \times 10^{-5}$	$.5854 \times 10^{-5}$.197
Constant	3.7122		$\frac{F}{1.00}$
	$\frac{R^2}{.051}$		

^aStarred parameter estimates are more than twice their standard errors.

to claim that greater economic production means "development" for the masses. The two most serious criticisms of the validity of GNP as a measure of "development" are the following: (1) it does not reveal the distribution of the goods produced or of the income generated from production; (2) it does not differentiate among the various kinds of goods produced. Policy choices about the type of production and distribution of goods create fundamental differences in the economic structures within nations, which, in turn, have a contrasting impact on the political system of that economy. One explanation for the non-relationship between energy consumption levels or energy growth and communal conflict is that the measures do not tap the crucial economic factors that affect communal conflict.

Critics of the use of GNP as an indicator of development state that the distribution of goods, not the gross production of them, is crucial in alleviating political conflict. The assumed chain reaction--greater production, more goods for all to consume, better quality of life--often breaks down when tested. Distribution of goods and services must be measured directly rather than assumed. The question of distribution is important for the issues raised in this research because one source of communal violence is unequal distribution of income:

In Pakistan, which experienced a healthy growth rate during the 1960's, unemployment increased, real wages in the industrial sector declined by one-third, per capita income disparity between East and West Pakistan nearly doubled, and concentrations of industrial wealth became an explosive economic and political issue. And in 1968, while the international world was still applauding Pakistan as a model of development the system exploded--not only for political reasons but for economic unrest. Brazil has recently achieved a growth rate close to 7% but continuing maldistribution of income continues to threaten the very fabric of its society.

These instances can be multiplied. There is in fact need for much more work in this field. The essential point, however, is that a high growth rate has been and is, no guarantee against worsening poverty and economic explosions.²⁶

Realization of this problem of distribution has led to major research by the International Labor Organization on income distribution in several countries: the research is testing empirically the idea that greater national wealth means greater personal income.²⁷ Even one example raises the question poignantly: in the wealthiest country of the world, over one million children are brain-damaged by malnutrition. John Goldthorpe has noted that, as the wages for manual workers have increased in the United States, the "under-class" of the poor has also grown.²⁸ Immanuel Wallerstein links this "under-class" with ethnic groups that are discriminated against:

The core countries (or at least some of them) should have some acute bouts of unemployment hitting two social groups--the ethnic "under"-classes who make up the bulk of the marginal, unskilled work force, and the highly educated, well-paid corps of technicians Discontent among the former may take the form of race riots or ethnic nationalism, or could find its outlet in neo-fascist movements.²⁹

Race riots and armed struggle between religious groups occur in even the affluent countries because the "under-classes" have a communal identity which distinguishes them from the more affluent groups.

These theories conflict with the initial findings of the seminal work on income distribution by Simon Kuznets. His studies indicate that greater economic development does lead to a more equitable distribution of income.³⁰ Individual country studies verify Kuznets' results. Gini coefficients for eight Norwegian cities for ten-year intervals between 1840 and 1960 show a clear trend toward equality during that time.³¹ Irving B. Kravis gives data for the distribution of U.S. family personal income before taxes for 1929-1958. The data show a considerable reduction of inequality in income from 1929 to 1944, with a stable period until 1958.³² These general findings change somewhat when the equality of distribution is compared across income groups. Kuznets found that there was very little difference between developed and developing countries in the share of income of the lowest 40 or 60 percent of families. In addition, the share of the lowest income groups tends to be higher in the poor countries than in the wealthy countries.³³ Consequently, although economic development tends to increase the general equality of income distribution, the "under-classes" do not increase their share of the income.

These contrasting theories can be tested with the following equations:

$$3-5 \quad Y = a + b_1 X_6 + b_2 X_2 + e$$

$$3-6 \quad Y = a + b_1 X_7 + b_2 X_2 + e$$

$$3-7 \quad Y = a + b_1 X_6 + b_2 (X_6)^2 + b_3 X_2 + e$$

Y = Communal conflict, 1964-75

X_6 = Personal income distribution, 1965

X_7 = \ln Personal income distribution, 1965

X_2 = Population, 1969

e = Stochastic disturbance

The indicator of income distribution is from a study by Felix Paukert, based on an expanded and corrected data set of personal pre-tax income collected by Irma Adelman and Cynthia Taft Morris. The measurement of concentration or income inequality is a Gini ratio.³⁴ Because the indicator is a measure of income inequality, the linear model suggests a positive relationship: as income distribution becomes less equitable, communal conflict increases. The curvilinear models test whether there is a threshold effect. After a certain level of inequality, the conflict does not increase any further. Looking at the results in Tables 3-5, 3-6, and 3-7, we again find no

TABLE 3-5
LINEAR REGRESSIONS ON PERSONAL INCOME DISTRIBUTION (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Personal Income Dist., 1965	-2.0717	2.6389	-.109
Population, 1969	.8814 x 10 ^{-5*}	.2341 x 10 ⁻⁵	.522
Constant	2.6145		
	R^2		F
	.293		7.67
b. Communal Violence			
Personal Income Dist., 1965	-5.7784	6.5692	-.141
Population, 1969	.6192 x 10 ⁻⁵	.5828 x 10 ⁻⁵	.171
Constant	6.8393		
	R^2		F
	.053		1.03

^aStarred parameter estimates are more than twice their standard errors.

TABLE 3-6
CURVILINEAR (LOGARITHMIC) REGRESSIONS ON PERSONAL INCOME
DISTRIBUTION (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
ln Personal Income			
Dist., 1965	-.9309	1.1744	-.110
Population, 1969	.8225 x 10 ⁻⁵ *	.2340 x 10 ⁻⁵	.523
Constant	.9238		
	R ²		F
	.293		7.68
b. Communal Violence			
ln Personal Income			
Dist., 1965	-2.8431	2.9173	-.156
Population, 1969	.6186 x 10 ⁻⁵	.5812 x 10 ⁻⁵	.170
Constant	1.9284		
	R ²		F
	.057		1.12

^aStarred parameter estimates are more than twice their standard errors.

TABLE 3-7
CURVILINEAR (POLYNOMIAL) REGRESSIONS ON PERSONAL INCOME
DISTRIBUTION (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Personal Income Dist., 1965	-4.1603	31.4164	-.219
Personal Income Dist., 1965, squared	2.2897	34.3168	.110
Population, 1969	.8827 x 10 ^{-5*}	.2381 x 10 ⁻⁵	.523
Constant	3.0758		
	R^2	\bar{R}^2	F
	.293	.234	4.98
b. Communal Violence			
Personal Income Dist., 1965	-88.1519	76.9892	-2.154
Personal Income Dist., 1965, squared	90.3063	84.0970	2.021
Population, 1969	.6702 x 10 ⁻⁵	.5836 x 10 ⁻⁵	.185
Constant	25.0333		
	R^2	\bar{R}^2	F
	.082	.006	1.07

^aStarred parameter estimates are more than twice their standard errors.

relationship; income distribution has no influence on communal conflict. A major reason for no relationship may be the indicator of income distribution itself. Simon Kuznets warns about the difficulty of measuring income distribution across nations:

It may not be an exaggeration to say that we deal here not with data on the distribution of income by size but with estimates or judgments by courageous and ingenious scholars relating to size distribution of income in the country of their concern.³⁵

A second criticism of GNP is that it does not claim to discriminate among the goods that are produced. GNP includes production of napalm as well as production of housing; it measures in the same way production of coca-cola as production of milk. One could quickly become involved in arguments about which goods are more beneficial to the public; the point here is that GNP does not even discriminate among extreme differences of napalm versus housing. By using GNP both are weighted equally in determining levels of economic "development." Theorists are challenging this weakness of the indicator.

Recent ideas about the "limits to growth" of an economy also raise the question about the relevance of what is being produced. Dudley Seers surmises, "It is even possible that if the data were available we would see economic growth directly associated with growing unemployment and increasing inequality; if that has indeed been the case, there has been a negative

correlation between growth and development."³⁶ He states in another work that the need is not to accelerate economic growth--"which could even be dangerous--but to change the nature of the development process."³⁷ Economic growth alone does not reflect the quality of life. If one pesticide kills more birds and is dangerous to human beings, its production has greater social costs which should be considered. Increases in the annual GNP of the United States, for instance, do not take into consideration the social costs of pollution or waste control.³⁸ Production techniques which are more expensive because of the pollution they create are weighted equally with more efficient production techniques. GNP does measure gross national production; it does not measure economic development;

The choice is not between development and underdevelopment but between qualitatively different patterns of development . . . how development is achieved is more important than what benefits are obtained by development. But developed nations have not successfully controlled the processes which bring prosperity. Development American style stresses the benefits of development to the detriment of human control over the means by which these are obtained. In a word, it is too narrow.³⁹

Alternatives to GNP have been offered by several theorists, none of which has been as widely accepted as that indicator. Social indicators of economic development have even received attention from American economists working on national accounts. Their questions arose

not so much from the choice among items to be produced but from the "hidden" costs of waste control of pollution from industrial production. GNP is inflated if the social costs of pollution and waste disposal are not subtracted from "gross" production. Dudley Seers laments that statistics on social indicators are more difficult to obtain and are subject to more error than GNP:

Still, it might be argued that national income series are at least available, whereas those on poverty, unemployment and inequality are very scrappy. This is, however, the result not so much of basic difficulties in estimation as of attitudes to development. The type of data collected reflects priorities; if governments become more interested in social problems than in the national income, statistical offices will prepare the appropriate statistics.⁴⁰ (*Italics mine.*)

Economists do not want to negate the use of GNP as an indicator; it is very useful for measuring short-run stabilization. It is an adequate indicator of industrialization. Critics of GNP want to supplement it with other indicators which consider social services. Indicators such as schooling or literacy, housing availability, health care, nutrition, and working conditions emphasize the quality of life of the people. They involve factors which consider more directly the personal benefits of economic development.

Social indicators for economic development would measure the consumption side of economic development. Depending upon which indicators were used, they could reveal the actual consumption by the population which

results from increased production. If production were concentrated in armaments in one country, but in social welfare institutions in another, their GNP's could be quite similar, but the quality of life of the people quite different. Social indicators reveal how much of the production actually fulfills basic human needs:

. . . the problem of development must be defined as a selective attack on the worst forms of poverty. Development goals must be defined in terms of progressive reduction and eventual elimination of malnutrition, disease, illiteracy, squalor, unemployment, and inequalities. We were taught to take care of our GNP as this will take care of poverty. Let us reverse this and take care of poverty as this will take care of the GNP. In other words, let us worry about the content of GNP even more than its growth.⁴¹

The use of social indicators also helps to alleviate the distribution problem of GNP. Most of the social indicators which could be used reflect, at least indirectly, the distribution of important social services. Calories per capita or proteins per capita, for example, can crudely reflect the general nutrition of the populace, for a small, wealthy elite can consume just so much food nutrients. They can use the services of just so many doctors or hospital beds. They can occupy a limited number of houses. In other words, there is a threshold over which consumption by the majority of the people of social services does increase. For higher levels of certain indicators, it has been shown that the social benefits are received by more than just an elite.⁴²

Although social indicators do help overcome some of the problems of GNP as a measure of economic development, they have their own difficulties. One was mentioned above in that the actual statistics which are collected are often not as accurate as would be desired. Measurement error would probably be higher than for GNP, but it is not necessarily more susceptible to systematic measurement error than GNP. A second difficulty refers to the problem of selection of the measures. There is less intersubjective agreement about what measures to include than about the use of GNP. Most of the time the differences are resolved by the simple fact of availability of the statistics: measures of unemployment, for instance, are usually designated as important social considerations, but most measures underestimate seriously the real numbers of unemployed, seasonally unemployed, and underemployed. Often the statistic is rejected, therefore, as inadequate, and unemployment does not become a part of the social measure. A third possible difficulty is agreement about the relative value of such variable measures. Should teachers per student be weighted as an equally important consideration as proteins per capita? Are rooms per person in a household as important for the quality of life in the tropics as in the temperate zones? It is clear that both the reliability and validity of social welfare measures can be improved. International organizations, such as the

United Nations, have done much to improve measurement reliability and validity across nations in the last few years. We must return, however, to the previous quote by Dudley Seers: until governments are willing to promote the importance of social welfare indicators as measures of the quality of life of the people, measurement error will remain a problem in the evaluation of economic development.

Given these caveats, this research has selected the indicators which seem to have the widest acceptance among economists for social welfare.⁴³ Measurements which are available but which were rejected because of unreliability do include unemployment statistics and protein consumption per capita. The five indicators which were formulated into an index are the following: physicians per million population, calories per capita per diem, teachers per thousand students, rooms in private households per thousand persons, and infant live births per thousand births. They were tabulated so they have similar ranges to give equal weight to all of the components. The human development index was then calculated by taking the mean of a country's scores on the components for which data were available. In this way one can handle missing data without having to eliminate cases for a missing value on just one or two of the five indicators. Calorie consumption per capita has missing data on two cases; one case is

missing data for teachers per one thousand pupils, and rooms per one thousand persons has thirteen missing cases out of the sixty-two. Most countries have data for all five measures and the index is equal to the sum of the five indicators divided by five. If data are available for only four components, the index is calculated by summing the four and dividing by four.

The same relationships which were tested for energy consumption per capita and communal conflict are retested for the independent variable of human development. The correlation between the energy consumption and the social indicators index is .49; they are measuring somewhat distinct aspects of economic development. In order to evaluate the proposed hypotheses with this new measure of economic development, the following equations were tested:

$$3-8 \quad Y = a + b_1X_6 + b_2X_2 + e$$

$$3-9 \quad Y = a + b_1X_7 + b_2X_2 + e$$

$$3-10 \quad Y = a + b_1X_6 - b_2(X_6)^2 + b_3X_2 + e$$

Y = Measure of communal conflict, 1965-74

X_6 = Human Development, 1968 & 69

X_2 = ln Population, 1969

X_7 = ln Human Development, 1968 & 69

e = Stochastic disturbance

The results of the regression are given in Tables 3-8, 3-9, and 3-10. It can be readily determined that the estimates are similar to those for economic development measured by energy consumption per capita: they are not significant and show no relationship with the incidence of communal conflict.

Summary and Implications

This very preliminary testing of bivariate relationships shows that economic development and equality of income distribution do not influence communal protest; they mildly affect violence. There are several possible reasons, theoretical and methodological, why economic difference across nations is not related to communal strife.

Even though economic development alleviates economic deprivation for many sectors of the society, many theorists state that it does not necessarily help the "under-classes" of the poor. The "hard core" poverty groups remain at a bare subsistence level. If this "under-class" has a distinguishable communal identity, then economic development or growth would not alleviate the conditions of the oppressed communal groups. They would continue to protest their sub-standard living conditions, no matter what the level of general development.

TABLE 3-8

LINEAR REGRESSIONS ON LEVEL OF HUMAN DEVELOPMENT (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Index of Social Indicators, 1968-69	.0001	.0005	.020
Population, 1969	.8987 x 10 ^{-5*}	.2362 x 10 ⁻⁵	.532
Constant	1.5841		
	$\frac{R^2}{.282}$	$\frac{F}{7.26}$	
b. Communal Violence			
Index of Social Indicators, 1968-69	-.0008	.0013	-.099
Population, 1969	.6271 x 10 ⁻⁵	.5865 x 10 ⁻⁵	.173
Constant	5.0099		
	$\frac{R^2}{.043}$	$\frac{F}{.82}$	

^aStarred estimates are more than twice their standard errors.

TABLE 3-9
CURVILINEAR REGRESSIONS (LOGARITHMIC) ON LEVEL OF HUMAN DEVELOPMENT (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
ln Index of Social Indicators, 1968-69	.1467	.6433	.032
Population, 1969	.9008 x 10 ⁻⁵ *	.2363 x 10 ⁻⁵	.533
Constant	.6505		
	R^2	F	
	.282	7.28	
b. Communal Violence			
ln Index of Social Indicators, 1968-69	-1.6713	1.5823	-.169
Population, 1969	.6008 x 10 ⁻⁵	.5811 x 10 ⁻⁵	.165
Constant	15.6947		
	R^2	F	
	.061	1.21	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 3-10

CURVILINEAR (POLYNOMIAL) REGRESSIONS ON LEVEL OF HUMAN DEVELOPMENT (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Index of Social Indicators, 1968-69	.0013	.0021	.351
Index of Social Indicators, 1968-69, squared	-.4327 x 10 ⁻⁶	.7153 x 10 ⁻⁶	-.342
Population, 1969	.9001 x 10 ⁻⁵ *	.2383 x 10 ⁻⁵	.533
Constant	.8352		
	R^2	F	
	.289	4.88	
b. Communal Violence			
Index of Social Indicators, 1968-69	-.0107*	.0050	-1.332
Index of Social Indicators, 1968-69, squared	.3462 x 10 ⁻⁵ *	.1689 x 10 ⁻⁵	1.273
Population, 1969	.6159 x 10 ⁻⁵	.5627 x 10 ⁻⁵	.170
Constant	11.0006		
	R^2	F	
	.143	2.00	

^aStarred parameter estimates are more than twice their standard errors.

A contrasting theoretical explanation that will be explored further is that communal conflict differs from other forms of political conflict; theories about general mass conflict do not apply. Communal strife is not primarily class or economic conflict; consequently, economic variables may not be as important in explaining differences in conflict among communal groups. The protesting groups may have more political goals than economic ones. They demand fuller participation and representation in the government. This idea will be explored in subsequent chapters as the relationships are elaborated further. The models in this chapter are incompletely specified. Intervening variables that may be suppressing existing relationships will be tested.

One statistical reason for the nonsignificant results in this chapter is probably the small sample size. With a sample size of only forty countries, there may not be enough variance in the dependent variable. This problem will also be further explored, for I will investigate these results using probit analysis in Chapter VII. As stated earlier, the dependent variables will be trichotomized into zero, some, and high communal conflict. At that point, twenty-two cases of zero conflict will also be added to the sample. Probit analysis will, therefore, help to overcome some of the problems of the small sample size and insufficient variance in the dependent variables.

A final methodological difficulty may be a measurement problem. Aggregated measures do hide nuances that are important for explaining communal conflict. Because the study is looking at sub-cultures of nations, national level measures may not be suitable to the analysis. The reason aggregated measures are used is that they are the only way to begin to analyze empirically conflict among communal groups across nations. Data on sub-cultures, especially on such politically sensitive issues as their relative deprivation, are generally unavailable. Survey analyses have been done for a few countries, but the cost and time for cross-national survey research beyond a few cases have been prohibitive; no researcher has conducted such a survey. Aggregated measures were selected, therefore, as the only possible way to begin to explore protest and violence among communal sub-cultures within nations. National levels of economic development, economic growth or income distribution may not be sensitive enough to differentiate among communal groups.

The most important restraint on definitive results is the incomplete model specification. Further elaboration with social and political variables may show that economic variables do indirectly influence the incidence of communal strife.

CHAPTER III--NOTES

¹Ted Gurr, "A Causal Model of Civil Strife: A Comparative Analysis Using New Indices," American Political Science Review 62 (December 1968): 1104.

²Ivo and Rosalind Feierabend, The Relationship of Systemic Frustration, Political Coercion, and Political Instability: A Cross-National Analysis (Beverly Hills, Calif.: Sage Publications, 1970).

³Douglas Bwy, "Political Instability in Latin America: The Cross-Cultural Test of a Causal Model," Latin American Research Review 3 (Spring 1968): 17-66.

⁴Robert Burrowes, "Theory Si, Data No!" World Politics 25 (October 1972): 139.

⁵Johan Galtung, "A Structural Theory of Aggression," Journal of Peace Research 2 (1964): 98.

⁶Douglas Hibbs, Mass Political Violence: A Cross-National Causal Analysis (New York: John Wiley, 1973), pp. 21-31.

⁷William Flanigan and Edwin Fogelman, "Patterns of Political Violence in Historical Perspective," Comparative Politics 3 (October 1970): 1-20.

⁸Ivo and Rosalind Feierabend and Betty Nesvold, "The Comparative Study of Revolution and Violence," Comparative Politics 5 (April 1972): 420.

⁹Wen-Lung Chang, "A Preliminary Theory of Political Integration," National Taiwan University Journal of Sociology 6 (April 1970): 65-86; W. C. Lee, "Political Integration in Bolivia," Southern Quarterly 10 (April 1972): 283-303.

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¹¹Alexis de Tocqueville, L'Ancien Regime (Oxford: Basil Blackwell, 1947), p. 186.

¹²Bruce Russett et al., World Handbook of Political and Social Indicators (New Haven: Yale University Press, 1964), pp. 306-07.

¹³Ivo and Rosalind Feierabend, "Social Change and Political Violence: Cross-National Patterns," in Violence in America: Historical and Comparative Perspectives, eds. Hugh Graham and Ted Gurr (New York: Signet Books, 1969), pp. 632-87.

¹⁴Frank Myers, "Social Class and Political Change in Western Industrial Systems," Comparative Politics 2 (April 1970): 411.

¹⁵Daniel Bell, The Coming of the Post Industrial Society (New York: Basic Books, 1973).

¹⁶M. Donald Hancock, Sweden: The Politics of Post-industrial Change (Hinsdale, Ill.: Dryden Press, 1972), pp. 270-72.

¹⁷Bell, Post Industrial Society, p. 377 and p. 446.

¹⁸Hibbs, Political Violence, pp. 154-95.

¹⁹Robert W. Jackman, Politics and Social Equality (New York: John Wiley, 1975), p. 57.

²⁰The simple correlations of the independent variables in the polynomial curvilinear models are over .85 for all of the indicators of economic development and income distribution. At the same time, the standard errors are relatively large. These factors are a strong indication of multicollinearity between the two independent variables. The polynomial models were tested, therefore, with only the exponential term to determine whether the estimates would be significant without the confounding effects of a collinear variable. The conclusions were the same; none of the polynomial curvilinear models was significant at the .05 level.

Because there are additional variables, in equations of 3.2 the R^2 cannot be compared directly. \bar{R}^2 adjusts the coefficient of determination for the number of degrees of freedom lost by adding extra variables to the equation

$$\bar{R}^2 = R^2 - \frac{K}{N - K - 1} (1 - R^2)$$

N = number of observations

K = number of independent variables

²¹Mancur Olson, "Rapid Growth as a Destabilizing Force," Journal of Economic History 23 (December 1963): 529-53.

²²Ted Gurr, "The Calculus of Civil Conflict," The Journal of Social Issues 28 (1972): 38.

²³Feierabend, Social Change, pp. 650-70.

²⁴William Kornhauser, The Politics of Mass Society (New York: Free Press, 1959), p. 37.

²⁵George Barclay, Techniques of Population Analysis (New York: John Wiley and Sons, 1958).

²⁶Mahbub ul Haq, "Employment in the 1970's: A New Perspective," Reprint of speech given at World Conference of Society for International Development, Ottawa, May 1971.

²⁷Felix Paukert, ed., a series of about fifteen studies on individual countries, International Labor Office, Geneva, 1973-76.

²⁸John Goldthorpe, "Social Stratification in Industrial Society," in Class, Status and Power, eds. Bendix and Lipset (New York: Free Press, 1966).

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³⁰Simon Kuznets, "Quantitative Aspects of the Economic Growth of Nations: VIII. Distribution of Income by Size," Economic Development and Cultural Change (January 1963, Part II): 1-80.

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³²Irving B. Kravis, The Structure of Income: Some Quantitative Essays (Philadelphia: University of Pennsylvania, 1962).

³³Kuznets, "Quantitative Aspects of Economic Growth," pp. 1-80.

³⁴Felix Paukert, "Income Distribution at Different Levels of Development: A Survey of Evidence," International Labour Review 108 (August-September 1973): 97-125.

³⁵Kuznets, "Quantitative Aspects of Economic Growth," p. 12.

³⁶Dudley Seers, "The Meaning of Development," Reprint of a paper given at the World Conference of the Society for International Development, New Delhi, September, 1969 (reprint by the Agricultural Development Council, September, 1970).

³⁷Dudley Seers, "Development in the Perspective of Political Economy," in The Political Economy of Growth, eds. Norman Uphoff and Warren Ilchman (Berkeley: University of California Press, 1972), p. 75.

³⁸"A great many competent scientists believe that man has the ability to rapidly terminate the earth's life support systems and this factor has central importance to development theory." See Edward Woodhouse, "Revisioning the Future of the Third World: An Ecological Perspective on Development," World Politics 25 (October 1972): 1-34.

³⁹Denis Goulet, "The United States: A Case of Antidevelopment," Motive (January 1970): 3.

⁴⁰Seers, "Meaning of Development," p. 5.

⁴¹Haq, "Employment," p. 5.

⁴²Jackman, Politics and Social Equality, pp. 21-25; Richard Titmuss, Birth, Poverty, and Wealth: A Study of Infant Mortality (London: Hamish Hamilton Medical Books, 1943), quoted in Jackman, p. 23.

⁴³See several articles in Milton Moss, ed., The Measurement of Economic and Social Performance (New York: National Bureau of Economic Research, 1973), especially the Juster, Nordhaus, and Tobin, and Ruggles articles.

CHAPTER IV
ECONOMIC DEPENDENCE AND COMMUNAL
CONFLICT

In theory the sanctity of the nation-state as the level of analysis for comparative politics has effectively been challenged. The nation-state no longer necessarily demarcates the "natural" or "correct" boundary among political attributes; respecting national boundaries in comparative analysis often obfuscates the relationships among political variables. Adam Przeworski and Henry Teune give the most thorough indictment against using one level of analysis:

"Comparative" studies are defined as those in which the influence of larger systems upon the characteristics of units within them is examined at some stage of analysis. Consequently, comparative studies involve at least two levels of analysis. In this sense not all of the studies conducted across systems or nations are comparative, but¹ all studies that are comparative are cross-systemic.

In reality, implementation of this important methodological reform has seriously lagged behind the need to study the political and economic interdependence of the world community. Some social scientists have acknowledged possible "contextual" effects on national attributes; those who work with case studies have been most careful to include

the international context as one explanatory factor of the domestic political scene. However, when political scientists have extended their levels of generalization beyond the case study, the two levels of analysis have often been isolated. Cross-national comparative studies too often ignored the international factors which may modify the national attributes they analyze. In international relations, theories have often been abstracted to high levels of generality about international systemic variables, frequently ignoring regional or individual deviations from the general theory:

Nor is it denied that international political systems, like all interdependent groups, are shaped by and are responsive to developments that occur within the units of which they are comprised. Yet these national-international linkages have never been subjected to systematic, sustained, and comparative inquiry. . . . students of international politics tend to make a series of simplifying assumptions about the international behavior of national systems, as if all such systems reacted in the same way to the same stimuli.²

The need for considering the effects of foreign nations and international organizations on domestic politics becomes most apparent in analyzing the dynamics of political change: " . . . by failing to consider the destabilizing effects of American power on other nations, the literature of comparative politics abstracts theoretical processes of modernization, development and change from contemporary reality."³ Even a casual observation of contemporary countries indicates that the international

context often imposes systematic constraints on nations; the cases in cross-national comparative analysis are not independent.

The last chapter explored the effects of various domestic economic factors on communal conflict. Yet economic development cannot be isolated from the international economic context. Trade balances, terms of trade, and private foreign investment are important economic variables that also have an impact on the national political system. Unfavorable terms of trade and large foreign investment can make a country dependent upon more wealthy nations. This economic dependence drastically limits public policy choices of the government. Further, some theorists state that economic dependence causes social dislocations that create "internal colonies." Economically, internal colonies are those populations who produce primary commodities for the metropole and are a cheap source of labor for business enterprises. However, they are also culturally distinct groups and are "excluded from participation or suffer discriminatory participation in the political, cultural, and other institutions of the dominant society."⁴

There are, therefore, possible direct linkages between economic dependence and communal conflict which can be tested empirically. The economic deprivation caused by dependence hits the culturally distinct lower classes

most severely. These communal groups, often excluded from the political institutions, will be more ready to protest or riot. In addition, economic dependence limits the national government's ability to alleviate the poverty exacerbated by discrimination. It is hypothesized that economic dependence increases communal conflict. International economic relationships may help to explain the incidence of domestic communal strife.

