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Modernization, repression, and political violence

Fu, Hung-der, Ph.D.

The University of Arizona, 1991

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Modernization, Repression, and Political Violence

by

Hung-der Fu

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A Dissertation Submitted to the Faculty of the

DEPARTMENT OF POLITICAL SCIENCE

In Partial Fulfillment of the Requirements
For the Degree of

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THE UNIVERSITY OF ARIZONA

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and recommend that it be accepted as fulfilling the dissertation requirement
for the Degree of Doctor of Philosophy.

Edward N. Muller 9/4/91
Edward N. Muller Date

Allen S. Whiting 9/4/91
Allen S. Whiting Date

Jerrold G. Rusk 9/4/91
Jerrold G. Rusk Date

Date

Date

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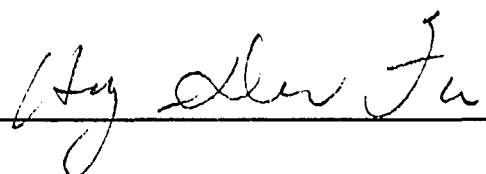
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A handwritten signature in cursive script, appearing to read "Hyder J", is written over a horizontal line.

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ABSTRACT

MODERNIZATION, REPRESSION, AND POLITICAL VIOLENCE

by

Hung-der Fu

September 1991

During the process of modernization, countries are seeking different goals such as growth, equality, stability, democracy, autonomy, etc. While these goals are not readily compatible nor can be achieved simultaneously, the unavoidable consequences for modernization are inequality, instability, repressiveness, dependency, stagnation or the combination of these. The cross-national variation in the pattern of political violence is the most noticeable one.

One of the most ambitious and influential attempts to develop a general theory of why modernizing countries are susceptible to political instability is that proposed by Samuel P. Huntington in the form of three interrelated "Gap" hypotheses. Using only three equations and six explanatory variables, Professor Huntington's Gap hypotheses integrate previously disparate strands of theorizing about instability into a coherent whole. The lack of empirical support for Huntington's Gap hypotheses in explaining general instability calls for further studies. Alternative hypotheses are based

on structural and behavioral explanation such as the type of state function and the way governments cooperate/coerce with opposition elites and dissident groups. Rational choice theory and relative deprivation theory are the two most plausible contending theories in developing a middle-range theory. Rational choice theory argues a combination of structural conditions and individual rationality. Relative deprivation asserts a discontent-aggression linkage in terms of the satisfaction of economic well-being.

Guided by the modernization gap theory, rational choice theory, and deprivation theory, using six five-year intervals from 1948 to 1977, this study carried out vigorous multiple testings. The results show that rational choice theory is the most powerful theory in explaining political violence, while deprivation theory is secondly important.

CHAPTER I
INTRODUCTION

Most countries emerging after World War II are en route to modernity. Although nations have different goal orientations and the means to achieve them, developing nations share common objectives of economic growth, equity, and stability. In order to achieve these goals, Rostow claims that there are stages of economic growth: (1) traditional society, (2) preconditions for takeoff, (3) takeoff, (4) drive toward maturity, and (5) age of high mass consumption.¹ Organski points out stages of political development: (1) primitive national unification, (2) industrialization, (3) national welfare, and (4) abundance.² Black suggests four phases of modernization: (1) the challenge of modernity to traditional society, (2) the consolidation of modernizing leadership, (3) the transformation of economy and society, and (4) the integration of society.³ These "stage" theories of moderniza-

¹W. W. Rostow, Stages of Economic Growth: A Non-Communist Manifesto (Cambridge: Cambridge University Press, 1960), p. 7.

²A. F. K. Organski, The Stages of Political Development (New York: Alfred A. Knopf, 1960).

³Cyril E. Black, The Dynamics of Modernization (New York: Harper and Row, 1966).

tion are far from persuasive in support of these hypotheses. They tend to follow the American liberal tradition based on the assumption that all good things go together.⁴ While rapid economic growth is seen to be the locomotive of development by early optimistic modernization theorists, others argue that rapid economic growth actually brings negative results, conflicting with the goals of equality and stability.⁵ In addition to Olson's theoretical argument, Kuznets finds that rapid growth inevitably increases inequality⁶ and Muller find that inequality is one of the determinants of political violence.⁷ As Huntington points out, the process of modernization itself generates political violence.⁸ He specifies a sequence that social mobilization causes social frustration; social frustration induces an increase of political participa-

⁴See Robert A. Packenham, Liberal America and the Third World (Princeton, N. J.: Princeton University Press, 1973). p. 20. He indicates that there are four propositions that American history experienced: (1) change and develop are easy, (2) all good things go together, (3) radicalism and revolution are bad, and (4) distributing power is more important than accumulating power.

⁵Mancur Olson, "Rapid Growth as a Destabilizing Force," Journal of Economic History 23 (December 1963):529-552.

⁶Simon Kuznets, "Economic Growth and Economic Inequality," American Economic Review 45 (March 1955):1-28.

⁷Edward N. Muller, "Income Inequality, Regime Repressiveness, and Political Violence," American Sociological Review 50 (1985):47-61.

⁸Samuel Huntington, Political Order in Changing Society (New Haven: Yale University Press, 1968).

tion; and participation without institutional preparation finally leads to political instability.

Cases such as Brazil and China, once claimed to be models of development, have experienced these conflicts of development.⁹ Brazil, with rapid growth, experienced what Kuznets predicted, the exacerbation of inequality; and economic prosperity did not bring stable democracy as the "modernization theorists" predicted but led to a repressive regime instead. China, on the way to a more open economy, has suffered from the escalation of mass discontent and student demonstrations in the 1980s. Consequently, the regime has become much more repressive; and economic growth has slowed down. The effects of economic development and political development are intertwined. The achievement of one goal may hamper the other. Rapid economic development brings a higher standard of material condition, but it also brings higher expectations that a government will solve problems such as pollution, inflation, and general deterioration of life quality. The new rising echelon demands bold reform in democratization to assure more opportunity to participate in governmental decision making. Mass participation and political democratization, in turn, may be the obstacles to rapid growth. Thus, while engaging political and economic develop-

⁹See Peter Berger, Pyramids of Sacrifice (Garden City, New York: Anchor Press, 1976).

ment, developing countries face a series of decisions about potentially conflicting goals: growth and equity, growth and democratization, and growth and stability. Resolving the incompatibility between growth and stability is thought by many to be the most important problem.

Among the theorists of political violence, Professor Huntington is the most ambitious and influential. He has attempted to develop a general theory about political instability in modernizing countries in the form of three inter-related "Gap" hypotheses. He has proposed, first, that in the process of modernization, social mobilization will increase. It produces aspirations and expectations. If social mobilization exceeds economic development, the gap generates frustration. Second, if frustrated individuals lack mobility opportunity, the first gap will motivate them to engage in political participation. Third, if there is a high volume of political participation and weak political institutions, this gap creates political instability.

The contribution of Huntington's Gap hypotheses is that they integrate previously disparate strands of theorizing about instability into a coherent entity. In addition, the Gap hypotheses encompass the different major substructures of a society: social, economic, and political. However, a major problem with Huntington's theory is that he tries to incorporate micro-psychological conditions and macro-structural

conditions in the same equations. Social mobilization, economic development, mobility opportunity, and political institutionalization are macro variables, while social frustration and political participation are micro variables. The gap theory becomes extremely difficult to operationalize and test with currently available data because Huntington fuses the two levels of variables and formulate hypotheses across two levels of analysis.

Also, Huntington's Gap hypotheses seem to be unable to explain the general instability in Africa, East Asia, and part of South Asia. In Africa, social mobilization is low. Instability is generated more often by intra-elite competition rather than the imbalance between political participation and institutionalization. In Asia, rapid mobilization is accompanied by a relatively low level of economic development, low mobility opportunity, and weak political institutions. However, the situation does not generate high volume of political instability. The generally stable authoritarian regimes in East Asia and part of South Asia contradict Huntington's assumption.

Alternative hypotheses derived from rational choice theory and relative deprivation theory yield structural and behavioral explanations of political violence. Rational choice theory asserts that people act to maximize their expected utility. This maximization is based on their ordered

preferences. At the macro level, the structural condition on regime repressiveness is expected to have a major impact on political violence. From a rational actor perspective the form of the relationship should be an inverted U-curve.¹⁰ Extremely repressive regimes suppress violent opposition by imposing high costs. In a democratic regime, peaceful electoral solutions are preferred since they are associated with low costs. However, in semi-repressive regimes, the magnitude of violence should be high because the expected benefits of violence will outweigh those of conventional electoral participation and the costs of violence will be relatively low. In addition to the structural setting, the intensity of governmental acts of coercion is expected to affect the occurrence of political violence in a similar way. A high intensity of sanctions will deter participation; a low intensity of sanctions will encourage peaceful protest; while sanctions of intermediate intensity will provoke violence.

A prominent contending theory to rational choice theory - deprivation theory--assumes that discontent produces violence regardless of expected utility. Davies argues that when there is an intolerable gap between what people want and what people

¹⁰E. N. Muller, "Income Inequality, Regime Repressiveness, and Political Violence," American Sociological Review 50 (1985):47-61; E. N. Muller and E. Weede. 1990. "Cross-National Variation in Political Violence.", Journal of Conflict Resolution 34 (1990):624-651.

get, violent civil disturbances are likely to occur.¹¹ According to Feierabend, Feierabend, and Nesvold, this situation creates systemic frustration which, in turns, produces aggressive behavior in the form of political instability.¹² Thus, it is argued that economic well-being and better life quality will lessen the frustration generated by the process of modernization and hence reduce political violence.

These various hypotheses will be subjected to multiple empirical tests over time to find out their consistency and robustness. In this study, using six five-year intervals from 1948 to 1977, the three theories will be tested. The dependent variable is the logged (base on e) value of deaths rate (the sum of the five-year period divided by mid-interval population). The count of deaths that occurred in conjunction with armed attacks, riots and assassinations is an analytical-ly useful variable.¹³ However, due to the lack of political violence data, this study is constrained in the period from

¹¹J. C. Davies, "Toward a Theory of Revolution," American Sociological Review 27 (1962):5-18.

¹²I. Feierabend, R. Feierabend, and B. Nesvold. "Social Change and Political Violence: Cross National Patterns," in Hugh D. Graham and T. Gurr (eds.) Violence in America: Historical and Comparative Perspectives: A Report to the National Commission on the Causes and Prevention of Violence (New York: Signet Books, 1969).

¹³In chapter two, in addition to deaths, collective protest, political violence, and coups are also considered as dependent variables.

1948 to 1977.¹⁴ The aggregation of five-year interval is preferable to a longer period such as ten-year interval or a short period such as one or two year interval. A shorter period may not reflect the structural change while a longer period may lose the accuracy and information. Although the selection of five-year interval is arbitrary, it is preferable and widely used in previous studies.¹⁵

The tests of Huntington's theory, in chapter two, cover only four five-year periods since there are too many missing values in operationalizing key concepts for the first two five-year periods from 1948 to 1957. For example, composite indexes such as social mobilization, mobility opportunity, institutionalization and political violence are using several components which are not available in the period from 1948 to 1957. In chapter three, three independent variables, used to test rational choice theory, are regime democraticness, negative sanctions, and separatism. The index of regime democraticness is from Gurr's *Polity II*.¹⁶ The index of

¹⁴Although the Inter-university Consortium for Political and Social Research (ICPSR) tape reports data up to 1982, the information between 1978 to 1982 is not reliable. For example, there is no report of deaths in Africa through the period.

¹⁵For example, Muller, "Income Inequality, Regime Repressiveness, and Political Violence". Muller and Weede, "Cross-National Variation in Political Violence".

¹⁶ Ted R. Gurr, Polity II: Political Structures and Regime Change, 1800-1986 [Computer File]. Boulder, CO: Center for Comparative Politics [producer], 1989. Ann Arbor, MI:

negative sanctions and separatism are from the third edition of the *World Handbook*.¹⁷ In chapter four, four additional independent variables, used as controlled variables to test deprivation perspective, are real Gross Domestic Product per capita, real Gross Domestic Product per capita growth rate, infant mortality, and life expectancy. Real Gross Domestic Product per capita, used to measure general well-being, is from R. Summer and A. Heston.¹⁸ Infant mortality and life expectancy, used to measure relative deprivation, are from the *World Table*.¹⁹

Summary of the Chapters

In chapter two, Huntington's Gap Hypotheses are tested. Major fallacies in the conceptualization and operationalization of previous tests of Huntington's Gap theory are discussed. Two tests are proposed to improve the validity of testing Huntington's Gap theory. One is to reduce

Inter-university Consortium for Political and Social Research [distributor], 1990.

¹⁷C. L. Taylor and D. A. Jodice, World Handbook of Political and Social Indicators, 3rd eds., vols. 1 & 2. New Haven: Yale University Press.

¹⁸R. Summer and A. Heston, "A New Set of International Comparisons of Real Product and Price Levels Estimates for 130 Countries, 1950-1985." The Review of Income and Wealth, 34 (March 1988):1-25.

¹⁹World Bank, World Table (Washington, D.C., 1989).

the three gap hypotheses to a single equation without making specification error. The other is to cast the theory as a simultaneous linear structural equation model in which the gap hypotheses are operationalized as an entailment mechanism within the system. These alternatives capture the genuine spirit of the gap hypotheses that Huntington proposed. Using cross-national data for four five-year periods, the empirical evidence from each alternative test does not support Huntington's Gap theory.

In chapter three, the rational choice perspective is discussed and tested with respect to the impact of regime democraticness and governmental repression. As an alternative to modernization theories, it brings in the micro-foundation of individual behavior and adds structural factors that go beyond Huntington's gap hypotheses. It is argued that political violence is a curvilinear function of institutional democracy and negative sanctions, and a linear function of political separatism.

In chapter four, deprivation theory is discussed. The two major variables under investigation are real Gross Domestic Product per capita and real Gross Domestic Product growth rate. Both variables represent a general condition of economic well-being. In addition to the two variables, other deprivation variables such as life expectancy and infant mortality are introduced into a multivariate regression test.

In the concluding chapter, rational choice theory is identified as a better theory of political violence. Also, speculations about policy implications are proposed for countries that suffer from political violence. Furthermore, the direction for further efforts (e.g. data collection for political violence and new testing methods) are suggested.

CHAPTER II

Modernization and Political Instability

Modernization is the process of social betterment which involves all aspects of human activities. According to Lerner, aspects of modernization refer to "urbanization, industrialization, secularization, democratization, education, media participation...".¹ Economically, from traditional economy to a high mass consumption society, modernization is the process of searching for quality of life.² Politically, from the rationalization of authority, the differentialization of structure, to the expansion of political participation,³ modernization is the process of searching for a better political system. Socially, from ascriptive statuses, diffuse roles and particularistic values to achievement statuses,

¹Daniel Lerner, The Passing of Traditional Society (Glencoe, Ill.: Free Press, 1958), p. 438.

²W. W. Rostow, Stages of Economic Growth: A Non-Communist Manifesto (Cambridge: Cambridge University Press, 1960).

³S. N. Eisenstadt, "Modernization and conditions of sustained growth." World Politics 16 (July 1964):576-94. Huntington designates that there are three impacts of modernization on politics: the rationalization of authority, differentialization of structure, and the expansion of political participation. See also Samuel Huntington, Political Order in Changing Societies (New Haven: Yale University Press, 1968), pp. 34-35.

specific roles, and universalistic values,⁴ modernization is the process in which individuals are searching for new personal values and identities in the new social order. To sum up, modernization is a series of rapid social and economic changes. As Huntington puts it, "social mobilization involves changes in the aspirations of individuals, groups and societies; economic development involves changes in their capabilities. Modernization requires both".⁵ In this chapter, the impacts of modernization on political violence in terms of the Gap theory proposed by Huntington will be discussed, criticized, and tested. Two alternative tests will be proposed without distorting Huntington's authentic idea.

2.1 Huntington's Gap Hypotheses

Political instability in the form of political violence, coups, and revolutions is a prominent feature in the modernizing world. One of the most ambitious and influential attempts to develop a general theory of why modernizing countries are susceptible to political instability is proposed by Huntington in the form of three interrelated Gap hypotheses.⁶ He

⁴Talcott Parson, The Social System, (Glencoe, Illinois: Free Press, 1951).

⁵Huntington, Political Order, pp. 34-35.

⁶Ibid., see chapter one.

proposes, first, that in the process of modernization social mobilization will increase, producing increases in aspirations and expectations. If social mobilization exceeds economic development, this gap will generate frustration. Second, if frustrated individuals lack mobility opportunities, they will engage in political participation. Third, if there is a gap between a high volume of political participation and weak political institutions, the result is political instability.

2.1.1 Discussion of the Gap Hypotheses

The strengths of Huntington's Gaptheory are its simplicity and comprehensiveness. Using only three equations and six explanatory variables, Huntington integrates previously disparate strands of theorizing about political instability into a coherent whole.⁷ Moreover, the Gap hypotheses encompass the different major substructures of a society: social, economic, and political.

A major problem of Huntington's theory is that he tries to incorporate micro-psychological conditions and macro-structural conditions in the same equations. Social mobilization, economic development, mobility opportunity, and politi-

⁷See G. Ben-Dor, "Institutionalization and Political Development: A Conceptual and the Theoretical Analysis", Comparative Studies in Society and History 17 (July 1975):309-325. Charles Tilly, "Does Modernization Breed Revolution", Comparative Politics 5 (1973):425-47. Lee Sigelman, "Understanding Political Instability: An Evaluation of the Mobilization - Institutionalization Approach", Comparative Political Studies 12 (1979):205-28.

cal institutionalization are macro variables, while social frustration and political participation are micro variables. Since the hypotheses relating these variables to instability are formulated across two levels of analysis, it is extremely difficult to operationalize and to test the Gap theory in principle; and it is impossible to do this with currently available data.

Previous tests of the Gap theory have not solved the level of analysis problem and are consequently misspecified.⁸ In this chapter, two alternative solutions are proposed that can avoid misspecification and provide tests properly representing the theory. First, it is shown mathematically that Huntington's three ratio-interaction equations can be reduced to a single ratio-interaction equation in which the numerator of the gap term is social mobilization and the denominator is the product of economic development, mobility opportunity, and political institutionalization.⁹ With this alternative, it is not necessary to measure directly the micro psychological or behavioral variables, social frustration or political participation. Second, by constructing a structural model,

⁸There are two basic types of misspecification errors: type one error and type two error. Type one error is that a model includes irrelevant variable(s). Type two error is that a model excludes relevant variable(s). These tests will be discussed in 2.1.2.

⁹This alternative is elaborated in the section 2.2.1.

the two micro variables can be treated as latent variables for which direct observations are also unnecessary.

A second innovation is methodological. Previous tests have been 'single-shot,' i.e., they have been conducted across only a single period of observation. In this chapter, four tests will be conducted across four periods of observation. This multiple test procedure enables one to address the important question of the robustness of parameter estimates over time.

2.1.2 Previous Tests results of the Gap Theory

Huntington's Gap theory has been tested by other scholars, with results that are inconsistent and contradictory.¹⁰ Hibbs provides the most comprehensive tests of imbalance theories and gaps and their relations to mass political violence.¹¹ Based on data over the period 1948-1967 from 108 countries, he finds that both the ratio of social mobilization to economic development and the ratio of social mobilization to institutionalization cannot explain coups, collective protest, or internal war. He concludes that none of the gaps

¹⁰See the comprehensive and insightful review of empirical research on Huntington's theory by Sigelman. See footnote 7.

¹¹D. P. Hibbs Jr., Mass Political Violence: A Cross-National Causal Analysis (New York: Wiley, 1973).

specified in Huntington's theory produces regime instability or domestic violence.¹²

Based on data from eighteen Latin American cases over the period 1958-1964, Ruhl suggests that his revised gap theory is somewhat more useful than Huntington's.¹³ In the revised gap hypotheses, Ruhl substituted an indicator of economic inequality for level of economic development and computed the gap as the ratio of social mobilization to economic inequality divided by the level of political institutionalization. This revised gap variable correlated significantly with political instability, whereas the Huntington gap variable, using level of economic development instead of inequality, did not correlate significantly with instability. However, the three components of the revised gap variable have a stronger multiple correlation with instability when they are entered additively in a regression equation than when they are expressed as a single ratio interaction gap variable. Thus, Ruhl finds that an alternative additive specification is superior to Huntington's gap specification.

In an investigation based on data from sixty-one less developed nations over the period 1955-1966, Yough and Sigelman conclude that the Huntington approach to political

¹²Ibid.

¹³J. M. Ruhl, "Social mobilization and political instability in Latin America: a test of Huntington's theory", Inter-American Economic Affairs 29 (Autumn 1975):3-21.

instability fared quite poorly.¹⁴ Yough and Sigelman operationalized Huntington's theory as the gap between social mobilization and both economic development and political institutionalization. The gap was measured by the residuals of the regression of the former on the latter. They found that their gap variable was unrelated to collective protest or internal war, although it did have a positive impact on power transfers (coups and revolutions).

All three studies testing Gap hypotheses have ignored mobility opportunity, which is assumed by Huntington to be an important variable because it alleviates the intensity of the social frustration presumed to arise from the gap between mobilization and development. As a result, Hibbs, Ruhl, Yough and Sigelman's operationalizations of Huntington's theory are incomplete and therefore misspecified.

2.2 Reformulation of the Gap Hypotheses

2.2.1. Single Equation Solution

In seeking an explanation of political instability, Huntington argues that political instability is caused by the process of modernization which accelerates social mobiliza-

¹⁴S. N. Yough and Lee Sigelman, "Mobilization, institutionalization, development and instability: a note of reappraisal," Comparative Political Studies 9 (July 1976):223-32.

tion. Given a high level of social mobilization, a country that lacks a high level of economic development, vertical mobility opportunities, or a high level of institutionalization is predicted to have a high likelihood of being politically unstable. These relationships are postulated by Huntington as follows:

$$\frac{\textit{Social Mobilization}}{\textit{Economic Development}} = \textit{Social Frustration}$$

$$\frac{\textit{Social Frustration}}{\textit{Mobility Opportunity}} = \textit{Political Participation}$$

$$\frac{\textit{Political Participation}}{\textit{Political Institutionalization}} = \textit{Political Instability}$$

After algebraic substitution, however, Huntington's hypotheses can be reduced to a single equation which represents the original ideas more parsimoniously:

Let X_1 = social mobilization
 X_2 = economic development
 X_3 = social frustration
 X_4 = mobility opportunity
 X_5 = political participation
 X_6 = political institutionalization
 X_7 = political instability

then Huntington's Gap hypotheses can be written as

$$\frac{X_1}{X_2} = X_3 \quad (1) \qquad \frac{X_3}{X_4} = X_5 \quad (2) \qquad \frac{X_5}{X_6} = X_7 \quad (3)$$

by combining (1) and (2), and by substituting x_3 in (1) to (2), it becomes

$$\frac{X_1}{X_2 * X_4} = X_4 \quad (4)$$

and by combining (4) and (3) using the same method, the single equation is

$$\frac{X_1}{X_2 * X_4 * X_6} = X_7 \quad (5)$$

Thus, the Full Gap model is:

$$\frac{\text{Social Mobilization}}{\text{Economic Development} * \text{Mobility Opportunity} * \text{Political Institutionalization}} = \text{Political Instability.}^{15}$$

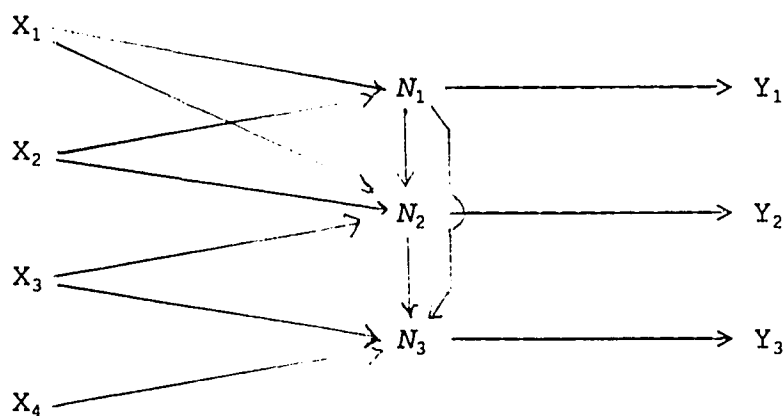
The representation of the entire theory by this single ratio interaction term has the following advantages. First, it avoids the need to develop direct measures of psychological and behavioral conditions such as social frustration and political participation. Second, the algebraic substitutions reduce the three equations to one, which makes the relationships very clear so that one does not have to struggle with interpreting or testing three separate equations. Third, theoretically the model produces a coherent linkage between causal factors--i.e., social mobilization is balanced by economic development, mobility opportunity, and political

¹⁵For an alternative specification, see appendix.

institutionalization. This reflects the essence of Huntington's argument, that political instability is a function of the extent to which there is a gap between socioeconomic change and economic and political development. The ratio interaction term is a valid expression of that gap.

2.2.2. Structural Equations Solution

Another alternative test method is to use a hierarchical structural equation model with unobserved variables¹⁶ (latent variables) in which social frustration, political participation, and political instability (decay) are unobserved:



Where

X_1	=	social mobilization	
X_2	=	economic development	
X_3	=	mobility opportunity	
X_4	=	institutionalization	
N_1	=	social frustration	(unobserved)
N_2	=	political participation	(unobserved)
N_3	=	political instability	(unobserved)
Y_1	=	collective protest (demonstrations, strikes)	

¹⁶This is a special sub-model of the general LISREL model that the x-variables themselves influence the latent variables directly. It assumes a form that "KSI" equals "X".

Y_2 = political violence (riots, armed attacks)
 Y_3 = political decay (coups)

Since Huntington gives rather unclear definitions of social frustration, political participation, and political instability (decay), it is therefore impossible to assume a form which can be fully justified. The solution proposed here is to assume that frustration, participation, and instability lead to different behavioral outcomes. Thus, the hierarchical structured relationships coincide with different kinds of political activities, i.e., collective protest, political violence, and coups. Assume that frustrated people will join peaceful demonstrations before they will join guerrilla warfare. When there is no mobility opportunity, they are more likely to participate in serious activities against the regime. If the political system lacks effective institutions it is susceptible to coups. Under these assumptions, a model is constructed for an alternative test of Huntington's Gap theory. This model will be tested by LISREL (Analysis of Linear Structural Relationships), a program developed for solving structural equations problems.

2.3 Operationalized Variables

In this study, hypotheses are subject to multiple tests of robustness over time, using four time periods: 1958-1962,

1963-1967, 1968-1972, and 1973-1977. Since two of the four periods are before the publication of Huntington's book and two are after, the validity of his explanation can be examined retroactively and the accuracy of his predictions can be evaluated as well. In all four periods, the date of independence (or self-government) is controlled. Dependent territories and colonies are excluded.¹⁷ All countries that suffered from major external invasion are also excluded because the data on political conflict may be distorted by non-domestic factors.

Although Huntington's hypotheses pertain to all nations, many investigators have used only regional samples: more developed Western European countries;¹⁸ Latin American nations only;¹⁹ or African nations only²⁰. Since geographical region is not a variable in Huntington's theory, tests that are limited to region have less power than those conduct-

¹⁷Since virtually all African countries were still not independent by the year 1958, the case number for the first period 1958-62 is much smaller than for later periods.

¹⁸P. R. Schneider and A. L. Schneider, "Social mobilization, political institutionalization and political violence", Comparative Political Studies 4 (April 1971):69-90.

¹⁹Ruhl, "Social mobilization and political instability in Latin America", pp. 3-21.

²⁰R. Duvall and M. Welfling, "Determinants of political instability in black Africa," Comparative Political Studies 5 (January 1973):387-417. Also, see R. Duvall and M. Welfling, "Social mobilization, political institutionalization, and conflict in black Africa," Journal of Conflict Resolution 17 (December 1973):673-702.

ed across all nations. However, the primary emphasis of Huntington's analysis is on less developed or modernizing countries. There was one previous study that tested hypotheses derived from Huntington across less developed countries only.²¹ In this study, all nations and all less developed nations will be examined separately. Independent variables are represented by multi-item measures, in which the selection of indicators is carefully justified. This procedure for operationalizing complex concepts has at least two major advantages: (1) to include more information; and (2) to reduce possible measurement error and thereby improve reliability.

Political Instability

Although the multi-dimensional nature of instability is widely accepted in cross-national studies, there is no consensus about the different dimensions. If factor analysis is used to identify dimensions of instability, results vary. For example, two dimensions were found by Hibbs, while three dimensions were found by Yough.²² The patterns can change if there are different sets of indicators, if the indicators are measured over multiple time intervals, and/or if there are

²¹S. N. Yough and L. Sigelman, "Mobilization, institutionalization, development and instability," pp. 223-32.

²²Hibbs, Mass Political Violence, pp. 11-14. S. N. Yough, "Modernization, institutionalization, and political violence: a cross-national study," Journal of East Asian Affairs 1 (1981):1-48.

different data transformation assumptions. For instance, as Table 2-1 shows, following Yough's specification²³ over four five-year intervals, neither consistent patterns nor stable dimensions have been observed.

[Table 2-1 About Here]

Here, the dimensions of political instability are defined according to more or less commonly accepted analytical distinctions between different kinds of events. First, **collective protest** is events that entail civil disobedience but are not violent. Protest demonstrations and strikes are used for this measure. Second, **political violence** is defined by riots and armed attacks.²⁴ Third, counts of **deaths** from political confrontation that occurred in conjunction with armed attacks, riots, and assassinations are an analytically useful variable that is distinct from counts of the events.²⁵

²³Ibid.

²⁴Data from C. L. Taylor and D. A. Jodice, World Handbook of Political and Social Indicators, 3rd ed., 2 vols. vol. 1. (New Haven: Yale University Press, 1983). The method is to combine the logged (based on e) scores of riots and armed attacks. Each of them is percapitized and transformed to T-score. The average score is then the score of political violence. More discussion see Hibbs, Mass Political Violence, chapter one.

²⁵The use of deaths is well justified in E. N. Muller and E. Weede. E. N. Muller, "Income Inequality, Regime Representiveness, and Political Violence," American Sociological Review 50 (1985):47-61; E. Weede, "Income Inequality, Average Income, and Domestic Violence," Journal of Conflict Resolution 25 (1981):304-14. Deaths per million logged (based on e) and adjusted by a fixed ceiling of 50 per one million is used by E. N. Muller and M. A. Seligson, in "Inequality and Insurgency," American Political Science Review, 81 (1987):425-51.

Table 2-1. Factors and Their Loadings in the Four Periods^a

1958-1962	factor 1	factor 2	factor 3
armed attacks *	<u>.65888</u> ^b	-.31062	.05191
strikes *	<u>.86241</u>	-.00316	.04825
deaths *	<u>.56946</u>	.31417	<u>.59142</u>
protests *	<u>.86408</u>	.13242	-.00528
riots *	<u>.87322</u>	.13418	.02303
assassinations **	-.08429	-.07865	<u>.89618</u>
coups **	.21434	<u>.77643</u>	.07617
revolutions **	.00703	<u>.83962</u>	-.01834
Variances Explained:	45.7%	15.3%	14.5%
1963-1967	factor 1	factor 2	factor 3
armed attacks *	.52760	<u>.73404</u>	-.02419
strikes *	<u>.81659</u>	.24717	.10530
deaths *	<u>.27195</u>	<u>.82608</u>	-.06456
protests *	<u>.87710</u>	.09082	.00679
riots *	<u>.85756</u>	.28083	.05965
assassinations **	.14575	<u>.71399</u>	-.07218
coups **	.04246	<u>.70388</u>	.38416
revolutions **	.08900	-.01237	<u>.95433</u>
Variances Explained:	47.0%	14.9%	13.2%
1968-1972	factor 1	factor 2	
armed attacks *	<u>.73685</u>	.51335	
strikes *	<u>.84101</u>	-.07605	
deaths *	<u>.40446</u>	<u>.72693</u>	
protests *	<u>.90251</u>	-.04656	
riots *	<u>.90469</u>	.16670	
assassinations **	.45099	<u>.51817</u>	
coups **	-.11569	<u>.57820</u>	
revolutions **	-.01784	<u>.66861</u>	
Variances Explained:	46.1%	18.2%	
1973-1977	factor 1	factor 2	
armed attacks *	<u>.86967</u>	.25645	
strikes *	<u>.79404</u>	.14793	
deaths *	<u>.70602</u>	.38683	
protests *	<u>.86911</u>	.02117	
riots *	<u>.88998</u>	.12687	
assassinations **	<u>.68961</u>	.10331	
coups **	.10344	<u>.83095</u>	
revolutions **	.17091	<u>.86229</u>	
Variances Explained:	54.5%	16.1%	

Note: ^a Orthogonally rotation by varimax method.

^b Higher loading underscored.

* Logarithmic transformed indicators.

** Square root transformed indicators.

Fourth, irregular executive change or **coups** are distinctive instability events at the regime level.²⁶ The major difference between the operationalization of the dimensions of instability proposed here and that of Hibbs²⁷ is that deaths from political violence are treated as a separate variable instead of being merged together with riots and armed attacks.

Social Mobilization

Social mobilization is a process that not only changes an individual's stable personal environment and the structure of a community, but also changes the social structure. According to Deutsch it is,

"an overall process of change, which happens to substantial parts of the population in countries which are moving from traditional to modern way of life ... the process in which major clusters of old social, economic, and psychological commitment are eroded or broken and people become available for new pattern of socialization and behavior".²⁸

These processes of change inevitably become a major destabilizing force. The changes in personal environment, individual identity, personal expectations and needs, group affiliation, and social setting create alienation and frustra-

²⁶The number of coups is logged based on e.

²⁷Hibbs, Mass Political Violence, 1973, chapter 1.

²⁸K. W. Deutsch, "Social mobilization and political development", American Political Science Review 55 (1961):493-514. p. 494.

tion. Accompanying the process of mobilization, individuals migrate from rural areas to urban areas. At the same time, traditional values of family largely disappear. Psychologically, individuals become more alienated from each other, from their working place, and from society. Thus, social mobilization is the largest destabilizing factor in modernizing world.

In Huntington's theory social mobilization is the result of modernization processes involving increases in literacy, education, mass communications and media exposure, and urbanization.²⁹ Indicators of these concepts used to construct the social mobilization index can be found in various sources.³⁰ The measurements are: (1) Literacy is measured by adult literacy rate; (2) Education is measured by primary and secondary school enrollment rates; (3) Mass communications and media exposure is measured by the number of radios per thousand population and newspaper circulation per thousand population; and (4) Urbanization is measured by the percentage of population living in cities of over 100,000 residents. The index of social mobilization is the rate-of-change, where the

²⁹Huntington, Political Order, pp. 33-34.

³⁰There are four components: literacy, education, communication, and urbanization. Literacy rate and urbanization are from A. Banks, Cross-Polity Time Series Data (Cambridge: MIT Press, 1986). The percentage of primary and secondary school enrollment, radio per 1000 people, and newspaper circulation per 1000 are from C. L. Taylor and D. A. Jodice, World Handbook of Political and Social Indicators, 3rd ed., vol. 1.

latter is defined as the difference between the current five-year period and an earlier period.³¹

Economic Development

Economic development, according to Huntington, is the growth of total economic activity in a society.³² It can be measured by indicators such as gross national product per capita (GNP p.c.) or energy consumption per capita (EC p.c.). Huntington also suggests that one can measure economic development by the level of social welfare as gauged by life expectancy, caloric intake, and the supply of hospitals and doctors.³³ However, since indicators of social welfare are

³¹In measuring the concept of social mobilization, the rate of change of the four components are computed by the following formula from C. L. Taylor and M. C. Hudson, World Handbook of Political and Social Indicators, 2nd ed. (New Haven: Yale University Press, 1972), p. 286.

$$F = 100 * \ln(V_2 / V_1) / N$$

where F : the annual growth rate
 V₁ : initial value of first part of time
 V₂ : subsequent value of second part of time
 N : number of years

Then the average t-scores of the four components are computed. An adjustment is made to reduce missing cases. Three are five indexes for the four components of the measurement of social mobilization, no more than two missing values are allowed. The average score is calculated according to the number of valid values. For cases with less than three values, the value of social mobilization is coded missing and is removed from the sample.

³²Huntington, Political Order, pp. 33-34.

³³Ibid.

not measures of total economic activity, they are conceptually--and empirically--distinct from GNP p.c. or EC p.c. Therefore, only the conventional measures of GNP p.c. and EC p.c. will be used in this study.³⁴

Mobility Opportunity

Huntington argues that frustration resulting from unsatisfied expectations due to social mobilization can be removed through social and economic mobility if the traditional society is sufficiently "open" to offer opportunities for such mobility.³⁵ Mobility opportunity can be defined as the opportunity given to an individual to move vertically from one

³⁴According to Weede, Energy Consumption per capita and GNP per capita are closely correlated, either one can be used interchangeably. See E. Weede, "Income inequality, average income, and domestic violence", Journal of Conflict Resolution 25 (1981):304-314. However, the correlations are neither consistent nor high. Based on the data of the second and third edition of World Handbook, for example, in the period of 1950 to 1975 (five-year intervals) the correlation coefficients between the two are .94, .92, .92, .92, .87, and .79 respectively. Case numbers are 41, 49, 64, 129, 72, 130. Although the high correlations suggest that the two indicators are similar, however, when the nations are broken down into two parts (by global mean), among more developed nations, the correlations are found significantly lower than expected. According to the data from World Handbook third edition, in 1975, for example, among the 38 more developed nations, the correlation r is .46 while among 92 less developed nations the correlation r is .70. Consequently, the use of either GNP p.c. or EC p.c. could lead to different conclusion. Since both measurements have their own shortcomings, it is better to combine the two to reduce possible biases at the same time improve data validity. The average t -score of the two logged values (based on e) is suggested as the index.

³⁵Huntington, Political Order, p. 54.

position to another in the social strata. In operationalizing the concept of mobility opportunity, it is necessary to identify various sources of these opportunities. Sorokin indicates that there are seven possible channels of vertical circulation: (1) army, (2) church, (3) school, (4) governmental groups, political organizations, and political parties, (5) professional organizations, (6) wealth-making organizations, and (7) family and others.³⁶

First, the army has been a very important channel in the time of wars. Only in the time of wars can a person from the lowest social strata climb up to the highest by the army ladder. Even in a time of peace, an army can still perform as a channel. Not only does an army absorb surplus labor force, military also provides education and training. These better educated and trained military personnel can fit in a bureaucratic system easily.

Second, churches provide mobility opportunity only when religion is growing in social importance. In the Middle East, the rise of fundamental revivalism suggests that there are more mobility opportunity for clergy people. In general, churches perform relatively insignificant roles.