In this chapter we will first explore a methodological reason why the international context to nations has so often been neglected. Second, we will outline the basic ideas of dependence theory and evaluate its new concept of internal colonies as an explanation for communal conflict. Third, two specific aspects of economic dependence will be examined: the capital investment of multi-national corporations and the ratio of manufactures to nonmanufactures of exports and imports. With these two indicators, we can begin a modest attempt to investigate empirically the effects of the international economic context on one aspect of political instability: communal conflict. By extending the previous economic analysis to consideration of the position of the country in the world capitalist market, we avoid treating the nation-states as isolated entities. Historical linkages such as colonialism do not need to be ignored. Although these two economic variables do not subsume the total international context of the

sixty-two states, it is a step away from "viewing national systems as the ultimate master of all that transpires within their borders . . . and [treating the international environment] as an undifferentiated condition that operates equally upon domestic processes and institutions."⁵

Methodological Considerations of Comparative Analysis

One methodological consideration that has successfully deterred many theorists from adequately investigating the contextual effects on states, regions, cities, or individuals is called Galton's problem. It refers to the difficulty of discriminating history from functional associations in cross-cultural surveys, whether the unit of analysis be an ethnic group, culture, or whole society. Galton stated that many traits are spread by diffusion--by migration, trade, conquest. Variables which might be affected by cultural diffusion cannot, therefore, be considered independent across cases. Dispersion of structural characteristics could cause spurious correlations among other variables; correlations among economic or political variables disappear if other variables which indicate a common history or common association with outside societies are considered. The observed effects are spurious because other relevant factors are not considered. Left-out variables can seriously distort findings about the variables included in the equations. If the

similarity within a group of cases is a result of diffusion, there is only one independent observation and the number of degrees of freedom is zero. Is economic development a function of internal changes or external exposure? How often has economic growth taken place spontaneously--or is it only the result of favorable external economic conditions?

Naroll⁶ offers five solutions to Galton's problem, but they all involve comparing geographically scattered entities. Clearly, this "solution" is not plausible in the contemporary political world of satellites and transistor radios. Geographers, in fact, share the dilemma of sorting out dispersion over time and space which affect variables which are assumed to be independent:

If both the independent and dependent variables have spatial distributions in which the data within each series are correlated over space in time, how does one interpret the regression? . . . all the existing methods rely on an assumption of stationarity i.e., that the relationship between values of the processes is the same for every pair of points whose relative positions are the same. This is patently invalid.⁷

Theorists who study the diffusion of innovation have even documented the various patterns of dissemination of knowledge and information: "growth does not appear universally at any one time, but manifests itself at points or poles of growth . . . and diffuses through the economy in definite channels." Hierarchical diffusion "filters" from large to small; spread-type diffusion extends

wave-like from centers of innovation.⁸ The scales, channels, and mechanisms of spread vary and there are barriers to diffusion, but innovative ideas are exchanged.

It is clear that if anthropologists and geographers find that cultural diffusion interacts with other social characteristics then political scientists could reconsider treating the political units of analysis as isolated entities. Przeworski and Teune acknowledge this problem but are pessimistic about distinguishing the various factors:

No general solutions to these problems are readily available. If we had a chance to observe some social systems that were not exposed to external communication, the impact of diffusion could be assessed. . . . no culture can resist exposure to the "modern" world. When contact is established, only one civilization survives. Precise statistical controls could compare amounts of foreign contacts with internal transformations. But whether we will be ever able to determine whether "a society changed" or "a society was absorbed" remains doubtful.⁹

Many social questions relate a concern similar to Galton's problem: contextual effects represent the influence of group social context on individual behavior.¹⁰ If we consider the nation-state as the individual, we can adopt the terminology. Territorial or regional levels of analysis are possible if these units are used as contextual properties in accounting for variation. Contextual effects hypothesize that behavior varies with the social environment: one acts differently in a protesting mob than as a lone orator, or oil-consuming country representatives behave differently at an exclusive conference than at a mixed

conference of producers and consumers. Both Galton's problem and the contextual effects hypothesis assert that multiple levels of analysis must be considered in comparative politics. The "individual" (whether person or state) is "free" to choose, but the choices are often delimited by the social-political context.

The observed effects of interpersonal or cross-national relationships may be biased because other important influences have been omitted. Economic development may not appear to affect communal conflict, because we have failed to look at relevant variables that correlate with the cross-national relationship. Galton's problem, therefore, can be resolved if we treat it as a theoretical problem of underspecification of the model. By specifying international economic variables at the national level, we can test the impact of the international environment without violating the least-squares assumption that the error terms are uncorrelated.¹¹ Direct foreign investment and trade composition are contextual effects that may influence the domestic political system. We do not need to treat nations as segregated entities that have total control of their own domestic systems; very real international economic restraints on public policy can be empirically tested.

Dependence and Underdevelopment

Dependence theorists criticize the neo-classical model of economic development because it also minimizes consideration of the international interrelationship of economies. The critics state that the model does not adequately take into account the domestic effects of internationally integrated markets and production. In comparing cultures or political economies, many neo-classical theorists have "failed to take into account the obvious facts of the interaction of cultures in terms of dominance, reaction to it, and the variable degrees of success on either side of the encounter. There is no dynamic of inevitable orthogenetic change, particularly when any change can be thwarted by another's dominance powers."¹² William Moul has further asserted, "If political change is to be examined from a global system perspective, as it must, the relationships between the rich and poor states are primal."¹³ The legacy of colonialism by Western powers for many Third World countries is socio-economic differentiation. Economies and cultures have been integrated into the world market, but at a cost. To ignore this historical fact of interdependence is to leave out important explanatory variables for economic underdevelopment.

The well-known thesis of A. Gunder Frank that Latin American countries are not undeveloped, but are

underdeveloped by intervention of foreign economic powers has been explored by many others in different Third World settings.¹⁴ The dependence and underdevelopment theories remain rudimentary, however. Many of the theoretical relationships have not been tested empirically and nuances resulting from historical and natural resource endowment differences have not been fully developed. For instance, it is not clear if a country is underdeveloped if it has just one of the characteristics which define underdevelopment. Sometimes the concept seems to be simply a synonym for poverty. The theory is clearly in its first stages of articulation and refinement; yet the criticism of classical economics may be valid even if alternative theories are not yet fully specified.

In order to understand the effect that multinational corporations or trade patterns might have on political conflict among subcultures, it is first necessary to outline briefly the dependence and underdevelopment theory. The concept of internal colonies will be examined more closely, for it is the theoretical link between economic dependence and communal violence. Exploring empirically the impact of economic dependence on the integration of communal groups will help to refine the theory of dependence and underdevelopment.

Criticism of the exhortations of the developed countries to the developing countries to catch up and

promote industrial growth, increase agricultural production, and train skilled personnel stems from a rejection of the assumptions behind the advice. Several analysts have shown that the Third World countries have developed faster during historical periods (e.g. World War I and II) when the countries were relatively isolated from major economic powers.¹⁵ The theorists reject the idea that the developing countries today must follow the same steps of development that the Western economies did or that interaction with Western technology and capital is inherently good. The "stages of development" theory ignores the history of colonialism of the developing countries which most Western powers did not experience; it ignores the very different starting points of countries which developed over the last two hundred years versus those still underdeveloped today. Many Third World theorists have shown the cost of colonialism was quite high.¹⁶ Historically, net capital transfers have been in the direction of the developed countries, not toward the poorer countries. The dependence model of economic development, therefore, is not a continuum but an historical model; it does not accept the diffusion theory of development from industrialized to nonindustrialized economies, but points out the history of extraction of capital from the latter to the former. It is not a consensus model but a conflict model.

The most frequently quoted definition of dependence is that of Theotonio dos Santos:

[Dependency is] an historical condition which shapes a certain structure of the world economy such that it favors some countries to the detriment of others and limits the development possibilities of the [sub-ordinate] economies, a situation in which the economy of a certain group of countries is conditioned by the development and expansion of another economy, to which their own [economy] is subjected.¹⁷

This definition underlines the interaction of economies. For instance, new investment in the developing countries depends on foreign exchange for manufactures and raw materials which must be imported into the developing economy. But the availability of foreign exchange is limited by the balance of payments of the dependent country: exports must be increased to bring in the needed capital.

The need to protect the export sector to bring in foreign currency in order to buy imports results in a distortion of the economy. The policy choice is often to protect the traditional export sector, instead of developing a new one. Primary products, mineral or agriculture, remain the principal exports. Often the exports are dominated by one or two products (e.g. Mozambique has a monoculture of cashews; copper provides over 60 percent of the Zairean and Zambian foreign exchange). Second, continuing with the traditional sectors also tends to perpetuate the old production relations and the oligarchy. Even where

colonial settlers have left, very few countries have succeeded in redistributing the land and wealth more equitably. The new owners of the means of production are nationals, but are still dependent on the foreign economic linkages. Third, any new processing industries may also be dominated by foreign capital. Foreign corporations provide the new technology and machinery, but then export the profits. Responses to these limitations have been gradual nationalization and restrictions on the foreign control of marketing the exported products.

Industrial development that depends upon the export sector is, therefore, conditioned by fluctuations in the balance of payments. Prices for primary products have varied considerably in the last decade. With an economy dependent upon monoculture or one or two minerals, these fluctuations had severe effects on the total economy. Later in this chapter the trade composition of the countries will be examined to see if dependence on non-processed goods in the exports does affect one form of internal political stability: communal strife.

If nations desire to diversify their export sector and to industrialize, they are often confronted with the problem of obtaining the technology. Multi-national corporations do bring in advanced technology, but major controversy rages over the relative cost and benefit of the technology to the developing countries. Multi-national

corporations are a major actor in the dependence model of development. We will examine the debate over their influence on the host country later in the chapter.

Internal Colonies: Ethnic or
Racial Underclasses

Because of the dualism of developing economies--traditional versus modern sectors, John Kautsky points out that new concepts are needed to understand their modernization process.¹⁸ The dependence theorists do offer new perspectives on "dualism"; the "traditional" sector does not lag behind the "modern" sector but is instead underdeveloped by it. Dualism is not the result of inadequate integration of the "hinterland," but actually occurs when the modern sector does penetrate the agricultural sectors and removes the surplus value to industry instead of reinvesting it to increase food production.¹⁹ Land is consolidated into more efficient tracts; cash crops are emphasized. (Latin American economists have shown that cash crops can be such a priority that local subsistence needs are not met. Malnutrition increases.) Labor is pushed off the land because market prices, transportation, marketing facilities, etc. favor the medium-sized or large farms. The "Green Revolution," for example, has benefited only larger land owners because of the extensive irrigation and intensive fertilizing that must be done at a very high price. Smaller farmers cannot compete.²⁰

Unemployed agricultural labor leaves for the cities. Yet jobs are often not found there either. Capital-intensive production creates few jobs; furthermore, much processing is still done in the industrialized countries. For those who do work, there are large wage differentials, given the context of a large local cheap personpower market combined with the need for technical skills in capital-intensive production.

Some groups and classes, therefore, benefit more from the linkages with the industrialized sector and with the multi-national corporations; the skilled and trained managers and technicians find their livelihood is involved with the growth of certain industrial sectors and such growth depends on technology and capital from the developed countries. The wage differentials and inequitability in ownership maintain an elite whose living styles and tastes divert capital to payment for luxury items and consumer goods not accessible to most. A United Nations study on multi-national corporations reports:

The structure of industries . . . may be so lopsided as to hinder sustained development. This is most glaring in cases where activity is highly concentrated in those sectors, such as luxury articles catering for the few, which have limited prospects of interaction with the rest of the economy. Indeed, not enough has been done either by the governments or the multi-national corporations themselves to channel corporate production towards satisfying basic consumption needs in nutrition, health and housing.²¹

According to dependence theory, therefore, the modern sector underdevelops the traditional sector by removing the surplus value created there. The relative development and affluence of the industrialized areas result from the exploitation of the traditional agricultural sectors. The dependence theorists have formulated a new concept to describe the social group that is the most severely afflicted by this exploitation:

Economically, internal colonies can be conceptualized as those populations who produce primary commodities for markets in metropolitan centers, who constitute a source of cheap labor for enterprises controlled from the metropolitan centers. . . . an internal colony constitutes a society within a society based upon racial, linguistic, and/or market cultural differences as well as differences of social class. . . . Defined in this way, internal colonies can exist on a geographical basis or on a racial or cultural basis in ethnically or culturally dual or plural societies.²² (*Italics mine.*)

Those who are a part of the internal colonies are often excluded from participation in the political system, either because of inadequate education or transient employment. They are the unskilled, marginal workers who provide cheap labor either on the land or in the factories. Their labor is often unorganized; they are subject to the administrative control of the dominant class. Because of their extreme vulnerability to economic fluctuations, they are more easily controlled.

Internal colonies describe the extreme conditions of those who are in the lower classes and who are

ethnically or culturally distinct. There have been many studies, in both industrialized and nonindustrialized countries, which show that racial divisions divide classes further. Race adds another dimension to class divisions. Writing in 1967 about the U.S., Peter Blau and Otis Duncan were surprised to find that "nonwhites are more likely to be downwardly mobile and less likely to be upwardly mobile than whites" despite their lower socio-economic origins which suggested the only direction to go was up.²³ Social divisions of labor often are as important as the technical divisions between skilled and unskilled. As Dale Johnson states:

The population of internal colonies is subject to discriminatory practices over and above those characteristic of relations between dominant classes and underclasses. Institutionalized discriminatory practices create rationalizations of a normative character that place sanction upon behavior contrary to the norms on the part of either the colonized or members₂₄ of the dominant society. Racist ideologies evolve.

The dependence theorists, therefore, offer a different perspective on the increasing gap between rich and poor nations. The economic development model depicted by classical economists falls short of explaining the perpetuation of economic underdevelopment. The dependence theorists have begun to formulate alternative hypotheses for an alternative model. The economic model of dependence offers possible clues for the explanation of mass communal strife: structural imbalances of the economy and inequitable distribution of wealth.

Many dependence economies have ethnic or communal pariah populations that have many economic and political grievances against the system. With institutional political channels closed to them, they are a potential source for mass political protests and strikes. Finally, an economy dependent on foreign enterprises or on favorable trade for single commodities has limited national political choices; the government cannot always meet the needs of the most deprived. Foreign influence can preclude several policy alternatives. Expression of communal grievances against the government, therefore, can be extensive and disruptive.

The next sections offer an empirical analysis of two aspects of the dependence model. Specifically, I shall focus on the role of multi-national corporations and the patterns of international trade in generating communal conflict.

Economic Dependence and Multi-National Corporations

One of the major international actors today is the multi-national corporation. Economists have for several years been discussing their relative power and influence in the international economic community. However, not much work has been done on the influence of multi-national corporations on either the host government or the government of origin of the corporation. In the study of international relations multi-national corporations

are often discussed as an afterthought as a minor participant in the international community. Much time is still spent on the political entities of individual nation-states, international organizations, and regional associations of states, to the exclusion of economic actors. The size and growth of multi-national corporations as well as their strongly centralized organizational structure suggest that political scientists should take them more seriously as participants in the political decision-making, not in just the economic realm. Growth of multi-national corporations has easily surpassed growth rates of GNP in nation-states; as their size increases so does their concentration of economic power:

From 1950-1971 direct investment by multi-national firms in overseas plants and equipment increased almost sevenfold, from \$11.8 billion to over \$78 billion. . . . Applying the restrictive criteria that multi-nationals are those firms with approximately 25 percent or more of sales, earnings, assets or employees abroad, business analysts estimate that only eighty corporations will account for 90 percent of world production and services by the year 2000.²⁵

Those statistics give the concentration of economic power for the future. By the 1970s, however, the size and wealth of multi-national corporations were already challenging the economic power of the states. Their influence extends to the "political" choices of the allocation of public goods and the quality of life of the citizens:

In 1971, General Motors, one of the giants of them all, had gross annual sales of twenty-eight billion dollars; Switzerland's gross national product was

twenty-six billion. By making ordinary business decisions, the managers of firms like G.M., I.B.M., General Electric, and Exxon now have more power than most sovereign governments to determine where people will live; what work they will do, if any; what they will eat, drink and wear; what sorts of knowledge schools and universities will encourage; and what kind of society their children will inherit.²⁶

This concentration of capital is even more notable if one takes seriously the hierarchical command structure of the corporations. Even with "semi-autonomous" subsidiaries in other countries, decisions about the allocation of revenue for investment or research or salaries is made by the home country board of directors. Coordination of activities for transfer-pricing, export and import of goods and capital among subsidiaries, and investment in certain banks is precisely the reason why some of the corporations have gone overseas. These decisions remain in the home office. Indeed, for most corporations it is a misnomer to call them "multi-national." They have nationals from the countries of their subsidiaries only in some middle-level management positions; very few ever reach top level management, and only one or two exceptions have reached the board room:

It is well-known that ethnic homogeneity increases as one goes up the corporate hierarchy; the lower levels contain a wide variety of nationalities, the higher levels become successively purer and purer. . . . the higher up one goes in the decision-making process, the more important mutual understanding and ease of communications become; a common background becomes all-important.²⁷

Modelski has found that "in a group of 81 chief executives of the world's largest companies in 1965, there was none whose nationality differed from the nationality of his company."²⁸ In a different study of the 150 largest American industrials only 1 percent of the senior executives at headquarters are non-American even though the income generated overseas is about 20 percent of the total.²⁹ The corporations use local nationals in most aspects of production, but the top management decisions which orchestrate the overall production remain in the hands of the nationality of the home country.

This control of the important corporate financial decisions is one example of foreign control over national economies. These executives can and do make decisions to shift production from one country to another. Capital is more mobile than labor and can be reinvested to avoid what are perceived to be discriminatory laws against growth and profit. Mobility of capital also means that the corporations can transfer capital to the area where it can be the most productive or most efficient. The corporations do not have the development of social services or of new, badly needed industries in mind for a particular country. The finance capital generated by the natural wealth of many underdeveloped countries has not been used to develop local factories, schools etc. for generating more wealth, but has been siphoned off to the developed world. The

choice of the corporations has been to finance amenities and industrial growth in the developed countries. The mobility of capital has meant, historically, a net outflow from the developing to the industrialized countries:

U.S. Department of Commerce figures show that for corporations investing in the Third World between 1950 and 1965 the amount of profit leaving these countries was 264 percent of the capital inflow. This is in contrast to Europe and other developed countries, where U.S. multinationals have focused most of their foreign investment and where the profit outflow was 74 percent of the capital inflow.³⁰

This choice of relocation has also been used to threaten governments and to restrict the choice of political decision-makers. If taxes or statutory restrictions become too great, the corporation warns that it can find better conditions elsewhere. Of course, the mobility of companies is not infinite, especially if raw materials are their primary need; "mobility" could be limited to one or two countries. Yet the growth of multi-nationals, their concentration of wealth, their centralized and hierarchical decision-making, their presence in many countries at once can give them a political advantage when negotiating with a poorer nation, restricted by geographical boundaries and the demands of a mobilized population. Furthermore, the one demand which corporations must fulfill is profit; among nations economic growth is only one of many fundamental demands made upon the system. The issue is one of control. "Increasing numbers of a poor country's economic

actors become responsible to superiors . . . who are citizens of other countries. If a similar chain of command existed in public organizations, the poor country would be deemed a colony."³¹ (Italics mine.)

The possible conflict of public policy versus private profits is even apparent in the relationships between the multi-national corporation and its home government. Multi-nationals desire to avoid restraints on profit by the home government as well as by the host governments. The head of Dow Chemical Company, Carl A. Gerstacker, made headlines when he declared:

I have long dreamed of buying an island owned by no nation, and of establishing the world headquarters of the Dow company on the truly neutral ground of such an island, beholden to no nation or society.

If we were located on such truly neutral ground we could then operate in the United States as U.S. citizens, in Japan as Japanese citizens and in Brazil as Brazilians rather than being governed in prime by the laws of the United States . . . we could even pay the natives handsomely to move elsewhere.³²

The United States government is often concerned with the possible conflict of interest between U.S. foreign policy and corporate profit maximization. Britain could not sell aircraft to the People's Republic of China because the American government prevented the American parent company from sending indispensable electronic components to its subsidiary.³³ Gulf Oil stopped production in Angola only after the State Department found Gulf royalties and taxes were going to the liberation group (M.P.L.A.) that was

protesting the Cabinda oil enclave, but was also declared the "enemy" by the Ford administration. The conflict of public policy versus private profits is further illustrated by an oil company executive who was asked how the company dealt with the argument advanced by some members of Congress that as American corporations the companies should see to it that this country gets adequate oil supplies, by diverting non-Arab oil from other markets if necessary. "We are not an American company," the executive replied. "We are a multi-national company." When asked if he would so testify at a Ways and Means Committee hearing on the repeal of the foreign tax credit, he said he might put it differently in such a setting.³⁴

One of the major contributions of this study will be to propose hypotheses about the political influence of multi-national corporations in host countries. We will examine the influence of the direct foreign investment on various aspects of the political system in Chapter VI. We can test empirically these propositions that multi-national corporations have control over political processes and decisions. Very little work has been done in this area although the discussion of the economic power of the corporations proliferates.

More immediately, we will test the impact of multi-national corporations on communal conflict. Several theorists have stated that the recent growth of the

multi-national corporations has created another category of variables which should be considered:

Another class of variables that certainly has causal significance involves the extent to which nations suffer political penetration and economic exploitation by imperialist or "neocolonialist" powers. Rebellion and protest against foreign economic and political influence or control, although relatively infrequent, provide some of the most dramatic examples of domestic violence.³⁵

Domestic violence can be, more specifically, communal violence. The social dislocations caused by economic dependence may exacerbate existing inequities among sub-national groups. As the concept of the internal colonies states, some communal groups will be more adversely affected by economic dependence. Multi-national corporations, as one expression of dependence linkages, could promote competition among communal groups and increase communal conflict:

As it eliminates the anarchy of international markets and brings about a more extensive and productive international division of labor, it releases great sources of latent energy. . . . But the multi-national corporation is still a private institution with a partial outlook. . . . It creates hierarchy rather than equality, and it spreads its benefits unequally.³⁶ (Italics mine.)

Controversy continues over the impact of multi-national corporations. We will discuss briefly the more salient issues and then test empirically whether multi-nationals affect communal strife.

The major contribution of multi-national corporations often quoted is the infusion of capital into the host country. The developing nations are underdeveloped

because they do not have enough capital. Therefore, capital investment supplies the most fundamental need of the countries. Initial investment often runs into the millions of dollars and the corporations are quick to explain the multiplier effect from the spin-off of these sums. The problem with this argument is that the source and kind of capital are often not considered. Initial investment can be substantial, but then further growth is usually financed by the production within the host country. In Latin America, it has been estimated that about 78 percent of the capital investment from "multi-nationals" originates in Latin America.³⁷ American and European corporations use capital from previous investments to expand their production; new investments do not require a capital transfer from the home country. Latin Americans finance most of the investment decisions of the foreign corporations.

The multi-national corporations bring to the developing countries goods and services that are often not an economic priority of the host country. The governments could refuse, but the conclusion is usually that it is better to have some investment in an industry of peripheral interest than to have none at all. For instance, the televisions and space equipment produced by the American electronic industry in the Far East are not used by Asians but are exported to the industrialized countries. Investment

on the African continent is still mainly in mineral extraction which is exported unprocessed to the industrialized countries. "Development" could occur more quickly if production growth were in goods that were needed by these countries:

On the whole, the corporations have not been inventive about tailoring technology to the needs of the Third World. A principal reason, of course, is that they define these needs in terms of American and European criteria--a heavy emphasis on individual consumption, private cars, individual refrigerators, expensive medical technology. Another reason is that there are much greater possibilities for quick return if a company attempts to create a market for private-consumption technology in the nonindustrialized world than if it takes the risk of experimenting with new technologies specifically designed for development needs.³⁸

In addition, multi-national corporations' production is often capital intensive. It does not create the jobs necessary for countries with many unemployed and underemployed citizens. The technology is exported directly from the industrialized countries without consideration for the domestic economic or political needs. Capital intensive equipment usually requires more skilled technicians; it does not provide the employment at the levels for which the citizens are trained. Lower-skilled labor lose jobs which would be available if the technology were labor intensive. James O'Connor has pointed out that while industrial production increased 16.5 percent, employment actually declined 10 percent in Latin American countries from 1950-1960.³⁹ A few jobs are created for

highly skilled personnel, but such personnel are never the mass base of the labor force who must find jobs for simple survival. Barnett and Muller deny that multinational corporations will solve the unemployment problem which is a political problem for many countries at all levels of development:

The corporate managers claim that they hold the key to the unemployment problem, and there is no doubt that global corporations do employ an impressive number of people. But the statistics, inadequate as they are, demonstrate that the global corporations have not even begun to solve the global unemployment problem, and are in fact, making it worse. . . . it is possible to document the job-destroying impact of their technology. Even the construction industry, once an important source of employment for poor countries at a stage of rapid industrialization, will no longer absorb as many new workers as it once did, because cranes, bulldozers, and other labor-saving machinery are being substituted for manual labor.⁴⁰

The growth potential of national industries is limited. Many developing countries still have the major foreign capital invested in the mining sector with little creation of processing plants. The foreign investors extract the minerals; little or no processing is done in the country of origin. The mineral is transported quickly to the coast for exportation and processing in the home countries. Bauxite of Jamaica and Guyana is exported by Reynolds Metals to the United States to be manufactured into alumina. It is then re-exported to aluminum smelting plants in Venezuela although Guyana borders on Venezuela. Bauxite mined by Reynolds in Guyana and Jamaica has not

so far been available to their existing processing plants because this capacity is owned by another company.⁴¹ This export of raw material minimizes the spin-off effect which would result by creating new processing industries. For instance, the number of steps and parts which go into a complicated electronic component creates more jobs than the extraction of coal. Even production of machines (how many "automotive suppliers" depend on the automobile industry in the United States?) have a much larger spin-off in terms of creating new jobs and more capital than simple extraction of minerals and their direct transportation to the coast.

The dependence theories seem to suggest that the effect of multi-national corporations on communal strife is linear with the presence of multi-nationals causing conflict as the amount of investment increases; as investment increases, the political economy becomes more dependent. Indicators of the pervasive power of multi-national corporations are difficult to obtain. The major problem is that the corporations are private and much of their records do not need to be revealed: detailed facts about an overseas subsidiary, for instance, do not have to be made public unless the parent corporation decides to float a bond on the subsidiary. Before the bond issue the Security and Exchange Commission requires specific information about the subsidiary and makes the information public

for a short period of time, usually ninety days. After that time period, the information is withdrawn and is no longer available to the public. The reporting required of the corporations by the S.E.C. for stockholders allows the directors to aggregate data for the whole conglomerate. It is impossible to sort out the various transfer payments, the branches which are most profitable, etc. Many corporations have subsidiaries which own subsidiaries and when information is requested, the parent company defers to the first subsidiary as the responsible one; the first subsidiary states that the parent company does not permit such information to be released. In short, for most information about multi-nationals, the outsider learns only what the corporations want to reveal. The measure used in this study is from the Organization for Economic Cooperation and Development (OECD). This international organization has estimated the dollar amount of foreign direct investment by the European countries and North America in the developing countries (Greece and Spain included as developing countries).⁴² The measure, therefore, only counts multi-national corporate investment in developing countries; it is an indicator for a subset of the sample. There are missing data on seventeen cases of the sixty-two. These "missing data," however, allow us to look directly at the dependence theory hypotheses, namely, that the investment of corporations is most disruptive to the Third World.

The dependence theory seems to suggest that there is a linear relationship between indicators of economic dependence and communal strife. Multi-national corporations cause domestic communal conflict. I chose, however, to test also for curvilinear models, for there could be a threshold effect where higher levels of investment do not cause more strife. The models, therefore, are the same as those tested for economic development.

$$4-1 \quad Y = a + b_1 X_{10} + b_2 X_2 + e$$

$$4-2 \quad Y = a + b_1 X_{11} + b_2 X_2 + e$$

$$4-3 \quad Y = a + b_1 (X_{10})^2 + b_2 X_2 + e$$

Y = Communal Conflict, 1965-74

X_{10} = Direct Foreign Investment, 1965

X_{11} = ln Direct Foreign Investment, 1965

X_2 = Population, 1969

e = Stochastic disturbance

Because of the problem of multi-collinearity for the polynomial model between X_{10} and $(X_{10})^2$, this curvilinear model was estimated with only the exponential term for equation 4-3. Multi-collinearity was apparent from the high simple correlation of the two terms ($r = .922$) and from very high standard errors for the estimates when

the two variables were present together. Multi-collinearity between independent variables would make the estimators vary considerably from one sample to another. Although the estimates are still the best, unbiased estimates, the large standard errors mean that a number of different combinations of regression coefficients would give almost equally good fitting to the data. The precision of the estimates is low.