Third, schools play the most significant roles. The spread of education has been stressed since the early study of the cotton industry of Great Britain. "The spread of techni-

³⁶P. A. Sorokin, Social and Cultural Mobility (London: The Free Press of Glencoe, 1964), pp.164-180.

cal education and the improvement of general education have greatly stimulated the vertical mobility of the population".³⁷ As Banfield indicated, in the backward society such as Montegrano of southern Italy, formal education is "the only avenue" for people at the bottom of the social scale to move up.³⁸

Fourth, governmental groups, political organizations, and political parties can absorb ambitious political oriented elites into current social groups. As a result, they reduce the chance of forming their own rebellious groups against the existing regime. These social groups can be measured by the size of bureaucracy, number of political parties, and number of trade unions.

Fifth, professional organizations can perform certain role in a society especially in psychological stratum. The development of group affiliation and union consciousness are important. This concept can be measured by the degree of unionization.

Sixth, wealth-making organizations provide certain opportunities. It is argued that there is an economic diffusion (substitution). When people are economically better off, they tend to work things out inside the system instead of taking radical measures. If certain groups of people are

³⁷Ibid., p. 74.

³⁸E. C. Banfield, The Moral Basis of a Backward Society (New York: The Free Press, 1958), p. 164.

better off, ambitious people would join those groups and subsequently stabilize the system. However, it is relatively hard to identify each wealth-making organization.

Finally, family is important as a political resource. Family connections are especially salient in a developing world.

Concretely, the proposed measurements of mobility opportunity are:

(1) Military manpower per thousand working person. A large ratio of military manpower size to working population shows the relative importance of the military. Mobility opportunity is enlarged when a larger portion of population receives education, training, and discipline through military service.

(2) Higher level school enrollment number as a percentage of secondary school enrollment. It indicates the proportion of people who are able to increase their social status by pursuing higher education.

(3) The level of democracy. The relative openness of a society guarantees the opportunities which are distributed fairly among all. Otherwise, any possible channel of mobility opportunity can be jeopardized by the ruling class at any time.³⁹ Due to the lack of data for the influences of

³⁹Military manpower is measured as a percentage of working people for 1965, 1970, and 1975. The number of higher education are from Taylor and Jodice, World Handbook, pp. 37-39 and pp. 166-168 respectively. Military manpower for 1960 is from A. Banks, Cross-Polity Time Series Data (Cambridge: MIT Press, 1979). It is then weighted by percentage working force in

churches, the functions of professional organizations, and the evaluations of wealth-making organizations, these indicators are not operationalized as part of the mobility opportunity index.

Political Institutionalization

Huntington stipulates four criteria of political institutionalization: adaptability, complexity, autonomy, and coherence.⁴⁰ Adaptability of an institution is a function of environmental challenge and is reflected by the age of the institution. Complexity refers to the differentiation of the structure: "The greater the number and variety of subunits the greater the ability of the organization to secure and maintain the loyalties of its members".⁴¹ Autonomy is "the extent to which political organizations and procedures exist

1960 from Taylor and Jodice, World Handbook. The level of democracy in 1960 and 1965 are from K. Bollen, "Issues in the comparative measurement of political democracy," American Sociological Review 45 (1980): 370-390. For 1970, index is from R. A. Dahl's Polyarchy (New Haven: Yale University Press, 1971). For the 1975 data is from Gastil's index. R. D. Gastil, Freedom in the World, (Westport, CT.: Greenwood Press, 1986). Both Dahl and Gastil's data are transformed to a 0-100 scale. These indexes then are transformed into t-scores.

The mean t-scores of military manpower, higher education, and level of democracy is the measurement of mobility opportunity. In this case, we allow one missing value to reduce missing cases.

⁴⁰Huntington, Political Order, pp. 13-22.

⁴¹Ibid., p. 18.

independently of other social groupings and methods of behavior."⁴² Coherence refers to substantial consensus required for any social group because "[a]n effective organization requires... substantial consensus on the functional boundaries of the group and on the procedures...."⁴³ Although the Schneiders, Hibbs, and Yough try to operationalize Huntington's concept faithfully, Schneider and Schneider replace autonomy by legitimacy; Hibbs has done nothing on autonomy, and Yough does not have an index for complexity.

The following indicators are used for the measurement of institutionalization: the age of national political institutions (years since independence and years of current constitution) is used to measure adaptability; the party fractionalization index and the age of the largest party are used to measure coherence; government expenditure as percentage of GDP and direct taxes as percentage of GDP are used to measure complexity; and world system status and foreign aid dependency are used to measure autonomy.⁴⁴

⁴²Ibid., p. 20.

⁴³Ibid., p. 22.

⁴⁴Years of the current constitution and years of independence are from C. L. Taylor and M. C. Hudson World Handbook of Political and Social Indicators 2nd ed. (New Heaven, CT.: MIT Press, 1972). World system status are from D. Snyder and E. Kick, "Structural position in the world-system and economic growth, 1955-70," American Journal of Sociology 80 (1979): 1096-1126. Military and economic aids are from Agency for International Development, U.S. Overseas Loans and Grants (1972, 1974, 1983). Party fractionalization index, government expenditure as a percentage of GDP, and direct taxes as a

2.4 Results and Implication

2.4.1 The Linear Interactive Model

To begin, if Sigelman's suggestion is accepted that "Huntington was actually dealing with entailments rather than equalities",⁴⁵ the first step of the testing is to find out the bivariate correlations between political instability and the concepts in Huntington's ratio-interaction theory. The correlations for all countries are reported below the diagonal in Table 2-2. Across the global sample, social mobilization has no significant relationship with the political instability indexes (collective protest, political violence, deaths, and coups). This is not surprising because, if Huntington's specification is right, the connection between social mobilization and political instability is conditioned by level of economic development, mobility opportunity, and political institutionalization. These three components of the denominator of the ratio term are only moderately correlated with each other. They do show some consistent and significant negative relationships with the indexes of political instability. Among the three, institutionalization demonstrates the

percentage of GDP are from Taylor and Jodice, World Handbook of Political and Social Indicators 3rd ed. vol. 1.

⁴⁵L. Sigelman, "Understanding political instability: an evaluation of the mobilization - institutionalization approach", p. 216.

strongest relationship with the indexes of political instability; economic development has a weaker degree of association; while mobility opportunity is in almost all instances uncorrelated with instability.

[Table 2-2 About Here]

The correlations when seventeen more developed countries⁴⁶ are removed are reported above the diagonal in table 2-2. For less developed countries (LDCs) only, the magnitude of the associations with political instability variables is reduced. Only those for institutionalization are significant in three of the four periods, 1960, 1965, and 1970.

The Full Gap model is evaluated by the correlations in Table 2-3. Huntington's theory is not well supported. Among all countries, the only significant correlations in the expected direction (positive) are between the Full Gap ratio and both deaths and coups for the 1963-67 period and coups only for the 1973-77 period. In other words, only three of sixteen tests support the Gap theory. Moreover, the Full Gap ratio is negatively and significantly correlated with collective protest and political violence in 1968-1972. This means the lower the Full Gap ratio, the more the incidents of collective protest and political violence.

[Table 2-3 About Here]

⁴⁶The seventeen countries are Austria, Belgium, Canada, Denmark, Finland, France, W. Germany, Ireland, Iceland, Italy, Japan, Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States.

Table 2-2. Correlations Between Major Indexes*

Correlations: 1958 - 1962								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	COLLECTIVE PROTEST	POLITICAL VIOLENCE	DEATHS	COUPS	SOCIAL MOBILI- ZATION	ECONOMIC DEVELOP- MENT	OPPORTU- NITY	POLITICAL INSTITUTION- ALIZATION
(1)	1.00	.83**	.55**	.27	-.09	-.29	-.02	-.45**
(2)	.81**	1.00	.56**	.16	.14	.03	.15	-.34*
(3)	.55**	.58**	1.00	.05	.14	.05	.22	-.30*
(4)	.35*	.20	.09	1.00	-.06	-.19	-.13	-.23
(5)	-.10	.13	.13	-.07	1.00	.18	.18	.02
(6)	-.45**	-.08	-.06	-.31*	.17	1.00	.34*	.51**
(7)	-.29*	-.02	.03	-.28*	.16	.58**	1.00	-.19
(8)	-.46**	-.32*	-.30*	-.27	.05	.57**	.22	1.00
Correlations: 1963 - 1967								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	COLLECTIVE PROTEST	POLITICAL VIOLENCE	DEATHS	COUPS	SOCIAL MOBILI- ZATION	ECONOMIC DEVELOP- MENT	OPPORTU- NITY	POLITICAL INSTITUTION- ALIZATION
(1)	1.00	.54**	.32*	.37**	.12	-.27	-.14	-.50**
(2)	.55**	1.00	.42**	.47**	.19	.06	.17	-.21
(3)	.35**	.44**	1.00	.35**	.08	-.32*	-.22	-.34*
(4)	.41**	.48**	.37**	1.00	.13	.08	.24	-.24
(5)	.15	.20	.14	.10	1.00	.07	.15	-.06
(6)	-.40**	-.02	-.02	-.41**	.01	1.00	.64**	.37*
(7)	-.31*	.04	.08	-.33**	.06	.75**	1.00	.04
(8)	-.51**	-.22	-.26	-.38**	-.08	.49**	.29*	1.00
Correlations: 1968 - 1972								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	COLLECTIVE PROTEST	POLITICAL VIOLENCE	DEATHS	COUPS	SOCIAL MOBILI- ZATION	ECONOMIC DEVELOP- MENT	OPPORTU- NITY	POLITICAL INSTITUTION- ALIZATION
(1)	1.00	.44**	.09	.32*	-.05	-.21	.12	-.37*
(2)	.45**	1.00	.40**	-.10	-.21	.18	.41**	-.22
(3)	.10	.42**	1.00	.00	-.13	.33	.53**	-.13
(4)	.34**	-.09	.02	1.00	-.03	-.19	-.10	-.19
(5)	-.04	-.19	-.12	-.02	1.00	-.09	.01	-.12
(6)	-.30*	.10	.24	-.28*	-.08	1.00	.61**	.40**
(7)	-.09	.21	.32*	-.22	.01	.73**	1.00	.02
(8)	-.36*	-.19	-.11	-.25*	-.10	.53**	.35**	1.00
Correlations: 1973 - 1977								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	COLLECTIVE PROTEST	POLITICAL VIOLENCE	DEATHS	COUPS	SOCIAL MOBILI- ZATION	ECONOMIC DEVELOP- MENT	OPPORTU- NITY	POLITICAL INSTITUTION- ALIZATION
(1)	1.00	.85**	.14	.38**	-.04	-.20	-.03	-.19
(2)	.84**	1.00	.19	.25	-.12	.18	.38*	0
(3)	.18	.22	1.00	.19	-.05	.20	.46**	-.01
(4)	.40**	.25*	.19	1.00	.06	-.32*	-.14	-.18
(5)	-.01	-.11	-.04	.08	1.00	-.05	.04	.01
(6)	-.30*	.11	.14	-.40**	-.11	1.00	.68**	.43**
(7)	-.21	.19	.26	-.28*	-.05	.77**	1.00	.04
(8)	-.24*	-.03	-.02	-.27*	-.06	.56**	.39*	1.00

Note: One-tailed Significance: * - .01 ** - .001

* Coefficients above diagonal are developing countries only; those below diagonal are all countries.

Table 2-3. Correlations of Full Gap Ratio and Political Instability

	COLLECTIVE PROTEST	POLITICAL VIOLENCE	DEATHS	COUPS	N
ALL COUNTRIES					
Gap Ratio 1960 ^a	.12	.13	.23	.16	69
Gap Ratio 1965	-.02	.05	.33*	.35*	99
Gap Ratio 1970	-.29*	-.23*	.13	.18	105
Gap Ratio 1975	-.22	-.21	.14	.29*	100
DEVELOPING					
Gap Ratio 1960 ^a	.07	.08	.11	.07	52
Gap Ratio 1965	.26*	-.02	.20	-.11	82
Gap Ratio 1970	-.36*	-.30*	.02	.10	88
Gap Ratio 1975	-.28*	-.28*	.04	.20	83

* P < .01, one-tailed

** P < .001, one-tailed

In the sample of developing countries, the Full Gap ratio correlates significantly and positively only with collective protest in the period of 1963-1967. Thus, only one of sixteen tests supports Huntington's theory. Strikingly, four of the five statistically significant correlations are in the wrong direction. Negative correlations are found between the Full Gap ratio and collective protest and political violence in both 1968-1972 and 1973-1977.

In general, the many null and inconsistent associations between the Full Gap ratio on the four different instability variables are compelling evidence against Huntington's theory. The fact that the majority of significant correlations are in the opposite direction from Huntington's prediction is especially damaging. To sum up, the Full Gap ratio cannot explain the occurrence of collective protest, violence, deaths and coups either across all countries or in developing countries in particular.

2.4.2 The Structural Equation Model

In this model, three dependent variables are specified: collective protest, political violence, and political decay. Causal directions are defined following Huntington's Gap theory. Collective Protest such as protest demonstrations and political strikes are assumed to be the general terms of the behavioral consequence of social frustration. The direct consequence of participation is assumed to be political

violence such as riots and armed attacks. Political decay is assumed to take the form of coups. The occurrences of different events are determined by different causes in which the hierarchical nature of events and the mechanism specified by Huntington are fully operationalized. The specified model is thus positive definite and identified.⁴⁷ In both samples, all countries and developing countries, a similar pattern is found although minor differences are present. As we can see from the p-values, the model has a moderate fit only in the periods of 1963-67 (P2). It has poor fits in 1958-1962 (P1), 1968-1972 (P3), and 1973-1977 (P4).

[Tables 2-4 & 2-5 About Here]

Two supportive findings are (1) the positive and consistent linkage between frustration and participation; and (2) the positive linkage between frustration and decay (except P3). Nevertheless, most of the relationships are contrary to

⁴⁷"Positive definite" and "identification" are the terminology used in LISREL 7. Joreskog and Sorbom, LISREL 7: A Guide to the Program and Application 2nd. ed. (Chicago: SPSS Inc., 1989). p. 211. If the model is not positive definite, the model is probably misspecified. Also, it would be meaningless to estimate the model if the model is not identified. A unique set of parameter values consistent with the data is required. For clear explanations about identification of models and parameters, see Joreskog and Sorbom, LISREL 7, chapter 1, section 9 for more information. After testing various specifications, along with Huntington's theory, the proposed model is the best in terms of the five criteria specified for evaluation of fit: (1) Q-plot, (2) Chi-square and goodness of fit, (3) parameter estimates, (4) standard errors, and (5) coefficients of determination provided that matrices are positive definite and without identification problems.

Table 2-4. Structural Model LISREL Estimates: All Country

	1958-62	1963-67	1968-72	1973-33
Social Mobilization	.13	-.03	.002	.03
---> Frustration (r11)	(1.07)**	(.27)	(.02)	(.31)
Economic Dev.	-.06	-.01	.29**	.17
---> Frustration (r12)	(-.46)	(-.05)	(3.09)	(1.67)
Social Mobilization	.05	.18**	-.18**	-.12**
---> Participation (r21)	(.69)	(2.20)	(-2.16)	(-2.29)
Economic Dev.	-.02	.01	-.22*	.04
---> Participation (r22)	(-.21)	(.04)	(-1.69)	(-.46)
Mobility Opportunity	-.08	-.05	.23*	-.10
---> Participation (r23)	(-.93)	(.41)	(1.86)	(-1.20)
Mobility Opportunity	-.21*	-.22**	-.15	-.16
---> Instability (r33)	(-1.77)	(-2.59)	(-1.47)	(-1.58)
Institutionalization	-.20**	-.15*	-.08	-.21**
---> Instability (r34)	(-1.72)	(-1.72)	(-.81)	(-2.13)
Social Frustration	.81**	.56**	.44**	.87**
---> Participation (β21)	(11.49)	(6.81)	(4.94)	(16.34)
Social Frustration	.42**	.40**	-.07	.37**
---> Instability (β31)	(2.19)	(4.04)	(-.67)	(2.12)
Participation	-.321	.12	-.07	-.10
---> Instability (β32)	(-1.66)	(1.22)	(-.61)	(.55)
Social Frustration	1.000	1.000	1.000	1.000
---> Protest (L11)*				
Participation	1.000	1.000	1.000	1.000
---> Violence (L22)*				
Instability	1.000	1.000	1.000	1.000
---> Decay (L33)*				
N	69	99	105	100
Chi-Square	10.7	7.5	17.7	11.9
degree of Freedom	5	5	5	5
p	.06	.19	.07	.02
Goodness of Fit	.96	.98	.96	.96
Adj. Goodness of Fit	.77	.88	.75	.82
Root Mean Residual	.08	.06	.0	.06

note: + Estimates Restricted to 1.
* p < .05 one-tailed.

**T-scores in Parenthesis.
** p < .01 one-tailed.

**Table 2-5. Structural Model LISREL Estimates:
Developing Country Only**

	1958-62	1963-67	1968-72	1973-33
Social Mobilization	.13	-.05	.011	.03
---> Frustration (r11)	(.90)++	(-.47)	(.12)	(.29)
Economic Dev.	-.04	-.09	.37**	.21**
---> Frustration (r12)	(-.27)	(-.84)	(3.67)	(1.98)
Social Mobilization	.04	.18*	-.20**	-.13**
---> Participation (r21)	(.55)	(1.93)	(-2.20)	(-2.29)
Economic Dev.	-.01	.04	-.20*	.04
---> Participation (r22)	(-.07)	(.04)	(-1.69)	(.55)
Mobility Opportunity	-.07	-.01	.37**	-.07
---> Participation (r23)	(-.85)	(-.11)	(3.25)	(-.93)
Mobility Opportunity	-.25*	-.27**	-.09	-.23**
---> Instability (r33)	(-1.90)	(-3.00)	(-.76)	(-2.21)
Institutionalization	-.31**	-.20**	-.07	-.23**
---> Instability (r34)	(-2.40)	(-2.18)	(-.69)	(-2.26)
Social Frustration	.84**	.55**	.34**	.87**
---> Participation (β21)	(10.65)	(6.03)	(3.52)	(15.00)
Social Frustration	.53**	.43**	-.08	.46**
---> Instability (β31)	(2.27)	(3.97)	(-.73)	(2.33)
Participation	-.45**	.12	.06	-.11
---> Instability (β32)	(-1.98)	(1.14)	(.48)	(-.60)
Social Frustration	1.000	1.000	1.000	1.000
---> Protest (L11)*				
Participation	1.000	1.000	1.000	1.000
---> Violence (L22)*				
Instability	1.000	1.000	1.000	1.000
---> Decay (L33)*				
N	52	82	88	83
Chi-Square	13.98	7.78	20.81	23.58
degree of Freedom	5	5	5	5
p	.02	.17	.01	.0
Goodness of Fit	.93	.97	.94	.93
Adj. Goodness of Fit	.67	.85	.66	.62
Root Mean Residual	.11	.07	.08	.10

Note: + Estimates Restricted to 1.
* p < .05 one-tailed.

**T-scores in Parenthesis.
** p < .01 one-tailed.

Huntington's theory. These include: (1) the inconsistent results between social mobilization and political participation; (2) a positive instead of negative association between economic development and frustration in P3 and P4; (3) a positive instead of negative impact of mobility opportunity on participation; and (4) a negative instead of positive association between participation and political decay. Apparently, social mobilization has virtually no effect on the formation of social frustration.

2.5 Conclusion

In Huntington's theory, political instability is caused by the imbalance of a high level of social mobilization and low level of economic development, the lack of mobility opportunities, and weak political institutionalization. The two models specified here are valid representations of Huntington's theory. Unfortunately, the theory is not supported by empirical cross-national evidence from replicated tests across four time periods. Neither the Full Gap ratio nor the structural model explains the variation in indexes of political instability variables better than a single variable-political institutionalization.

Setting aside the always problematic operationalization of abstract concepts, misspecifications involved are the

absence of other relevant variables. Two propositions derived from the rational theory, the significant effects of governmental acts of coercion and institutional repression on political violence, have been tested cross-nationally by Muller and Weede.⁴⁸ These two relevant variables are absent in the Gap theory. If the world system/dependency theory is at least partially accepted, external forces such as the effect of foreign aid dependence and multinational capital penetration are missing. International environment is also important. If a regime seems to be unstable, it may be due to the effect of external forces such as American support for coups against the left which contributed to the breakdown of democratic regimes in Latin America; or it may be caused by the struggling for power among elites as in African nations. Moreover, indirect effects from international terrorism and foreign invasion have not been considered.⁴⁹ Such omitted variables may be much more relevant for explaining political instability than Huntington's Gap hypothesis.

To sum up, the contribution of Huntington is that he provided a fundamental framework and many testable propositions. Although the Gap theory has little empirical support, it has merit as an attempt to integrate different hypotheses

⁴⁸Muller and Weede, "Cross-national variation in political violence". pp. 624-651.

⁴⁹Ibid. They include external invasion and political terror indexes and found the two variables are significant.

into a cohesive unified theory. In the next chapter, rational choice theory will be discussed.

Chapter III

The Rational Choice Perspective

From rational choice theory, political violence is considered to be a form of collective political participation against the government that groups engage in when peaceful solutions are either exhausted or unavailable. When formal voting and elections do not bring desired results in public policies and/or personnel selection or when peaceful petitions, demonstrations, and political strikes are heavily regulated, restricted, or even repressed, then violent forms of political participation, such as riots, armed attacks, assassination of high ranking officials, coups, and even revolutions are the alternatives. Rational actors will calculate the costs and benefits of these alternatives. The role of government becomes very important because the structure and functions of a government directly influence the cost and benefits of political violence.

In this chapter, three hypotheses of rational choice theory will be tested. Political violence is expected to be a quadratic function of regime democraticness and negative sanctions, and a linear function of political separatism.¹

¹See E. N. Muller, and E. Weede. "Cross-national Variation in Political Violence.", Journal of Conflict Resolution,

First, the level of institutional democracy sets up the basic premises that regulate the rules of the game. It is taken as a fact that, under a democratic system, people have peaceful alternatives to pursue their political goals through lawful channels rather than using violent courses against their government. Apparently, the costs of peaceful solutions are lower. In an extremely repressive regime, the costs imposed by the regime are predictably high; therefore, the high costs deter violence. In a regime with intermediate level of democraticness, the utilities expected through lawful channels are less than what the participants would have gained through violent rebellion; thus, the expected utilities encourage violence. Under these structural settings and cost calculations, an inverted U-curve relationship between political violence and regime repressiveness is predicted.

Secondly, the extent and the severity of government coercion are also major determinants of political violence. Negative sanctions such as banning parties, instituting a curfew, or declaring national or regional martial law increase the costs of participants. However, as a fundamental human response to the use of force, the repressed try to defend themselves by using counterforce. Nonetheless, when the sanctions are severe, the costs become too high for participants to act. It is also consistent with power struggle and

resource mobilization assumptions proposed by Tilly.² He argues that a purposeful rational actor will always act when the cost is low. When the legal opportunity to contest is deprived, the need for violent collective action increases. However, severe punishment will deter participation and reduce the likelihood of group success and, therefore, increase the cost of participation.

Finally, political separatism is considered as an extraordinary form of social movement when a group of people actively advocates greater autonomy or independence of a region. Political separatism is usually rooted in countries with regional and/or ethnolinguistic conflicts. The goal of separatism is to secede an ethnic group or a region from the existing political entity. From a rational choice perspective, Muller and Weede define "...potential separatism as an indicator of the product of group interest in the provision of a public good and expectancy of group success in obtaining the good through collective action."³

In the next sections, we will discuss the measurement of regime democraticness, negative sanctions, and political

²Tilly, C. 1969. "Collective Violence in European Perspective," In H. D. Graham and T. R. Gurr (eds.) Violence in America: Historical and Comparative Perspectives, A report to the National Commission on the Causes and Prevention of Violence, (New York: Signet Book, June 1969), pp. 4-42.

³Muller and Weede, "Cross-national Variation in Political Violence," p. 636.

separatism. Then the results of regressing political violence on these variables will be reported.

3.1 Regime Democraticness (Institutional democracy)

3.1.1 Definition and Hypotheses

The concept of democracy is diffuse and multifaceted.⁴ Although there is no consensus about the definition of democracy, the definition is clearly beyond the famous formulation: a government by the people, of the people, and for the people. Lipset indicates that a democracy

"... may be defined as a political system which supplies regular constitutional opportunities for changing the governing officials, and a social mechanism which permits the largest possible part of the population to influence major decisions by choosing among contenders for political office."⁵

Lijphart indicates that

"An ideal democratic government would be one whose actions were always in perfect correspondence with the preferences of all its citizens."⁶

⁴Giovanni Sartori, The Theory of Democracy Revisited, (Chatham, New Jersey: Chatham House Publishers, Inc. 1987), p. 3. He states that "...the concept of democracy is entitled to be diffuse and multifaceted."

⁵S. M. Lipset, Political Man. expanded ed. (Baltimore, Maryland: The Johns Hopkins University Press, 1981) p. 27.

⁶A. Lijphart, Democracies: Patterns of Majoritarian and Consensus Government in Twenty-One Countries, p. 1.

Thus, the degree of democraticness of a nation is the degree of which a government is responsive to the preference of all its citizens.

Many different indexes, resulting from different concepts, have been proposed to measure political democracy.⁷ Lipset dichotomized nations as either democracies or dictatorships.⁸ Cutright constructed an index of democratic political development.⁹ Coleman trichotomized regimes by competitiveness: competitive, semi-competitive, and authoritarian.¹⁰ Neubauer created an index of democratic development.¹¹ Smith used Banks and Textor's scale and Cutright's indexes to develop his more complex index.¹² Other attempts are also

⁷See S. M. Lipset, "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," The American Political Science Review 53 (1959):69-105. p. 45. G. Sartori, "What Democracy Is Not," in C. F. Cnudde and D. E. Neubauer, Empirical Democratic Theory, eds. (Chicago: Markham, 1987), p. 206. J. Plamenatz, Democracy and Illusion (London: Longman, 1978), pp. 69-70. J. R. Pennock, Democratic Political Theory (Princeton, NJ.: Princeton University Press, 1979), pp. 3-15. There are also many other authors who provide different definitions.

⁸S. M. Lipset, Social Mobility in Industrial Society (Berkeley: University of California Press, 1959).

⁹P. Cutright, "National Political Development: Measurement and Analysis," American Sociological Review 28 (1963):253-264.

¹⁰J. S. Coleman, "Conclusion: the Political Systems of the Developing Areas," in G. G. Almond and J. S. Coleman, The Politics of the Developing Areas, (Princeton, NJ.: Princeton University Press, 1964).

¹¹D. E. Neubauer, "Some Conditions of Democracy," The American Political Science Review 83 (1967):577-595.

¹²A. K. Smith, "Socioeconomic Development and Political

reported.¹³ Among these attempts, the indexes constructed by Bollen, Dahl, Gastil, Banks, and Gurr were broadly accepted.¹⁴

Based on two important aspects (political liberties and popular sovereignty), Bollen utilized a Confirmatory Factor Analysis with six components of political democracies. These six components are Press Freedom, Freedom of Group Opposition, Government Sanctions, Fairness of Election, Executive Selection, and Legislative Selection. Dahl constructs a scale of polyarchy based on two major components of a democracy (contestation and participation), ranging from 1 to 31. Instead of "democracy" he uses the word "polyarchy" to reflect the dynamic relations between political contestation and

Democracy: a Causal Analysis," Midwest Journal of Political Science 30 (1969):95-125.

¹³For example, W. Flanigan and E. Fogelman, "Pattern of Political Development and Democratization," in J. V. Gillespie and B. A. Nesvold, eds. Macro-Quantitative Analysis: Conflict, Development, and Democratization (Beverly Hills: Sage Publications, 1971). R. W. Jackman, "Political Democracy and Social Equality: a Comparative Analysis," American Sociological Review 39 (1974):29-45. The indexes of Dahl, Bollen, Banks, and Gurr will be explained in the next section.

¹⁴R. Dahl. 1971. Polyarchy: Participation and Opposition (New Haven: Yale University Press, 1971). K. Bollen, "Issues in the Comparative Measurement of Political Democracy," American Sociological Review 45 (June 1980):370-390. R. D. Gastil, Freedom in the World: Political Rights & Civil Rights 1987-1988 (N.Y.: Freedom House, 1988). A. Banks, Cross-National Time-Series Data Archive (Binghamton, N.Y.:Center for Social Analysis, 1979). T. Gurr, Polity II: Political Structures and Regime Change, 1800-1986 [Computer File] (Boulder, CO: Center for Comparative Politics [producer], 1989). (Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 1990).

participation. In the *Survey of Freedom*, Gastil has provided the best indexes of civil rights and political rights annually since 1973. His scale ranges from 1 to 7, from high to low in degrees of democraticness. The seven degrees are divided into free, partly free, and not free.¹⁵ Gurr composed his democracy index with "Competitiveness of Political Participation", "Competitiveness and Openness of Executive Recruitment", and "Constraint on Chief Executive".¹⁶ Banks' archived data, *Cross-National Time-Series Data File*, consists of indexes such as "Group Legitimacy", "Nomination Process", "Effective Executive (selection)", "Parliamentary Responsibility", "Legislative Effectiveness", and "Legislative Selection". They are important characteristics of a democracy and have been widely used.¹⁷

¹⁵Since Gastil reports both indexes of political rights and civil liberty, an average score of 1 to 2.5 refers to "free", an average score of 3 to 5.5 refers to "partly free", and score of 6 or up refers to "not free". For definition see C. L. Taylor and D. A. Jodice, World Handbook of Political and Social Indicators, 3rd eds., Vol. 1 (New Haven: Yale University Press, 1983). pp. 58-65.

¹⁶Gurr, Polity II, p. 39.

¹⁷For example, Smith uses Banks and Textor's Scale and Cutright's index to create his own. Bollen uses three of Banks indexes (freedom of group opposition, executive selection and legislative selection) to construct "POLDEM60" and "POLDEM65". Arat used Banks indexes (nomination process, legislative selection, legislative effectiveness and freedom of group opposition) and data from Taylor and Jodice, World Handbook of Political and Social Indicators to develop an index of democracy. Gamic and Rosh uses four of Banks' indexes (executive selection, legislative selection, legislative effectiveness and freedom of group opposition) to build an index for measuring structural aspect of a democracy.

In order to measure the index in this dissertation scientifically, the general definition of democracy is derived from Robert Dahl's two major concepts: contestation and participation.¹⁸ For contestation, Dahl means that the chief executive is chosen by open and competitive election for a limited term of office, either directly by citizens or indirectly by a legislature. A legislature is also elected by open and competitive elections. It should be able to constrain the executive authority (check and balance). For participation, Dahl means universal adult suffrage and competitive participation without restrictions (except age and citizenship) on who can compete for political offices.

However, Gurr's institutional democracy index is employed in this thesis due to its several advantages over other indexes. First of all, Gurr's index is compatible with the criteria of Dahl's definition of democracy. Secondly, it is a near continuous measurement (ranging from 0 to 10) and therefore is better than dichotomized, trichotomized, or categorical classifications.¹⁹ Thirdly, it includes the time

These data are also reported in Gurr's Polity II.

¹⁸Dahl, Polyarchy. pp. 1-3.

¹⁹The scale from 0 to 10 is, in my point of view, as 0 to 100, not sufficiently continuous. Bollen and Jackman argue that a continuous index of political democracy is a preferable one. Bollen, K. A. and R. W. Jackman, "Democracy, Stability, and Dichotomies", American Sociological Review 1989, pp. 612-621. Bollen, however, admits that the transformation of his six components ranging from 0 to 100 is arbitrary in his 1980 article: K. Bollen, "Issues in the Comparative Measurement of

period from 1800 to 1986 that overlaps the period of this study (1948 to 1977).²⁰ Hence, it allows multiple tests and avoids using indexes from different scales. Finally, Gurr's index is closely related to other measurements.²¹

Gurr's institutionalized democracy index, "DEMOC", has three essential interdependent elements: competitiveness of political participation, the openness and competitiveness in executive recruitment, and constraints on the chief executive. His index is coded in an additive ten-point scale with weights on the three components.²² According to this scale, a regime with competitive political participation, open elected executive, and effective group competition to check executive

Political Democracy," pp. 376-77.

²⁰Gastil's index is a more comprehensive one. However, since Gastil's index covers 1973 to 1990, it does not cover the entire period of this study (1948-1977).

²¹The Pearson correlations between Gurr's index on the one hand and Bollen's indexes of 1960 and 1965, Dahl's index of ca. 1969, and Gastil's index of 1975 on the other are 0.86 (N=99), 0.83 (N=117), 0.84 (N=107), and 0.86 (N=128) respectively. In a pooled data set, from 1973 to 1986, the correlation between "DEMOC" and gastil's index (average score of civil rights and political rights) is 0.87. The number of cases is 1790.

²²The authority coding with scale wights are as following: In competitiveness of political participation, +3 is for competitive, +2 is for transitional, and +1 is for factional. In competitiveness executive recruitment, +2 is for election, and +1 is for transitional. In openness of executive recruitment (only if competitiveness is election or transitional), +1 is for dual election or election. In constraints on the chief executive, +4 is for executive parity or subordination, +3 is for the subsequent intermediate categories, +2 is for substantial limitations, and +1 is for the last five intermediate categories. See Gurr, 1990. p. 39.

authority will be given a score of ten. A regime without these three components will be given a score of 0. Although the distribution of the index is skewed, it reflects the reality.²³

3.1.2 Inverted U-curve (Quadratic) Function

Muller and Weede indicate that political violence is an inverted U-curve function of regime repressiveness.²⁴ They argue that "regime repressiveness is a structural property of states that represents persistent and institutionalized features of coercion".²⁵ Under this assumption, rational actors will not pursue violent means under democratic regimes because there are other low-cost peaceful solutions available. Similarly, rational actors will not act under extreme repressive regime because the costs are always high. Thus, political violence is a prominent feature in semi-repressive regime.

3.1.3 Negative Linear Function

Democratic political development is assumed to reduce the occurrences of political violence. By providing democratic

²³The bi-modal distribution is not normal. The frequencies for each category during the period of 1948-1977 are as following: from 0 to 10 respectively, 533, 1135, 169, 70, 149, 64, 103, 130, 119, 10, and 757. The missing observation number during this period is 871.

²⁴Muller and Weede, "Cross-National Variation", pp. 633-635.

²⁵Ibid., p. 633.

political arrangements, democratic systems can articulate and aggregate diversified group interests through lawful channels. Although Hibbs argues that "Political democracy, defined in terms of process and structure, has little or no *direct* causal impact on the incidence of *either* dimension of mass violence." (italics original),²⁶ Flanigan and Fogelman report that democratic nations experienced significantly less political violence regardless of level or rate of economic development.²⁷ On the other hand, Muller and Weede indicate that, if the inverse relationship does exist, then "... countries with high levels of regime repressiveness are expected to have high levels of political violence. This prediction is implausible..."²⁸ By and large, the assumption that democratic systems experiencing less violence is seen as a conventional wisdom.

3.2 Repression: governmental acts of coercion (sanctions)

3.2.1 Definition and Hypotheses

²⁶D. Hibbs, Jr. Mass Political Violence (New York: John Wiley & Sons, 1973), p. 121.

²⁷W. H. Flanigan and E. Fogelman, "Patterns of Political Violence in Comparative Perspective," Comparative Politics, 3 (1970):1-20.

²⁸Muller and Weede, "Variation in Political Violence", p. 631.

In Taylor and Jodice, government coercive behavior is defined as:

"A *governmental sanction* is an action taken by the authorities to neutralize, suppress, or eliminate a perceived threat to the security of the government, the regime, or the state itself."²⁹

In general usage, government coercive behavior is referred to as repression or negative sanctions. Various terms have been used to identify governmental repression: repression, state coercion, governmental coercion, and government negative sanctions.³⁰

It is argued from different points of view whether repression will deter or escalate deadly political confrontation. Three general arguments have been identified and tested in a large volume of literature with different results.³¹ The relationship between repression and confronta-

²⁹Taylor and Jodice, World Handbook 3rd. vol. 1. p. 62.

³⁰Repression is used in D. Snyder and C. Tilly, "Hardship and Collective Violence in France, 1830 to 1960." American Sociological Review 37 (October 1972):520-532. State coercion is used in C. L. Taylor and D. A. Judice, World Handbook 3rd vol. 1. Governmental coercion is used by D. Snyder, "Theoretical and Methodological Problems in the Analysis of Governmental Coercion and Collective Violence," Journal of Political and Military Sociology 4 (Fall 1976):277-293. Coercion is used by D. K. Gupta, The Economics of Political Violence (N.Y.: Praeger Publishers, 1990). Governmental acts of coercion or negative sanctions are used by E. N. Muller, "Income Inequality, Regime Repressiveness, and Political Violence," American Sociological Review 50 (1985):47-61. Also, in "Inequality, Repression, and Violence: Issues of Theory and Research Design." American Sociological Review 53 (1988): 800-806.

³¹A summary of the relationships and possible problems is discussed in D, Snyder, "Theoretical and Methodological

tion, in this study, is tested with six five-year intervals from 1948 to 1977 in order to test the robustness of the theories. There are three propositions between political violence and negative sanctions that have been reported in previous studies: inverted-U, negative time lagged effect, and positive linear. They will be discussed separately in the following section.

3.2.2 Inverted U-curve (Quadratic) Function

Based on the studies of riot behavior in American cities, Chalmers and Shelton found that deployment of police forces during the initial stage of a political confrontation will increase the intensity of participation sentiments; however, the deployment of the National Guard will reduce the enthusiasm of participation.³² This is because the cost of confrontation with the police in the initial stage is significantly less than possible severe punishment by the National Guards.³³

Problems in the Analysis of Governmental Coercion and Collective Violence," pp. 277-293. A formal explanation is provided by M. I. Lichbach, "Deterrence or Escalation: the Puzzle of Aggregate Studies of Repression and Dissent." Journal of Conflict Resolution 31 (1987):266-97.

³²J. A. Chalmers and R. B. Shelton, "An economic analysis of riot participation." Economic Inquiry 13 (1975):322-336.

³³The rationality of participation in initial stages is problematic. Muller and Opp (1986), in their survey study of the samples Hamburg and New York, suggest that there might be a "martyr" syndrome.