Tables 4-1 through 4-3 show that there is no influence of direct foreign investment on communal conflict for this small sample of thirty-one cases. None of the parameter estimates is significant, and the R^2 are small. The same models were tested for foreign investment as a ratio to energy consumption per capita with the idea that the relative importance of foreign investment depends on the gross production of the host economy. None of the results was significant. Methodological reasons for non-significant findings would mainly involve problems of measurement. Obviously, it would be better to test these relationships with a larger sample. Second, there may well be nonrandom measurement error, for collection of information about foreign investment is very political and very difficult. Nonrandom measurement error could alter the results in almost any way; it could cause us to accept incorrectly the null hypothesis. However, it could also

TABLE 4-1
LINEAR REGRESSIONS ON DIRECT FOREIGN INVESTMENTS (N=31)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Investment, 1967	$-.3983 \times 10^{-3}$	$.2674 \times 10^{-3}$	-.233
Population, 1969	$.9064 \times 10^{-5}$ *	$.2160 \times 10^{-5}$.657
Constant	1.6855		
	R^2	F	
	.386	8.81	
b. Communal Violence			
Investment, 1967	$-.1265 \times 10^{-2}$	$.8322 \times 10^{-3}$	-.288
Population, 1969	$.9356 \times 10^{-5}$	$.6721 \times 10^{-5}$.263
Constant	5.1384		
	R^2	F	
	.103	1.61	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 4-2
CURVILINEAR (LOGARITHMIC) REGRESSIONS ON DIRECT FOREIGN INVESTMENTS (N=31)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
ln Investment, 1967	-.1249	.1487	-.138
Population, 1969	.8728 x 10 ^{-5*}	.2260 x 10 ⁻⁵	.633
Constant	2.1495		
	R^2		F
	.354		7.67
b. Communal Violence			
ln Investment, 1967	-.2825	.4662	-.121
Population, 1969	.7641 x 10 ⁻⁵	.7086 x 10 ⁻⁵	.215
Constant	6.0328		
	R^2		F
	.041		.605

^aStarred parameter estimates are more than twice their standard errors.

TABLE 4-3
CURVILINEAR (POLYNOMIAL) REGRESSIONS ON DIRECT FOREIGN INVESTMENTS (N=31)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Investment, 1967, squared	$-.1082 \times 10^{-6}$	$.8003 \times 10^{-7}$	$-.206$
Population	$.8586 \times 10^{-5*}$	$.2098 \times 10^{-5}$	$.622$
Constant	1.5887		
	R^2	F	
	$.378$	8.52	
b. Communal Violence			
Investment, 1967, squared	$-.4386 \times 10^{-6}$	$.2438 \times 10^{-6}$	$-.324$
Population	$.8337 \times 10^{-5}$	$.6391 \times 10^{-5}$	$.235$
Constant	4.8958		
	R^2	F	
	$.130$	2.08	

^aStarred parameter estimates are more than twice their standard errors.

not change our findings here; we would need to know the variance in order to sort out the effects of nonrandom measurement error.

A possible theoretical reason for no relationship with the dependent variable is that some political variables are acting like suppressor variables. It may be, for instance, that multi-national corporations increase the centralization of the national government which in turn reduces communal conflict. The intervening variable of centralization would be suppressing the indirect influence of multi-nationals on communal conflict. We will discuss the relationship of the multi-national corporations on the political system in Chapter VI.

The International Commodity Exchange: Trade Dependency

In addition to direct private capital investment from foreign economies, a second fundamental sector of international economic relationships is trade. The Ricardian theory of comparative advantage describes commodity exchanges for which countries specialize and produce goods attaining higher prices relative to the labor and material costs. According to the theory, everyone is better off. Samir Amin, in his seminal work Accumulation on a World Scale, shows that the neoclassical Ricardian theory cannot explain (1) the more rapid development of trade among industrialized countries in

which the distribution of comparative productivities is similar and (2) the form of specialization assumed by periphery countries by which they supply raw materials mined by modern private enterprises with high productivity.⁴³ The Ricardian theory is not false in describing exchange relations at a given moment, but it is impotent in trying to allow for improvements in productivity. It has only a restricted validity and cannot explain major trade relations in which comparative advantage does not work.

Amin points out that the problem is not one of exports from backward sectors from the developing economies which cannot compete in terms of efficiency, technology, or skilled labor. It is the developed sectors of the Third World economies which provide the most trade: "Out of an overall total of exports from the underdeveloped countries of \$35 billion (1966), the ultramodern capitalist sector (oil, mining and primary processing of minerals, modern plantations--like those of United Fruit in Central America or Unilever in Africa and Malaya, etc.) provides at least three-quarters, or \$26 billion."⁴⁴ If these products were produced in advanced economies with the same technology and a rate of profit around 15 percent, with the same rate of surplus, their value would be \$34 billion. "The transfer of value from the periphery to the center under this heading alone is considerable, since it would amount to \$8 billion, at a realistic estimate."⁴⁵

A major difference which reduces the comparative advantage for the developing country is the extremely low remuneration to labor which is accompanied by lower productivity:

An African peasant obtains, for example, in return for 100 days of very hard work every year, a supply of imported manufactures whose value amounts to barely 20 days of simple labor of a European skilled worker. If this peasant produced with modern European techniques, he would work 300 days a year and obtain a product six times larger in quantity: his productivity per hour would at best be doubled. The exchange is thus very unequal in this case: the value of these products if the reward of labor were proportionate to its productivity, would not be of the order of \$9 billion (which is what it is), but 2.5 times as much, that is around \$23 billion, and the transfer of value from the periphery to the center would be about \$14 billion.⁴⁶

There is the problem, therefore, of both lower productivity of labor and of lower rewards to labor even for labor with equivalent productivity. When the productivity is not the same as more developed economies the disparity is even greater. If exports from the periphery are about \$35 billion total, including both the modern and underdeveloped sectors, if the rewards of labor were the same as those in the center, the value of the exports would be around \$57 billion. As Amin summarizes,

The hidden transfers of value from the periphery to the center, due to the mechanisms of unequal exchange, are of the order of \$22 billion--twice the amount of the "aid," both public and private, received by the periphery. In this connection, it is certainly not exaggerated to talk of the plundering of the Third World.⁴⁷

Keynes' answer to short-term fluctuations assumes the unemployment of capital and of some human resources. For the Third World, this remedy is not appropriate; there are little or no unused capital resources. Capital created in the Third World economies is exported both by the multinationals, as discussed earlier, and by the unequal trade relations. This net export of capital also reduces the multiplier effect of new capital in the economy. Capital exported abroad cannot be used for reinvestment and new capital accumulation for further reinvestment and accumulation etc.

The unequal exchange between the developed and developing countries is more important if one considers that the average propensity to import is higher in the developing countries. The commodity production of the developing countries reflects the demands and needs of the outside world. The structure of commodity production is not "autocentric" but is dependent on the international commodity market. No economy is totally "autocentric," but the economic production structures of the developed countries generally respond to local needs. In the Third World, local production reflects the position of the country in the international exchange market. "Whereas the advanced countries do about 80 percent of their trade among themselves and only 20 percent with the underdeveloped countries, the countries of the periphery do 80 percent of their trade with the advanced countries."⁴⁸



The comparative disadvantage of the Third World countries is also not a temporary, transitional phenomenon. Taking 1928 as 100, the import capacity per capita of the countries of Latin America, excluding Venezuela was in 1955 down to 37 and in 1965 down to 32.⁴⁹ For the countries of UDEAC (the economic union of ex-French Central Africa), the worsening terms of trade caused a loss of 174 billion C.F.A. francs between 1955 and 1967, or 20 percent of the value of their exports during that period.⁵⁰ Jalée estimates a worsening of the terms of trade for the Third World of 19 percent between 1954 and 1965.⁵¹ As recent as 1976 the Organization for Economic Cooperation and Development reported a further deterioration in the terms of trade for the developing countries:

. . . the market prices of principal commodity exports of developing countries started to decline rather substantially during 1974, especially in the second half of the year. Recession in the OECD area thus "compounded the effects of higher import prices by cutting deeply into the export earnings of most developing countries as the terms of trade deteriorated and the volume of trade declined." Prospects for 1975 are grim because trade with industrial countries "deteriorated sharply."⁵²

It is clear, therefore, that for most developing countries the trade sector is very important for the whole economy, yet it is in trade relations that the countries experience a major disparity between what they must buy and what they can produce. In this study one aspect of the trade relations will be tested empirically.

Johan Galtung has proposed that one can empirically investigate the relative disadvantage of countries in trade by using a trade composition index. It is the ratio of unprocessed to processed goods for both imports and exports. The index reveals whether the country relies mainly on primary products for exports and imports mainly manufactured goods.⁵³ In this way, it would designate which countries are most subject to the conditions discussed above: unequal exchange, the net flow of capital away from the home country, and the resulting dependence of the economy. These countries would be most vulnerable to fluctuations in world market prices.

As mentioned with the multi-national corporations, a dependence relationship could affect domestic communal conflict. To repeat briefly, dependence relations do benefit a small commercial elite; inequality among groups is more severe. The commercial crop farmers can profit from growing one crop and then try to diversify; smaller farmers do not have that flexibility. The increase in inequality which dependence fosters, therefore, can lead to political conflict. The dislocating effects of short-run fluctuations also can exacerbate conflict among groups which are trying to survive. The groups which could be affected the most severely are communal groups which are also lower class. They frequently make up a large part of the "underclass" of the poor and even can be identified

as "internal colonies." In short, there are reasons for hypothesizing that international dependence relations can exacerbate communal conflict.

The trade composition index is defined as follows:

$$TCI = \frac{(a+d) - (b+c)}{a + b + c + d}$$

a = value of raw materials imported

b = value of raw materials exported

c = value of manufactured goods
imported

d = value of manufactured goods
exported

High, positive scores indicate countries which export mainly manufactured goods and import primarily raw materials. Low, negative scores designate the economies whose trade patterns reflect a dependence relationship: exports are raw materials and imports are mainly manufactured goods.

To consider the impact of trade composition on communal conflict, the following equations were again estimated:

$$4-4 \quad Y = a + b_1 X_{12} + b_2 X_2 + e$$

$$4-5 \quad Y = a + b_1 X_{13} + b_2 X_2 + e$$

$$4-6 \quad Y = a + b_1 (X_{12})^2 + b_2 X_2 + e$$

Y = Communal conflict, 1965-74

X_{12} = Trade Composition Index, 1970

X_{13} = \ln Trade Composition Index, 1970

X_2 = Population

e = Stochastic disturbance

Although the dependence theory suggests a linear relationship between trade composition and communal conflict, Tables 4-4 - 4-6 show that the only significant relationship is the logarithmic curvilinear one for communal violence. For Table 4-6, the simplified polynomial model was specified because the correlation between trade composition (X_{12}) and trade composition squared (X_{12})² was .85, and the standard errors were quite high. With both variables included, multicollinearity obviously exists, and it reduces the precision of the parameter estimates. Table 4-5 shows the parameter estimate for the logarithmic model to be negative which modestly affirms the dependence theorists. As the country exports more manufactured goods and imports more primary products, communal violence decreases. The international economic context of the nation does have an influence on the domestic political stability. At higher levels of the trade composition index, the reduction in violence is less; even countries which have

TABLE 4-4
LINEAR REGRESSIONS ON TRADE COMPOSITION INDEX (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Trade Index, 1970	.5937	.5668	.147
Population, 1969	.8468 x 10 ⁻⁵ *	.2366 x 10 ⁻⁵	.501
Constant	1.8703		
	$\frac{R^2}{.302}$	$\frac{F}{8.01}$	
b. Communal Violence			
Trade Index, 1970	-2.3683	1.3808	-.272
Population, 1969	.8542 x 10 ⁻⁵	.5764 x 10 ⁻⁵	.235
Constant	3.3427		
	$\frac{R^2}{.104}$	$\frac{F}{2.15}$	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 4-5
CURVILINEAR (LOGARITHMIC) REGRESSIONS ON TRADE
COMPOSITION INDEX (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
ln Trade Index, 1970	.0671	.2629	.036
Population, 1969	.8845 x 10 ^{-5*}	.2392 x 10 ⁻⁵	.524
Constant	1.7071		
	R ²		F
	.283		7.29
b. Communal Violence			
ln Trade Index, 1970	-1.3603*	.6170	-.341
Population, 1969	.8872 x 10 ⁻⁵	.5616 x 10 ⁻⁵	.244
Constant	3.2379		
	R ²		F
	.145		3.14

^aStarred parameter estimates are more than twice their standard errors.



TABLE 4-6

CURVILINEAR (POLYNOMIAL) REGRESSIONS ON TRADE COMPOSITION INDEX (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Trade Index, 1970, squared	.5200	.3889	.185
Population	.8391 x 10 ^{-5*}	.2338 x 10 ⁻⁵	.497
Constant	1.3704		
	R^2		F
	$\frac{.314}{.072}$		$\frac{8.49}{1.44}$
b. Communal Violence			
Trade Index, 1970, squared	-1.2150	.9729	-.201
Population	.7915 x 10 ⁻⁵	.5848 x 10 ⁻⁵	.218
Constant	4.8571		
	R^2		F
	$\frac{.072}{.072}$		$\frac{1.44}{1.44}$

^aStarred parameter estimates are more than twice their standard errors.

a strong market position in the international economy, do not totally reduce communal violence; economic factors are not sufficient for eliminating conflict.

Summary and Implications

In delineating the arguments of the dependence theorists, we would expect both direct foreign investments and a negative trade index to exacerbate communal conflict. Neither variable had any effect on communal protest; however, communal violence is a curvilinear function of the trade index. Countries that need to import many manufactures and rely on the export of primary commodities are more likely to have domestic instability among communal groups. The dependence on other economies, as reflected in the trade index, increases the disparity among communal groups to the point where they organize armed attacks and violently protest the system. Those in the internal colonies, whether they are the culturally distinct groups among the urban unemployed or among the subsistence farmers, do resort to violence to protest their economic deprivation.

The presence of multi-national corporations does not appear to affect directly the incidence of communal violence or communal protest. As stated earlier, however, the dependence theories hypothesize that economic dependence limits the capabilities of the government which then hinders

its ability to ameliorate political conflict. The theories imply that economic dependence is indirectly related to communal conflict; the political system is a possible intervening factor that could ameliorate the conflict by reducing the economic disparity caused by dependence. In Chapter VI we will consider the political variables and will test whether investment has a pure indirect effect on communal conflict.

Summarizing the results of these first bivariate relationships, we have found that none of the economic variables influence communal protest. There is no difference across levels of economic development, economic growth, income distribution, or economic dependence on communal protest. The widely accepted assumption that more highly developed countries have less mass political protest does not hold for communal protest. Economic development is not a panacea for all forms of political conflict; general levels of affluence do not equally affect all social groups within the polity. At the same time, communal protest is probably a function of communal political grievances more than it is a function of class or economic grievances. We will investigate further to test whether political variables do influence communal protest directly or whether they interact with economic variables to explain communal protest.

For the initial bivariate results communal violence was a function of both economic development and international trade patterns. Both were logarithmic curvilinear models. The multivariate relationship of the two economic variables on communal violence is given in Table 4-7. Neither of the variables remained significant. Again there is a problem of collinearity, for the simple correlation between trade composition and energy composition is .50. The R^2 for energy consumption in the bivariate model was .13 and the R^2 for the trade composition was .15. The standardized betas in the multivariate model (Table 4-7) are not that different (-.202 versus -.239). These statistical results show that the variables have quite similar effects on communal violence. We will test them separately in the more completely specified models after we introduce the social and political variables. The variables are not exactly collinear and probably will have different effects on communal violence in the more complete specification of the model.

TABLE 4-7
MULTIVARIATE REGRESSION ON TRADE INDEX AND ECONOMIC DEVELOPMENT (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Violence			
ln Trade Index, 1970	-.9537	.7078	-.239
ln Energy Consumption, 1968	-.3935	.3404	-.202
Population, 1969	.8332 x 10 ⁻⁵	.5610 x 10 ⁻⁵	.229
Constant	5.8996		
R ²		F	
.176		2.56	

^aStarred parameter estimates are more than twice their standard errors.



CHAPTER IV--NOTES

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⁶Raoul Naroll, "Galton's Problem: The Logic of Cross-Cultural Analysis," Social Research 32 (1965): 428-51; Raoul Naroll, "A Fifth Solution to Galton's Problem," American Anthropologist 66 (August 1964): 863-66.

⁷B. J. L. Berry, "Problems of Data Organization and Analytical Methods in Geography," Journal of the American Statistical Association 66 (September 1971): 519, 521.

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¹⁰Robert Hauser, "Content and Consequence: A Cautionary Tale," American Journal of Sociology 75 (January 1970): 645-64.

¹¹Jackman relates the problem of the biased or spurious observed effect resulting from omission of other relevant factors to the problem of model specification in multivariate analysis. If Y = variable to explain; X_1 = variations on an internal factor; X_2 = measured contextual effect consider the following models:

$$1) Y = b_{11}X_1 + b_{12}X_2 + e$$

$$2) Y = b_{21}X_1 + e$$

If (1) is the correct specification and (2) is estimated instead, the estimate b_{21} will be biased. The direction and magnitude of the bias depends on the effect of X_2 on Y as well as on the covariance of X_1 on X_2 . As Rao and Miller show,

$$b_{21} = b_{11} + b_{12}(\Sigma X_1 X_2 / \Sigma X_1^2)$$

We do not have an accurate estimate of the effect of the internal variable on the variable we are trying to explain. If the two variables are highly correlated and if we estimate equation 2, the bias will be upward and we will overestimate the importance of "isolated" internal or national attributes in explaining Y .

The implication of the nonindependent observations mentioned in the text is that there is nonrandom measurement error: the disturbance term in equation 2 is related systematically to both the dependent variable and the excluded explanatory variable, if equation 1 is really the correct specification. Nonrandom error terms violate a major assumption of ordinary least squares and will render estimates which are biased. See Robert W. Jackman, "The Impact of International Economic Dependence on Domestic Affairs, or an Approach to Galton's Problem," paper presented at the International Studies Association, New York, March 1973; Potluri Rao and Roger Miller, Applied Econometrics (Belmont, Calif.: Wadsworth Publishing Co., 1971), pp. 29-32.

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¹³William Moul, "On Getting Something for Nothing," Comparative Political Studies 7 (July 1974): 157.

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¹⁹A. G. Frank, "Sociology of Development and Underdevelopment of Sociology," Catalyst (Summer 1967): 46-49; Paul Baran, The Political Economy of Growth (New York: Monthly Review Press, 1957); James O'Connor, "The International Corporations and Economic Underdevelopment," Science and Society 34 (Spring 1970): 42-61.

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²²Cockcroft, Frank, and Johnson, Dependence, p. 277.

²³Peter Blau and Otis Dudley Duncan, The American Occupational Structure (New York: John Wiley, 1967), p. 209.

²⁴Cockcroft, Frank, and Johnson, Dependence, p. 282.

²⁵Corporate Information Center, "An Examination of the Multinational Corporation" (New York: Corporate Information Center, 1973), p. 1.

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⁴⁴Ibid., p. 57.

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⁵⁰Samir Amin, "Pour un aménagement du système monétaire des pays africains de la zone franc," Le Mois en Afrique (May 1969): 27.

⁵¹Pierre Jalée, Imperialism in the 70's (New York: Monthly Review Press, 1972), p. 61.

⁵²Maurice Williams, "Development Cooperation: Efforts and Policies of the Members of the Development Assistance Committee, 1975 Review" (Paris, France, 1975), reported in Survey of International Development 13 (January-February 1976): 2.

⁵³Johan Galtung, "A Structural Theory of Imperialism," Journal of Peace Research 7 (1971): 101-02.

CHAPTER V

SOCIAL MOBILIZATION AND SOCIO- CULTURAL DIFFERENTIATION

Theories of "social dislocation" propose that it is the social disruption, resulting from economic change, that increases conflict. A rapid rate of social mobilization multiplies the conflict situations. Further, societies that are both culturally differentiated and mobilized are especially prone to political strife. In this chapter we will first investigate the role of social mobilization in creating communal conflict. Then we will test whether the interaction of social mobilization and socio-cultural differentiation further intensifies communal conflict.

Theories about social mobilization are based on the pioneering work of Karl Deutsch, who describes the relationship between economic development and social mobilization as follows:

Social mobilization is something that happens to large numbers of people in areas which undergo modernization, i.e., where advanced, non-traditional practices in culture, technology and economic life are introduced and accepted on a considerable scale. It is not identical, therefore, with this process of modernization as a whole, but it deals with one of its major aspects, or better, with a recurrent cluster among its consequences.¹

Economic change in a society creates new means of production, new forms of communication and greater mobility among its populace; new relationships develop and contacts become more impersonal and specific. A person relates to the banker as one in charge of finances, not primarily as a sister or member of a village community. Deutsch describes this process in two stages:

- 1) the stage of uprooting or breaking away from old settings, habits and commitments; and
- 2) the induction of the mobilized persons into some relatively stable new patterns of group membership, organization and commitment.²

Social mobilization is defined, therefore, as this process that breaks up old social, economic and psychological commitments and forms new patterns of socialization and behavior.

This process is clearly relevant to theories of communal conflict for two reasons. Either the "old" or the "new" associations could follow communal identities. If the "old setting, habits, and commitments" related to identity with a communal group, the importance of the group would clearly decline. One would expect the new patterns of association to be less along communal lines and, therefore, cause less conflict among identifiable communal groups. However, if modernization increases awareness of communal identity and the new patterns reveal communal divisions, then communal conflict could increase with social mobilization. Scholars have presented both of

these perspectives, and both will be examined empirically here.

Political conflict, however, does not occur simply because new commitments are formed. According to Deutsch, the new groups are also more politically involved:

In whatever country it occurs, social mobilization brings with it an expansion of the politically relevant strata of the population. . . . The growth in the numbers of these people produces mounting pressures for the transformation of political practices and institutions; . . . some of the expectable growth in political pressures--we may call it the potential level of political tensions--can be estimated.³

The mobilization of large sectors of society generates new groups that are politically aware and that begin to make political demands. If the demands of the groups cannot be met, the political tensions could result in the breakdown of domestic stability.

Using nine indicators of socio-economic change (urbanization, literacy, primary and post primary education enrollments, national income, cost-of-living index, caloric intake, infant mortality and distribution of radios), Feierabend, Feierabend and Nesvold found a strong positive relationship of socio-economic change with political instability ($r = .66$) for 84 countries from 1948-65. Although the measures they used do not reflect social mobilization exactly as Deutsch defined it, their study gives mild support to the hypothesis that socio-economic change can be disintegrative and is associated with political instability.⁴ In contrast, for a sample of 108

countries, Douglas Hibbs found no relationship between social mobilization and either mass protest or internal war. He did, however, find that one cause of political separatism was social mobilization.⁵ His findings, therefore, call for a refinement of the hypothesis: although increased social communication was not related to mass political strife, it did increase separatist attitudes of minority groups.

The findings of two other studies disagree with the instability hypothesis and state that social mobilization is necessary for integration. It is only with the changed awareness that people begin to identify with the nation instead of with more local or parochial groups. Daniel Lerner, in an article on "Communication Systems and Social Systems,"⁶ argues that literacy (one indicator also mentioned by Deutsch) is necessary for attitude changes that are conducive to a participant society. Mass media teaches individuals the skill of relating to a large variety of national and political symbols and to public issues that are required for a mobile, modern society. Social mobilization is necessary for identification with national political symbols; the symbols then become one integrating factor for a stable political system. Claude Ake emphasizes even more the necessity for mobilizing the society for political integration:

Political integration is a function of a mature political culture which is a result of the broadening



and intensifying of "social communications," which in turn is a function of social mobilization, defined as removing physical barriers between people and increasing the flow of goods and services between different parts of the country.⁷

Both of these authors hypothesize, therefore, that social mobilization is a prerequisite for successful state formation and will reduce domestic conflict.

Specification of a linear functional form would test these propositions to determine whether social mobilization is negatively or positively related to communal conflict.

$$5-1 \quad Y = a + b_1 X_{14} + b_2 X_2 + e$$

Y = Communal Conflict, 1965-74

X_{14} = Social Mobilization, 1968-70

X_2 = Population, 1969

Before the models can be evaluated, the key concept must be operationally defined. Deutsch suggests the following indicators for social mobilization:

Our m_1 could stand for the percentage of the population that had been exposed . . . to significant aspects of modern life; m_2 for the percentage of those exposed to mass media; m_3 for the percentage of the inhabitants who have changed their residence; m_4 for the percentage of the total population living in towns; m_5 for the percentage of those in mono-agricultural occupations among the total of those gainfully occupied; m_6 for the percentage of literates. . . . the exact choice of indicators and definitions must be considerably influenced by the availability of statistical data.⁸

Data were available for five of the indicators that Deutsch proposed. They are also the same ones used by Hibbs in

order to compare directly the difference of the social mobilization impact on mass domestic conflict that Hibbs tested versus its effect on communal conflict. The indicators adequately reflect the socio-economic change that Deutsch describes and are a solid measure of the concept. Deutsch states that the indicators "assume a single underlying process . . . and are to a limited extent interchangeable";⁹ they were combined, therefore, into a simple additive index again reflecting Hibbs' choice. An additive index captures the range of the concept as well as giving the parameter estimates a meaningful or interpretable metric. The index was created by taking the mean of the sum of the following variables: economically active population--percentage in the nonagricultural sector (1970); newspaper circulation per 1,000 population (1968); radio receivers per 1,000 population (1968); literacy per 1,000 population (1970); urbanization--population living in cities greater than 100,000 per 1,000 population (1970).¹⁰

Tables 5-1 through 5-3 give the linear model of social mobilization explaining communal conflict, but also the same two curvilinear models that were presented in the previous chapters:

$$5-2 \quad Y = a + b_1 X_{15} + b_2 X_2 + e$$

$$5-3 \quad Y = a + b_1 (X_{14})^2 + b_2 X_2 + e$$

Y = Communal Conflict, 1965-1974

X_{15} = ln Social Mobilization, 1968-70

X_{14} = Social Mobilization, 1968-70

X_2 = Population, 1969

The curvilinear models test for threshold effects: higher levels of social mobilization might have reduced effects (either negative or positive) on the occurrence of communal strife. If social mobilization reduces communal conflict, then perhaps after a threshold has been passed, the higher level of social mobilization makes no changes in communal conflict.

From Tables 5-1 through 5-3 it is clear that social mobilization has no effect on communal protest. None of the parameter estimates is significant. For communal violence, social mobilization has a small negative effect for the linear model; the parameter estimate is small (-.0070), as is the R^2 (.135). Because the relationship is stronger for the curvilinear (logarithmic) model, it offers the best fit for the relationship between the level of communal violence and social mobilization. The parameter estimate (-1.4825) is more than twice its standard error and the R^2 (.156) is higher than for the linear model, although it is still quite modest. Communal violence, therefore, is a curvilinear function of social mobilization. The theories of Lerner and Ake are tentatively supported; increased

TABLE 5-1
LINEAR REGRESSIONS ON SOCIAL MOBILIZATION (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Social Mobilization, 1968-70	.0011	.0014	.104
Population, 1969	.8876 x 10 ⁻⁵ *	.2338 x 10 ⁻⁵	.526
Constant	1.4171		
	R^2	F	
	.292	7.64	
b. Communal Violence			
Social Mobilization, 1968-70	-.0070*	.0033	-.320
Population, 1969	.7127 x 10 ⁻⁵	.5559 x 10 ⁻⁵	.196
Constant	5.7852		
	R^2	F	
	.135	2.88	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 5-2
CURVILINEAR (LOGARITHMIC) REGRESSIONS ON SOCIAL MOBILIZATION (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
ln Social Mobilization, 1968-70	.1349	.2732	.069
Population, 1969	.8949 x 10 ⁻⁵ *	.2346 x 10 ⁻⁵	.530
Constant	.9589		
	$\frac{R^2}{.286}$	$\frac{F}{7.41}$	
b. Communal Violence			
ln Social Mobilization, 1968-70	-1.4825*	.6389	-.350
Population, 1969	.6684 x 10 ⁻⁵	.5486 x 10 ⁻⁵	.184
Constant	11.8905		
	$\frac{R^2}{.156}$	$\frac{F}{3.41}$	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 5-3
CURVILINEAR (POLYNOMIAL) REGRESSIONS ON SOCIAL MOBILIZATION (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Social Mobilization, 1968-70, squared	.2465 x 10 ⁻⁵	.2234 x 10 ⁻⁵	.153
Population, 1969	.8617 x 10 ⁻⁵ *	.2336 x 10 ⁻⁵	.510
Constant	1.4865		
$\frac{R^2}{.304}$		$\frac{F}{8.09}$	
b. Communal Violence			
Social Mobilization, 1968-70, squared	-.8331 x 10 ⁻⁵	.5496 x 10 ⁻⁵	-1.52
Population, 1969	.7739 x 10 ⁻⁵	.5747 x 10 ⁻⁵	1.35
Constant	4.7676		
$\frac{R^2}{.089}$		$\frac{F}{1.82}$	

^aStarred parameter estimates are more than twice their standard errors.

communication, or the removal of physical barriers, among communal groups reduces violent conflict. Social mobilization facilitates the integration of the culturally distinct groups into the political system. This result has public policy implications, for governments could subsidize the building of communication infrastructures; telecommunications are perhaps one of the easier technological innovations for a country to make. Designating literacy as a priority program is also justified by this finding. As Lerner states, literacy increases one's perspective and encourages identification with larger social groups. Policy choices can be made to promote these social communications.