The well-known case of the June 4th massacre of 1989 in China may be the best to demonstrate this situation. When the number of students who gathered on the Tiananman square demanding democratic reform increased from 4,000 to more than 1,000,000 from the middle of April to the middle of May,³⁴ the increased deterring forces employed by the regime did not prevent students from joining the group. At this time, the myth of "martyr" syndrome on surface is nothing but a function of cost. When there is a very large group of people, the cost of each person becomes a very small fraction since the cost is shared by a large denominator. For a rational actor, joining the group will reduce the cost of others. At the same time, to keep personal cost low, he or she expects others to join as well. Among the students, there was a tremendous sentiment of "belief in the unity principle": that for groups to succeed, everyone has to contribute his or her part.³⁵ After the

³⁴On April 17, 1989, there were 4000 students from Beijing demonstrating on the Tiananman Square. On May 17, there were more than one million people, mainly students, demonstrating on the Square. Mouren Wu, et al. eds., Daily Reports on the Movement for Democracy in China: April 15 - June 24, 1989. (New York: Mouren Wu, et al, 1989). p. 6 and p. 231.

³⁵This argument is well documented in the study of survey data from a national sample and two samples of protest-prone communities in the Federal Republic of Germany by S. E. Finkel, E. N. Muller, and K-D. Opp, "Personal Influence, Collective Rationality, and Mass Political Action," American Political Science Review 83 (1989):885-903. They indicate that the interaction between "unity principle", "perceived likelihood of group success", and "policy dissatisfaction" (the three components of the collective rationality model of rational choice theory) is supported by the survey data.

massacre, only small group conflicts continued and for no more than a week. At that time, the cost of participation was dramatically increased because the number of participants suddenly dropped though repressive force did not increase. The cost is then shared by a very small denominator. Although the scope and the intensity of the massacre was unforeseeable, the rational-based hypothesis is fully supported by this case.

This observation coincides with Muller and Weede's arguments and findings. They argue that governmental acts of coercion reduce legal opportunities for contestation, thereby raising the demand for violent action. At the same time, negative sanctions raise the cost of dissident activities.³⁶ They found an inverted U-curve relationship between negative sanctions and political violence in the mid-1970s across all independent states.³⁷

3.2.3 Negative Time Lagged Function

Hibbs found that there are deterrent effects of lagged negative sanctions on internal war.³⁸ From a rational

³⁶Muller and Weede, "Variation in Political Violence", p. 635.

³⁷Ibid., p. 647.

³⁸Hibbs, Mass Political Violence, p. 92. The composite index for internal war is the (natural) logarithm of the sum of the deaths from political confrontation, armed attacks, and assassination.

perspective, the calculation of cost is largely based on past experiences as logical references. If there were drastic measures taken by the regime in the past, the possibility for the regime to take the same measures to suppress a perceived threat to the security of the government is higher. If there were few negative sanctions taken by the regime in the past, the anticipated cost is lower.

The negative time-lagged impact is clearly based on two assumptions: perfect information and the consistency of government actions. When there is a lack of information or when the regime acts inconsistently, individuals are unable to calculate accurately. Subsequently, the expected cost is calculated according to people's own opinions. The calculations are bound to have errors.

3.2.4 Positive Linear Function

Nardin indicated that the state's role in violent political conflict is "Janus-faced".³⁹ When negative sanctions are used to prevent violence, the state itself becomes the cause of political violence. Unfortunately, the more the state tries to control the intensity of violence, the higher the intensity of conflict becomes. Therefore, state employed violence suppression contributes to the escalation of politi-

³⁹T. Nardin, "Theories of Conflict Management." Peace Research Reviews 4 (1971), p. 59.

cal violence. This argument of "violence begets violence" is also confirmed by Gurr:

"The most fundamental human response to the use of force is counter force. Force threatens and angers men, especially if they believe it to be illicit or unjust. Threatened, they try to defend themselves; angered, they want to retaliate".⁴⁰

Beside, the negative time-lagged function, Hibbs points out significant and positive impacts of negative sanctions on both collective protest and internal war.⁴¹ Others, such as Feierabend, Feierabend, and Nesvold found that there is a positive linear relationship between fluctuations on the level of coercion and the level of political violence.⁴²

3.3 Potential Separatism

According to the *World Handbook of Political and Social Indicators* third edition, potential separatism is referred to

⁴⁰Gurr, Why Men Rebel, p. 232.

⁴¹Hibbs, Mass Political Violence, pp. 91-92. The composite index of collective protest is the (natural) logarithm of the sum of riots, anti-government demonstration, and political strikes.

⁴²I. Feierabend, R. Feierabend, and B. Nesvold, "Social Change and Political Violence: Cross National Patterns," in Hugh D. Graham and T. Gurr (eds.) Violence in America: Historical and Comparative Perspectives, A Report to the National Commission on the Causes and Prevention of Violence, (New York: Signet Books, 1969).

as two indexes: proportion and intensity of separatism. In general, separatism can be identified:

"... by the presence of a group actively advocating greater autonomy for the group or for its region. It can also be identified by the existence of structural conditions that typically are associated with separatism even though there is no manifestation of it in the particular year being coded."⁴³

The proportion of separatism is measured by the percentage of people involved in the movement.⁴⁴ The intensity of separatism is referred to historical and political circumstances and the movement in current status with the regime as a separatist group.⁴⁵ There are many different causes for separatist

⁴³Taylor and Jodice, World Handbook 3rd vol. 1. p. 74. Noted by the editors that data were collected by Ted Robert Gurr and Erika Gurr.

⁴⁴Ibid. "Four specific criteria of separatism, other than current separatist activity, were employed to identify potentially separatist groups: (1) Any region that was previously autonomous but was incorporated into the country or any region that was transferred from another country within the twenty years prior to the year of reference is regarded as potentially separatist.... (2) The presence of organized and extensive advocacy of greater regional autonomy or independence at any time during the twenty years before the year of reference is sufficient evidence of current separatist potential,... (3) A prolonged or especially intense history of efforts to secure regional autonomy, even if given no recent expression, also constitutes potential separatism.... (4) Where irredentist and ethnic minority groups are distributed among several adjacent countries, the existence of strong separatist activity among one such group is taken to imply latent separatism among the others." Separatist groups comprising less than two per cent of the total population were not coded.

⁴⁵Ibid. Four categories that signify the political circumstances are identified: "(1) The separatist region or group was incorporated by its own request or by mutual

movements. They can be oriented with races and racial integration, discrimination based on ethnic, linguistic, facial appearance, religious factors, or due to repression against under-privileged groups,⁴⁶ etc. Pye describes the relation between sociocultural differentiation and separatist groups insurrections:

"The possibility of an insurrectionary movement arising and then employing organized violence depends upon the existence of sharp divisions within society created by regional, ethnic, linguistic, class, religious, and other communal differences that may provide the necessary social and demographic basis for supporting the movement ..."⁴⁷

The object of separatist groups is secession. Contesting movements cause deaths in violent conflicts. The June 1991

agreement. (2) The separatist region or group was designated a part of the country by international agreement or by fiat of a former colonial or governing power, unless circumstances in numbers 3 or 4 below also hold. (3) The separatist region or group was forcibly incorporated into the state during the twentieth century or was forcibly reincorporated in the twentieth century after a period of autonomy due to rebellion or other circumstances."

⁴⁶In a special case, the majority ethnic group suppresses a more privileged minority group (e.g. Malay against Chinese in Malaysia). South Africa is an example where racial discrimination and racial conflicts are the roots for domestic turmoil. The effect of these sociocultural differentiation provides the potential for separatist movements and political violence. See Lucian W. Pye, Aspects of Political Development (Boston: Little, Brown and Co., 1966). Also, Clifford Geertz, "The Integrative Revolution: Primordial Sentiment and Civil Politics in the New States." in Claude Welch (ed.), Political Modernization (Belmont, California: Wadsworth Publishing Co., 1967), pp. 150-166.

⁴⁷Pye, Aspects of Political Development, p. 136.

development in Yugoslavia serves a good example. Yugoslavia, a nation of six republics, three official languages, three major religions, and seven major ethnic groups,⁴⁸ suffered from periodical bloody ethnic conflicts since its independence in 1918. Immediately after Croatia and Slovenia declared their independence from Yugoslavia on June 25, 1991, "Yugoslavia's federal government dispatched warplanes and tanks in a show of force ... against two rebel republics. Armed Serbian citizens battled with Croatian police in two towns, leaving seven dead and 13 wounded."⁴⁹ In recent months, before secession, there had already been 22 deaths during the conflicts between ethnic Serbs and native Croats who live mainly in Croatia's Krajina and Slavonia region.⁵⁰ On June 27, 1991, Federal troops battled Slovenian secessionists with helicopters, tanks and grenades in many skirmishes. Casualties were reported up to 100.⁵¹ This is a typical case of domestic conflict resulting from ethnic differences.

⁴⁸Otto Johnson, ed. Information Please Almanac, (New York: Houghton Mifflin Co.), 1987, p. 281. The six republics are: Serbia, Croatia, Slovenia, Bosnia-Herzegovina, Macedonia, and Montenegro. Three major religions are: Greek Orthodox (41%), Roman Catholic (32%), and Moslem (9%). Three official languages are: Serbo-Croatian, Slovene, and Macedonian. Seven ethnic groups are: Serbian (36%), Croatian (20%), Moslem (9%), Slovene (8%), Albanian (8%), Macedonian (6%), and Montenegrin (3%).

⁴⁹The Arizona Daily Star, 27 June 1991. p. 1.

⁵⁰The Arizona Daily Star, 26 June 1991. p. 4.

⁵¹The Arizona Daily Star, 28 June 1991. p. 1.

The connection between separatism and political violence is found by Mehden who indicates that 44% of political violence is in connection with separatism movements.⁵² Hibbs suggests that political separatism is a product of ex-colonial era situations.⁵³ Most newly independent ex-colonies have highly diversified ethnic and linguistic groups. Their national boundaries were often arbitrarily determined by their former rulers who disregarded their cultural composition and ethnolinguistic characteristics. This is the reason the contemporary Middle East and Sub-Sahara Africa have more domestic ethnic conflicts. In addition, direct and indirect involvements of superpowers intensify racial conflicts, ideology differences, and political-economic discriminations.⁵⁴ Furthermore, through the process of social mobilization, the higher the ethnolinguistic fractionalization,⁵⁵

⁵²F. R. von der Mehden, Comparative Political Violence (Englewood Cliffs, N.J.: Prentice-Hall, 1973).

⁵³Hibbs, Mass Political Violence, p. 191.

⁵⁴In a study of thirty three African countries during 1963-65, Collins found the connection between internal conflict and external conflict. See J. N. Collins, "Foreign Conflict Behavior and Domestic Disorder in Africa," in J. Wilkenfeld, ed. Conflict Behavior and Linkage Politics (N.Y.: David McKay Co. 1973).

⁵⁵The larger the number of distinctive cultural, ethnic, and linguistic groups, the smaller the proportion of the total population in each of them will yield high ethnolinguistic fractionalization (ELF) score. A highly homogenous country such as Japan will have an ELF score near zero.

the more the political groups have separatist potential.⁵⁶ Hibbs' idea does support Deutsch's hypothesis that culturally identified ethnic loyal groups tend to adhere to their cultural identity even when rapid social mobilization occurs.

In addition to these theories, Huntington gives a concrete list of nations where conflicts between ethnic difference are severe. In Southeast Asia, there are conflicts between Natives and Chinese (Malaysia, and to a lesser extent: Thailand, Indonesia, and the Philippines); also Hindus and Moslems (India, Pakistan). In the Middle East, ethnic conflicts are mainly between Arabs and Jews (Palestine). In Africa, racial antagonisms are between Arabs and Blacks (Sudan, Chad, Ethiopia, Cameroon); Blacks and Whites (Zimbabwe, South Africa, Angola, Mozambique). In North America, the problems are between Blacks and Whites (the United States of America). In Europe, there are Latin and North Europeans differences (Belgium), Protestant and Catholic confrontations (Northern Ireland). In Latin America, the conflict is between Blacks and East Indians (Guyana, Trinidad). Other countries that have suffered ethnic problems include Burma, Sri Lanka, Iraq, Cyprus, Yugoslavia, and most of the countries of Black Africa with different racial, tribal, cultural or political reasons.⁵⁷ In addition to Huntington's list of involved

⁵⁶Hibbs, Mass Political Violence, p. 68.

⁵⁷In Africa, there are various types of irredenta. For more information, see D. M. Wai, "Sources of Communal Con-

countries, Connor gives a longer list of states currently or recently troubled by internal disorder caused by ethnic diversity: Albania, Algeria, Burundi, Cambodia, the People's Republic of China, Congo, Czechoslovakia, Dahomey, Equatorial Guinea, France, Greece, Iran, Italy, Ivory Coast, Ghana, Kenya, Laos, Liberia, Malagasy, Nigeria, Romania, Rwanda, Sierra Leone, Spain, the Soviet Union, Tanzania, Togo, Uganda, the United Kingdom, Zaire, and Zambia.⁵⁸ Although ethnically diversified communities themselves are neither necessary nor sufficient conditions for political violence, communal differences and communal dissident groups do have the potential to produce violence.⁵⁹ Where separatist movements are not tolerated and are treated with negative sanctions by their regimes, violence is more likely to happen on both sides.

While "proportion separatism" reported by the *World Handbook* does not necessarily reflect the occurrence of protest, especially under extremely repressive regimes, the

flicts and Secessionist Politics in Africa." Ethnic and Racial Studies 1 (1978):286-305. The list of Countries involved in political separatism are from E. Zimmermann, Political Violence, Crises & Revolutions, (Cambridge: Schenkman Publishing Co., 1983), p. 131 and p.470 note 189.

⁵⁸W. Connor, "The Politics of Ethnonationalism." Journal of International Affairs 27 (1973):1-21. p. 2.

⁵⁹S. P. Huntington, "Civil Violence and the Process of Development." Adelphi Papers 83 (1971):1-15. p. 11. A list of countries with communal dissident groups is provided by Gurr et al. Comparative Studies of Political Conflict and Change: Cross-national Data Sets. Ann Arbor: ICPSR. 1978, pp. 181-85.

intensity and scope of separatism do reflect substantial violence. There are four categories referred to separatism as reported in Taylor and Jodice.⁶⁰ Following the study of Muller and Weede, these four categories have been collapsed into a binary index to represent the presence or absence of separatism. A score of 3 or 4 reported in the World Handbook is coded as 1 to represent high intensity of involvement.⁶¹

3.4 Results:

A country with a large number of deaths caused by violent political confrontation (over 1000 deaths per one million population) is considered in the stage of civil war.⁶² In these countries, regimes may not be able to carry out their sanctions throughout the entire territory. For example, during the Vietnam War, the regime of North Vietnam was not able to impose its sanctions on the South and vice versa. Thus, these countries are excluded from our samples for

⁶⁰Taylor and Jodice, World Handbook, 3rd ed.

⁶¹Muller and Weede, "Cross-national Variation in Political Violence", pp. 635-636.

⁶²The threshold is based on the argument of M. Small, and J. D. Singer, 1982, Resort to Arms: International and Civil Wars, 1816-1980. (Beverly Hills, California: Sage, 1982), p. 213. In identifying civil wars the authors stated in chapter 12, "We have thus set a combat fatality threshold similar to our threshold for extra-systemic wars. That is, we are interested here only in wars that resulted in at least 1000 deaths per year."

regression analysis.⁶³ Statistically, the removal of cases with extreme scores can avoid possible distortion of the results. In the following sections, the number of deaths from political violence will be used to measure political violence. The use of this single variable is justified by a persuasive argument provided by Weede and Muller.⁶⁴ The dependent variable, in the following tests, is deaths per million logged (based on e).

In the period 1948-52, the two propositions of rational choice theories are well supported. The results reported in table 3-1 show the inverted-U relationships for both institutional democracy and negative sanctions.

[Table 3-1 About Here]

Apparently, for regime democraticness, the specification of quadratic function (3.1b) is far more accurate than linear function (3.1a). The adjusted coefficient of determination (adjusted R^2) increases from 0 to 0.19. For negative sanctions, the specification of quadratic function (3.1d) is also better than the linear competitor (3.1c). In equation 3.1e,

⁶³Countries excluded from the regression analysis are the following: for 1948-52, Bolivia, Greece, and S. Vietnam; for 1953-57, Hungary and N. Vietnam; for 1963-67, Dominica, Cameroon, Rwanda, S. Vietnam, and Indonesia; for 1968-72, Burundi, Pakistan, Kampuchea, and Laos; for 1973-77, Cyprus, Uganda, Ethiopia, S. Africa, Kampuchea, and S. Vietnam.

⁶⁴E. N. Muller, "Income Inequality, Regime Repressiveness, and Political Violence," American Sociological Review 50:47-61. pp. 51-52. Also, E. Weede, "Income Inequality, Average Income, and Domestic Violence." Journal of Conflict Resolution 25 (1981):639-653. p. 651.

Table 3-1 Regression* of Political Violence on Regime Democraticness, and Negative Sanctions (1948-52)

	ln deaths per million population, 1948-52				
	(3.1a)	(3.1b)	(3.1c)	(3.1d)	(3.1e)
Constant	1.38	0.21	-0.06	-1.14	-1.53
Democracy Index, 1948-52	0.05 (0.98)	0.91*** (3.98)			0.80*** (3.62)
Democracy Index, 1948-52 ²		-0.09*** (-4.24)			-0.08*** (-3.84)
Negative Sanctions, 1948-52			0.35*** (3.00)	1.18*** (2.48)	0.92** (2.08)
Negative Sanctions, 1948-52 ²				-0.13** (-1.79)	-0.10* (-1.48)
R_a^2	0.00	0.19	0.10	0.12	0.26
N	75	75	75	75	75

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

the two quadratic functions sustain in terms of significance. The substantive importance for the two functions to uphold lies on (1) the rational basis of political action (structural explanation); and (2) the independent effects of regime democraticness from negative sanctions (behavioral explanation).

In the period 1953-57, however, it is a different pattern. Both quadratic functions are not significant (3.2b and 3.2d).

[Table 3-2 About Here]

Linear functions are found in (3.2a) and (3.2c). In the final equation, again, no support is found for inverted-U function (3.2e).

In the period 1958-62, inverted-U function is found only for regime democraticness (3.3b).

[Table 3-3 About Here]

No inverted-U function is found for negative sanctions (3.3d). A positive linear impact for negative sanctions is moderately associated with political violence (3.3c). In the overall equation, only regime democraticness holds the specification of inverted-U (3.3e). Separatism has no significant impact on political violence. A possible explanation is that most African countries who suffered from potential separatism were not independent at that time.

In the period 1963-67, all three propositions are significant as specified (3.4e).

Table 3-2 Regression* of Political Violence on Regime Democraticness, and Negative Sanctions (1953-57)

	ln deaths per million population, 1953-57				
	(3.2a)	(3.2b)	(3.2c)	(3.2d)	(3.2e)
Constant	2.11	1.55	0.02	0.59	1.05
Democracy Index, 1953-57	-0.15*** (-3.10)	0.36 (1.42)			0.27 (1.06)
Democracy Index, 1953-57 ²		-0.05** (-2.04)			-0.04** (-1.56)
Negative Sanctions, 1953-57			0.43*** (3.07)	-0.09 (-0.20)	-0.16 (-0.34)
Negative Sanctions, 1953-57 ²				0.09 (1.16)	0.08 (1.05)
R_a^2	0.10	0.14	0.10	0.10	0.18
N	79	79	79	79	79

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

Table 3-3 Regression* of Political Violence on Regime Democraticness, Negative Sanctions, and Separatism (1958-62)

	ln deaths per million population, 1958-62				
	(3.3a)	(3.3b)	(3.3c)	(3.3d)	(3.3e)
Constant	2.15	1.40	-0.24	0.40	0.16
Democracy Index, 1958-62	-0.12** (-2.45)	0.61** (2.52)			0.46** (1.85)
Democracy Index, 1958-62 ²		-0.07*** (-3.09)			-0.05*** (-2.21)
Negative Sanctions, 1958-62			0.54*** (4.07)	0.66 (1.32)	0.34 (0.67)
Negative Sanctions, 1958-62 ²				-0.02 (-0.25)	-0.006 (-0.08)
Intensity of Separatism, ca. 1960					0.22 (0.45)
R _a ²	0.06	0.14	0.15	0.14	0.18
N	90	90	90	90	90

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

[Table 3-4 About Here]

Both regime democraticness and negative sanction have inverted-U relationships with political violence (3.4b, 3.4d). Although the two linear assumptions are also significant (3.4a, 3.4c), their values of adjusted R squares are apparently smaller. The non-trivial increases in the adjusted R square suggest better fits for the quadratic function.

In the period 1968-72, all three propositions are significant and the magnitudes of their adjusted R squares are notably improved (3.5e).

[Table 3-5 About Here]

Although the linear function of negative sanctions is significant, the R square is improved from .05 to .11 when it is compared to the quadratic function. Separatism has been the best single index in the period 1968-72 (3.5e).

In the period 1973-77, the result is consistent with the 1963-67 and the 1968-72 periods: all three propositions are significant (3.6e). The impact of potential separatism in this period is obviously higher than negative sanction and political democraticness.

[Table 3-6 about Here]

Again, although the linear function of negative sanctions is significant, the R^2 is improved from .12 to .15 when it is compared to the quadratic function. Since the increase in the adjusted R^2 is by no means trivial, we can safely argue that a quadratic function is supported.

Table 3-4 Regression* of Political Violence on Regime Democraticness, Negative Sanctions, and Separatism (1963-67)

	ln deaths per million population, 1963-67				
	(3.4a)	(3.4b)	(3.4c)	(3.4d)	(3.4e)
Constant	2.04	1.47	0.05	-0.81	-0.52
Democracy Index, 1963-67	-0.12*** (-2.83)	0.48** (2.32)			0.43** (2.06)
Democracy Index, 1963-67 ²		-0.06*** (-2.98)			-0.05*** (-2.50)
Negative Sanctions, 1963-67			0.48*** (3.74)	1.19*** (2.56)	0.98** (2.13)
Negative Sanctions, 1963-67 ²				-0.12* (-1.59)	-0.11* (-1.55)
Intensity of Separatism, ca. 1960					0.95** (2.09)
R_a^2	0.06	0.12	0.10	0.12	0.20
N	113	113	113	113	113

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

Table 3-5 Regression* of Political Violence on Regime Democraticness, Negative Sanctions, and Separatism (1968-72)

	ln deaths per million population, 1968-72				
	(3.5a)	(3.5b)	(3.5c)	(3.5d)	(3.5e)
Constant	1.33	0.74	0.53	-0.28	-0.61
Democracy Index, 1968-72	-0.02 (-0.40)	0.62*** (3.20)			0.50*** (2.73)
Democracy Index, 1968-72 ²		-0.06*** (-3.35)			-0.05*** (-2.62)
Negative Sanctions, 1968-72			0.30*** (2.73)	1.23*** (3.75)	0.93*** (2.85)
Negative Sanctions, 1968-72 ²				-0.19*** (-3.00)	-0.15*** (-2.39)
Intensity of Separatism, ca.1975					1.14*** (3.13)
R_a^2	0.00	0.07	0.05	0.11	0.29
N	121	121	121	121	121

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

Table 3-6 Regression* of Political Violence on Regime Democraticness, and Negative Sanctions, and Separatism (1973-77)

	ln deaths per million population, 1973-77				
	(3.6a)	(3.6b)	(3.6c)	(3.6d)	(3.6e)
Constant	1.10	0.74	0.27	-0.21	-0.43
Democracy Index, 1973-77	-0.02 (-0.58)	0.40** (2.41)			0.35*** (2.36)
Democracy Index, 1973-77 ²		-0.04** (-2.56)			-0.03*** (-2.47)
Negative Sanctions, 1973-77			0.34*** (4.14)	0.84*** (3.54)	0.70*** (3.18)
Negative Sanctions, 1973-77 ²				-0.09** (-2.26)	-0.09** (-2.26)
Intensity of Separatism, ca.1975					1.27*** (4.38)
R_a^2	0.00	0.04	0.12	0.15	0.18
N	121	121	121	121	121

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

To sum up, political violence is a quadratic function of regime democraticness in five out of the six time periods. Also, an inverted-U relationship is found between negative sanctions and political violence in three out of the six time periods. The other three periods show positive linear relationships. That political violence is a linear function of potential separatism is found to be significant since 1963. The only time period when it is insignificant is 1958-62.

3.5 Plots of the relationships

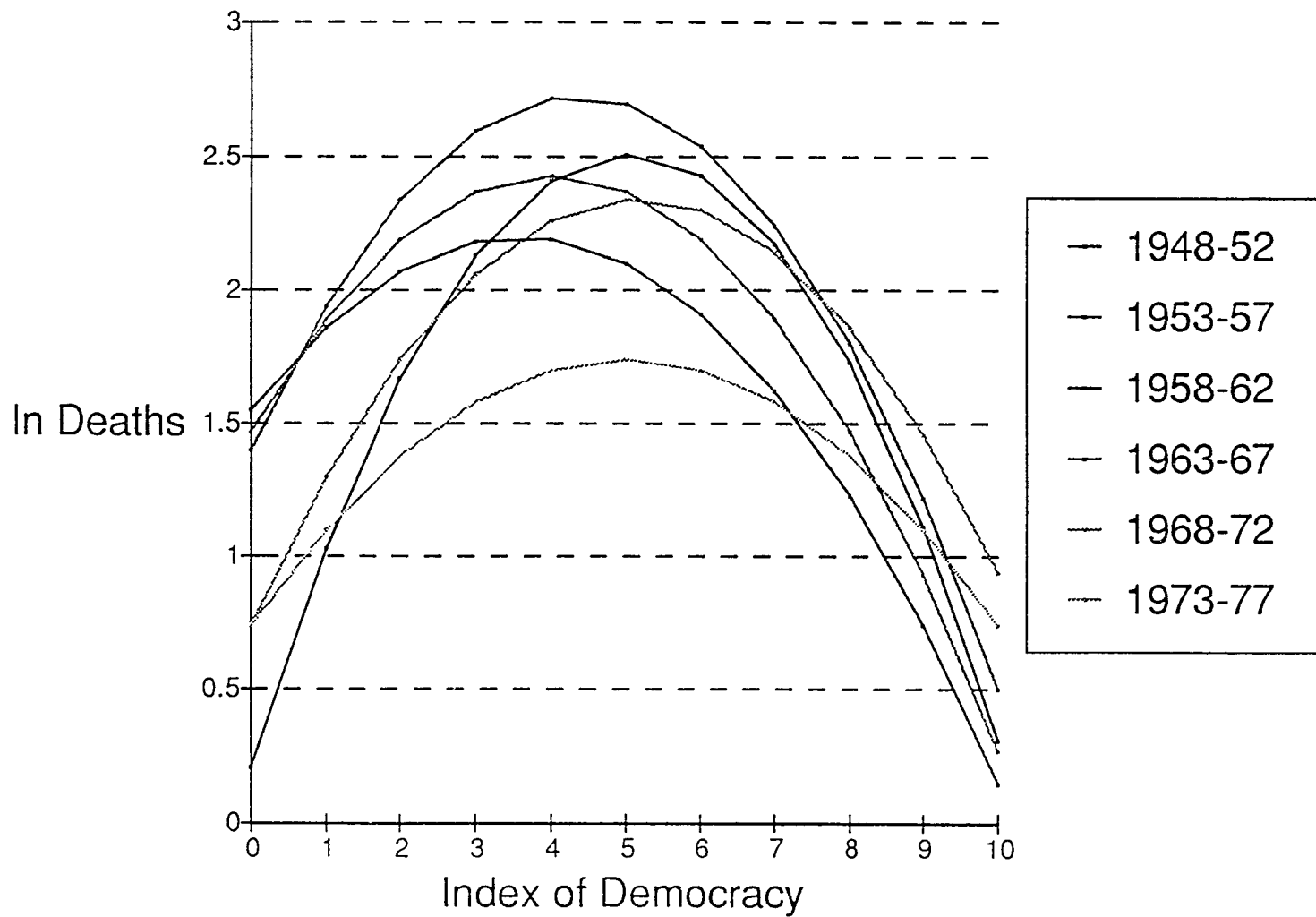
We can understand the relationships between regime democraticness and negative sanctions, on the one hand, and political violence, on the other, by plotting the expected statistical estimates produced by regression analysis. The relationships between political democraticness and political violence over the six five-year intervals are presented in Figure 3-1.

[Figure 3-1 About Here]

The curves are regression lines which are based on the predicted values. Since the estimates are significant, the plots actually summarize the data.

In figure 3-1, we observed the almost uniform inverted-U relationships across the six periods; however, the distributions are subject to heteroskedasticity. Countries in the middle level of regime democraticness have deaths ranging from

Figure 3-1 Relationships between Political Violence and Regime Democraticness



natural logarithmic value of 1.5 to 2.75 (or about 4 to 16 deaths per million). Countries in the high level of institutional democracy have a lower magnitude of 0 to 1 (or about 0 to 3 deaths per million). If the six periods are treated as six repeated samples or six sub-samples, the variations among lower to middle level countries are significantly larger than those of high level countries.

[Figure 3-1a About Here]

Figure 3-1a suggests that democratic countries always have low levels of political violence while extremely repressive countries are not necessarily associated with low scores of political violence. This figure suggests that extremely repressive regimes may sometimes have moderate scores in the number of deaths. Nevertheless, semi-repressive countries are more prone to higher intensity of violence on average.

Similarly, we can plot the relationship between negative sanctions and political violence. In two of the six time periods, the specification of curvilinear effect of negative sanctions on political violence does not hold.⁶⁵ Since the estimates for linear specification are significant, they are plotted as linear. However, the mixed results show the inconsistent relationships.

[Figure 3-2 About Here]

⁶⁵Two periods, 1953-57 and 1958-62 did not fit the inverted-U specification.

Figure 3-1A Relationships between Political Violence and Regime Democraticness

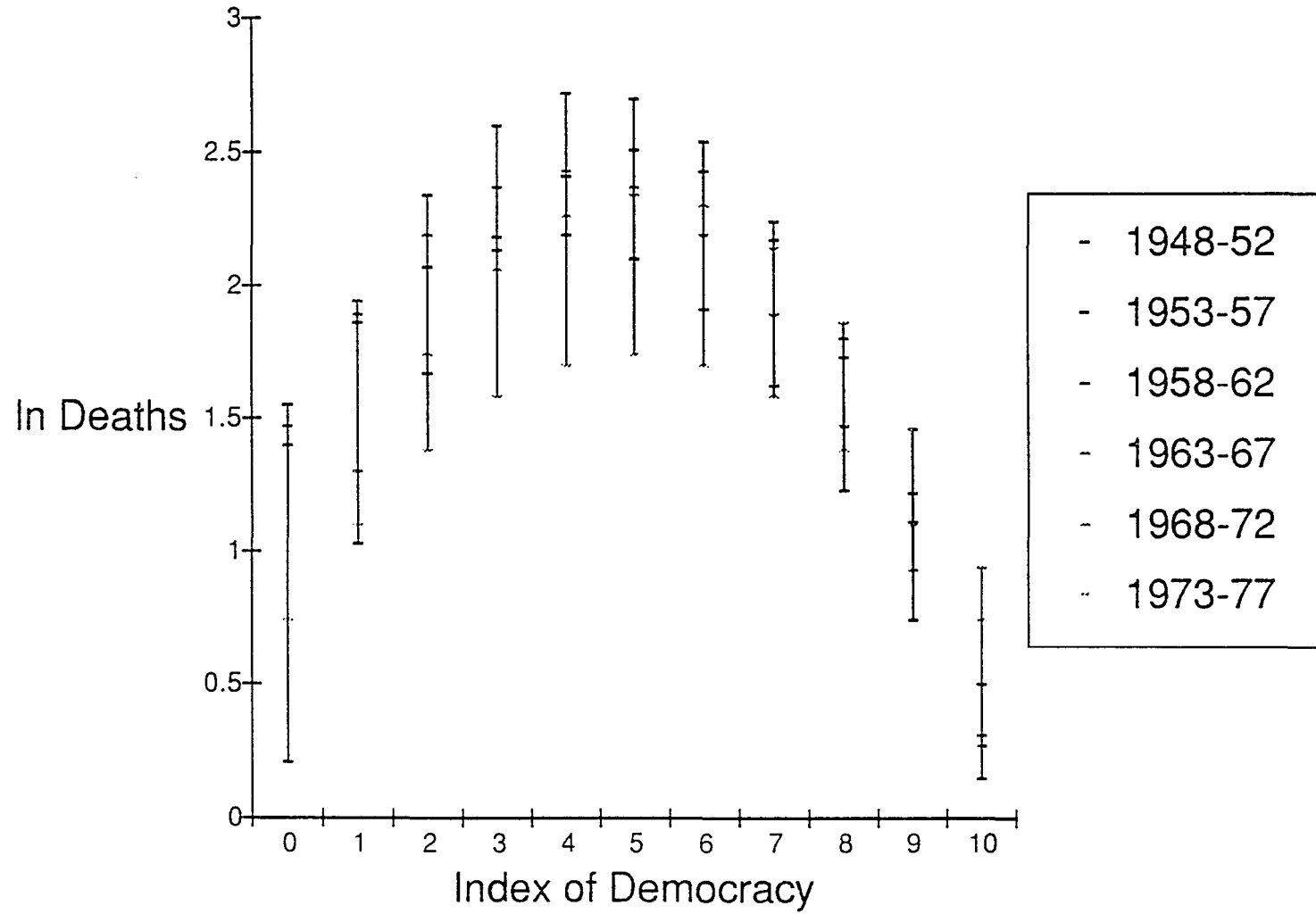
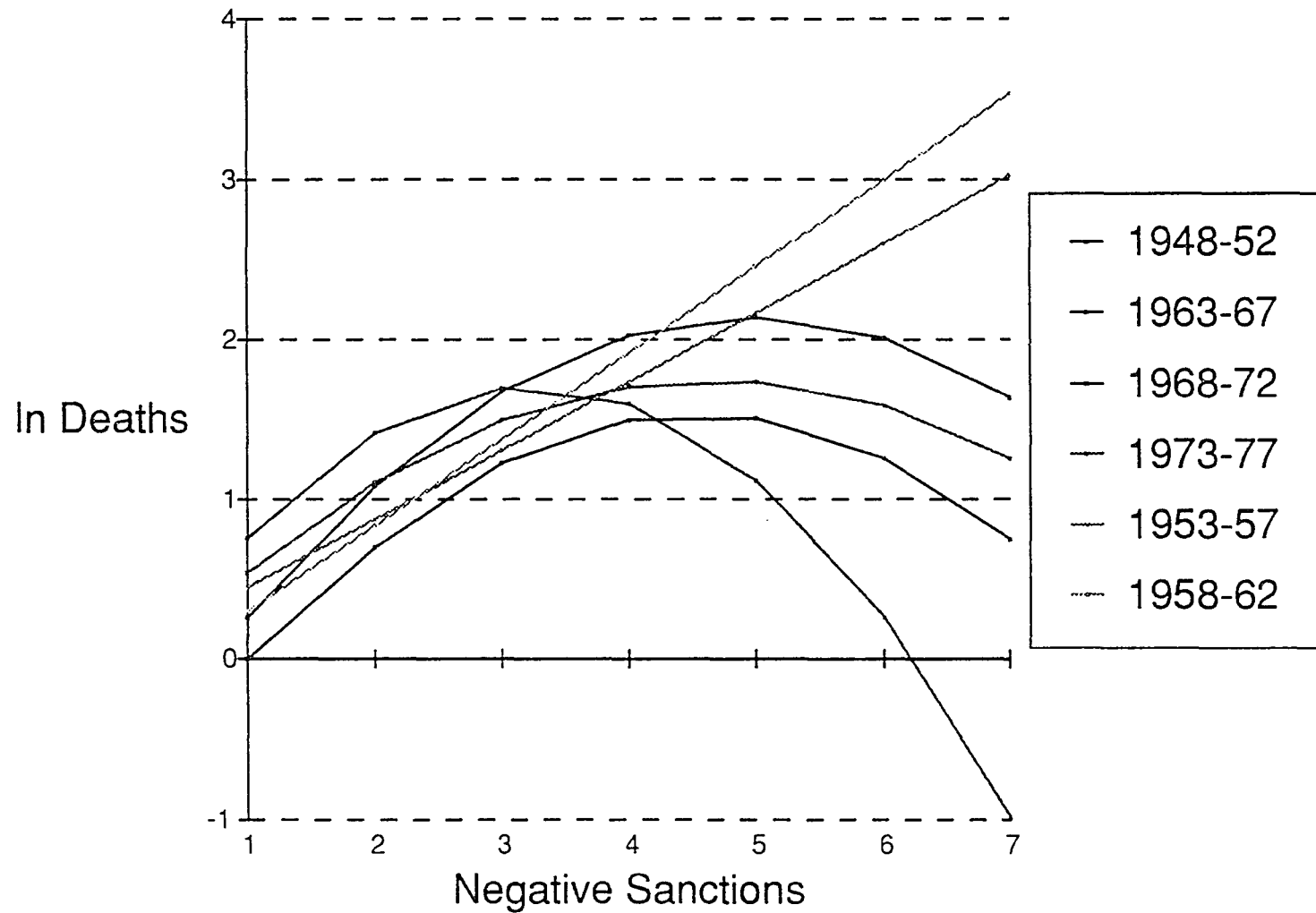