In a later work Deutsch refers directly to the problem of social mobilization in a culturally diverse society. An increase in social communication can provoke dissension in a nationally diverse state:

If new problems of national diversity . . . remain dormant for a time until at some later stage intensive social communication is extended to these villages, or until larger numbers of their inhabitants go forth to seek new occupations among the mobilized population . . . the latent national diversity, created by the settlements of long ago may suddenly emerge into the actuality of latter-day political conflict.¹¹

The new social groups that are formed do not necessarily cross-cut communal associations; the cleavages remain distinct along communal lines. In a society that is culturally differentiated, greater communication among social

groups reveals differences that may be expressed in the political arena. Walker Connor agrees with Deutsch's development of the concept of social mobilization and cites case studies of industrial countries to emphasize that mobilization has not dissolved ethnic loyalties. Further, Connor expands the theory to assert that increased social communication actually stimulates or awakens cultural identities:

Advances in communication and transportation tend also to increase the cultural awareness of the minorities by making their members more aware of the distinctions between themselves and others. The impact is twofold. Not only does the individual become more aware of alien ethnic groups; he also becomes more aware of those who share his identity. Thus, the transistor radio has not only made the formerly isolated, Lao-speaking villager of northeast Thailand aware of linguistic and other cultural distinctions between himself and the politically dominant Siamese-speaking element to the west; it has also made him much more aware of his cultural affinity with the Lao who live in other villages throughout northeast Thailand . . .¹²

Two other authors, who have done research in ethnically diverse cultures, affirm that the process of increasing communication for modernization is the very same process that stimulates awareness of communal associations. Myron Weiner and Clifford Geertz both describe breaking of the physical barriers of distance or terrain among cultures as a stimulus for communal sentiments or allegiances:

In multi-ethnic developing countries both national and ethnic identities are in the process of developing. To ask whether new national identities will replace or be built upon existing "primordial" identities is to miss the point that these "primordial" identities are themselves in the process of being created. For many

of the same factors generating national identities--the spread of education, urbanization, mass communication, transportation and political participation--are generating sub-national identities as well.
(Italics mine.)¹³

One does not perceive herself as distinct from others until social interaction points out the differences; the significance of being Ibo, Marwari, or white increases as the identity aids (or hinders) economic or political transactions. Previously, one's role was determined by sex, age, occupational status, or clan; modernization of communication facilities expands the self-identity to include the larger community insofar as such an identity is politically or economically relevant.

Based on their work in Nigeria, Robert Melson and Howard Wolpe offer two reasons why social mobilization may augment the importance of communal identities. First, they propose that in a culturally plural society, the competition engendered by social mobilization will tend to be defined in communal terms. Assuming that most governments cannot provide the services or employment demanded by the newly mobilized, the competition for scarce resources in a plural society is most intense among those of different ethnic backgrounds:

. . . men become [ethnically aware] . . . out of the many opportunities created by social mobilization in a communal milieu. In culturally plural societies, citizens tend to perceive their competitive world through a communal prism and to be responsive to communal appeals. . . . What is important is that

the personal fortunes of individuals are generally believed to depend on their communal origins and connections.¹⁴

An aspiring politician in a plural polity seeks to mobilize his ethnic or religious group behind his candidacy. Reciprocally, members of the communal group support his candidacy for group recognition and power.

Intensification of communal conflict is, second, a consequence of the differential rates of mobilization among the communal groups. Cultural groups are seldom mobilized at the same rate, for the nature of Western contact, the environmental opportunities and the cultural predispositions for social mobilization vary.¹⁵ The result of this differing pace is that the more slowly mobilized communities are at a disadvantage in the competition for scarce services and goods. This theory implies that the economic or class divisions then coincide with ethnic divisions and there is little to ameliorate conflict--ethnic, economic or political. Melson and Wolpe maintain that the lack of cross-cutting linkages among the Hausa, Yoruba and Ibo ethnic communities increased the communal nationalisms and made the confrontations more intractable.

These theories imply a specification of developmental effects between social mobilization and awareness of one's communal group. The developmental model would show that social mobilization influences attitudes of communal identity which, in turn, influences communal

conflict. If the model were a pure developmental one, there would be no direct influence of social mobilization on communal conflict. We are not able, however, to test the models exactly as stated in the above theories. To measure attitude changes (one's greater self-identity with the communal group and, perhaps also, with the nation-state), we would need cross-national survey research in all the countries in the sample. In addition, the chronological sequence would have to be the same as the causal sequence. We would need a measure of social mobilization which predates the measure of attitude change. The survey research is not feasible; we do not have an adequate measure of attitude change.

Although there is no adequate cross-national measure of socio-cultural awareness, there is an excellent quantitative measure of the degree of socio-cultural differentiation. An index of ethno-linguistic fractionalization is calculated from data given in the Atlas Narodov Mira, a careful, scientific census of people in distinct cultural, ethnic and linguistic groups. Roles, descents and relationships to others define the groups, not personal physical characteristics. Because the index is not easily replicated, it predates most of the data in this study including the measure of social mobilization. From the description of the measure, however, it can be assumed that the changes in the index would occur only over a fairly long period of

time. We cannot use the index in a developmental sequence, but can test the interaction of high social mobilization and of high socio-cultural differentiation on the incidence of communal conflict. In short, in order to investigate at all the effects of social mobilization in culturally diverse societies we must assume that the index of ethno-linguistic fractionalization does not change drastically in 5-10 years.¹⁶ We can then proceed to test for interaction effects with social mobilization.

The index is constructed as follows:

$$ELF = \left[1 - \sum \frac{n_i (n_i - 1)}{N (N - 1)} \right] * 100$$

n_i = Number of People in the i th group

N = Total Population

The larger the number of groups and the smaller the proportion of the total population in each of them, the more fractionated or differentiated is the population.

Before looking at the relationship of ethno-linguistic fractionalization and social mobilization, let us first investigate the possible influence of ethno-linguistic fractionalization alone. The linear and curvilinear models were estimated:

$$5-4 \quad Y = a + b_1 X_{16} + b_2 X_2 + e$$

$$5-5 \quad Y = a + b_1 X_{17} + b_2 X_2 + e$$

$$5-6 \quad Y = a + b_1 (X_{16})^2 + b_2 X_2 + e$$

Y = Communal Conflict, 1965-74

X_{16} = Ethnolinguistic Fractionalization, 1960

X_{17} = \ln Ethnolinguistic Fractionalization,
1960

X_2 = Population, 1969

Tables 5-4 through 5-6 show no relationship between ethnolinguistic fractionalization and communal protest; neither high levels of social mobilization nor high levels of socio-cultural differentiation affects the amount of communal protest. Yet they both do relate to communal violence. One reason why ethnolinguistic fractionalization might relate to communal violence and not communal protest is the higher "cost" of participating in acts of sabotage or armed attacks. Even societies with small minorities and general social homogeneity might have the minorities protesting once in a while. Because of this cost, violent acts would occur only when grievances are intense.

For communal violence, the linear and one curvilinear (polynomial) models have significant parameter estimates. The R^2 's (linear, .13 and curvilinear, .14) are not significantly different from each other.¹⁷ We will need to rely on other than statistical criteria to choose between the two models. From a visual examination

TABLE 5-4
LINEAR REGRESSIONS ON ETHNO-LINGUISTIC FRACTIONALIZATION (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Ethno-linguistic Fraction- alization, 1960	.0848	.7542	.016
Population, 1960	.8911 x 10 ⁻⁵ *	.2389 x 10 ⁻⁵	.528
Constant	1.6183		
	$\frac{R^2}{.282}$	$\frac{F}{7.25}$	
b. Communal Violence			
Ethno-linguistic Fraction- alization	3.6204*	1.7852	.316
Population, 1960	.4600 x 10 ⁻⁵	.5656 x 10 ⁻⁵	.127
Constant	2.3683		
	$\frac{R^2}{.130}$	$\frac{F}{2.76}$	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 5-5

CURVILINEAR (LOGARITHMIC) REGRESSIONS ON ETHNO-LINGUISTIC
FRACTIONALIZATION (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
ln Ethno-linguistic Fractionalization Population, 1960	.1015 .8828 x 10 ⁻⁵ *	.2413 .2368 x 10 ⁻⁵	.059 .523
Constant	1.7588		
R^2		F	7.37
b. Communal Violence			
ln Ethno-linguistic Fractionalization Population, 1960	1.0123 .5298 x 10 ⁻⁵	.5800 .5692 x 10 ⁻⁵	.274 .146
Constant	5.1571		
R^2		F	2.21

^aStarred parameter estimates are more than twice their standard errors.

TABLE 5-6
CURVILINEAR (LOGARITHMIC) REGRESSIONS ON ETHNOLINGUISTIC FRACTIONALIZATION (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Ethnolinguistic Fractionalization, 1960, squared	-.0888	.7516	-.017
Population, 1969	.9012	.2399	.534
Constant	1.6898		
R^2		$\frac{F}{7.25}$	
	.282		
b. Communal Violence			
Ethnolinguistic Fractionalization, 1960, squared	3.7411*	1.7717	.329
Population, 1969	.4270 x 10 ⁻⁵	.5654 x 10 ⁻⁵	.118
Constant	2.9519		
R^2		$\frac{F}{2.94}$	
	.137		

^aStarred parameter estimates are more than twice their standard errors.

of the scatterplots, it appears that the curvilinear model is determined by a few outliers. Theoretically, the linear model is also more appropriate: highly fractionated societies probably experience more violence. With many social groups it is difficult for the government to respond to all the demands. Grievances are more severe, and groups become willing to risk death to try to gain power or modify the policies. Finally, for reasons of parsimony, the linear model could be chosen over the curvilinear one. For this data set, therefore, we can conclude that culturally heterogeneous societies do experience more communal violence, but not greater protest.

To address the question of whether social mobilization is more disruptive in a heterogeneous society, we can test the interaction effects of social mobilization and ethnolinguistic fractionalization. Because the theories state that a high level of ethnolinguistic fractionalization causes more political disruption, we dichotomized the variable into a dummy variable. The cut-off between "high" and "low," as is often the case, is an arbitrary one. Examining the univariate distribution, we chose a cut-off where breaks occurred in the distributions. High ethnolinguistic fractionalization, therefore, is a score greater than .60 (out of a maximum of 1.00) and was coded as 1 ($N = 18$). With a score lower than .60, the code was

zero (N = 22). The product of the dummy variable and social mobilization created the multiplicative interaction term:

$$5-7 \quad Y = a + b_1X_{16} + b_2X_9 + b_3X_{17} + b_4X_2 + e$$

Y = Communal Conflict

X₁₆ = Dummy Variable (dichotomous) of Ethnolinguistic fractionalization, 1965

X₉ = Social Mobilization, 1968-70

X₁₇ = Multiplicative Interaction Term (Ethnolinguistic dummy variable * Social Mobilization)

X₂ = Population, 1969

This analysis of covariance would show (1) the effects of ethnolinguistic fractionalization (b_1) after the differences in social mobilization are taken care of; (2) whether social mobilization makes a difference after the confounding effects of ethnolinguistic fractionalization are controlled (b_2); and (3) whether the slopes for the categories of high and low ethnolinguistic fractionalization differ (b_2 versus $b_2 + b_3$).

Table 5-7 gives the results: there is no interaction of social mobilization and ethnolinguistic fractionalization.¹⁷ The significant estimates for the dummy variables and social mobilization for communal protest imply that there is a difference in the intercepts or initial levels of violence for high and low fractionated

TABLE 5-7
 LINEAR REGRESSIONS ON SOCIAL MOBILIZATION, HIGH ETHNOLINGUISTIC
 FRACTIONALIZATION, MULTIPLICATIVE INTERACTION TERM (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
High Ethnolinguistic Fractionalization, 1960	1.8757*	.9190	.618
Social Mobilization, 1968-70	.0048*	.0023	.468
Interaction - Ethlin *			
Socmob	-.0069	.0036	-.451
Population, 1969	.7659 x 10 ⁻⁵	.2358 x 10 ⁻⁵	.454
Constant	.1734		
	R^2		F
	.370		5.15
b. Communal Violence			
High Ethnolinguistic Fractionalization, 1960	5.0992*	2.1361	.781
Social Mobilization, 1968-70	.0032	.0053	.147
Interaction - Ethlin *			
Socmob	-.0131	.0083	-.398
Population, 1969	.3396 x 10 ⁻⁵	.5481 x 10 ⁻⁵	.094
Constant	2.0482		
	R^2		F
	.264		3.15

^aStarred parameter estimates are more than twice their standard errors.

societies. But the variables are collinear as is evident from the following correlations:

	Dummy Variable	Social Mobilization
Social Mobilization	-.611	
Interaction	.667	-.038

The significant estimates probably reflect the effect of ethnolinguistic fractionalization. To pursue this idea the relationship was tested without the dummy variable to see if the slopes do differ, given the same intercept. Table 5-8 shows that neither social mobilization nor the interaction term with the dummy variable is statistically significant.

The argument that social mobilization is especially disruptive in a heterogeneous society is not supported. The theory, advocated by Daniel Lerner and Claude Ake, that social mobilization is a prerequisite for successful state formation and the reduction of political instability remains a possible explanation. Increased social communication in a pluralist society does not relate to higher levels of conflict among groups.

Further Specification

Further elaboration of the models is now possible; we can investigate the relationship between the economic variables discussed in the previous chapters with these

TABLE 5-8
LINEAR REGRESSION ON SOCIAL MOBILIZATION AND DUMMY VARIABLE INTERACTION TERM (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Social Mobilization, 1968-70	.0010	.0014	.102
Interaction - Ethlin*Socmob	-.0009	.0021	-.058
Population, 1969	.8942 x 10 ⁻⁵ *	.2370 x 10 ⁻⁵	.529
Constant	1.4726		
R^2		F	
.295		5.03	

^aStarred parameter estimates are more than twice their standard errors.

"social dislocation" variables. Bivariate relationships were first determined. Both the social indicators of economic development and the energy consumption per capita relate to social mobilization. Increased economic development helps to build the communications infrastructure necessary for a mobile and politically active populace. In testing for a multivariate relationship, large standardized estimates indicated a problem of multi-collinearity between the two measures of economic development. Also, their simple correlation is .491. Because of the problem of multi-collinearity, we chose the indicator with the most influence on social mobilization to determine the bivariate relationship. Variance explained for social mobilization with human development was .23; for energy consumption, it was .72. Consequently, the effect of economic development on social mobilization is represented by the indicator energy consumption in Table 5-9. Higher levels of economic development do increase social mobilization which, in turn, reduces communal violence. With these results, it is clear that economic development is indirectly related to communal violence; it is a pure developmental effect.

Neither indicators of economic development was significantly related to ethno-linguistic fractionalization, but social mobilization is very mildly associated with fractionalization. The simple correlation is .498. Because the measure of ethnolinguistic fractionalization

TABLE 5-9
MULTIVARIATE LINEAR REGRESSIONS ON ENERGY CONSUMPTION AND SOCIAL
MOBILIZATION (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Social Mobilization			
Energy Consumption per capita, 1968	.0562*	.0057	.846
Constant	153.8553		
	R^2 .716		F 95.70

^aStarred parameter estimates are more than twice their standard errors.



does not reflect attitude change of communal groups, we cannot state a causal direction in the relationship. Social mobilization does not "cause" ethnolinguistic fractionalization. The two variables are related, but the relationship is probably spurious. These results do show that social mobilization is not disruptive even in a culturally differentiated society. It does not interact with ethnolinguistic fractionalization to promote conflict. We will perhaps understand Deutsch's theory better if we examine more closely its second stage: the formation of new social ties. Forming new, politically active social groups, across more traditional lines of cleavage, does reduce communal violence.

CHAPTER V--NOTES

¹Karl Deutsch, "Social Mobilization and Political Development," American Political Science Review 60 (September 1961): 495.

²Ibid., p. 494.

³Ibid., p. 498.

⁴Ivo K. Feierabend with Rosalind L. Feierabend and Betty A. Nesvold, "The Comparative Study of Revolution and Violence," Comparative Politics 5 (April 1973): 423.

⁵Douglas A. Hibbs, Mass Political Violence (New York: John Wiley, 1973), pp. 72-73.

⁶Daniel Lerner, "Communication Systems and Social Systems," Behavioral Science 2 (October 1957): 272.

⁷Claude Ake, A Theory of Political Integration (Homewood, Ill.: Dorsey Press, 1967), p. 31.

⁸Deutsch, "Social Mobilization," p. 495.

⁹Ibid.

¹⁰Three of the indicators have the date of 1970 because their calculations are based on national census figures. The previous most accurate measure would have been 1960; the decision was to use the latter date even though it is late in the decade of years tabulated for communal conflict (1965-74).

¹¹Karl Deutsch, Nationalism and Social Communication, 2d ed. (Cambridge: Massachusetts Institute of Technology Press, 1966), p. 155.

¹²Walker Connor, "Nation-Building or Nation-Destroying?" World Politics 24 (April 1972): 329.

¹³Myron Weiner, "National Integration versus Nationalism," Comparative Studies in Society and History 15 (March 1973): 253. See also Clifford Geertz, "The Integrative Revolution: Primordial Sentiments and Civil Politics in New States," in Political Development and Social Change, eds. Jason Finkle and Richard Gable (New York: John Wiley, 1971), pp. 655-69.

¹⁴Robert Melson and Howard Wolpe, "Modernization and the Politics of Communalism: A Theoretical Perspective," manuscript of article in American Political Science Review (December 1970): 7.

¹⁵Ibid., pp. 8-9.

¹⁶N. H. Miklukho-Miklaya Institute of Ethnography of the Academy of Sciences, Department of Geodesy and Cartography of the State Geological Committee of the USSR, Atlas Narodov Mira (Moscow: 1964). The ethnolinguistic fractionalization index was computed by Charles L. Taylor of the World Data Analysis Program, Yale University. He calculated it from the index of fragmentation proposed by Douglas Rae and Michael Taylor in The Analysis of Political Cleavages (New Haven: Yale University Press, 1970), Chapter 3.

¹⁷Jacob Cohen, "Multiple Regression as a General Data-Analytic System," Psychological Bulletin 70 (December 1968): 435.

¹⁸Interaction with logarithmic transformations was also tested, and there were no significant results.

CHAPTER VI

THE DOMESTIC POLITICAL SYSTEM

Variables in the previous chapters reflected economic and social relationships that influence communal politics. Only one or two variables explicitly related political choices or public policy to communal strife (e.g., human development variable). This chapter focuses on theories about communal conflict that more centrally involve political variables. In particular I shall consider public policy decisions about military priorities and the degree of centralization of the political system. Explanations about communal conflict that emphasize the importance of the form of the political system are also examined; many theorists designate the contestation for power and the form of the party system as important to political stability.

The first section of the chapter discusses the role of the military in reducing expressions of mass opposition to a regime. The investigation begins in the usual manner with an examination of single equation hypotheses. These propositions relate the coercive capability available to the government, the actual acts of repression by the government, and the role of military governments to the

intensity of communal conflict. Second, the chapter examines the effect of the opportunity for political contestation on communal conflict; variables in this section include press freedom and a dummy variable differentiating single party versus nonsingle party regimes. The final section investigates the debate among theorists about the efficacy of a strongly centralized versus a decentralized government in resolving communal conflict. Some theorists state that centralization determines the government's ability to respond to demands from the populace; others argue that only a decentralized government that designates sub-national governing units for specific communal groups will finally resolve communal contention for political benefits.

What differentiates the processes analyzed here from the previous ones is their manipulative character. The various political factors discussed in this chapter are subject to the control of those in power. Therefore, they are more readily adaptable to the immediate needs of the political system as perceived by the governing elite. This chapter addresses the question more directly of the role of public policy in alleviating conflict among communal groups in a plural society.

Coercive Capability

Questioning the American political science emphasis on disruption caused by protesting groups, critics point

out that coercion used by the political elites is often a primary cause of political instability. They quote many case studies to show that the repressive behavior of the government incites mass political opposition; "anomic" political behavior would be less if the "normal" channels were more open to change and challenges by opposition groups. Groups which resort to violence as a means to change a regime often can document a record of many years of efforts to affect the decision-making process by peaceful means; it is the violence of the political institutions that impels the discontented to resort to violent opposition. Therefore, the government could readily reduce the expressions of mass political conflict by reducing or revoking acts of repression on the part of the police or military.¹ Many theorists assert it is the repression that breeds violence much more often than any threat from "extremist" political organizations.

A large coercive force also reveals the priorities of the political elite. Large expenditures on the military budget relative to gross national production show preference for production that will protect the status quo, but as many researchers have shown, they do not stimulate growth or promote jobs relative to other types of production.² Security as a priority often is at the expense of more growth-oriented industries. Using regression coefficients to tell the amount in dollars by which an item of civilian

spending changes in response to a one-dollar increase in defense, Bruce Russett shows that U.S. investment significantly declined during war years:

Our data show that investment is typically hard hit by American war efforts; with its consequence of a smaller productive capacity in later years, diminished investment is a particularly costly loss. . . . If an extra billion dollars of defense in one year reduced investment by \$292 million, thenceforth the level of output in the economy would be permanently diminished by on the order of \$65 million per year.³

At the same time, large defense expenditures mean a choice against social services offered by the government. The debate continues, but many statistical studies indicate that even the wealthiest nations cannot afford both large defense expenditures and large social service expenditures.⁴ Again using the U.S. as an example, Russett finds that public expenditures for education, hospitals, and health care are adversely affected by military expenditures. He concludes as follows:

It seems fair to conclude from these data that America's most expensive wars have severely hampered the nation in its attempt to build a healthier and better-educated citizenry. . . . Thus even when the defense expenditures were fully justifiable in terms of most Americans' interests, the costs were not necessarily distributed in a way consonant with these interests. Where the defense spending was not necessary, the damage to the rest of the society is doubly regrettable.⁵

Critics, therefore, argue that large military commitments indicate that the elite is not willing to make social assistance to the poor a priority and by this action they court mass protest and confrontation. The

military budget, by forcing the system to ignore other social needs, breeds violence on the part of the populace that is worst off. First, economic production is shifted to industries that are noted for their waste in terms of resources and rapid obsolescence and that do not alleviate unemployment problems. Second, political choice for massive expenditures on the military relative to the total government budget takes money away from providing services to the ghettos, barrios, and bidonvilles.

An opposing observation is that the greater capability of the coercive forces available to a political elite, the more successful it is in preventing outbreaks of mass violence. Contemporary coercion theorists such as Ralf Dahrendorf argue that consensus theory underestimates the importance of force in political integration; social cohesion depends on "force and constraint--on the domination of some and the subjection of others."⁶ Although Claude Ake disagrees with what he calls the Hobbesian view of society integrated by violence, he does theorize that a strong coercive capability can help to neutralize instabilities of transitional societies undergoing rapid social mobilization.⁷

Those who advocate coercive force as a political stabilizer assume that a large number of troops and weaponry serve as a deterrent to mass protest behavior. The "cost" of organizing mass protest rises with the coercive potential

of the regime and the willingness to use force to contain mass expressions of dissent. Taking the political conflict "to the streets" becomes a major escalation of the conflict and in many countries reveals a willingness on the part of the dissenters to risk injury or death simply for the expression of their opposition. The communal groups' tolerance of perceived economic or political inequities rises if demonstrations of discontent are likely to be met with physical abuse or violence.

To test these two opposing hypotheses, the model specification presents a simple linear relationship. Coercive capability would have either a positive or negative significant parameter estimate depending upon the respective theories of its promotion or deterrence of mass disorder.

Several quantitative studies have reported another form to the relationship between the size of repressive forces available to the government and mass political violence. Neither high nor low levels of coercion capability increases violence, but rather middle levels of security force size do. The theorists argue that the relationship is curvilinear in that the presence of repressive forces is sufficient to encourage mass protest against repression yet too small to put down mass uprisings effectively. In his study on civil strife, Ted Gurr found, "The likelihood and magnitude of civil violence tend to

vary curvilinearly with the amount of retribution anticipated as a consequence of participation in it."⁸ He concludes that curvilinearity hypotheses seem to offer the most parsimonious and convincing explanations. In several studies using data of ordinal scores, the Feierabends report a curvilinear relationship between coercive forces and political violence.⁹ R. A. Levine in a study of the decolonization of Africa also found a curvilinear relationship between coercion and political instability.¹⁰ The results are the same for twenty Latin American countries: Douglas Bwy discovered a curvilinear relationship between Defense Expenditure as a Percentage of GNP (1959-60) and mass violence (1958-60).¹¹

Testing these theories has usually been done with scatterplots and simple correlation coefficients. They can be more rigorously evaluated by estimating the slopes and the goodness of fit. Difference between the linear and curvilinear models can be investigated by specifying models similar to the ones used in previous chapters. After looking at the simple bivariate relationships, a more complete specification will be discussed at the end of this chapter. The linear model is straightforward, and we can test for the appropriateness of the log curvilinear versus the polynomial curvilinear models:

$$6-1 \quad Y = a + b_1X_0 + b_2X_2 + e$$

$$6-2 \quad Y = a + b_1 \ln(X_0) + b_2 X_2 + e$$

$$6-3 \quad Y = a + b_1 (X_0)^2 + b_2 X_2 + e$$

Y = Communal Conflict, 1965-74

X₀ = Coercive force

X₂ = Population, 1969

The linear hypothesis designates a positive and significant b_1 for equation 6-1. The curvilinear models (6-2 and 6-3), if significant, would support the argument that "middle-sized" coercive forces are counterproductive to political stability; "permissive" or "repressive" regimes are more successful in reducing communal conflict.

In some countries the military is used for domestic purposes, as a supplemental police, palace guard, or border patrol. In other countries the army is not used for internal security duties. These differences present a problem of comparability for a cross-national index of coercive capability. Two indicators will be used to see whether, in fact, the size of the total military forces does differ from forces designated for internal security. One indicator is the total armed forces personnel per 1,000 population and the second is the number of internal security forces per 1,000 population. The latter indicator includes such forces as police forces at all levels of government, active militias, active national guards and gendarmeries.¹²

A further limitation to the measurement of the concept of coercive capability is that aggregated measures of the military or the internal security forces only indicate gross levels of available personnel. The indicators do not tap very important considerations such as the quality of equipment available to the forces or the level of commitment and training of the personnel. The differences among the effectiveness of the forces might not be a result of size, but of political understanding and commitment. Small numbers who are politically aware and who identify with the cause they are protecting are much more effective than conscripted troops for a generally unpopular dictatorship. These considerations influence the comparability of the effectiveness of the forces. But they are not a problem for the questions raised earlier: large numbers of security forces can be an indicator of expenditure commitments by the government. As stated above, a military expenditure priority affects economic production choices and social service choices. These indicators, therefore, can differentiate budget commitments for different sizes of military forces.