Figure 3-2 Relationships between Negative Sanctions and Political Violence



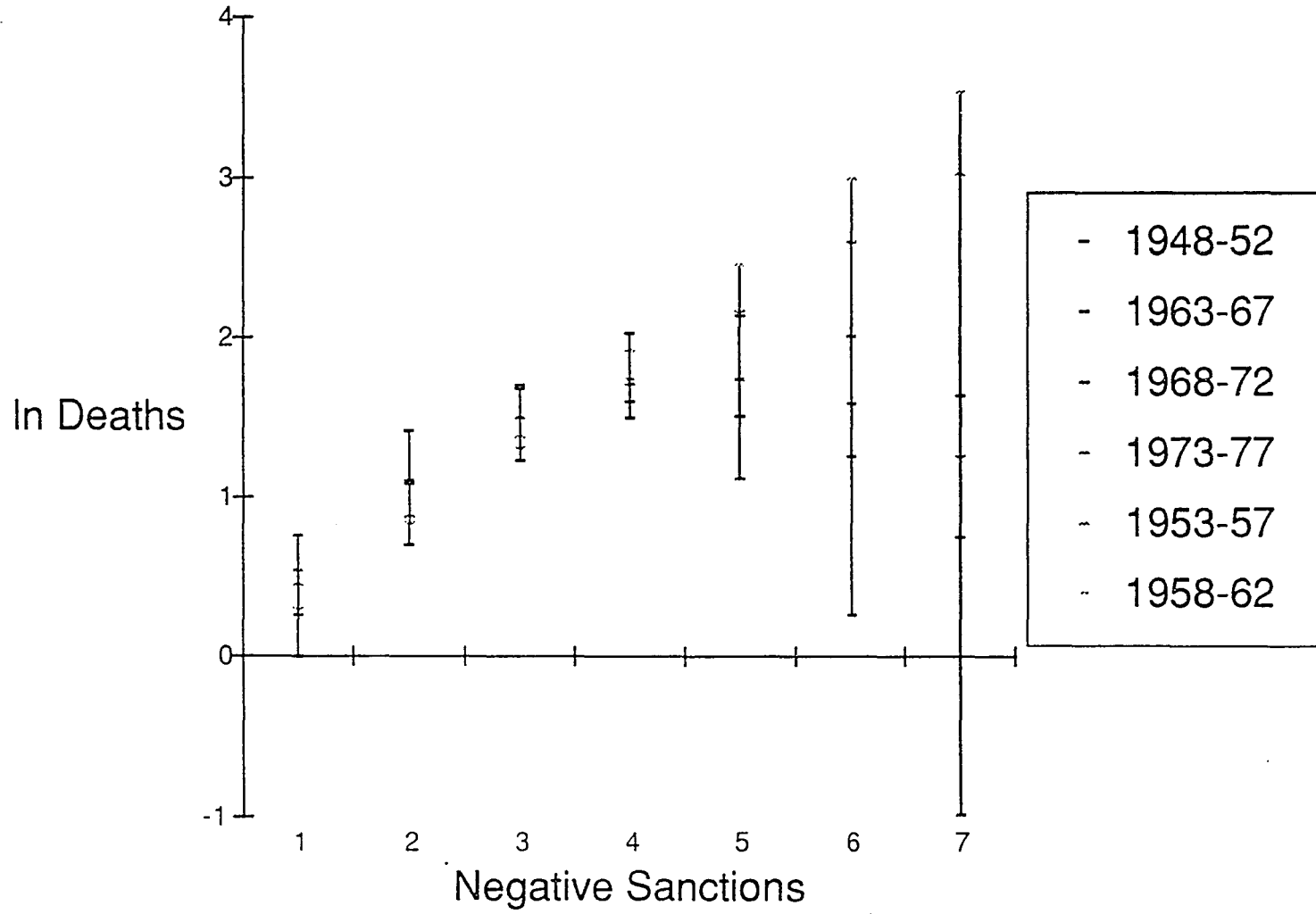
Since negative sanctions demonstrate significant quadratic relationships in four out of the six time intervals, it is still plausible to argue that there is a possible curvilinear (though not robust) relationship. According to figure 3-2, countries with low intensity of sanctions have less deaths while countries with high level sanctions are associated with an uncertain level of political violence. Figure 3-2 also shows a cutpoint around a natural logarithmic value of 4 (or about 55 sanctions); a linear pattern is observed for all six periods. The results suggest that 55 sanctions may be the threshold. Before reaching the level of 55 sanctions, increasing sanctions will result in more deadly confrontations.⁶⁶ However, if sanctions level goes beyond this cutpoint, political violence can either increase or decrease. Figure 3-2a shows extraordinary large variations during the six periods.⁶⁷

[Figure 3-2a About Here]

⁶⁶In general, across the period 1955-75, the changes of negative sanctions do have positive impacts on the changes of deaths while have very weak relationship on the number of deaths per million. It means that increasing repression generates more political violence while decreasing repression reduces the level of deadly political confrontation. See appendix B for detail.

⁶⁷Since there is no negative number of deaths, the negative value for the lower end of the variation should be treated as statistical value. Of course, this is one of the shortcomings of regression analysis which is beyond our discussion here.

Figure 3-2A Relationships Between Negative Sanctions and Political Violence



The large variation suggests that the imposition of drastic sanctions may successfully put down the level of confrontation (4 out of 6 periods) or escalate the level of confrontation (2 out of 6 periods). Nonetheless, the threshold seems to be important when we observe different patterns in the variation. If severe sanctions can either deter or escalate political violence beyond a certain point, there must be other determinants.

3.6 Conclusion

Democratic regimes seem to enjoy stability more than those non-democratic or semi-democratic regimes. The inverted-U specification holds in five of the six time periods for regime democraticness except for the 1953-57 period. By and large, semi-democratic countries suffer more political violence.

The relationship between negative sanctions and political violence is not clear due to large variations in the data. However, low sanctions are always correlated with low level of violence. Both institutionalized and behavioral perspectives on the role of government yield some speculations about the non-uniform variation (heteroskedasticity). First, the large variation in low-to-medium level of regime democraticness suggests, that in these countries, there may be some other

determinants which account for large variation at the cross-national level. Secondly, the threshold of negative sanctions serves as a watershed for hypothesis testing. It may settle the arguments between linear and quadratic function specification. Thirdly, the positive impacts of separatism on political violence is found to be significant after 1963 when more African countries become independent. With tremendous differences in ethnicity and language, separatist movements become one of the major determinants of political violence in these newly independent countries.

To sum up, empirical evidence supports the rational choice thesis with respect to three propositions. A stronger relationship is found for regime democraticness and potential separatism and a weaker relationship is found for negative sanctions. Since "partly free" regimes with limited democraticness are eventually more prone to violence than those "not free" regimes, authoritarian or totalitarian regimes with no participation allowed will keep their regimes stable. The policy implication of this theory thus gives authoritarian countries green lights to maintain high repression with limited or no incentive to engage democratization. Secondly, since weak states with insufficient coercive capability will attract more rebellious behavior, the result of this study encourages regimes to maintain or to impose high level repression. A non-democratic country with diversified ethnic groups is bound to have a highly repressive authori-

tarian government so as to reduce political violence and the possibility of separatism. However, facing the trend of democratization in the age of global communication, countries cannot remain highly repressed with only limited political rights and civil rights. Eventually, these countries will encounter higher intensity of political violence.

We will discuss the major contending hypotheses of deprivation theory in the next chapter.

Chapter IV

The Deprivation Perspectives

Deprivation theory is grounded in a long sociological tradition of explaining the occurrence of political violence. Karl Marx linked working class deprivation through trade union consciousness to rebellion against capitalism. More recently the concept of relative deprivation has been defined by Gurr as:

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

The mechanism of this perspective is based on the theory of Deprivation-Frustration-Aggression.² It is rooted in psychological theory that individuals will respond to a perceived

¹T. R. Gurr, "A Causal Model of Civil Strife: a Comparative Analysis Using New Indices", American Political Science Review 62 (1968):1104-1124.

²Frustration-Aggression theory is based on the psychological work of J. Dollard et. al., Frustration and Aggression, (New Heaven: Yale University Press, 1939). The theory is further developed by Berkowitz, "The Study of Urban Violence: Some Implications of Laboratory Studies of Frustration and Aggression." American Behavioral Scientist 11 (1968):14-17. Also, (Davies, 1962; Feierabend and Feierabend, 1966; Huntington, 1968).

deprivation by aggressive action. Their anger and discontent are the micro-foundation for aggressive activity. The greater the discrepancy an individual perceives the more discontented he becomes. The greater the discontent, the greater the likelihood that he will take part in actions of civil disobedience or political violence.

Although discontent is a psychological variable which is difficult to measure, testable propositions and indexes of deprivation have been developed. In addition to Gurr's indicators,³ many other indexes of deprivation have been modified, developed, and tested. For example, the Gini index of land or income distribution is used to measure relative deprivation between groups and its effects on political violence.⁴ The level of economic development (measured by

³He gives long-term and short-term indicators for deprivation. For persisting deprivation, they are economic discrimination, political discrimination, potential separatism, dependence on foreign capital, regions cleavages, and lack of educational opportunity. For short-term deprivation, they are trends in trade values, inflation, GNP growth rates, adverse economic conditions, new restrictions on political participation, and new value depriving policies of governments. T. Gurr, "Causal Model of Civil Strife", p. 1105.

⁴For land distribution, Russett investigated the relationship between land tenure (gini index) and deaths per million population. On 1950-62 period, with a sample of 47 nations, he found that deprived peasants, rather than prosperous peasants, are a source of political discontent. B. M. Russett, "Inequality and Instability: the Relation of Land Tenure to Politics." World Politics 16 (1964):442-454. Tanter and Midlarsky also found positive relation between land tenure and revolution. R. Tanter and M. Midlarsky, "A Theory of Revolution," Journal of Conflict Resolution 11 (1967):264-280. J. H. Nagel, "Erratum." World Politics 28 (1976):315. For income distribution, see Muller, E. N. 1985. "Income Inequality-

energy consumption, Gross National Product per capita, etc.) is also found as a strong determinant of political violence.⁵

Other indexes include inflation, unemployment, poverty and social welfare, and educational imbalance.⁶ Economically, deprivation is assumed to escalate when hardship strikes, unemployment and inflation worsens, life quality declines, etc. Politically, deprivation rises when new regulations are imposed, political rights are denied, civil rights are terminated, etc. In addition to Economic and Political factors, in the process of modernization, mass mobilization in education, communication, and urbanization generates social frustration.

However, when the relative deprivation school argues about revolutionary gap,⁷ systemic frustration,⁸ status

ty, Regime Repressiveness, and Political Violence, American Sociological Review 50 (1985):47-61. Muller, E. N. and M. A. Seligson, "Inequality and Insurgency", American Political Science Review 81 (1987):425-51. Also, for a formal model, see W. H. Panning "Inequality, Social Comparison, and Relative Deprivation", American Political Science Review 77 (1983):323-29.

⁵Sigelman, L. and M. Simpson. "A Cross-national Test of the Linkages Between Economic Inequality and Political Violence." Journal of Conflict Resolution 21 (1977):105-28.

⁶For indexes and citations, see D. K. Gupta, The Economics of Political Violence: The effect of Political Instability of Economic Growth (New York: Praeger, 1990), pp. 60-61.

⁷J. C. Davies, "Toward A Theory of Revolution." American Sociological Review 27 (1962):5-19.

⁸I. K. Feierabend, R. L. Feierabend, and B. A. Nesvold. 1969. "Social Change and Political Violence: Cross National

disequilibrium,⁹ and various kinds of deprivation-induced discontent¹⁰ that provide basic psychological foundations for rebellious movements, others argue that this theory lacks explanatory power.¹¹ For example, scholars of the resource mobilization "school" either dispute or reject the deprivation theory.¹²

In order to reconcile their arguments in this study, the deprivation theory is incorporated into structural and rational explanations of dissident group behavior. This also links relative deprivation as micro-foundation (measured by

Patterns," in Hugh D. Graham and T. Gurr (eds.) Violence in America: Historical and Comparative Perspectives, pp. 632-687. New York: Signet Books.

⁹J. Galtung, "A Structural Theory of Aggression." Journal of Peace Research 1 (1964): 94-119.

¹⁰T. R. Gurr, "A Causal Model of Civil Strife: A comparative Analysis Using New Indices", American Political Science Review 62 (1968):1104-1124. Ibid., Why Men Rebel. Princeton: Princeton University Press.

¹¹Salert suggests relative deprivation is merely reduced to hardship which produces discontent and grievances. (1976:chap.3). For criticism, see Finkel, E. S., and J. B. Rule. "Relative Deprivation and Related Psychological Theories of Civil Violence." Research in Social Movements, Conflicts and Change, 9 (1986):47-69. A. Oberschall, "Theories of Social Conflict", Annual Review of Sociology 4 (1978):291-315. E. Zimmermann, Political Violence, Crises, and Revolutions (Cambridge: Schenkman Publishing Co., 1983).

¹²The resource mobilization "school" in general argues that it is organizational mobilization and power struggle that weigh heavier than deprivation. (Tilly, 1975, 1978 Synder and Tilly, 1972; Gamson, 1975). See Muller (1985:48) for a brief summary). Eric Weede also rejects relative deprivation theory. He points out that neither the level of development nor income inequality affect violence. See E. Weede, "Some New Evidence on Correlates of Political Violence," for detail.

real Gross Domestic Product per capita, growth, etc.) and power struggle/resource mobilization as macro-characteristics (measure by regime democraticness and negative sanction). The prime assumption is that all actors are rational when they encounter a situation of deprivation. Gurr pointed out that "deprivation ... its effect depends on how it is channeled by peoples' attitudes and social situations".¹³ Since these dissident groups are utility maximizers, the extent of their ability in mobilizing resources to sustaining political struggles is mainly constrained by structural factors and rational action theory. The two most immediate factors of this study are: one, the action and reaction of dissident groups under rational calculation and governmental acts of coercion, and the second, the role of state in deterring or escalating the emergence of political violence.

In this chapter, first of all, the relationships between major deprivation variables and political violence will be discussed and identified. Real Gross Domestic Product per capita, real Gross Domestic Product growth rate, life expectancy, and infant mortality are used to measure relative deprivation.¹⁴ Real Gross Domestic Product per capita (Real

¹³Gurr 1970b, "Sources of Rebellion in Western Societies: Some Quantitative Evidence." Annals of the American Academy of Political and Social Science, p. 142.

¹⁴Real GDP per capita is from R. Summer and A. Heston, "A New Set of International Comparisons of Real Product and Price Levels Estimates for 130 Countries, 1950-1985." The Review of Income and Wealth 34 (March 1988):1-25. Literacy is

GDP p.c.), estimated by Robert Summer and Alan Heston, based on the international dollar, is developed for comparing real product and price level among nations. Life expectancy and infant mortality are regarded as two of the deprivation indexes. Life expectancy and infant mortality represent conditions that are highly correlated to general welfare, medical situation, health, food intake and calorie consumption, etc. It is believed that higher economic development will result in lower relative deprivation. Higher rate of growth will promote the level of living standards and mobility opportunities, therefore, will reduce relative deprivation. Life expectancy and infant mortality, reflecting the situation of medical, health, and general living conditions, are strong indexes of deprivation. The inverse, inverted, and ratio specifications will be tested in respect to the deprivation hypothesis. Thus the tests consist of:

(1) general deprivation variables:

- (a) the relationship between the level of economic development and political violence,
- (b) the relationship between the rate of economic development and political violence,

from (Banks, 1986); and life expectancy is from World Table (1989). Due to the lack of data over a long period of time for land and income inequality, unemployment rate, and inflation rate, the real GDP per capita is used. It is based on international dollar and has adjusted for inflation rate.

- (c) the relationship between the ratio of the rate of economic development to the level of economic development and political violence, and
- (2) the alternative deprivation variables:
- (a) life expectancy, and
 - (b) infant mortality.

Then, these variables will be put in a multivariate context to test the consistency and robustness of this deprivation theory. Explanations of variables and their operationalization will be given in the next sections.

4.1 The Level of Economic Development

The rate of domestic political violence is much lower on average in rich countries than in poor countries. From this simple empirical association, scholars have concluded that, as countries develop and prosper economically, violent internal political conflict should be expected to decline.

This presence of an inverse linear relationship between per capita income of countries and their level of political violence was a widely accepted generalization of modernization theory until Samuel Huntington, in Political Order in Changing Societies, mounted a forceful challenge to the conventional

wisdom. Huntington claims that the form of the relationship had been misspecified--it is in reality nonlinear:¹⁵

"It is not the absence of modernity but the efforts to achieve it which produce political disorder. If poor countries appear to be unstable, it is not because they are poor, but because they are trying to become rich. ... It is precisely the devolution of modernization throughout the world which increased the prevalence of violence about the world."

Thus, according to Huntington's specification, poor trying to become rich were on an upward rather than a downward trajectory in regard to political violence. In nearly 500 pages of writing Huntington marshalled a seemingly impressive array of evidence in part from cross-national correlational studies but mainly from anecdotal contemporary and historical examples to support the contention that political instability varies as an inverted U-curve of a country's level of economic development.

The inverted U-curve has by now replaced the inverse linear relationship as conventional wisdom among authors of text-books,¹⁶ but it rests on a very uneasy empirical foundation. Since the publication of Political Order in Changing Societies, there have been a number of empirical tests of the

¹⁵Samuel Huntington, Political Order in Changing Society, 1968, p.41.

¹⁶For example, R. Dahl. Modern Political Analysis, 4th ed. (Englewood Cliffs, NJ: Prentice-Hall, 1984), pp. 83-84; T. Greene, Comparative Revolutionary Movements. (Prentice-Hall, 1984), pp. 191-195.

inverted U-curve conducted more rigorously than some of the early work that Huntington cited. Using data for the 1958-67 decade from Taylor and Hudson,¹⁷ generally considered to be the most reliable cross-national data set on internal political conflict events, scholars in a majority of instances have found no support for the inverted U-curve. Hibbs found a weak fit to an inverted U-curve between energy consumption per capita and an internal war index (the sum of armed attacks, assassinations, and deaths from political violence).¹⁸ However, Hardy failed to replicate Hibbs' results. He found, instead, that the relationship between energy consumption per capita and armed attacks and deaths (analyzed separately) conformed more to an inverse linear function of moderate strength.¹⁹ Weede measured level of economic development by Gross National Product per capita and also found support for the hypotheses of an inverse relationship between that indicator and deaths from political violence but no evidence of an inverted U-curve. He reported in a footnote that the only significant nonmonotonic relationship in a variety of regressions was the reverse of the inverted U-curve, but it was

¹⁷C. L. Taylor and Hudson, World Handbook of Political and Social Indicators. 2nd ed. (New Haven: Yale University Press, 1972).

¹⁸D. D. P. Hibbs Jr., Mass Political Violence: A Cross-National Causal Analysis (New York: Wiley, 1973).

¹⁹M. A. Hardy, "Economic Growth, Distributional Inequality, and Political Conflict in Industrial Societies." Journal of Political and Military Sociology 5 (1979):209-227.

sensitive only to the presence of a single extreme case, the United States.²⁰ In addition, Yough found that a multi-item index of economic development (based on Gross National Product per capita, energy consumption per capita, electricity consumption per capita, and industrial share of Gross Domestic Product) correlated negatively and significantly (albeit at a weak value of $r = -.25$) with an index of internal war similar to that of Hibbs. His nonmonotonic inverted U-curve specification yielded no improvement in accuracy of prediction and the parameter estimates were not statistically significant.²¹ Thus, although compelling arguments can be made in favor of the hypothesis that political violence will be most likely in states undergoing a transitional phase of modernization as opposed to 'traditional' or 'modern' societies, the weight of recent global cross-national tests appears to favor the inverse linear (or monotonic) specification of orthodox modernization theory instead of the inverted U-curve.

Thus, in this section, these two widely accepted generalizations between the level of economic development are tested: (1) political violence varies cross-nationally as an inverted U-curve of level of economic development. (2) political violence varies cross-nationally as a negative

²⁰E. Weede, "Income Inequality, Average Income, and Domestic Violence." Journal of Conflict Resolution 25:639-653.

²¹S. N. Yough, "Modernization, Institutionalization, and Political Violence: a Cross-national Study," Journal of East Asian Affairs 1 (1981):1-48.