Comparison of Tables 6-1 through 6-3 with 6-4 through 6-6 reveals that the general size of the military forces has no relationship to communal violence or protest while the internal forces do seem to influence the communal protest. The linear and the two curvilinear models are

TABLE 6-1
LINEAR REGRESSION ON SIZE OF MILITARY FORCE (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Size of Total Military Force per 1000, 1968-69	.0067	.0128	.072
Population, 1969	.905 x 10 ⁻⁵ *	.2353 x 10 ⁻⁵	.536
Constant	1.5997		
$\frac{R^2}{.287}$		$\frac{F}{7.43}$	
b. Communal Violence			
Size of Total Military Force per 1000, 1968-69	-.0288	.0318	-.145
Population, 1969	.6163 x 10 ⁻⁵	.5826 x 10 ⁻⁵	.170
Constant	4.4402		
$\frac{R^2}{.054}$		$\frac{F}{1.05}$	

^aStarred parameter estimates are more than twice their standard errors.



TABLE 6-2
CURVILINEAR (LOGARITHMIC) REGRESSIONS ON SIZE OF MILITARY FORCE (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
ln Size of Total Military Force per 1000, 1968-69	.2269	.1759	.176
Population, 1969	.9114 x 10 ⁻⁵ *	.2306 x 10 ⁻⁵	.540
Constant	1.3429		
	$\frac{R^2}{.312}$	$\frac{F}{8.40}$	
b. Communal Violence			
ln Size of Total Military Force per 1000, 1968-69	-.2937	.4461	-.106
Population, 1969	.6388 x 10 ⁻⁵	.5845 x 10 ⁻⁵	.176
Constant	4.5903		
	$\frac{R^2}{.044}$	$\frac{F}{.854}$	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 6-3
CURVILINEAR (POLYNOMIAL) REGRESSIONS ON SIZE OF MILITARY FORCE (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Size of Total Military Force, per 1000, 1969, squared	.6450 x 10 ⁻⁵	.1281 x 10 ⁻³	.007
Population, 1969	.8966 x 10 ⁻⁵ *	.2359 x 10 ⁻⁵	.531
Constant	1.6582		
	R ²		F
	.281		7.24
b. Communal Violence			
Size of Total Military Force, per 1000, 1969, squared	-.0003	.0003	-.148
Population, 1969	.6215 x 10 ⁻⁵	.5819 x 10 ⁻⁵	.171
Constant	4.2940		
	R ²		F
	.055		1.07

^aStarred parameter estimates are more than twice their standard errors.

TABLE 6-4
LINEAR REGRESSIONS ON SIZE OF INTERNAL SECURITY FORCES (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Internal Security Forces per 1,000 Population, 1968-69	.0142*	.0069	.270
Population, 1969	.8962 x 10 ⁻⁵	.2231 x 10 ⁻⁵	.531
Constant	1.5492		
$\frac{R^2}{.354}$		$\frac{F}{10.16}$	
b. Communal Violence			
Internal Security Forces per 1,000 Population, 1968-69	.0052	.0183	.046
Population, 1969	.6592 x 10 ⁻⁵	.5865 x 10 ⁻⁵	.182
Constant	4.1385		
$\frac{R^2}{.035}$		$\frac{F}{.67}$	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 6-5
CURVILINEAR (LOGARITHMIC) REGRESSIONS ON INTERNAL SECURITY FORCES (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
ln Internal Security Forces per 1,000, 1968-69	.3637*	.1729	.277
Population, 1969	.9195 x 10 ⁻⁵	.2227 x 10 ⁻⁵	.544
Constant	1.4150		
	$\frac{R^2}{.358}$	$\frac{F}{10.32}$	
b. Communal Violence			
ln Internal Security Forces per 1,000, 1968-69	-.2571	.4545	-.091
Population, 1969	.6423 x 10 ⁻⁵	.5853 x 10 ⁻⁵	.177
Constant	4.3526		
	$\frac{R^2}{.041}$	$\frac{F}{.80}$	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 6-6

CURVILINEAR (POLYNOMIAL) REGRESSIONS ON INTERNAL SECURITY FORCES (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Internal Security Forces per 1,000, 1968-69, squared	.8192 x 10 ^{-4*}	.3927 x 10 ⁻⁴	.275
Population, 1969	.8872 x 10 ^{-5*}	.2227 x 10 ⁻⁵	.525
Constant	1.5916		
R^2		$\frac{F}{10.27}$	
b. Communal Violence			
Internal Security Forces per 1,000, 1968-69, squared	.5668 x 10 ⁻⁴	.1030 x 10 ⁻³	.089
Population, 1969	.6532 x 10 ⁻⁵	.5848 x 10 ⁻⁵	.180
Constant	4.1311		
R^2		$\frac{F}{.79}$	

^aStarred parameter estimates are more than twice their standard errors.

all significantly related to communal protest. The goodness of fit is slightly better for the curvilinear (logarithmic) model, but the R^2 's for the three models are not significantly different from each other. The statistical results do not guide us in choosing the model that best describes the relationship. From the previous discussion of the theories relating mass general strife and coercive forces, a curvilinear relationship was most often the empirical finding. We will choose the curvilinear (logarithmic) model, for the same arguments would apply for communal strife: the presence of repressive forces is sufficient to encourage expressions of communal outrage yet insufficient to deter the uprisings. A moderate amount of forces might threaten potential protesters, yet does not discourage them from demonstrating. This empirical generalization would also help to explain why there were no significant results for coercive forces and communal violence. The presence of the forces, of any size, could discourage violent outbursts because peaceful protesters would not want to give the authorities an "excuse" for using their (usually superior) firepower. At the other extreme, if the groups are sufficiently hostile to choose the more radical alternative of violence, the show of military force probably will not prevent the violence. These findings again indicate that communal violence is a separate stage in communal expressions of discontent.

Acts of Government Repression

Although the military capability of the governments reveals their expenditure priorities, it does not reveal their willingness to use coercive force. Actual acts of repression would give a better indication of the threat of force facing communal groups that might potentially protest or commit acts of violence. It would be a measure that would more closely reflect the presence of institutional violence. The theory that institutional violence provokes violent responses needs to be tested empirically. The argument for nonviolence as the only legitimate form of protest seems to ignore the institutional violence of bureaucracies, police, and censors that is endemic to many political systems around the world. Acts of repression from the governments may receive a violent response. A governmental negative sanction is defined as an action taken by the authorities to neutralize, suppress, or eliminate a perceived threat to the security of the government.¹³ Sanctions may be directed against either perceived internal or external threats or interferences. Four types of negative sanctions are included in the measure. (1) Censorship. This restriction is an act to limit or intimidate the mass media, including publishers of books and newspapers, radio stations, etc.; (2) Restrictions on political participation. This category includes such actions as declaring martial law, instituting a

curfew, mobilizing troops or the national guard, exile of leaders, banning of a political party or the arrest of persons involved in political protest actions; (3) Espionage. The category includes persons arrested on charges of spying, sabotage, or prohibited interference in the domestic politics of the state; (4) Acts of physical violence. This final section includes the more brutal forms of sanctions. The use of force by the governments against protesters includes clubbing, firing into a crowd, use of tanks, etc.

It is clear from these categories that the indicator includes a wide variety of government acts of repression. The acts, however, do form a unity in that they are various methods, of varying severity, for intimidating mass opposition to a regime. The use of force to maintain order replaces the "normal political channels." An effort was made to distinguish acts of government repression that actually caused a mass protest, but it was impossible to make the distinction clearly between initiators of the violent action. From the coding, however, it does appear that the government often escalated the confrontation and was the party to resort to violence first in many cases in the sample. This indicator, therefore, makes no attempt to determine whether the acts of government were a response to violent sabotage and represented the last resort available to maintain order or whether they were acts of

restriction and force initiated by the government. A reciprocal (nonrecursive) relationship between acts of government repression and communal conflict will be tested in the final models.

The curvilinear relationship holds for acts of repression as can be seen from Tables 6-7 through 6-9. For communal protest the only significant relationship is the logarithmic curvilinear one. It is one of the strongest relationships we have found in this study, with the R^2 equal to .361. The relationship between acts of government repression and communal violence is also significant for the logarithmic curvilinear model. The R^2 (.442) is even higher than for communal protest. There is some verification, therefore, of the theory that institutional violence will encourage a violent response. In a polity where the authorities are willing to use force quite readily, both domestic communal protest and violence are significantly higher. A possible policy implication is that restraint on the part of the security forces could reduce the political confrontation. A small or moderate number of acts of government repression simply encourage more communal strife.

For communal protest, both keeping down the size of the internal forces in the first place, and demanding restraint when they do act, could reduce further demonstrations of dissent. A developmental sequence was tested

TABLE 6-7
LINEAR REGRESSIONS ON ACTS OF GOVERNMENT REPRESSION (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Acts of Govt. Repression, 1965-74	.0075	.0049	.212
Population, 1969	.8126 x 10 ⁻⁵ *	.2347 x 10 ⁻⁵	.481
Constant	1.5033		
	$\frac{R^2}{.324}$	$\frac{F}{8.87}$	
b. Communal Violence			
Acts of Govt. Repression, 1965-74	.0385*	.0108	.510
Population, 1969	.2298 x 10 ⁻⁵	.5212 x 10 ⁻⁵	.063
Constant	3.3918		
	$\frac{R^2}{.279}$	$\frac{F}{7.16}$	

^aStarred parameter estimates are more than twice their standard errors.



TABLE 6-8
CURVILINEAR (LOGARITHMIC) REGRESSIONS ON ACTS OF GOVERNMENT REPRESSION (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
ln Acts of Govt. Repression, 1965-74	.2844 *	.1328	.292
Population, 1969	.7643 x 10 ⁻⁵ *	.2303 x 10 ⁻⁵	.453
Constant	1.1150		
	$\frac{R^2}{.361}$	$\frac{F}{10.43}$	
b. Communal Violence			
ln Acts of Govt. Repression, 1965-74	1.3899 *	.2666	.664
Population, 1969	.1648 x 10 ⁻⁶	.4625 x 10 ⁻⁵	.005
Constant	1.5117		
	$\frac{R^2}{.442}$	$\frac{F}{14.68}$	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 6-9
CURVILINEAR (POLYNOMIAL) REGRESSIONS ON ACTS OF GOVERNMENT REPRESSION (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Acts of Govt. Repression, 1965-74, squared	.2677 x 10 ⁻⁴	.2429 x 10 ⁻⁴	.152
Population, 1969	.8673 x 10 ⁻⁵ *	.2330 x 10 ⁻⁵	.514
Constant	1.6061		
$\frac{R^2}{.304}$		$\frac{F}{8.09}$	
b. Communal Violence			
Acts of Govt. Repression, 1965-74, squared	.0001*	.5810 x 10 ⁻⁴	.328
Population, 1969	.5272 x 10 ⁻⁵	.5574 x 10 ⁻⁵	.145
Constant	3.9261		
$\frac{R^2}{.139}$		$\frac{F}{2.99}$	

^aStarred parameter estimates are more than twice their standard errors.

to see if larger security forces are related to the actual use of them (repressive capacity → negative sanctions → protest or violence). There was no relationship between the size of the forces and the acts of repression. For this data set, larger forces do not necessarily mean that the propensity to use them is greater. The conclusion, therefore, is that moderate use of repression increases the incidence of both protest and violence among communal groups. At higher levels of negative sanctions, the protests and violent responses diminish. The ability to use repression (larger forces) apparently is less important than the willingness to use force to put down political protest or violent sabotage by communal groups.

Military Governments

Those who come to power by means of a military coup d'etat often pledge themselves to maintaining "law and order." To justify the seizure of power they cite examples of intrigue and political instability that they want to eliminate. The military leaders condemn corruption and the mismanagement of development policies as the reason for political unrest. They often propose reforms such as the reduction of inflation or tax reform as a redress for some of the excesses of the previous regime. They take credit for providing law and order in the short term by the show of force and propose responsible economic management as a long-term solution.

In addition to these economic concerns for the whole society, military leaders also express grievances over conditions which affect their own self-interest. Coups have forestalled planned reductions in the military forces and prevented pay reductions. Other military coup leaders, especially in Africa (e.g. Togo, Uganda, Ghana, Nigeria) and in the Middle East (e.g. Syria, Lebanon), explicitly accuse the previous regime of discriminating against certain ethnic groups; it was not representative of all the communal groups. This grievance has the greatest potential for a military take-over when a large communal group feels excluded from the governing processes. The larger group looks for more equal representation on the military council or for a greater share of officers in the command structure. William R. Thompson states that primordial loyalties are a problem even for the disciplined military:

Just as military factions primarily are based on the cement of personal loyalties, the problem of primordial loyalties--loyalties based on primary groups distinguished by race, language, religion, tribe, family and region--arises in the military coup. . . . The military coup can be an expression of corporate collective orientations, but it is just as or even more likely to be a reflection of smaller collectivities not representative of the military whole. Suborganizational groups, whether they be military factions, ethnic minorities, or both, also have access to the military coup to protect and to advance their resource and positional interests.¹⁴

Several social scientists agree with the military leaders and describe the military as "modernizers." The military is a relatively skilled cadre that values technological innovations. Officer training includes organizational skills, personnel management, cost accounting as well as the usual information about the latest weaponry. Theorists state that these bureaucratic skills are essential for running an efficient and stable political system.¹⁵ One aspect of this "modern" outlook is the attempt to overcome loyalties based on primary groups. The various platoons and companies are purposely a mixture of communal groups; the military avoids segregated ranks. Theorists point to this practice as progressive change. Training and working with other communal groups make the military leaders advocates of integration in other institutions of the society; the coup leaders are probably more sensitive to communal grievances and are more likely to promote public policies to reduce communal conflict.

Critics of military regimes assert that the organizational skills and discipline the military has to offer are used only in support of the status quo. Coup d'etats are only intra-elite struggles and do not necessarily promote social change that benefits the less privileged. Although most military regimes have not increased the military budget after they attained power, they also do not try to mobilize the lower classes.¹⁶ The social and

economic benefits accrue to their own class; they do not challenge the distribution of wealth and land. (In a few recent cases such as Ethiopia, Portugal, and Dahomey, the leaders have committed themselves to such policies but the commitment remains verbal, not yet enforced in practice.) The critics, therefore, do not think the military necessarily reduces domestic communal unrest any better than another form of government.

This perspective emphasizes the problem of economic discrimination. Even if the military itself is fairly well integrated across communal groups, it will not reduce strife unless the major economic disparities are resolved. The class divisions among the communal groups must be reduced. In addition, those who are in the military and are from the more oppressed communal groups have changed allegiances to the new class. Self-interest and self-identity are with the relative prestige of the military rank, no longer with their own communal group. This theory, therefore, maximizes the class interest of the military and also of individuals who might have conflicting allegiances. A communally integrated military government, without policies for fundamental economic reforms, will not reduce communal conflict.

The specification which would resolve this difference in opinion would be a straightforward one. Those who advocate that the military would promote social and

economic change, especially in balancing the representation of communal groups, would expect a significant negative relationship between military regimes and communal conflict. The critics would expect a significant, positive relationship.

We can test these hypotheses with a dummy variable designating the regime as military or not for the first part of the decade of communal violence.¹⁷ The variable is simply dichotomous, with those countries with military governments coded as one and the others coded as zero. The linear relationship is tested as follows:

$$6-10 \quad Y = a + b_1 X_{20} + b_2 X_2 + e$$

Y = Communal Conflict, 1965-74

X_{20} = Dummy Variable of Military Regime,
1965-69

X_2 = Population, 1969

Table 6-10 shows that the existence of a military regime does encourage communal violence. In this bivariate relationship it appears that a military dictatorship, by closing some of the channels for political participation, intensifies the conflict. These initial findings, therefore, contradict the arguments that the military as a modernizing force will reduce economic and political inequities among communal groups. Although the military

TABLE 6-10
 LINEAR REGRESSIONS ON DUMMY VARIABLE (DICHOTOMOUS) OF MILITARY
 REGIME (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Dummy Variable of Military Regime, 1965-69	.0462	.5547	.012
Population, 1969	$.8967 \times 10^{-5}$ *	$.2356 \times 10^{-5}$.531
Constant	1.6522		
R^2		$\frac{F}{7.25}$	
	.281		
b. Communal Violence			
Dummy Variable of Military Regime, 1965-69	3.2106*	1.2794	.376
Population, 1969	$.7287 \times 10^{-5}$	$.5435 \times 10^{-5}$.201
Constant	3.5878		
R^2		$\frac{F}{3.89}$	
	.174		

^aStarred parameter estimates are more than twice their standard errors.

leaders personally may have less communal allegiances, their rule does not seem to reduce strife in the society from communal associations. The record does not look as good as their claim to reduce ethnic rivalries or economic disparities.

Political Democracy and Participation

In contrast to the coercive power of a political regime is the degree of permissiveness allowed for political expression. If the elites do not repress mass opposition, to what degree does the political network provide channels for dissension and competition? In a plural society with many cultural groups and life styles, conflict resolution requires open channels of communication. Social mobilization, with greater transportation facilities, press circulation and radio diffusion, is less effective in reducing conflict if the political climate suppresses communication or the exchange of ideas by restriction on travel and by censorship. One major indicator of the openness of the regime is the degree of press freedom. The willingness of the regime to permit daily, outspoken criticism implies that criticism is a barometer of the public reception to government policy. For those who consider press freedom a key factor in alleviating conflict by airing opposing views, the assumption is that the government cannot afford to ignore criticism from the

mass media.¹⁸ The first step in the eradication of the abuse of power is its exposure.

Other theorists who have followed the reporting in countries with politically free presses find that their role in presenting alternative opinions is less impressive. For example, in many industrial countries including the United States, cost requirements and purposeful consolidation of the press by buying out the smaller ones have drastically reduced the number of major publishers and broadcasters. The major press and telecommunications are run by corporations that represent one class interest. Large corporate publishers select information and decide what is relevant and what is news. The value of political freedom of the press is, therefore, reduced by the economic reality of oligopoly control.

This critique is especially relevant to the concerns of minority communal groups who often complain that the major press channels ignore their concerns. In a nation with freedom of the press, the minority groups can always establish their own publications, such as the black press in the United States, the Sikh press in India, or the small Basque press in France. These alternative media facilitate communication within the communal group, but they do not replace the need for total national attention to political grievances of the minorities.¹⁹ In short, press freedom is helpful for struggles of the majority

or for the dominant class, but corporate press channels are less effective in monitoring minority and lower class issues. Floyd McKissick, past Director of the Congress of Racial Equality, illustrated this problem as follows:

. . . there are only two kinds of statements a black man can make and expect that the white press will report. . . . First . . . is an attack on another black. . . . The second is a statement that sounds radical, violent, extreme--the verbal equivalent of a riot.²⁰

Alternative media sources allow freedom of expression, but do not attract national attention. Theoretically, few would disagree that press freedom is an important cross-national distinction among states; in reality, the contrast may not be so great from the point of view of the least advantaged within the state.

Because one of the regular political channels that is often closed is adequate publicity for communal grievances, groups find it necessary to try protest as a political alternative. The theory is that mass demonstrations will attract attention to the needs of the community such as jobs for black youth, food for a drought area, or demands for control over local decision-making. In this situation a free press might reduce communal violence but would not reduce communal protest.

The indicator for press freedom is from the World Handbook of Social and Political Indicators and is a judgmental index by national and foreign newsmen on twenty-three

aspects of the press to "measure the independence of a nation's broadcasting and press system and its ability to criticize its own local and national governments."²¹

The simple linear model will help determine the relationship of press to communal protest:

$$6-11 \quad Y = a + b_1X_{21} + b_2X_2 + e$$

$$6-12 \quad Y = a + b_1X_{21} + b_2X_{22} + b_3X_2 + e$$

Y = Communal Conflict

X_{21} = Press Freedom, 1965

X_{22} = Dummy Variable for Date of Independence

X_2 = Population, 1969

In equation 6-12 we have included a dummy variable on the date of independence. If independence were gained before 1940, the code is 0; for the younger countries, the code is 1. This equation is an analysis of variance that will give the linear effect of the date of independence (b_2) when the effect of press freedom is controlled. Some theorists state that longer established political systems are more likely to tolerate criticism from a free press. The political institutions have gained legitimacy over time, and the leaders learn to separate criticism of specific programs from intent to overthrow the political institutions.²² The dummy variable helps to separate

the age of the political institutions from the presence of a free press.

Tables 6-11 and 6-12 confirm our hypotheses. Press freedom, even without the dummy variable, reduces communal violence, but is not related to communal protest. This finding supports the idea that communal groups might have to resort to mass protest to gain "attention" to their problems, even if the press is relatively "free." Controlling for the age of the political system, the reduction of communal violence by press freedom is even greater, but again, does not affect communal protest. The \bar{R}^2 (.239) is slightly higher than the initial R^2 (.184) without the dummy variable. As an indicator of the openness of the regime to allow broadcast or published criticism, press freedom does help to alleviate the more severe expressions of communal discontent. In contrast to the indicators of repression, the greater permissiveness does forestall more violence. Those who advocate greater security measures for "protection," either of property or of political values, are simply courting more opposition. This study indicates that the more open the channels for criticism, the less violence from communal opposition. Force is met with confrontation; open communication facilitates resolution of the conflict.

TABLE 6-11
LINEAR REGRESSIONS ON INDEX OF PRESS FREEDOM (N=37)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Press Freedom, 1965	-.0067	.1489	-.006
Population, 1969	.9238 x 10 ⁻⁵ *	.2424 x 10 ⁻⁵	.548
Constant	1.5923		
R ²		F	
.300		7.29	
b. Communal Violence			
Press Freedom, 1965	-.8346*	.3288	-.394
Population, 1969	.6832 x 10 ⁻⁵	.5353 x 10 ⁻⁵	.198
Constant	5.0662		
R ²		F	
.184		3.84	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 6-12

LINEAR REGRESSIONS ON INDEX OF PRESS FREEDOM AND DATE OF
INDEPENDENCE (N=37)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Press Freedom, 1965	-.0004	.1563	-.000
Dummy Variable of Independence	.0730	.4697	.023
Population, 1969	.9215 x 10 ⁻⁵ *	.2464 x 10 ⁻⁵	.547
Constant	1.5410		
R ²	$\frac{R^2}{.301}$		$\frac{F}{4.73}$
	.243		
b. Communal Violence			
Press Freedom, 1965	-.6442*	.3207	-.304
Dummy Variable of Independence	2.2152	.9636	.348
Population, 1969	.6117 x 10 ⁻⁵	.5054 x 10 ⁻⁵	.177
Constant	3.7807		
R ²	$\frac{R^2}{.297}$		$\frac{F}{4.65}$
	.239		

^a Starred parameter estimates are more than twice their standard errors.

Participation and the Role of
Political Parties

The major factor that is usually used to distinguish among political systems is the role and structure of the political parties. The vast literature on the role of parties in organizing participation and in articulating interests does not need to be reviewed here. It is sufficient to point out that electoral participation and competition among parties are major indicators of political democracy. Although fair and competitive elections are not sufficient criteria for political democracy, they are necessary ones.

Gerhard Lenski, Phillips Cutright, Seymour Lipset, Robert Dahl, and Anthony Downs all emphasize the opportunity of the people to choose among leaders in free competitive elections as well as free access to information as the characteristics that distinguish political democracies.²³ There are few empirical studies available that have tested the relationship of democracies, as defined here, to the incidence of domestic political violence. Flanigan and Fogelman concluded that democratic nations have significantly less violence than nondemocratic ones for a data set of sixty-five nations from 1800-1960.²⁴ Ted Gurr used the type of regime (authoritarian, polyarchic, personalist, and elitist) as a control variable in explaining domestic violence and found,

The political rule clusters provide less effective controls for analyzing the correlates of civil violence than the sets of clusters examined below [technological development, ecological size, socio-cultural groups] . . . the average deviations between predicted and true magnitude of civil violence scores are slightly greater for the political rule clusters than for any other set.²⁵

Douglas Hibbs, in testing for the influence of democratic political institutions on domestic violence, uses indicators that best tap Western political systems that are competitive: elite electoral accountability and electoral turnout. He finds no relationship between these indicators and mass political conflict.²⁶ Both Gurr and Hibbs, therefore, find no significant difference across democratic versus nondemocratic regime types in explaining civil violence.

One reason for the lack of relationship in Hibbs' study might be that his indicators best reflect contestation for office in Western democracies. They did not give an adequate measure of the degree of open discussion and challenge permitted in participatory democracies. For instance, participation in elections is not the best indicator of participation in the political systems in many countries. Full participation in elections may simply mean that the dictatorship required voting in order to stay alive. From the other extreme, many Third World countries with "socialist" ideologies encourage participation at all levels of the political decision-making. Every day,

every week the villagers or townspeople can express themselves against a policy or create new programs. If such daily political participation occurs in reality, the once-every-few-years elections are not that significant; they are an inadequate measure of the amount of daily political participation and commitment to the political system. Election turn-out as an indicator of participation best reflects representative democracies and is a less adequate measure for participatory democracies.

One way to pursue these ideas further is to examine more closely the role of the single political party. It is designated by some as "noncompetitive"; others state that the single party is most effective in mobilizing the masses. Critics of single parties state that they sacrifice political contestation in pursuing their goal of building consensus: Donald Rothchild states that "they concentrate upon building of national consensus rather than . . . achievement of accurate representation of minority elements in the policy-making organs of the state."²⁷

W. Arthur Lewis argues that neither the British model of democracy nor the single-party system is appropriate for the plural societies of West Africa: "all parties should form a coalition." This solution is in accord with the "primary meaning of democracy [that] is the opportunity to be represented in decision-making."²⁸ In formulating a national identity or ideology, it is possible that the

minorities could be underrepresented. The single party allows only minor criticisms.

Robert Dahl disagrees with the above point of view and suggests that factions within the single party can serve the role of multiple political parties in other systems.²⁹ Opposition is expressed within the party and the issues are resolved by competition within the ranks of the party. Nie, Powell and Prewitt point out that the single parties mobilize the masses more:

In African single party states, mobilization politics need not wait for industrialization. Group mobilization could attract into political life larger numbers of those persons who are presently political isolates. These citizens need not have the enabling antecedent, such as higher levels of education now thought to be necessary for political participation. Alterations in the organizational structure, then, can serve to correct the tendency for even the most democratically organized societies to allow a disproportionate amount of political influence to be exercised by the well-to-do.³⁰

Mobilization of greater numbers of people can be a check or challenge on special interests or enclaves of power. Single party systems that increase the numbers of politically active citizens may also increase the political competition among various groups.

The question of representation within single parties relates to the role of the party for communal groups. If the single party is simply an excuse for the tyranny of the majority, it will not reduce communal

protest. If the party, in fact, mobilizes the people and represents their interests, it could reduce communal conflict.

A dummy variable was used to test these arguments about the role of the single party. The presence of a single party was coded 1, no single party 0.³¹ A straightforward analysis of variance model is as follows:

$$6-13 \quad Y = a + b_1X_{23} + b_2X_2 + e$$

Y = Communal Conflict, 1965-74

X_{23} = Dummy Variable for Single Parties,
1965-69

X_2 = Population, 1969

From the results in Table 6-13, there is no direct relationship between single parties and communal protest or violence. The perspective that single parties repress opposition and are a facade of consensus for a few rulers is not substantiated by this data set. Single parties do not exacerbate communal strife. To test more directly whether single parties increase the mobilization of the polity, the following relationship was tested.

$$6-14 \quad Y = a + b_1X_{23} + e$$

Y = Social Mobilization, 1968-70

X_{23} = Single Parties, Dummy Variable, 1965-69

TABLE 6-13
REGRESSIONS ON DUMMY VARIABLE (DICHOTOMOUS) OF SINGLE POLITICAL PARTY (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Dummy Variable of Single Party, 1965-69	-.2948	.5319	-.078
Population, 1969	.8733 x 10 ⁻⁵ *	.2379 x 10 ⁻⁵	.517
Constant	1.7291		
R^2		F	
	.287	7.46	
b. Communal Violence			
Dummy Variable of Single Party, 1965-69	-.8117	1.3257	-.100
Population, 1969	.5972 x 10 ⁻⁵	.5928 x 10 ⁻⁵	.164
Constant	4.3673		
R^2		F	
	.043	.824	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 6-14
LINEAR REGRESSION ON DUMMY VARIABLE OF SINGLE PARTIES (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Social Mobilization			
Dummy Variable, Single Party, 1965-69	-149.7441 *	55.1634	-.403
Constant	263.1069		
R^2		F	
.162		7.37	

^aStarred parameter estimates are more than twice their standard errors.

The least squares estimation shows that the presence of single parties does not increase the mobilization of the citizens. The hypothesis of Nie, Powell and Prewitt about African single party systems is not upheld for these forty countries. The influence of single parties on communal strife is indirect, a pure developmental model. The parties decrease the numbers of politically active citizens who might have been a deterrent to the monopoly of power by special interests. The indirect linkages between the single party and communal strife will be further explored in the final models presented in Chapter VII.

The findings of this set of political variables of freedom of expression and mobilizing single parties are that democratic principles do help to resolve communal strife more than coercion. Countries with more press freedom have less violence. Whether or not a country has a single party has no direct bearing on communal conflict but may indirectly affect it by reducing social mobilization. Plural societies need accessible and open communication channels to resolve political conflict among demands for public goods or among various life styles. Conflict among different subcultures is not reduced by oppressing or obliterating differences among the groups. The possibility for communication through the mass media does appear to reduce conflict over political goals.

Centralization

To many theorists the process of centralization is integral to political development. Centralization is a key factor in the effectiveness of the political system to mobilize mass political support, to set up accountable bureaucratic structures, to allocate goods and services and to respond to petitions from the people. Indeed, the requirements and responsibilities imposed on a nation in transition are so great that Marion Levy sees a need not only for centralization but for an authoritarian form of government:

During the transition and what is to follow, the government organizations and the increases in centralized control are probably more important than ever before in the history of the society concerned. The transition, the greater centralization and the greater emphasis on government as well as the greater interdependence of the various organizations in a society . . . constitute radical changes which are not easy to make. If the governmental structures of these societies are not considerably more authoritarian than those of us who prefer relatively nonauthoritative structures wish to contemplate, it will be impossible for the members of the government to get the job done. . . .³²

Levy and other theorists describe the need for greater centralization as a response to demands for a government with greater capabilities to mobilize social and economic resources. This need relates directly to the consequences of social mobilization which were discussed in the previous chapter. As a country mobilizes, socio-political awareness increases. Previously unarticulated



social needs are expressed. Melson and Wolpe argue that political instability is not threatened by communal groups but by national institutions which cannot accommodate communal interests:

To the extent that regimes encourage social mobilization and participation, they may be undermining the very basis of their legitimacy and stability. Political arrangements must be found which accord to all communal groups a meaningful role in national life and which are able to keep communal conflict within manageable bounds. The stability of culturally plural societies is threatened not by communalism, per se, but by the failure of national institutions explicitly to recognize and accommodate existing communal divisions and interests.³³

Those who advocate a strong centralized government state that it can more effectively encourage specific industrial sectors that contribute the most to the economy; the government can redistribute resources to overcome regional or sectoral imbalances. In short, the central government commands authority through its growing share of national expenditures and its "original jurisdiction" in collecting taxes. The national government has the capability of responding to demands for the distribution of goods and services. Yet this capability, as Levy points out, could lead to a monopoly of control and authoritarian rule. There is a dialectic between the need for an effective national government and the problem of fostering dictatorial rule if the central government becomes too powerful. The debate continues over defining the point at which "strong central authority" becomes "authoritarian."

A second debate concerning centralization raises the issue of local control by communal leaders. When there are strong, charismatic leaders from various communal groups, the political decision about the amount of power shared by the central and local government may be extremely difficult. The leaders of the communal groups want local control, for they have the most direct linkages with the people. As leaders of communal groups, they feel responsible for communicating communal needs and preferences, such as local school control, language usage, religious freedom, or laws to end discrimination prohibiting loans to their group.

Other leaders argue that the only way for unity to be established is to promote a strong central government. Too much autonomy for local areas encourages fissiparous tendencies; the central government should have control over major tax revenues and major political decisions. They assert that all education needs to be in the lingua franca to facilitate communication; religious practices can be freely pursued only if the practices do not discriminate against other citizens. (Some African countries, for example, are restricting the control of Islam over marriage in an effort to reduce the oppression of women.) The tendencies toward these extremes must be pre-empted by the central government. The dilemma, which greater centralization causes, between a stronger, more effective

central government and the possible alienation of local, communal leaders is described by Morrison and Stevenson for the context of Africa:

The problem is that centralization, on the one hand, increases the chances of conflict between central government decision makers and decision makers in the periphery of ethnically heterogeneous African political systems. Centralization threatens the authority of subnational political leadership whose legitimacy in peripheral areas is likely to be greater than that of the distant leadership of the central government. On the other hand, however, centralization reinforces the power position of national elites and tends to decrease the likelihood of elite instability.³⁴

For plural societies, therefore, the controversy between centralization and decentralization is especially important. For example, Melson and Wolpe state that the Nigerian civil war occurred because the political system reflected too closely the demands of the four dominant ethnic groups; the regional division of four large provinces encouraged politicians to relate to their majority ethnic group in their own province and to ignore the smaller groups. Clifford Geertz criticizes the formation of regional political divisions along communal lines, stating that it exacerbates communal conflict:

The whole problem of the allegiance of an individual living outside his "home region" is an extremely ticklish one for all new states in which integrative problems have been coped with by creating territorial substates tinged with primordial significance, as Nehru's continual insistence that, for example, a Bengali living in Madras is a citizen of the state level of Madras, not of Bengal, and that all notions of a "national homeland" for ethnic groups living elsewhere in India must be stamped out demonstrates.

The additional fact that some such groups are more mobile than others only intensifies this problem. (*Italics mine.*)³⁵

If we look at the record, the debate over the best representation of communal interests becomes even less clear. Local autonomy can prevent national aggregation of interest coalitions and allow resolution of issues at the local level. Switzerland and Belgium have reduced communal conflict in this manner. The birth of Bangladesh resulted from the same type of demands for local rule by the Bengalis. Even when the Bengali political party had a majority in the national legislature, the Pakistanis refused to grant more local autonomy; they declared that federalism was tantamount to the destruction of the state. The resulting civil war ended in the formation of two independent states. Rabushka and Shepsle, however, have suggested that serious attempts to implement various forms of federalism which tolerate greater local control have not worked in many states.³⁶ Nigeria, Uganda, Malaya, Burma and the West Indies have all tried unsuccessfully to resolve communal conflict through decentralization.

One obvious reason that the degree of centralization required for political stability in a plural society is controversial is that political and economic capabilities do not guarantee the willingness to exercise them. Just because a national political elite has the capability to allocate public goods does not mean they will perform

that task to the benefit of all communal groups. The form of the government does not guarantee that the aspirations or grievances of communal groups will be taken into consideration by the political elite. Local autonomy can mean local tyranny over minority groups as the political history of the southern United States reveals. At the same time, a centralized state is not inherently unresponsive to communal needs. As Donald Rothchild states, the granting of local autonomy "requires a sense of mutuality and self-restraint for long-term success. Since these are the very qualities that are subverted by the fundamental nature of interethnic cleavages, it may still prove impractical."³⁷ Participation by communal associations in the national government could teach them to balance their local needs with the overall needs of the nation-state.

Given these limitations, most theorists still describe centralization as an important factor in political integration. The exact form of the government is not what really makes a difference; it is the general ability of the political rulers to collect taxes and to command larger proportions of the national production for public use that enables them to respond to political conflict. The most progressive government cannot choose to re-allocate resources if it does not command them. These theorists, therefore, avoid the controversy of federalism



versus a unitary state and look for indicators of general political control over resources. Stevenson and Morrison emphasize the importance of both the coercive forces and the central institution:

Centralization is the extent to which the individuals in a political system are subject to the decisions of a central institution, which has the capacity to mobilize coercion to enforce compliance with its decisions. Thus the integration of political systems may be thought of as 1) the extent of development of centralized political institutions which increasingly authorize the distribution of values in the society and 2) the expansion of the coercive facilities available to central political institutions for the enforcement of compliance to their decisions.³⁸

Amitai Etzioni shares the perspective of Morrison and Stevenson and describes centralization as a key factor in the formation of a political community:

A political community possesses three kinds of integration: a) it has an effective control over the use of the means of violence . . . b) it has a center of decision-making that is able to affect significantly the allocation of resources and rewards throughout the community, and c) it is the dominant focus of political identification for the large majority of politically aware citizens.³⁹

Centralization of governmental influence is a major issue in political integration. The range and scope of government decision-making are related to both the economic role of the government in centralizing the collection and disbursement of resources and the political role in mobilizing support for centralizing political authority. Richard Musgrave states that without comparative survey data on public attitudes, the measurement of political authority and legitimacy is impossible. He suggests

we consider data on the size and growth of government budgets, spending, revenue and income from taxation as indicative of government influence.⁴⁰ Two indicators which could be used to measure the effects of government spending on the structure of demand and for goods and services are as follows: (1) percentage of total government revenue from direct taxes and (2) percentage of government spending related to the GNP. The first indicator is relevant to an analysis of the tax structure and effectiveness but also to the measurement of the visibility of government to the citizen and its influence upon her. The second indicator gives the range of political control over investment and national production. One difference between the two measures is that expenditure systems are less centralized than tax systems. For instance, Japan, which ranks near the median in tax centralization has extensive transfers and a much more decentralized expenditure system. Musgrave advocates using both indicators, but claims that direct taxes give a better indication of the central government's influence in the economy.⁴¹

Ted Gurr has found that the closest political correlate of civil strife is the scope of the governmental sector; the greater the proportion of national production controlled by the central government, the less the strife. He attributes the strength of the relationship partly to the coexistence of centralized economies with repressive



capacities in the Communist states. The relationship holds, however, for non-Communist and noncentrally planned economies.⁴²

In addition, the central government role in the economy alleviates popular discontent, but does not reduce civil strife caused by elite aspirants who organize coups or internal war. From Gurr's findings, it can be hypothesized that government participation in the economy can help to overcome some of the disparities that arise from unregulated economic production. Michael Hudson also agrees that a meaningful distinction between nations might be the amount of government participation in the economy:

Size-differentiation measurements may be made in terms of a government's economic as well as its population environment. If rich states are complex, so too are states in which the scope of governmental activities bulks relatively large in the national economy. . . .⁴³

Bruce Russett and his colleagues point out that in most cases the expenditures and revenues of governments do not include such statistics as social security funds or government enterprises; he states that expenditures for the post office, telecommunications, and nationalized industries should be added to general government expenditures. Realizing the need to make the statistics more fully representative, Russett still affirms the attempt to measure the role of the government in national production. The statistics are a measure of actual or at least potential influence of the government in the economy:

They are relevant to many theories about the role of large government expenditure on incentives, saving, investment, and economic growth and on consequences for individual freedom in both the economic and political spheres. They also provide one measure of the capabilities available to a government to meet demands on it.⁴⁴

These propositions suggest indicators for measuring the degree of centralization of the government in order to test its effect on domestic political strife. Several of the indicators are available for the sixty-two countries, but we must remember the above discussion by Russett that available indicators do not reflect the total economic activities of the government. The measures will, therefore, tend to underestimate the effect of the political decision-makers on the economy. A summed index combines the following measures: direct taxes as a percentage of general government current revenue, general government consumption as a percentage of GDP, general government revenue as a percentage of GDP, and general government expenditures as a percentage of GDP.⁴⁵ The four measures were factor analyzed by the varimax rotation using the principal components and then the squared multiple correlations in the diagonal. Both sets of factor scores grouped them according to one underlying dimension.⁴⁶ The index, therefore, includes the direct taxes measure that Musgrave designated as the best indicator of centralization as well as measures of general government expenditures advocated by Hudson and Russett.

The centralization variable can now be tested to differentiate a linear or curvilinear relationship with communal conflict. For this initial test of the contrasting theories the same models are presented:

$$6-15 \quad Y = a + b_1 X_{24} + b_2 X_2 + e$$

$$6-16 \quad Y = a + b_1 X_{25} + b_2 X_2 + e$$

$$6-17 \quad Y = a + b_1 (X_{24})^2 + b_2 X_2 + e$$

Y = Communal Conflict, 1965-74

X_{24} = Centralization, 1967-68

X_{25} = ln Centralization, 1967-68

X_2 = Population, 1969

In spite of the strong statements that centralization of government finances increases the capabilities of the government to resolve communal conflict for public goods, Tables 6-15 through 6-17 show no significant relationships. Neither the linear nor curvilinear model helps to explain communal strife. It is hypothesized that centralization may not directly affect communal conflict, but indirectly has an influence. Perhaps centralization allows greater freedom of expression because central control of the major finances discourages separatist tendencies. The possible indirect effects of centralization will be tested in the



TABLE 6-15
LINEAR REGRESSIONS ON CENTRALIZATION OF GOVERNMENT FINANCES (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Centralization, 1967-68	.0071	.0065	.149
Population, 1969	.9052 x 10 ⁻⁵ *	.2319 x 10 ⁻⁵	.536
Constant	1.0465		
R^2		F	
	.303	8.06	
b. Communal Violence			
Centralization, 1967-68	-.0227	.0161	-.222
Population, 1969	.6285 x 10 ⁻⁵	.5723 x 10 ⁻⁵	.173
Constant	6.1541		
R^2		F	
	.082	1.66	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 6-16
CURVILINEAR (LOGARITHMIC) REGRESSIONS ON CENTRALIZATION OF
GOVERNMENT FINANCES (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
ln Centralization, 1967-68	.4390	.5816	.105
Population, 1969	.9070 x 10 ⁻⁵ *	.2340 x 10 ⁻⁵	.537
Constant	-.2736		
	R^2		F
	.292		7.64
b. Communal Violence			
ln Centralization, 1967-68	-2.4804	1.4041	-.275
Population, 1969	.5953 x 10 ⁻⁵	.5650 x 10 ⁻⁵	.164
Constant	15.1078		
	R^2		F
	.108		2.24

^aStarred parameter estimates are more than twice their standard errors.

TABLE 6-17

CURVILINEAR (POLYNOMIAL) REGRESSIONS ON CENTRALIZATION OF GOVERNMENT FINANCES (N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Centralization, 1967-68, squared	.4458 x 10 ⁻⁴	.3301 x 10 ⁻⁴	.184
Population, 1969	.8989 x 10 ^{-5*}	.2298 x 10 ⁻⁵	.532
Constant	1.2802		
	R^2		F
	$\frac{.315}{.315}$		$\frac{8.51}{8.51}$
b. Communal Violence			
Centralization, 1967-68, squared	-.9013 x 10 ⁻⁴	.8305 x 10 ⁻⁴	-.173
Population, 1969	.6527 x 10 ⁻⁵	.5780 x 10 ⁻⁵	.180
Constant	4.9483		
	R^2		F
	$\frac{.063}{.063}$		$\frac{1.24}{1.24}$

^aStarred parameter estimates are more than twice their standard errors.

in the next chapter. In addition, the centralization measure does not reflect the degree of federalism, the variable that Melson and Wolpe advocate as important.

Further Specification

In this chapter we have found that several policy choices by the government can affect the incidence of communal protest or violence. However, all of the tested relationships are provisional until we consider them together in the total political context.

For communal protest we specify a multivariate relationship between the dependent variable and the independent variables that were significantly related in the bivariate (with population) models. The multiple regression model, therefore, is as follows:

$$6-18 \quad Y = a + b_1X_{18} + b_2X_{19} + b_3X_2 + e$$

Y = Communal Protest

X_{18} = ln Internal Security Forces per 1,000,
1968-69

X_{19} = ln Acts of government repression,
1965-74

X_2 = Population, 1969

Both the internal security forces variable and the acts of government repression are related curvilinearly and are positive according to the results in Table 6-18. This

model, illustrated below, shows that greater amounts of internal security forces and of actual acts of repression increase the amount of communal protest. The effect of these negative sanctions tapers off, however, as higher levels of both variables are reached: additional security forces or acts to deter protests do not cause more protest. The parameter estimates for both variables are modest and they are similar in size (in their effect on communal protest). The R^2 shows that 45.7 percent of the variance is explained. Even though the other political variables that relate the form of the government (parties, centralization etc.) do not help explain communal protest, the ability of the government to contain protest with force or restrictive acts also does not have much effect. These findings tend to confirm that communal protest is very difficult to prevent; party structures, press freedom, centralization etc. have no influence on the amount of communal protest.

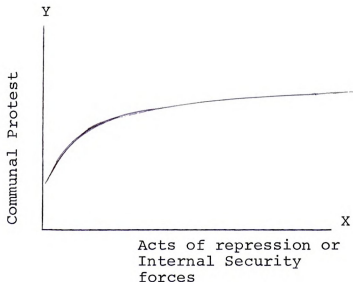


TABLE 6-18
MULTIVARIATE REGRESSIONS ON POLITICAL VARIABLES

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest (N=40)			
ln Internal Security Forces per 1,000 Population, 1968-69	.4110*	.1623	.313
ln Acts of Government Repression, 1965-74	.3203*	.1248	.329
Population, 1969	.7745 x 10 ⁻⁵ *	.2152 x 10 ⁻⁵	.459
Constant	.7684		
	R^2	F	
	.457	10.11	
b. Communal Violence (N=37)			
ln Acts of Government Repression, 1965-74	1.2463*	.2698	.626
Press Freedom Index, 1965	-.6527*	.2698	-.308
Military Regime, Dummy Variable, 1965-69	-.0718	1.1802	-.008
Population, 1969	.8640 x 10 ⁻⁶	.4366 x 10 ⁻⁵	.025
Constant	2.5307		
	R^2	F	
	.537	9.28	

^aStarred parameter estimates are more than twice their standard errors.

Given the empirical testing of these several political variables, it appears that theorists who claim that communal cleavages are among the most difficult to overcome are correct. The only public policy recommendation would be to curtail repressive measures; no positive policy actions can be recommended for reducing communal protest.

Possible reasons for the limited impact of public policy on communal protest involve the measurement of the variables. The amount of political participation is probably a crucial variable that we did not measure adequately. In addition, instead of gross measures of expenditures of the governments for social services such as schools and medical care, it would be better to have data that would show the percentages that went to certain communal groups. Most administrations are too politically vulnerable to volunteer to tabulate such statistics.

For the more severe expressions of communal discontent, acts of violence committed by the communal groups, several political variables do have an influence. It may be that communal groups do occasionally have to resort to demonstrations to gain attention, no matter what kind of regime, but certain public policy choices deter the more severe forms of communal strife. The multivariate model, established from the preliminary equations in this chapter, is as follows:

$$6-18 \quad Y = a + b_1X_{19} + b_2X_{21} + b_3X_{20} + b_4X_{22} + e$$

Y = Communal Violence, 1965-74

X_{19} = ln Acts of Government Repression, 1965-74

X_{21} = Freedom of Press Index, 1965

X_{20} = Dummy Variable of Military Regime, 1965-69

X_2 = Population, 1969

The acts of government repression have a curvilinear (logarithmic) relationship to communal violence. A strong positive relationship ($b = 1.2463$) shows that the willingness of the government to use force does not deter communal violence but promotes it. At the higher levels of acts of repression, the effect tapers off and the repression is so great that it no longer provokes further violent responses.

The freedom of the press also maintains its negative influence on communal violence in the multivariate model. If there are media channels for communal expression of complaints and suggestions, the political conflict can remain at the nonviolent level. It is interesting to note that press freedom does not alleviate communal protest. The reason may be the one stated earlier that the national press does not always cover communal events and interests, and demonstrations are necessary to attract national attention. With freedom of the press the media probably then reports the demonstrations and riots and thereby helps to avoid organized violent confrontations. Freedom of



the press tends to assure that the more severe hardships are made known to the government and to the public. It is then in the government's interest to act to alleviate some of the problems before protest becomes a violent challenge to its power. A second possible explanation is that communal protest may be part of the regular political process in relatively open societies. The governments that permit a free press also are the ones most likely to allow protest to be a legitimate form of political participation, and they respond to the protestors' concerns. Violence is alleviated by the willingness of the government to administer policy changes.

Neither the dummy variable of military regimes nor the population variable is significantly related to communal violence. The initial effect of military regimes is spurious; it appears that the simple form of the regime is not important, but rather the willingness to use force is the distinguishing factor. The relationship of the dummy variable to acts of repression will be discussed in the next chapter when the final model is presented.

CHAPTER VI--NOTES

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³Bruce M. Russett, What Price Vigilance? (New Haven: Yale University Press, 1970), pp. 143-44.

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³⁹ Amitai Etzioni, Political Unification: A Comparative Study of Leaders and Forces (New York: Holt, Rinehart, & Winston, 1965), p. 4.

⁴⁰ Richard Musgrave, Fiscal Systems (New Haven: Yale University Press, 1969), p. 42.

⁴¹ Ibid., p. 177.

⁴² Gurr and Ruttenger, Cross-National Studies, p. 60.

⁴³ Hudson, Conditions of Political Violence, p. 253.

⁴⁴ Bruce Russett et al., World Handbook of Political and Social Indicators (New Haven: Yale University Press, 1964), p. 57.

⁴⁵ All the centralization indicators are from the International Bank for Reconstruction and Development, Economic Program Department, Socio-Economic Data Division, World Tables, January 1971.

⁴⁶ The factor results were as follows:

Direct taxes	.6280
Consumpt./GDP	.7467
Revenue/GDP	.9337
Expenditures/GDP	.9589

Per cent of total variance: 68.6

Per cent of common variance: 100.0

CHAPTER VII

A SIMULTANEOUS FORMULATION OF COMMUNAL CONFLICT

As noted at the beginning of this study, a major constraint on this research is the lack of any single comprehensive theory to specify a general model of communal conflict. Very few theories relate directly to communal conflict. Much of this study, therefore, tested whether theories about general domestic political strife can also explain communal conflict. Even these theories, however, are partial and often involve only single equation hypotheses. Multiequation models can explain more fully such complex relationships as the cross-national variation in communal conflict. Therefore, I chose to use an approach of incremental hypothesis-testing and model-building as one attempt to build an overall theoretical structure for communal strife. Each chapter introduced variables theoretically relevant to the economic, social or political context of communal conflict. Starting with single equation hypotheses, the bivariate effects of the variables were tested first. Then results from each chapter were integrated with the findings of the previous chapters. In this sequential

and incremental way, this investigation has partially fulfilled the goal of developing a multiple equation model.

The model for communal conflict is still quite provisional. This chapter will first specify intervening variables, to test for indirect effects on communal strife, as a further elaboration of the model. Second, we will test for the possibility of nonrecursive relationships.

Further Elaboration of the Model

Although the economic and social variables tested in Chapters III-V had no multivariate direct effects on either communal protest or violence, they may indirectly influence the incidence of communal strife. In order to explain more fully the model of communal conflict, we need to test for indirect effects. It may be that the economic and social factors are fully mediated by the political system. Public policy can often ameliorate economic difficulties or social upheavals caused by economic slumps or, the contrary, by fast economic growth. At the same time, repressive government policies can limit the distribution of public goods or restrict the impact of economic development to a privileged few.

Looking at the political variables that directly influence communal conflict, press freedom, as an indicator of the openness of the regime, is perhaps the one most likely to be related to the economic variables. A

relatively free press facilitates communication about problems and disputes within the regime. To respond to these public demands and debates, the government must be capable of mobilizing and distributing political and economic resources. Some theorists have even stated that democracy can exist only in a developed country.¹ Although the definition of democracy varies across the studies, most theorists seem to agree that a free and open communication system is tolerated by the regime only if there is the economic capability to respond. This condition may not be sufficient for democracy, but it is a necessary one. National publicity about a drought or about malnutrition among children in one area is detrimental to the political elites unless they can respond with aid programs. If the country is so poor that the government is limited in its response to economic deprivation, it will want to minimize publicity about the hardships. A politically legitimate regime will tolerate a free press; the mobilization of economic resources is one way to gain political legitimacy.

In testing the bivariate effects of the economic variables on the press freedom index, two economic variables positively influence the press freedom index. In Table 7-1 we see that both social mobilization and the trade composition index are significantly related to press freedom. It can be recalled from Table 5-9 that energy consumption per capita is positively related to

TABLE 7-1
MULTIVARIATE REGRESSION ON INDEX OF PRESS FREEDOM
(N=37)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
Press Freedom			
Social Mobilization, 1968-70	.0044*	.0015	.439
Trade Composition Index, 1970	1.2043*	.6017	.300
Constant	.2445		
	R^2	F	
	.407	11.64	

^aStarred parameter estimates are more than twice their standard errors.

social mobilization. Because there were no bivariate direct relationships, these findings suggest that the variables indicating a degree of economic development are totally mediated by the political variable of press freedom. It is a pure developmental effect. The higher levels of economic development increase the social mobilization of the country. A larger communication infrastructure facilitates national communication and political mobilization. It may be that a mobilized society, one with greater political awareness, will not tolerate strong control or censorship of the mass media. At the same time, the higher level of economic development facilitates the ability of the government to respond to criticism that would come with a national and politically free communication system.

Press freedom is also a function of the trade composition index. Those countries which export more manufactured goods and import more raw materials are also considered to be more highly developed. In addition, if we follow the dependence theories, the countries with a higher trade composition index are more economically independent. Their economies are not as vulnerable to international commodity price fluctuations; they generally have a more diversified economy that reduces the negative impact of economic recessions. As stated earlier, this relative economic independence is in contrast to those countries which must rely on the capricious primary product

market for their foreign exchange earnings. Economic dependence limits the political options or choices available at home. The government is less capable of responding to demands made by its own citizens when its economy is vulnerable to declining terms of trade. This serious economic restraint would make governments reluctant to permit serious demands on its domestic economic and political capabilities. One way to "control" those demands is to reduce freedom of expression in the national media.

The economic impact is mediated by the political system, but in the hypothesized direction: greater economic dependence reduces press freedom which in turn increases communal violence. The dependence theory holds for the context of communal conflict, not just for general political instability. The variable is exogenous which supports the proposition that as an explanatory variable, it represents relationships among national units, not characteristics within those units. In a limited way, therefore, we have shown that the international economic context can have an impact on the domestic political system.

Both communal protest and communal violence are curvilinear functions (logarithmic) of acts of government repression. Having tested the other variables in bivariate relationships, only the social variable, ethnolinguistic fractionalization, increases the negative government sanctions (Table 7-2). This finding tends to support the

TABLE 7-2
MULTIVARIATE REGRESSION ON ACTS OF GOVERNMENT REPRESSION
(N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
ln Acts of Government Repression			
Ethnolinguistic Fractionalization, 1960	1.9380*	.7853	.354
Dummy Variable, Military Regime, 1965-69	1.2805*	.5857	.314
Constant	.8752		
	R^2	F	
	.263	6.60	

^aStarred parameter estimates are more than twice their standard errors.

theories that governments in a socially plural polity will use more force to "integrate" the polity. In addition, the willingness to use force does not vary across levels of economic development. However, the assumption derived from this theory, that greater force will reduce conflict, is not upheld with this data set. A plural society does tend to have greater numbers of repressive measures, but the negative sanctions increase, not decrease, the communal conflict. The assumption that an element of force is necessary for political stability among communal groups is not supported by these empirical results.

The dummy variable for military regimes is also positively related to acts of government repression and is significant. This variable indicates that the presence of a military regime does increase the amount of government restrictions on political participation. The widely practiced policy of the military regimes for increasing political stability is to control and direct the amount and kind of political participation of the masses. Although military regimes do use more force, the political results are contrary to the expectations of the military regimes: greater force increases communal protest and violence. Military regimes, consequently, do not offer greater political stability among communal groups.

These relationships are illustrated in Figure 7-1. Two other relationships need to be clarified at this point.

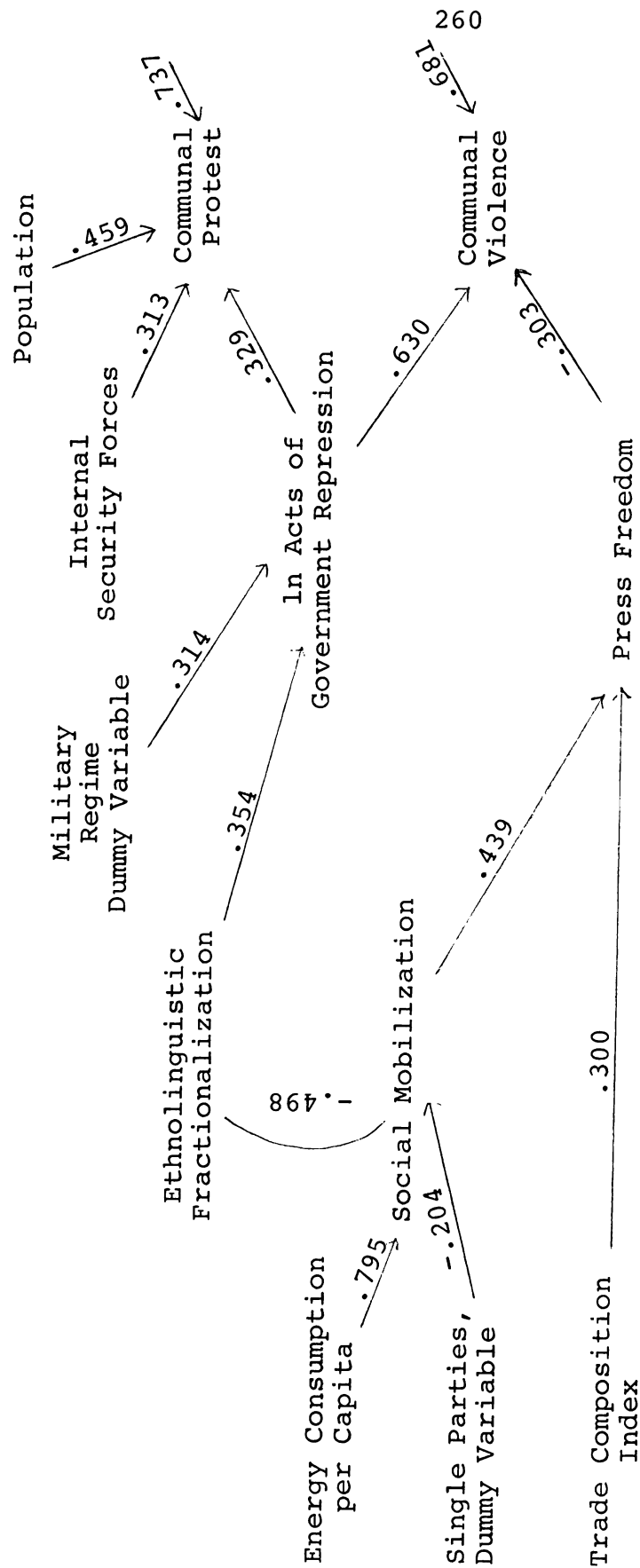


Fig. 7-1. Path Model of Final Regression Estimates

Recall that Table 6-18 gave the regression results for communal violence with only two of four variables remaining significant. The dummy variable of military regimes and population were not significantly related to communal violence in the multivariate model. The final model for communal violence is given in Table 7-3 which shows that acts of government repression are curvilinearly related to communal violence. At higher levels of repression, the violence does not increase at the same rate, but tapers off. Large amounts of government repression do not decrease communal violence, but the rate of increase diminishes. The index of press freedom remains significantly related to communal violence. The greater the freedom of the press the less the communal violence. The two variables together give an R^2 of .54 which is a fairly large amount of the variance explained. The diagram in Figure 7-1 shows these two explanatory variables for communal violence. The variables which explain communal protest reported in Table 6-18 are repeated in Table 7-3a.

We also have not yet considered the multivariate effects on social mobilization. In Chapter V we found that energy consumption per capita was strongly related to social mobilization. But in Chapter VI we found that single political parties are negatively related to social mobilization. In Table 7-4 we have combined the economic and political variable to see if the relationships hold

TABLE 7-3
MULTIVARIATE REGRESSION ON COMMUNAL VIOLENCE

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest (N=40)			
ln Internal Security Forces per 1,000 Population, 1968-69	.4110*	.1623	.313
ln Acts of Government Repression, 1965-74	.3203*	.1248	.329
Population, 1969	.7745 x 10 ⁻⁵ *	.2152 x 10 ⁻⁵	.459
Constant	.7684		
	$\frac{R^2}{.457}$	$\frac{F}{10.11}$	
b. Communal Violence (N=37)			
ln Acts of Government Repression, 1965-74	1.2548*	.2343	.630
Index of Press Freedom, 1965	-.6425*	.2493	-.303
Constant	2.5302		
	$\frac{R^2}{.536}$	$\frac{F}{19.67}$	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 7-4
MULTIVARIATE REGRESSIONS OF SOCIAL MOBILIZATION
(N=40)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
Social Mobilization			
Energy Consumption per Capita, 1968	.0528*	.0056	.795
Single Parties, Dummy Variable, 1965-69	-75.9105*	31.2324	-.204
Constant	173.8241		
	R^2	F	
	.754	56.98	

^aStarred parameter estimates are more than twice their standard errors.

in the multivariate estimation. The results show that energy consumption is still strongly related to social mobilization and is certainly the most important variable. The dummy variable, however, remains significant and negative. Contrary to the theory that single parties mobilize their populace for political support and activity, these results show that single parties discourage social mobilization. Controlling for the level of economic development, nations with single parties have less socially mobilized populations.

The model in Figure 7-1 reveals that the political variables totally mediate the economic and social variables. The type of political regime does have a substantial and significant impact on the integration of communal groups into the polity. The argument that communal conflict cannot be ameliorated by public policy because the competing allegiances are too fundamental or "primordial" for political manipulation of the conflict is not supported empirically. Communal allegiances are fundamental to the role and identity of many citizens, and government policies may not be able to alter or negate these identities. But the conflict resulting from the differences among communal groups can be influenced by public policy. The pessimistic argument of Robert Dahl, Seymour Lipset, Douglas Rae and Michael Taylor that democratic institutions, or even general public policy, cannot ameliorate communal strife



is seriously challenged by the empirical results of this study. Further studies are necessary, but it seems that communal conflict is influenced by political public policy as is conflict arising from other social, political divisions within the polity.

Simultaneous Formulations

The empirical results in Chapter VI supported the hypothesis that acts of government repression or negative sanctions would increase communal protest and communal violence. The statistical results showed one of the strongest relationships in the model for both protest and violence. The theoretical reason for designating the causal sequence as government repression increasing conflict was the hypothesis that governments often over-react to communal appeals for political or economic goods. Sanctions such as censorship or the restriction of political participation are indicators of government repression; this institutional violence incites mass, and sometimes violent, communal protests. An argument can be made, however, that it is the decision of communal groups to "take to the streets" that provokes government negative sanctions. Strikes, riots, etc. disrupt the normal political and economic functions of the state and cannot be tolerated. The causal relationship perhaps should be specified in the other direction.



These conflicting arguments show that there is a possible interdependence between acts of government repression and communal strife; we can test for a simultaneous or nonrecursive relationship. Estimation of a nonrecursive model requires the identification of a number of explanatory variables. The previous provisional specifications were, therefore, necessary before we could test for simultaneous effects. There are now enough variables to identify the model.

Because acts of government repression influence both communal protest and violence, we must test for simultaneous relationships with both dependent variables. We will examine each one in turn. From Figure 7-1 (Tables 7-2 and 7-3), we can estimate the following two structural equations:

$$7-1 \quad Y_1 = a + b_1 Y_2 + b_2 X_{18} + b_3 X_2 + e$$

$$7-2 \quad Y_2 = a + b_1 Y_1 + b_2 X_{16} + b_3 X_{20} + e$$

Y_1 = Communal Protest

Y_2 = ln Acts of Government Repression

X_{18} = ln Internal Security Forces, 1968-69

X_2 = Population, 1969

X_{16} = Ethnolinguistic Fractionalization, 1960

X_{20} = Dummy Variable, Military Regimes,
1965-69

e = Stochastic Disturbance

The endogenous variables are denoted as the Y_i , and the exogenous or predetermined variables as the X_i . Because the Y_i appear on each side of both equations and are not time-lagged, the model is nonrecursive. With the Y_i on both sides of the equation, the least squares assumption that the error terms are uncorrelated is violated. The model is overidentified so we can estimate it with the two-stage least-squares procedure which avoids the problem of bias caused by nonrecursive effects.² In the "first" stage each of the endogenous variables (Y_i) is regressed on all of the exogenous and predetermined variables (X_i). These ordinary least-squares estimates are not biased because each is estimated from the reduced-form equations which do not include any endogenous variables on the right-hand side.

Given the models specified in 7-1 and 7-2, the first stage estimates the Y_i^* (predicted values) from the reduced-form recursive equations with ordinary least squares. The first stage equations are as follows:

$$Y_1^* = a_{10} + b_{11}X_{18} + b_{12}X_2 + b_{13}X_{16} + b_{14}X_{20}$$

$$Y_2^* = a_{20} + b_{21}X_{18} + b_{22}X_2 + b_{23}X_{16} + b_{24}X_{20}$$

For the second stage the predicted Y_i^* are substituted on the right side of equations 7-1 and 7-2 in place of the original endogenous variables (Y_i). By removing the

correlated component of the error terms, the Y_1^* allows us to test for reciprocal effects without any simultaneity bias. The structural equations are estimated as follows:

$$7-1A \quad Y_1 = a + b_1 Y_2^* + b_2 X_{18} + b_3 X_2 + e$$

$$7-2A \quad Y_2 = a + b_1 Y_1^* + b_2 X_{16} + b_3 X_{20} + e$$

All terms are defined as above.

Table 7-5 gives the second stage results from estimating equations 7-1a and 7-2a. It is clear that the relationship between government repression and communal protest is not reciprocal. Neither of the predicted values is significant. However, for communal protest only the population variable remains significant. The fact that the predicted value of the \ln of government repression does not influence communal protest may be the result of two factors. First, the instrumental variable, the predicted \ln acts of government repression variable, is not well explained in the first stage estimation; the R^2 is only .33. Very few discussions of two-stage least squares consider the problem of how well the instrumental variable is explained in the first stage; if it is poorly explained by the exogenous variables, then it will probably not be statistically significant in the second stage. Second, the predicted value of \ln of acts of government repression may be collinear with the \ln internal security forces. The simple correlation

TABLE 7-5
SECOND STAGE ESTIMATES: COMMUNAL PROTEST AND ACTS OF GOVERNMENT REPRESSION (N=39)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Predicted ln Acts of Government Repression, 1965-74 (Y_2^*)	.1956	.2765	.121
ln Internal Security Forces, 1968-69	.2928	.2455	.181
Population, 1969	.8170 x 10^{-5} *	.2560 x 10^{-5}	.505
Constant	1.0606		
	R^2		F
	.328		5.69
b. ln Acts of Government Repression			
Predicted Communal Protest (Y_1^*)	.3623	.2623	.200
Ethnolinguistic Fractionalization, 1960	1.7355*	.8064	.316
Dummy Variable, Military Regimes, 1965-69	1.3424*	.5793	.329
Constant	.2190		
	R^2		F
	.317		5.41

^aStarred parameter estimates are more than twice their standard errors.

is not too high ($r = -.39$), but it could be sufficient to inflate the standard errors so neither variable passes the test of significance.

The exogenous variables in the estimation of \ln acts of government repression remain significant, but the predicted value of communal protest is not. Communal protest clearly does not cause acts of government repression. At the same time, the initial hypothesis, that acts of government repression affect the level of communal protest, could be questioned because of these two-stage least squares results. Yet it is necessary to recall that acts of government repression are fairly strongly related to communal protest. The interpretation of why this relationship does not hold for the two-stage model is the problem of the goodness of fit for the instrumental variable even when the exogenous variables are not related to the other dependent variable. The second problem is probably collinearity among the variables in the second stage estimation of communal protest. The original hypothesis, that communal protest is a function of negative sanctions by the government, will be retained.

The same relationship needs to be tested for acts of government repression and communal violence. Again we can use two-stage least squares estimation, for the model is overidentified:

$$7-3 \quad Y_1 = a + b_1 Y_2 + b_2 X_{21} + e$$

$$7-4 \quad Y_2 = a + b_1 Y_1 + b_2 X_{16} + b_3 X_{20} + e$$

Y_1 = Communal Violence

Y_2 = ln Acts of Government Repression,
1965-74

X_{21} = Index of Press Freedom, 1965

X_{16} = Ethnolinguistic Fractionalization, 1960

X_{20} = Dummy Variable, Military Regime,
1965-69

The first stage equations are estimated as follows:

$$Y_1^* = a_{10} + b_{11} X_{21} + b_{12} X_{16} + b_{13} X_{20}$$

$$Y_2^* = a_{20} + b_{21} X_{21} + b_{22} X_{16} + b_{23} X_{20}$$

Following the same procedures, we can now test the structural equations:

$$Y_1 = a + b_1 Y_2^* + b_2 X_{21} + e$$

$$Y_2 = a + b_2 Y_1^* + b_2 X_{16} + b_3 X_{20} + e$$

Table 7-6 gives the results which again show no recursive relationship between the two variables. In fact, for these two equations, we have further verification that government repression causes greater communal violence. The parameter estimate is significant and even slightly

TABLE 7-6
SECOND STAGE ESTIMATES: COMMUNAL VIOLENCE AND ACTS OF GOVERNMENT REPRESSION
(N=37)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Violence			
Predicted ln Acts of Government Repression, 1965-74 (Y ₂ *)	1.3350*	.5928	.343
Press Freedom Index, 1965	-.6317*	.3229	-.298
Constant	2.3504		
	R^2	F	
	.256	5.86	
b. ln Acts of Government Repression			
Predicted Communal Violence (Y ₁ *)	-.0701	.2880	-.071
Dummy Variable, Military Regimes, 1965-69	1.5028	.9438	.346
Ethnolinguistic Fractionalization, 1960	2.2960	1.2974	.406
Constant	1.0020		
	R^2	F	
	.262	3.91	

^aStarred parameter estimates are more than twice their standard errors.

stronger than the press freedom index. The R^2 is quite modest, however. In contrast, the two-stage estimate of the effect of communal violence on government repression is not significant. The hypothesis that government repression exacerbates communal violence is therefore maintained. From these empirical findings, we cannot state that the governments are simply reacting to mass violence as a last resort to maintain order.

Because the models are fully identified, we can empirically test our assertion in Chapter II that communal protest and communal violence reflect separate protest activities. It may be that communal protest causes or precedes more violent expressions of opposition. At the same time, communal violence may encourage other communal groups to organize mass strikes or demonstrations. We can use two-stage least squares to determine whether the two endogenous variables are simultaneously related. The reduced-form equations are as follows:

$$Y_1^* = a_{10} + b_{11}X_{18} + b_{12}X_{19} + b_{13}X_{21} + b_{14}X_2 + e$$

$$Y_2^* = a_{20} + b_{21}X_{18} + b_{22}X_{19} + b_{23}X_{21} + b_{24}X_2 + e$$

The structural equations for the second stage are the following:

$$7-5 \quad Y_1 = a + b_1Y_2^* + b_2X_{18} + b_3X_{19} + b_4X_2 + e$$

$$7-6 \quad Y_2 = a + b_1 Y_1^* + b_2 X_{21} + b_3 X_{19} + e$$

Y_1 = Communal Protest

Y_2 = Communal Violence

X_{18} = ln Internal Security Forces, 1968-69

X_{19} = ln Acts of Government Repression,
1965-74

X_2 = Population, 1969

X_{21} = Index of Press Freedom, 1965

The results are unambiguous. In Table 7-7 there is no nonrecursive relationship between the two endogenous variables. Neither of the predicted values is significantly related to their respective dependent variables. The variables included in the communal protest model again do not remain significant. In this case it is clearer that multicollinearity is inflating the standard errors. The simple correlation is .90 between the predicted value of communal violence and ln acts of government repression. Looking at Table 7-7 with Table 6-18, we can directly observe the effects of multicollinearity on the standard errors and therefore, the significance of the estimators. The standard error for ln internal security force goes from .1248 to .2294 for the collinear model. Acts of government repression standard error is inflated from .1248 to .2898. Only the population standard error is slightly inflated, and it is the only variable that remains

TABLE 7-7
SECOND STAGE ESTIMATES: COMMUNAL PROTEST AND VIOLENCE (N=36)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Communal Protest			
Predicted Communal Violence (Y_2^*)	.0157	.1989	.025
In Internal Security Forces, 1968-69	.3682	.2294	.226
In Acts of Government Repression, 1965-74	.2766	.2898	.297
Population, 1969	.8094 x 10^{-5} *	.2250 x 10^{-5}	.503
Constant	.7139		
$\frac{R^2}{.439}$		$\frac{F}{6.06}$	
b. Communal Violence			
Predicted Communal Protest (Y_1^*)	-.0211*	.4920	-.006
Index of Press Freedom, 1965	-.6803*	.2582	-.319
In Acts of Government Repression, 1965-74	1.2412*	.3040	.625
Constant	2.5787		
$\frac{R^2}{.542}$		$\frac{F}{12.64}$	

^aStarred parameter estimates are more than twice their standard errors.

significant. The R^2 actually decreases also, from .457 and .439. This direct comparison illustrates the serious problems of estimation caused by multicollinearity. With multicollinearity one cannot be at all sure that the estimated model is the true model; the estimates are unbiased and have minimal variance, but "minimal" in this case is not very small.

The second stage was estimated again excluding the acts of government repression, for one way to circumvent collinearity problems is to constrain one of the collinear variables ($b_3 = 0$). The predicted value of communal violence was still not significant. Even with one collinear variable removed, the two endogenous variables are not interchangeable indicators for communal opposition to the regime. They are two distinct expressions of mass criticism by communal groups of the government. Acts of sabotage and deaths due to communal strife are an escalation of more peaceful demonstrations as an expression of opposition. When violent acts are organized against the government by citizens in a subculture, it is a different kind of threat to political stability than political strikes or even riots. An escalation of the strife makes the conflict qualitatively different, and therefore, the government might consider political responses to communal violence which differ from public policy relating to communal protest.

The model in Figure 7-1 is the "final" model of this study for explaining communal conflict for the forty cases. There are no reciprocal relationships. The causal ordering hypothesized for the model now has an empirical base. No a priori assumptions about the sequential ordering between acts of government repression and communal conflict are now necessary. Communal protest and communal violence remain distinct; public policy relating to these forms of strife could reflect the empirically based argument that they are not interdependent. However, as I stated in the second chapter, the original data set contained sixty-two cases. Twenty-two cases had zero incidence of communal protest and communal violence for the decade 1965-1974. These cases are substantively quite important as a direct comparison with nations that do experience communal strife. Yet the fact of one-third of the sample with zero conflict causes a problem of very skewed distributions for the dependent variables. To include all the cases for regression analysis, we would have violated the least squares assumption of a continuous, interval level of measurement in the dependent variable with normally distributed error terms. One "solution" was to exclude temporarily the twenty-two cases. This approach, however, constrains the variance of the dependent variables. This "final" model, therefore, may not be the most appropriate one, given these problems with the

dependent variables. In order to overcome these problems, and to be able to use the full sample, I re-estimated this model with probit analysis. A comparison of the two estimations is discussed in the final chapter.

CHAPTER VII--NOTES

¹The theories differ over the form of the relationship between economic development and a democratic political system. The following authors describe the relationship as positive and linear: Seymour Lipset, "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," American Political Science Review 53 (March 1959): 69-105; Phillips Cutright, "National Political Development: Measurement and Analysis," American Sociological Review 28 (April 1963): 253-64.

Deane Neubauer constructed an index for democracy and proposed that the relationship was curvilinear. Data restraints prevented him from demonstrating a clear relationship. Robert Jackman used the Neubauer index with a larger and more heterogeneous sample; the results show a clear empirical basis for a curvilinear relationship between level of economic development and democratic performance. Deane Neubauer, "Some Conditions of Democracy," American Political Science Review 61 (December 1967): 1002-09; Robert W. Jackman, Politics and Social Equality (New York: John Wiley, Inc., 1975), pp. 66-71.

²This description is only a brief summary. For more extensive explanations of two-stage least squares estimation, consult the following: Potluri Rao and Roger Miller, Applied Econometrics (Belmont, Calif.: Wadsworth Publishing Co., 1971), pp. 195-220; Ronald Wonnocott and Thomas Wonnocott, Econometrics (New York: John Wiley, Inc., 1970), pp. 358-64; Jan Kmenta, Elements of Econometrics (New York: Macmillan Co., 1971), pp. 559-64; John Johnston, Econometric Methods (2nd ed.; New York: McGraw-Hill Book Co., 1972), pp. 380-84. Good substantive analyses of two-stage least squares can be found in the following: Douglas Hibbs, Mass Political Violence: A Cross-National Causal Analysis (New York: John Wiley, Inc., 1973), pp. 206-32; Robert S. Erikson, "The Influence of Newspaper Endorsements in Presidential Elections: The Case of 1964," American Journal of Political Science 20 (May 1976): 207-234.

CHAPTER VIII

PROBIT ANALYSIS: A REESTIMATION OF THE MODEL OF COMMUNAL CONFLICT

The previous analysis relates only to a subset of the original data. The twenty-two cases that were temporarily excluded all had zero communal protest and violence for the years 1965-1974. Yet the zero values for communal conflict are meaningful. The twenty-two cases include countries that have communal subcultures and could be considered plural societies (see Appendix B for a list of the cases). Why do they experience no communal conflict? Can we explain the differences among the nations with no, a little, or great communal strife? These questions cannot be answered with regression analysis. With over one-third of the cases measuring zero, we could no longer argue that the dependent variable has normally distributed error terms which is a problem for small samples such as this one.¹ These error term assumptions necessary for regression analysis imply a continuous measured dependent variable. Fortunately, an alternative technique has been developed which permits the inclusion of the zero cases without violating the assumptions about the error terms necessary for

estimation; probit analysis uses maximum likelihood estimates to estimate the relationship of the independent variables to an ordinally measured dependent variable.

To compare the differences between probit and regression analysis, this chapter will first test the final regression models of communal violence and communal protest with probit estimation procedures. Second, all of the economic, political and social variables used in regression analysis are retested for probit. Because the sample size can be substantially increased, the probit estimates of the final model may differ from the regression estimates. Any differences between the models could be a result of the different statistical estimation techniques and more important, of adding the substantively interesting cases of zero communal conflict to the sample. A brief description of the properties of probit estimation and its comparison with the properties of regression is given in Appendix C.

Regression Model Reestimated With Probit

At the end of Chapter VI, several political variables contributed to the explanation of communal violence and communal protest. After testing them in a multivariate relationship to the dependent variables only some remained significant. In order to compare directly the differences between regression and probit estimation techniques, we will reestimate the regression model in

Table 6-18 for probit. Twenty-two cases have been added, which may change the functional form. Also, the probit model will be able to define the relationship of the independent variables to dependent variables with an ordinal level of measurement. The two dependent variables were trichotomized into zero, some, and much communal conflict according to "natural" breaking points in the data.

Probit does not require equal numbers of cases in the categories. The trichotomization was chosen because the data not only contain a large amount of zero cases but also have a number of cases with very high incidence of communal strife. It was decided that a third category for these relative outliers would give a more accurate description of cross-national communal conflict than a simple dichotomized division. Recalling that the dependent variables are logged, summed indices, the categories are as follows:

<u>Communal Protest</u>	<u>Number of Cases</u>	<u>Mean of the Category</u>	<u>Range of the Category</u>
Zero	30	0	0
Medium	21	1.822	2.079
High	$\frac{11}{62}$	3.930	2.979
<u>Communal Violence</u>			
Zero	27	0	0
Medium	10	1.389	2.140
High	$\frac{25}{62}$	6.574	7.537

The probit estimation for this model is given in Table 8-1. The R^2 regression and the estimated \hat{R}^2 of the probit give an overall comparison of the two estimations. Although the \hat{R}^2 of probit is estimated, it does give an indication of the goodness of fit. In the probit model the \hat{R}^2 is a full 23 percent points higher than in the regression estimation ($\hat{R}^2 = .69$). The two techniques differ considerably in the results of the tests of significance.² Although all three variables are significant in regression, only the ln acts of government repression is significantly related to communal protest in probit. For the larger sample and with a trichotomous dependent variable, communal protest is simply a function of the acts of government repression, yet the relationship is quite strong. One interpretation is that these results reflect the effect of the many cases that have no communal protest. To explain differences across zero conflict to much conflict, not just across different levels of conflict, the negative sanctions of the government influence protest more than the security forces or general population size.

For communal violence the probit technique gives the same model as regression except that the \hat{R}^2 is again considerably higher (+ 18 percentage points). Both the ln acts of government repression and the press freedom index are significant and their relative importance in explaining communal violence is the same for both estimators: government

TABLE 8-1
 PROBIT PREDICTIONS: REESTIMATION OF FINAL REGRESSION MODELS

Independent Variable	Maximum Likelihood Estimate ^a	Standard Error	Standardized Estimate
a. Communal Protest (N=59)			
ln Internal Security Forces per 1,000 Population, 1968-69	.1953	.1501	.123
ln Acts of Government Repression, 1965-74	.5820*	.1214	.520
Population, 1969	.00001	.00001	.002
	$\frac{R^2}{.688}$	$\frac{\chi^2}{359.95}$	
b. Communal Violence (N=58)			
ln Acts of Government Repression, 1965-74	.8702*	.1848	.749
Press Freedom Index, 1965	-.2577*	.1341	-.197
Military Regime, Dummy Variable, 1965-69	-1.1743	.6255	-.243
Population, 1969	.0000	.00001	.000
	$\frac{R^2}{.718}$	$\frac{\chi^2}{468.99}$	

^aStarred parameter estimates are more than twice their standard errors.

repression is again most strongly related to communal conflict. The press freedom index is negative for both models and, therefore, promotes reduction in the amount of communal violence in the polities.

Probit Analysis of Communal Protest and Violence

Instead of simply accepting the regression results as the basis for the probit model, the economic, social and political variables were retested for the larger sample and the trichotomous dependent variables. The variables that were obviously multicollinear were tested in bivariate relationships.³ Variables that were significant were each combined in turn with the other political and social variables to determine the multivariate effects on communal protest and violence. The selection of the linear versus curvilinear relationships was made on the basis of theory. From the basis of the previous theoretical discussions, the variables most likely to be curvilinearly related to communal strife are centralization, internal security forces and acts of government repression. In Chapter VI, we discussed the hypothesis that centralization would have a reduced effect on communal strife at the higher levels of centralization. The argument states that some national centralization of economic and political authority is necessary to overcome parochial interests and local political discrimination. But a great deal of centralization

would give the dominant groups too much authority: less powerful communal subcultures could be ignored or repressed. Similar arguments were presented for the number of internal security forces and the acts of government repression. Some expression of coercion might deter mass opposition to a regime; excessive coercion against peaceful demonstrators or small bands of saboteurs might provoke greater hostility from the communal group involved. The multivariate analysis combined all of the economic, social and political variables; it was tested four times for both communal protest and violence employing one of the collinear variables in each of the four estimations.⁴ Thus, we could test the multivariate effects of the variables but also avoid the major collinearity problems. The estimates that were significant in the four models were retested together; the nonsignificant ones were excluded.

The resulting probit predictions are given in Table 8-2. Once again, communal protest is a curvilinear function only of acts of negative sanctions for this data set. The estimated R^2 is .447 which is moderate, but substantial, for a bivariate relationship. Even with the many social, economic, and political variables that were introduced, only the repressive measures of the government influence communal protest. Although this relationship explains almost one-half of the variation of communal protest, the model only describes one factor that increases

TABLE 8-2
 PROBIT PREDICTIONS: COMMUNAL PROTEST AND VIOLENCE (N=58)

Independent Variable	Maximum Likelihood Estimated	Standard Error	Standardized Estimate
a. Communal Protest			
ln Acts of Government Repression, 1965-74	.5809*	.1130	.683
Constant	-.7207		
	$\frac{\hat{R}^2}{R}$	χ^2	
	.474	302.54	
b. Communal Violence			
Ethnolinguistic Fractionalization, 1960	1.6320*	.6335	.231
Press Freedom, 1965	-.3374*	.1536	-.228
Single Parties, Dummy Variable, 1965-69	-1.8442*	.7168	-.310
ln Acts of Government Repression, 1965-74	.8815*	.2091	.670
Constant	-.4375		
	$\frac{\hat{R}^2}{R}$	χ^2	
	.780	508.47	

*Starred parameter estimates are more than twice their standard errors.

conflict. This parsimonious model tends to substantiate the theorists who state that communal protest is one of the more difficult forms of political conflict to control. However, one generalization can be made that negative sanctions do not control communal protest; repression is not a solution to protest outside the normal political channels.

Several variables contribute to the explanation of communal violence. Two that were also included in the final regression model for communal violence are the press freedom index and the log of the acts of government repression. Acts of repression are again the most important variable in the multivariate model. Press freedom is last in the rank order of the variables (it was also last of two for regression), but it does reduce communal violence. What is interesting here is the significance of ethno-linguistic fractionalization and the single parties dummy variable. Because the regression contained only cases with some amount of communal conflict, the variance of the dependent was constrained. Ethnolinguistic fractionalization might not have been significantly related to communal conflict because the cases with no communal conflict (lower ethnolinguistic fractionalization?) were excluded. For the full sample, therefore, the amount of pluralism in the polity does relate to the amount of communal violence (but not protest).

It was argued in Chapter VI that single parties could mobilize the people and be a unifying force for a pluralist population. The opposite effect was found, however, for single parties did not influence communal protest or violence directly, but negatively influenced social mobilization. In this probit estimation single parties significantly influence communal violence, and it is the second strongest variable in the model. Nations with single political parties have less communal violence. The theory presented by Rothchild and Dahl that single parties are political institutions that can build consensus is upheld for the larger sample. There is some evidence that circumscribing the political arena with a unifying political brokerage institution can overcome separatist tendencies. Because the parties reduce conflict, it also seems that they build consensus without seriously alienating the communal groups.

The full estimation of the probit model, including intervening variables, is given in Figure 8-1. The diagram shows that, except for the social variable ethnolinguistic fractionalization, the political variables mediate the social and economic variables. Social mobilization positively relates to press freedom; a mobilized society affords a more open political system. The exogenous trade composition index variable influences press freedom indirectly through increasing the mobilization of the



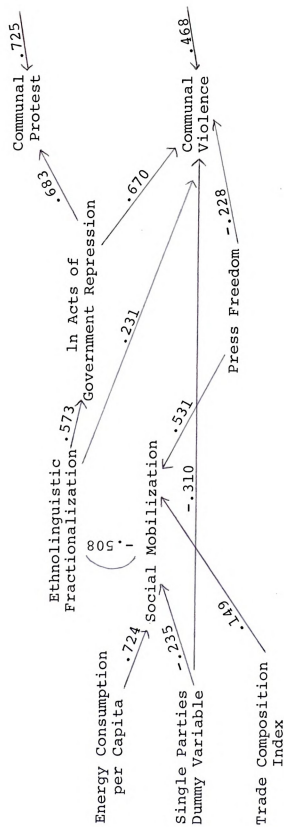


Fig. 8-1. Path Model of Final Probit Estimates (N=62)

society, instead of directly as in the regression model. The independent international trade position of a country seems to constrain less the government's political options. The communications infrastructure is greater; the politically active populace is larger, yet the media is relatively less controlled. Demands on the government can be aired because the communication structure is available and the channels are not closed by censorship. Dependence on primary commodities for export and the manufactures of other countries for import is detrimental to these social and political relationships. A country whose economy is vulnerable to commodity price fluctuations does not have the ability to respond to demands from a politically mobilized populace; political control of the media is one way to reduce criticism of the inability to deliver economic and political goods.

As with the regression model, social mobilization is correlated with ethnolinguistic fractionalization. Because of the type of indicator, no causal direction is hypothesized, and again, no interaction between the two was found. Ethnolinguistic fractionalization is the only variable that influences the important factor of the amount of government repression. The dummy variable for military regimes is not significant for the larger sample as it was for regression. Countries which have greater numbers of communal subcultures experience greater enforced

TABLE 8-3

MULTIVARIATE REGRESSIONS OF PRESS FREEDOM AND OF ACTS OF GOVERNMENT REPRESSION

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Press Freedom Index (N=58)			
Social Mobilization, 1969-70	.0064*	.0011	.612
Constant	-.4066		
	$\frac{R^2}{.374}$	$\frac{F}{33.52}$	
b. ln Acts of Government Repression (N=62)			
Ethnolinguistic Fractionalization, 1960	3.0038*	.5542	.573
Constant	.1566		
	$\frac{R^2}{.329}$	$\frac{F}{29.38}$	

^aStarred parameter estimates are more than twice their standard errors.

TABLE 8-4
MULTIVARIATE REGRESSIONS OF SOCIAL MOBILIZATION (N=62)

Independent Variable	Parameter ^a Estimate	Standard Error	Standardized Estimate
a. Social Mobilization			
Energy Consumption per Capita, 1968	.0486*	.0045	.724
Dummy Variable, Single Parties, 1965-69	-87.9215*	23.0923	-.235
Trade Composition Index, 1970	55.9969*	24.4300	.149
Constant	210.9510		
	R^2		F
	.798		76.27

^a Starred parameter estimates are more than twice their standard errors.

limitations to political participation. Yet this censorship increases communal violence and protest. The conclusion offered for the regression model holds for the larger sample: greater government coercive control in pluralist societies increases political conflict among communal groups.

In addition to the trade composition index, social mobilization is also related to the level of economic development (energy consumption) and single parties. Economic development also explained social mobilization for the regression model. It is to be expected that certain production levels need to be reached before communication infrastructures are built, urbanization occurs, or literacy increases. The single parties again negatively influence social mobilization so they have a somewhat ambiguous effect on communal violence. Single parties directly reduce communal violence, but indirectly, through the other social and political variables, they increase communal violence. Single parties reduce social mobilization which in turn would reduce the positive effects of social mobilization in ameliorating communal violence.

Conclusions and Implications for Further Research

The probit estimation technique has made it possible to reevaluate the regression model for a

significantly larger sample size by including the cases with zero communal conflict. We did not need to ignore that part of the world that experienced no communal conflict in the last decade. With the two estimation techniques, this study has tested whether the multiple equation model remains stable across statistical estimators and different samples. Recalling the many variables that were excluded in the final estimation after they were found to be nonsignificant, the two multivariate models are strikingly similar.

Only two major changes occurred in the estimation. The social indicators of economic development were not included in either of the final models, nor did the measure of the multinational corporate investment explain any of the variance for either model. In fact, only two economic variables had any influence on the incidence of communal conflict: energy consumption per capita and the trade composition index, and both were totally mediated by type of political system. This result seriously challenges much of the literature about civil strife. Most theorists argue that economic development and the rate of economic change are fundamental to an explanation of civil strife. This research shows that there are no direct relationships of the economic variables; countries which are highly developed may have high levels of communal strife if the

political system is repressive and discriminatory. A greater economic production at the national level does not guarantee a reduction in economic or political discrimination of communal groups.

The trade composition index influenced the press freedom index for the regression model, but it related to social mobilization for the probit model. In both instances, the higher trade composition, meaning greater independence of the economy in international trade relations, indirectly decreased communal violence. This relationship gives a modest affirmation of the dependence theorists; the international economic context of a polity can affect the domestic political stability. One of the major substantive suggestions from these empirical results is that political scientists need to take into consideration the international environment of the nation-states. States can no longer be treated as isolated entities; we can no longer assume that the governments have full control over the domestic political and economic options. The indicator of the influence of multinational corporations did not remain in the final model. This finding could be a result of the measurement problems of the dollar investment of multinational corporations. Currently available measures rely on the self-reporting of the corporations about their activities; the cross-national comparisons are simply crude estimates. From case studies about multinational corporations there

is much evidence of their power in a domestic political situation. We are constrained from making cross-national generalizations about this influence until better measures can be obtained.

A second contrast between the two estimation techniques is the ambiguous effect of single parties. For regression the indicator of single party regimes decreased social mobilization which was an indirect aid to increasing violence. For the probit model, the variable retained that influence but also directly reduced communal violence. One reason for the ambiguous effect is probably the measure; it is only a crude dichotomous dummy variable. A more refined measure indicating the amount of citizen participation in the party or giving at least the institutional longevity of the party would help to sort out further its influence. This modest finding, however, is enough to suggest a need for further questioning of the generally accepted argument about single parties. The sample did not include Eastern Europe or the U.S.S.R. which are the cases most often cited to show that single parties are repressive and limit participation. This relationship does not seem to be true for single parties in the Third World. We cannot definitively condemn them as anti-democratic and detrimental to political stability. Further research could be done to determine if the

implications of this research for single parties pertain to other political contexts and to other political variables.

A major contribution of this research is the fact that disaggregating civil strife has greatly facilitated building a general theory about political conflict across nations. Disaggregation of general mass political upheaval has shown that both communal protest and communal violence differ from each other and from the general mass conflict. For the less severe forms of communal protest, the differences among economic and political systems do not have much impact. Communal protest remains difficult to explain. Groups are less reluctant to demonstrate peacefully and will do so for a variety of reasons. Communal violence, however, is qualitatively different. For this variable, which more severely affects the very existence of the political system, this research has found that the government can choose public policy which reduces violence. National political and economic policy does make a difference in the integration of plural subcultures in a polity. Possible solutions to communal violence are much more diverse than the breaking up of the state into separate nations. The solution chosen depends upon the choices of the government, given its particular economic constraints. If negative sanctions are the choice, this

research predicts that more violence will occur. If public policy to reduce discrimination and coercion is the choice, even the most pluralist polities can endure.

CHAPTER VIII--NOTES

¹For large samples many properties of least squares estimation do not require the normality assumption because the sampling distributions of the estimates will approach normality regardless of the distribution of the error terms. See the following for a discussion of the least squares assumptions: J. Johnston, Econometric Methods (New York: McGraw-Hill Book Co., 1972), pp. 121-23. For a discussion of probit for small samples, see Martin Zechman, "A Comparison of Small Sample Properties of Probit and O. L. S. Estimators with a Limited Dependent Variable" (unpublished paper, University of Rochester, April 1974).

²The ratio of the MLE/Standard Error for large samples is approximately a standardized normal random variable or Z-score. The Z-score is the same criterion we used for tests of significance for the regression coefficients; if the estimate is more than twice ($Z=1.96$) its standard error, the variable is significant at the .05 critical level. The test for overall significance is -2 times the log of the likelihood ratio. This statistic gives the probability of observing this sample if the MLE are correct versus the acceptance of the null hypothesis that all variable coefficients are zero. It has a chi squared distribution with degrees of freedom equal to the number of independent variables. See R. McKelvey and W. Zaviona, "A Statistical Model for the Analysis of Ordinal Level Dependent Variables," Journal of Mathematical Sociology 4 (1975): 103-120.

³The variables which show collinearity because of their simple correlations are the following:

	Social Ind.	Social Mobiliz.	Centraliz.
Energy Cons.	.49	.85	.74
Social Indicators		.48	.52
Social Mobiliz.			.70
Centralization			

⁴Each of the above variables was tested separately with the following multivariate model for protest and violence: income inequality, trade composition index, ln internal security forces, ln government repression, press freedom index, dummy variable single parties, population, ethnolinguistic fractionalization. Investment was tested individually because it reduces the N so extensively (N=45). Dummy variable for date of independence was also tested.

APPENDICES

APPENDIX A

DATA SOURCES FOR ALL VARIABLES

APPENDIX A

DATA SOURCES FOR ALL VARIABLES

Communal Protest and Violence

Keesing's Contemporary Archives. London: Keesing's Publications, Ltd. Annuals, 1964-1975.

Africa Diary, Hari Sharan Chabra, ed., New Delhi: African Publications.

Asian Recorder, M. H. Samuel, ed., New Delhi: Indraprastha Press.

Facts on File, New York: Facts of File, Inc.

Economic Indicators

1. Energy Consumption/Capita - 1968
Statistical Yearbook 1972. New York: United Nations, 1973.
2. Human Development, 1968-69 - an index of the following:
 - a. Doctors per 1 million population
Statistical Yearbook 1973. New York: United Nations, 1974.
 - b. Teachers per 1000 students - primary education
Statistical Yearbook 1970. Paris: UNESCO, 1971.
Economic Data Book for Near East and South Asia. Washington, D.C.: Agency for International Development, 1973.
 - c. Rooms per 1000 persons
Statistical Yearbook, 1973. New York: United Nations, 1973.
Economic Program Department, Socio-Economic Data Division, World Tables. Washington, D.C.: International Bank for Reconstruction and Development, 1974.

- d. Live births per 1000 births
Statistical Yearbook, 1971. New York: United Nations, 1972.
Economic Data Book for Africa. Washington, D.C.: Agency for International Development, 1973.
Economic Data Book for Near East and South Asia. Washington, D.C.: Agency for International Development, 1973.
- e. Calories per capita per diem
Economic Data Book for Africa; Economic Data Book for East Asia; Economic Data Book for Latin America; Economic Data Book for Near East and South Asia. Washington, D.C.: Agency for International Development, 1973.
 Economic Program Department, Socio-Economic Data Division, World Tables. Washington, D.C.: International Bank for Reconstruction and Development, 1971.
- 3. Average Annual Percent Change in Energy Consumption per capita, 1963-72
 - a. 1963
Statistical Yearbook, 1963. New York: United Nations, 1964.
 - b. 1972
Statistical Yearbook, 1972. New York: United Nations, 1973.
- 4. Personal Income Distribution, 1965
 Paukert, Felix. "Income Distribution at Different Levels of Development: A Survey of Evidence." International Labour Review 108 (August-September 1973): 114-115.

Economic Dependence Indicators

- 1. Foreign Direct Investment in dollars, 1967
 Organization for Economic Cooperation and Development, Development Assistance Directorate, Stock of Private Direct Investments by D.A.C. Countries in Developing Countries, End 1967. Paris: O.E.C.D., 1972.



2. Trade Composition Index

- a. Explanation and calculation of index:
Johan Galtung, "A Structural Theory of Imperialism," Journal of Peace Research 7 (1971): 81-117.
- b. Data of Exports and Imports for each country:
Department of Economic and Social Affairs, Statistical Office, Yearbook of International Trade Statistics 1970-71. New York: United Nations, 1973.

Social Indicators

- 1. Social Mobilization, 1968-70 - an index of the following:
 - a. Economically Active Population - Percent in Non-Agriculture Sectors
Production Yearbook, 1972. Rome: Food and Agriculture Organization, 1973.
 - b. Newspaper Circulation per 1000 population
Statistical Yearbook, 1970. Paris: UNESCO, 1971.
 - c. Radio Receivers per 1000 population
Statistical Yearbook, 1970. Paris: UNESCO, 1971.
 - d. Literacy per 1000 population
Statistical Yearbook, 1973. Paris: UNESCO, 1974.
Economic Program Department, Socio-Economic Data Division, World Tables. New York: International Bank for Reconstruction and Development, 1971.
Economic Data Book for Africa. Washington, D.C.: Agency for International Development, 1973.
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APPENDIX B

VALUES OF COMMUNAL VIOLENCE AND PROTEST

APPENDIX B

VALUES OF COMMUNAL VIOLENCE AND PROTEST^a

1965-74				
N = 62				
	Communal Protest		Communal Violence	
	Raw Score	ln (Raw Score+1)	Raw Score	ln (Raw Score+1)
<u>AFRICA</u>				
Chad*	2	1.099	1,879	7.539
Ethiopia*	6	1.946	1,599	7.378
Kenya*	6	1.946	845	6.741
Nigeria*	18	2.944	15,297	9.635
Sierre Leone*	10	2.398	0	0.0
Somalia	0	0.0	0	0.0
South Africa*	67	4.220	98	4.595
Sudan*	24	3.219	2,818	7.944
Tanzania*	0	0.0	0	0.0
Uganda*	0	0.0	1,501	7.315
Zaire*	1	.693	24,184	10.093
Zambia*	25	3.258	30	3.434
<u>MIDDLE EAST</u>				
Iran	0	0.0	0	0.0
Iraq*	7	2.079	4,774	8.471
Israel*	6	1.946	1,774	7.482
Jordan*	11	2.485	215	5.375
Lebanon*	9	2.303	971	6.879
Morocco*	1	.693	0	0.0
Syria*	5	1.792	16	2.833
Tunisia	0	0.0	0	0.0
Turkey*	6	1.946	0	0.0

	Communal Protest		Communal Violence	
	Raw Score	ln (Raw Score+1)	Raw Score	ln (Raw Score+1)
<u>ASIA</u>				
India*	353	5.869	1,948	7.575
Indonesia*	23	3.178	2,357	7.766
Japan	0	0.0	0	0.0
S. Korea	0	0.0	0	0.0
Malaysia*	9	2.303	153	5.037
Pakistan*	54	4.007	58,182	10.971
Philippines*	10	2.398	5,029	8.523
Sri Lanka*	3	1.386	1	.693
Thailand*	0	0.0	10	2.398
<u>LATIN AMERICA</u>				
Argentina*	0	0.0	1	.693
Bolivia	0	0.0	0	0.0
Brazil*	3	1.386	0	0.0
Chile	0	0.0	0	0.0
Columbia	0	0.0	0	0.0
Costa Rica	0	0.0	0	0.0
Ecuador	0	0.0	0	0.0
El Salvador	0	0.0	0	0.0
Jamaica	0	0.0	0	0.0
Mexico*	0	0.0	32	3.497
Panama	0	0.0	0	0.0
Paraguay*	5	1.792	1	.693
Peru*	0	0.0	11	2.485
Venezuela	0	0.0	0	0.0
<u>AUSTRALIA, EUROPE AND NORTH AMERICA</u>				
Australia	0	0.0	0	0.0
Belgium*	28	3.367	1	.693
Cyprus*	2	1.099	113	4.736
Denmark	0	0.0	0	0.0
Finland	0	0.0	0	0.0
France*	15	2.773	68	4.234
Germany, Fed.	0	0.0	0	0.0
Greece	0	0.0	0	0.0
Ireland (Eire)*	8	2.197	39	3.689
Italy*	0	0.0	1	.693

	Communal Protest		Communal Violence	
	Raw Score	ln (Raw Score+1)	Raw Score	ln (Raw Score+1)
Netherlands	0	0.0	0	0.0
Norway	0	0.0	0	0.0
Spain*	17	2.890	52	3.970
Sweden	0	0.0	0	0.0
Switzerland*	4	1.609	2	1.099
United Kingdom*	116	4.762	742	6.611
Canada*	0	0.0	4	1.609
United States*	247	5.513	135	4.913

^aValues for communal protest are (natural) logged summed indices of event data of protest demonstrations, political strikes, and riots. Values for communal violence are (natural) logged summed indices of event data of armed attacks and political deaths. (See Chapter II of text.)

*The starred cases were used in the regression analysis (N=40). All the cases were used in the trichotomous probit analysis (N=62).

APPENDIX C

BRIEF DESCRIPTION OF THE PROPERTIES OF
PROBIT ESTIMATORS



APPENDIX C

BRIEF DESCRIPTION OF THE PROPERTIES OF PROBIT ESTIMATORS

An ordinal dependent variable with n-chotomous categories violates three major assumptions necessary for least squares estimation.¹ With a trichotomous dependent variable, for instance, the range of variation of the dependent variable is severely restricted. This limited variability violates the assumption that the error term is normally distributed which is a problem especially for small samples. Second, the residuals will be correlated with the independent variables. This correlation means that the expected value of the residuals is not zero [$E(U) \neq 0$]. The least squares assumption of homoscedasticity is violated; the residuals do not have constant variance for all levels of the independent variable. These violations of the least squares assumptions about the error term seriously question the appropriateness of regression analysis for ordinal measured dependent variables. The regression coefficients would be biased and inconsistent.

The probit estimation assumes an underlying interval scale to the dependent variable.² It assumes that there is a distinction between the dependent variable of

theoretical interest and the observed dependent variable. The theoretically interesting dependent variable is interval, but due to inadequate measurement techniques we only observe an ordinal level measure. The limited variability of the dependent variable (n-chotomous) is the result of measurement constraints. For instance, if we could observe every incidence of mass communal strife, the cases with zero strife would certainly be much fewer. The difficulties of observing all conflict (government suppression of news, media inattention to "minor" events, conflict occurring in areas remote from political center of the state, etc.) give us observed variables that vary less than the actual variation in communal conflict across nations.

A second set of assumptions of probit relate to the error term: it is multivariate normal with expectation zero and a constant variance and no covariance. With the assumption that the error term is normally distributed about the assumed underlying scale, one can determine the probability (likelihood) of having observed the X_i for a given set of values of the parameters. This probability is given by the maximum likelihood estimate (MLE). The maximum likelihood estimates of the true parameters are those values (\hat{B}) that if true would maximize the probability of observing the particular sample.³ The MLE share many of the same properties as the least squares estimates (if the assumptions of regression are not violated). The

maximum likelihood estimates are (1) asymptotically consistent; (2) efficient or have a minimum variance for this class of estimates; (3) normally distributed. These properties all hold for large samples only. Yet Martin Zechman found that even for an N of 50 that the probit MLE appear to be unbiased. The regression estimates for the same sample were biased; the magnitude of the bias was a function of the changes in the distance between the categories of the dependent variable.⁴ These findings at least tentatively justify the use of probit for small samples, even though the MLE properties are defined for large samples.

The maximum likelihood estimates are not directly comparable to the regression coefficients. In regression the estimate (b_1) represents the amount of change in the observed value of the dependent variable which occurs with a unit change in the independent variable. Because probit estimates refer to the underlying scale of the n -chotomous dependent variable, the maximum likelihood estimates represent the amount of change in the dependent variable on its estimated underlying scale which occurs with a unit change in the independent variable; they are independent of the n -chotomous coding of the dependent variable, but dependent on the units of the estimated underlying scale.

In addition, the R^2 or measure of the goodness of fit is not the same as the R^2 for regression. For n -chotomous dependent variables the variance is undefined.

We cannot observe the deviations of the dependent variable about its mean. The total sums of squares must be estimated. We also only have an estimate of the sum of squared residuals because we cannot observe residuals about the regression plane so the sum is arbitrarily set as an equivalent to one unit error for each case. The R^2 therefore is an estimate.

It follows that the standardized beta must also be based on an estimated variance. The standard deviation of Y is the standard deviation on its underlying scale. Given this interpretation, the standardized beta still represents the normalization of the data (the dependent variable is normalized on its underlying scale). The probit standardized beta gives the number of standard deviations of change in the dependent variable on its estimated underlying scale brought about by a change of one standard deviation in the independent variable. It reflects the relative strength of the different variables in the same equation. Because its interpretation is similar to that of the B^* for regression, we can more readily use it for comparison of the two models.

APPENDIX C--NOTES

¹For a thorough discussion of the differences between regression and probit analysis see the following: John Aldrich and Charles F. Cludde, "Probing the Bounds of Conventional Wisdom; A Comparison of Regression, Probit, and Discriminant Analysis," American Journal of Political Science 19 (August 1975): 571-608.

²This discussion considers only one method of conceptualizing probit; the other involves predicting the probability of an observation being in one category. Most of the references given for probit discuss both methods.

³For further explanation of the maximum likelihood estimates see the following: Ronald Wonnocott and Thomas Wonnocott, Econometrics (New York: John Wiley, Inc., 1970), pp. 34-38 and 52-55; Jan Kmenta, Elements of Econometrics (New York: Macmillan Co., 1971), pp. 174-82; R. McKelvey and W. Zavoina, "A Statistical Model for the Analysis of Ordinal Level Dependent Variables," Journal of Mathematical Sociology 4 (1975): 7-11.

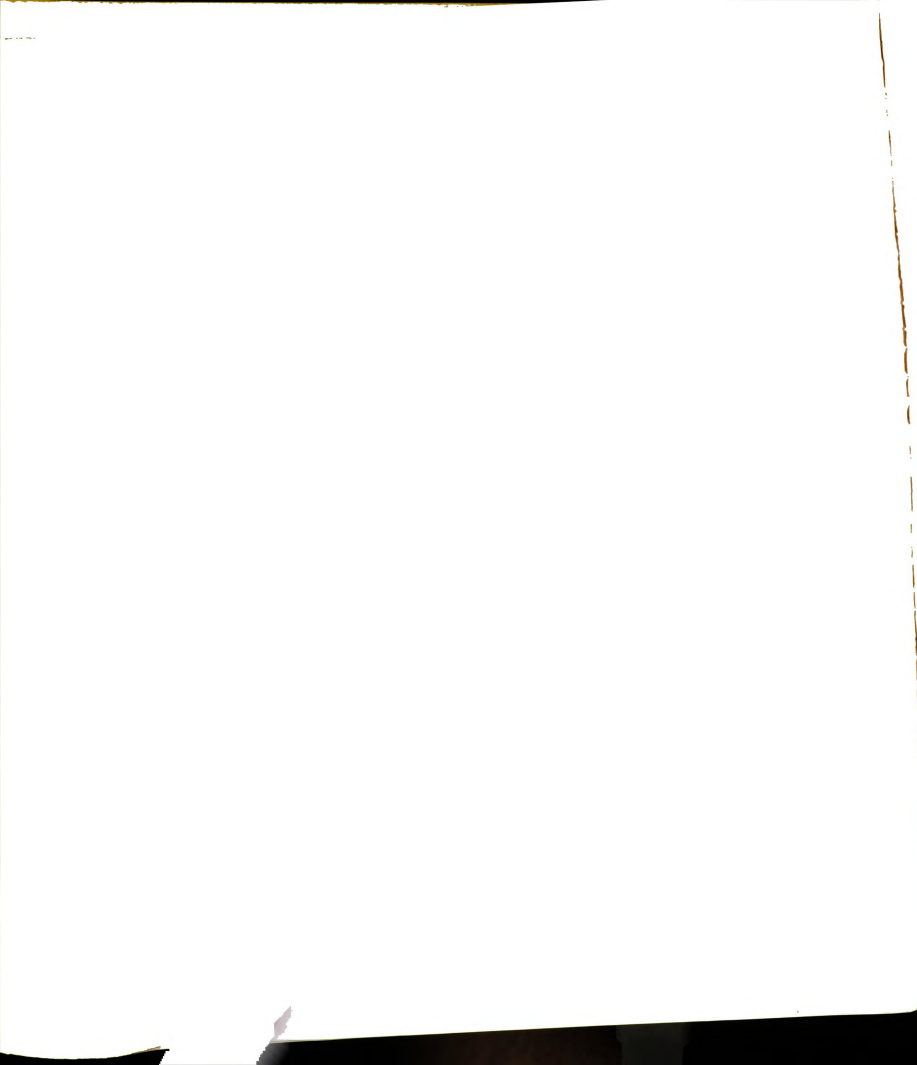
⁴Martin Zechman, "A Comparison of Small Sample Properties of Probit and O. L. S. Estimators with a Limited Dependent Variable" (unpublished paper, University of Rochester, April 1974), pp. 22-23.

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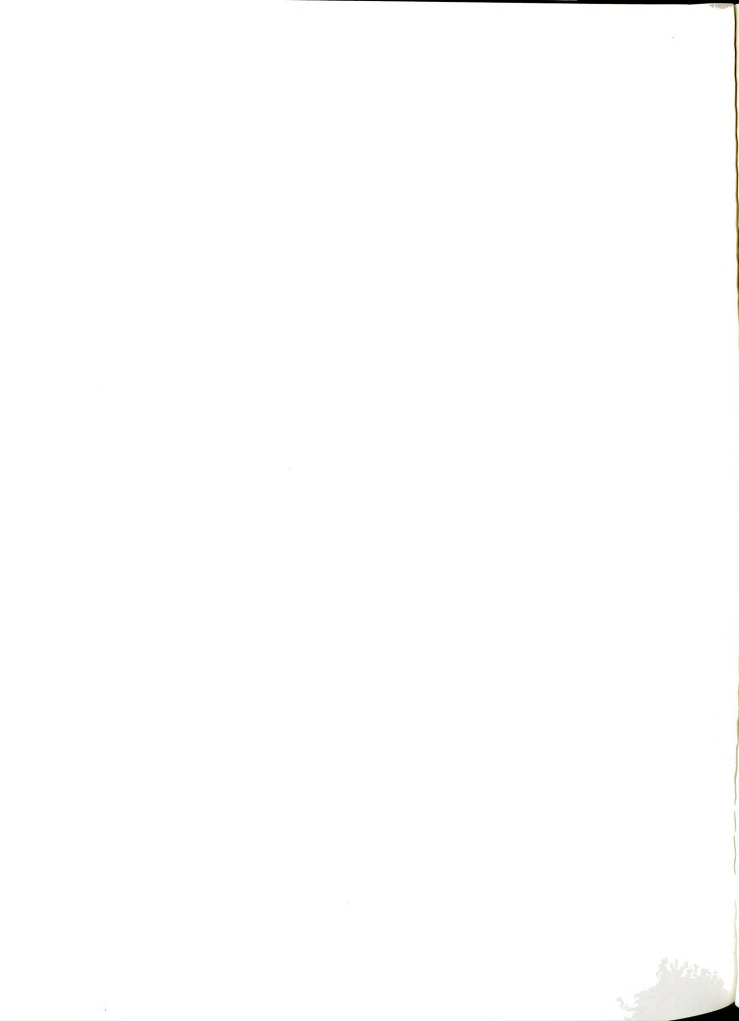
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