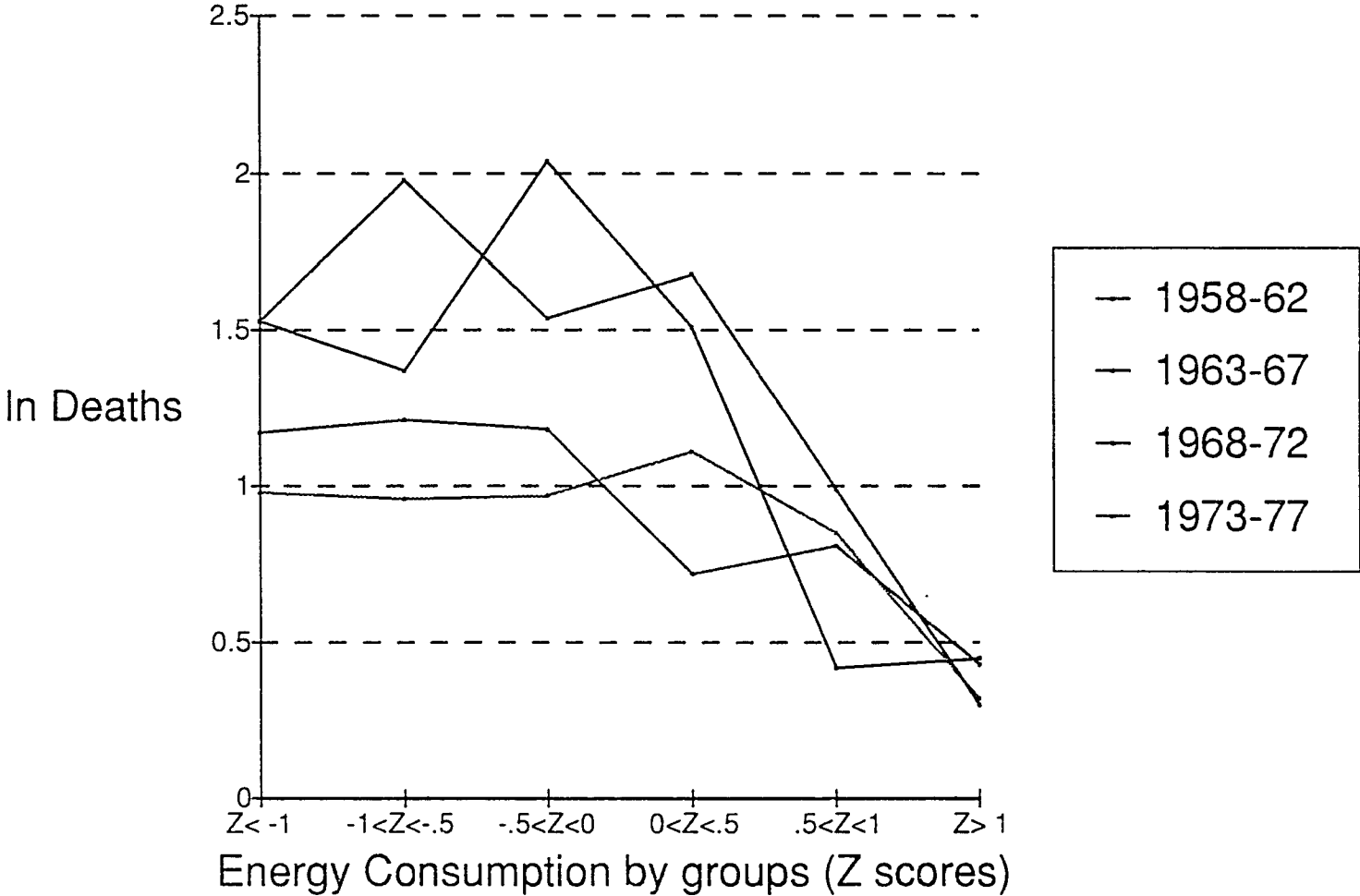
monotonic function of economic development. In order to test these relationships, the level of economic development is operationalized as energy consumption.²² Six groups are classified according to their z-score. Countries with z-scores above 1.00 belong to the richest group of the world. Countries with z-scores less than minus 1.00 belong to the poorest group of the world. Countries with scores above zero and below .5 are a little better off than average countries. Since hypotheses are subjected to multiple tests of robustness over time, four periods: 1958-1962, 1963-1967, 1968-1972, and 1973-1977 are used for the tests. The distribution of the b coefficients among groups will be plotted to identify whether there is any pattern.

[Figure 4-1 About Here]

According to figure 4-1, the relationships between political violence (measured by logged deaths per million adjusted by a ceiling of 50 per million) and the level of economic development (measured by energy consumption per capita), the relationships are not clear. It can be interpreted as inverse, inverted-U, or even a J-curve. Although there is no consistent pattern found, in 1958-1962 and 1973-1977, the peaks of

²²Energy consumption data are referred to the gross inland consumption of commercial fuels and water power which is measured in terms of coal equivalents. See Taylor and Hudson, World Handbook 2nd ed. for detail. Since energy consumption is widely used as an index of the level economic development, it is more meaningful to use this variable to test the theories.

Figure 4-1 Political Violence by Economic Development (by 6 groups)



political violence are found in the median level of economic development. It means that there are possible inverted U-curve relationships. However, it is clear that the most developed countries do have the lowest deaths scores. The threshold assumption is generally true in the four periods which draw the attention for further examination.²³ However, the large variation in the medium level of development is the reason for the disputes over whether inverted-U or inverse relationships exist.

[FIGURE 4-1A ABOUT HERE]

²³The regressions for the four periods are from the poorest group (GROUP I) to the second richest group (GROUP V), intercept is for the richest group. T-scores are in the parentheses.

$$\begin{aligned} \text{PVAL5862} &= 0.45 + 1.53 \text{ GROUP I} + 1.37 \text{ GROUP II} + 2.04 \text{ GROUP III} \\ &\quad (1.71) \quad (2.55) \quad (2.77) \quad (4.99) \\ &+ 1.51 \text{ GROUP IV} + 0.42 \text{ GROUP V} \\ &\quad (3.62) \quad (0.92) \quad R_a^2 = 0.24 \quad N = 88 \end{aligned}$$

$$\begin{aligned} \text{PVAL6367} &= 0.30 + 1.53 \text{ GROUP I} + 1.98 \text{ GROUP II} + 1.54 \text{ GROUP III} \\ &\quad (1.16) \quad (3.93) \quad (4.43) \quad (4.00) \\ &+ 1.68 \text{ GROUP IV} + 0.99 \text{ GROUP V} \\ &\quad (3.76) \quad (2.17) \quad R_a^2 = 0.19 \quad N = 115 \end{aligned}$$

$$\begin{aligned} \text{PVAL6872} &= 0.43 + 1.17 \text{ GROUP I} + 1.21 \text{ GROUP II} + 1.18 \text{ GROUP III} \\ &\quad (1.75) \quad (3.16) \quad (2.96) \quad (2.88) \\ &+ 0.72 \text{ GROUP IV} + 0.81 \text{ GROUP V} \\ &\quad (2.04) \quad (1.86) \quad R_a^2 = 0.08 \quad N = 122 \end{aligned}$$

$$\begin{aligned} \text{PVAL5862} &= 0.32 + 0.98 \text{ GROUP I} + 0.96 \text{ GROUP II} + 0.97 \text{ GROUP III} \\ &\quad (1.30) \quad (2.66) \quad (2.37) \quad (2.55) \\ &+ 1.11 \text{ GROUP IV} + 0.85 \text{ GROUP V} \\ &\quad (3.13) \quad (1.89) \quad R_a^2 = 0.06 \quad N = 124 \end{aligned}$$

A classification of eight income groups yields similar results. However, due to the case number of the smaller groups, estimates are tend to be insignificant, therefore the explanatory power is also reduced.

Figure 4-1A Political Violence by Economic Development (by 6 groups)

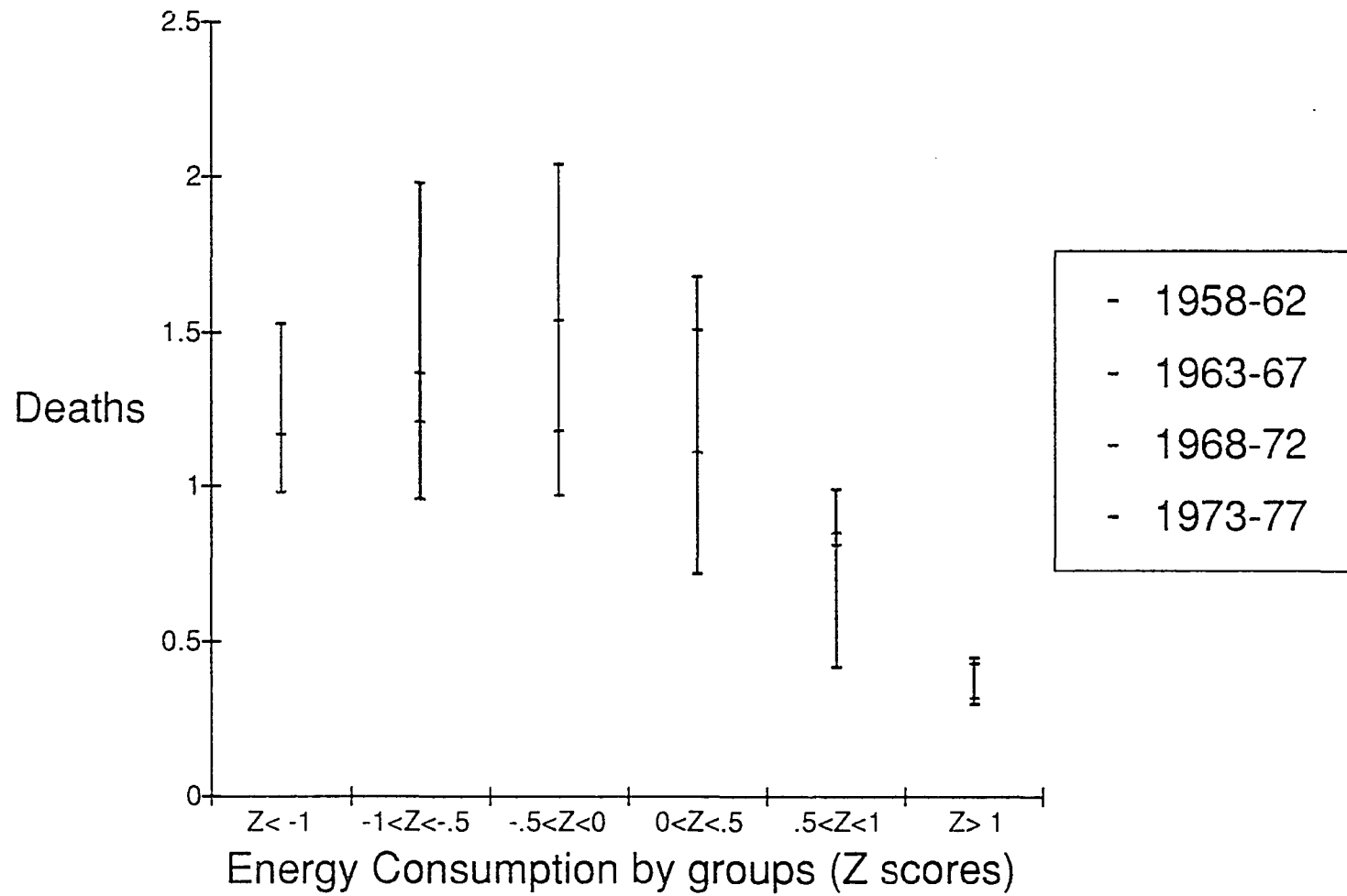


Figure 4-1a shows a much clear pattern in terms of variation. Countries in the richest category have less violence than the others. The variations over the four periods is very small. On the other hand, countries in the medium level of economic development have rather dispersed levels of violence. In general, for countries in the middle, their levels of political violence are significantly higher than the others.

4.2 Economic Growth and Political Violence.

The story is much the same if one turns from level of economic development to rate of growth.²⁴ Olson was concerned especially to counteract the optimism of American policymakers, who have accepted the validity of an inverse linear relationship between development and instability. They favor dispensing substantial U.S. economic aid to developing countries at the 'take-off' stage²⁵ in order to enhance their growth rates so that they can move out of the relatively poor take-off stage as rapidly as possible. But, argued Olson, on

²⁴The seminal work is the paper published by Mancur Olson "Rapid Growth as a Destabilizing Force." Journal of Economic History 24 (1963):529-552. Also see S. N. Eisenstadt, "Breakdowns of Modernization." Economic Development and Cultural Change 12 (July 1964):345-67. Moreover, see Huntington, Political Order in Changing Society, chapter one.

²⁵See W. W. Rostow, Stages of Economic Growth: A Non-Communist Manifesto, (Cambridge, Cambridge University Press, 1960).

the basis of theoretical reasoning and historical evidence, rather than providing one of the keys to stability and peaceful evolution, "rapid economic growth is a major force leading toward revolution and instability."²⁶

In developing a theoretical rationale for predicting a positive association between rapid economic growth and political violence, Olson emphasized particularly the paradoxical fact that rapid economic growth, which by definition produces an increase in average income, may also cause a substantial increase in the number whose standard of living is declining: "This is because in periods of rapid economic growth there are often several forces that work toward a concentration of most of the gains in a relatively small number of hands and to a widespread diffusion of the losses."²⁷ One of these income concentrating forces is the tendency for wages to rise more slowly than prices. As demand increases with economic growth, this lag causes a decline in real income for wage-earners. Another is unemployment resulting from rapid technological change. A third is the fact that if the gainers from rapid economic growth gain a lot, those who are not losers in absolute terms, but are only moderate gainers, may find that they have lost out relatively, thereby experiencing a decline in their relative economic

²⁶Olson, "Rapid Growth as a Destabilizing Force", pp.530-531.

²⁷Ibid., p.536.

position because of the large advances of other gainers. As a result, while rapid economic growth may tend to redistribute income upwards in the short run, it exacerbates income inequality.²⁸

By creating new gainers as well as losers, rapid economic growth necessarily creates status disequilibrium. On the one hand, some of the gainers may become dissatisfied because their economic power does not translate into commensurate social status and/or political influence. On the other hand, many of the new losers can be expected to become much more resentful of their relative poverty than those who have never known a better life. Status disequilibrium, therefore can cause both gainers and losers to experience a sense of relative deprivation.²⁹

Moreover, economic growth necessarily sets in motion a process of rapid social mobilization that results from increases in urbanization, education, and mass communication. Thus, via the mechanism of social mobilization, economic growth will be associated with increasing knowledge of the possibilities of a better life and increasing exposure to new

²⁸Huntington argues "economic development increases economic inequality, at the same time, that social mobilization decreases the legitimacy of that inequality. Both aspects of modernization combine to produce instability". See Huntington, Political Order in Changing Society, pp. 58-59.

²⁹Also, J. Galtung indicates that "Aggression is most likely to arise in social positions in rank-disequilibrium". J. Galtung, "A Structural Theory of Aggression." Journal of Peace Research 1 (1964): 94-119.

ideologies, including those that justify political violence in the interest of achieving progressive social change. The social mobilization generated by rapid economic growth also may produce "a 'revolution of rising expectations' that is apt to involve, above all, rising expectations about what the government should do".³⁰ If demands for reform outpace the willingness or ability of government to effect reform, alienation from the political system may be the consequence.

In short, rapid economic growth may be associated with a variety of micro-level psychological causes of political violence, including relative deprivation, ideological approbation of violence, and political alienation.

Despite such plausible theoretical justification for postulating a positive relationship between rapidity of economic growth and rate of political violence, and despite a number of specific historical examples that appear to support this hypothesis (e.g., the French revolution, the Russian revolution, the Mexican revolution, the Iranian revolution), cross-national statistical evidence in favor of it has not yet been forthcoming. The majority of studies have found no significant relationship cross-nationally between indicators of political instability and rates of economic growth or socioeconomic change more generally.³¹ However, high growth

³⁰Olson, "Rapid Growth as a Destabilizing Force." p. 541.

³¹For a relatively comprehensive review see Zimmermann, Political Violence, Crises and Revolution (Cambridge, MA:

rates create more mobility opportunity, raise living standard overall, and produce more satisfaction among the populace than lower growth rates. The negative effect of growth on violence, then, is congruent with deprivation theory. The higher growth rate will reduce deprivation and subsequently reduce political violence.

Although having a strong theoretical base, previous tests between the rate of economic and political violence suggest no clear relationships. In this section, the relationships between economic growth and political violence are tested. By using five aggregated five-year intervals, we found different magnitudes.³² The correlations are -0.10, -0.28, -0.24, -0.32, and -0.26 in 1955-50, 1960-55, 1965-60, 1970-65, and 1975-70 with 57, 68, 106, 116, and 118 cases respectively. All but the first period are significant at .05 level two tailed. Contrary to Olson's thesis, all of those are negative. This result supports Muller and Weede's argument that high growth rate is associated with more mobility opportunity, higher living standard, and less deprivation. Hence, high level of growth rates are compatible with lower level of violence.³³

Schenkman, 1983), pp.96-102.

³²In a cross-national pooled time-series analysis from 1950 to 1977 for all independent nations, weak correlation was found between political violence (measured by deaths from political violence) and the real GDP growth rate (based on 1980 international dollar with a correlation of $r=-0.10$).

³³Muller and Weede, "Cross-national Variation in Political

4.3 A Ratio Interaction Hypothesis

Huntington speculates that "among countries which have reached a relatively high level of economic development, a high rate of economic growth is compatible with political stability."³⁴ Olson's argument about the destabilizing consequences of rapid economic growth was formulated specifically in reference to less developed countries. If the relationship between economic growth and political violence is conditional, depending on the level of development of a country, then tests that fail to take level of development into account are misspecified. Thus, the major limitation of previous research may be the fact that the conversion of the theoretical argument into a testable proposition has been flawed.

The ratio interaction hypothesis can be explained most conveniently by reference to a simple 3 X 3 cross-classification of rate of economic growth by level of economic development, which is shown in Table 4-1.

To illustrate the argument, low, medium, and high values of growth and level of development are assigned scores of 1 to 3 and the ratios of these scores are given in parentheses within each cell above the rate of political violence that is

Violence." pp. 640-641.

³⁴Huntington, Political Order in Changing Society, p. 53.

expected to result from the various combinations of values of the independent variables.

[TABLE 4-1 ABOUT HERE]

According to this example, a low ratio of growth to level of development (scores less than or equal to 1.00) is expected to result in a low rate of political violence; an intermediate ratio of growth to level of development (scores between 1.5 and 2.4) is expected to result in an intermediate rate of political violence; and a high ratio of growth to level of development (a score of three) is expected to result in a high rate of political violence. Thus the relationship between political violence and the ratio of growth to level of development is expected to be positive and monotonic.

To elaborate the rationale for this hypothesis and show how it integrates previous theorizing, let us consider the rows of the table, which represent the levels of economic development and also may be interpreted as corresponding to 'traditional,' 'transitional,' and 'modern' societies. Economic growth is expected to be most destabilizing in traditional societies, where the level of economic development is low. The destabilizing--or violence-generating--effect of economic growth then is expected to decline as societies modernize, becoming negligible in modern states with a high level of development. Note first of all that since the effect of rapid economic growth is specified as being conditioned by the level of economic development of a country, this

Table 4-1 Expected Rate of Political Violence: Ratio between
Economic Growth and Economic Development

		Rate of Economic Growth		
		Low (1)	Medium (2)	High (3)
Level of Economic Development (Modernization)	Low (1) (tradictional)	1 (LOW)	2 (MEDIUM)	3 (HIGH)
	Medium (2) (transitional)	.5 (LOW)	1 (LOW)	1.5 (MEDIUM)
	High (3) (modern)	.3 (LOW)	.67 (LOW)	1 (LOW)

relationship is in accord with the inverse monotonic hypothesis of orthodox modernization theory: assuming that rates of economic growth are relatively evenly distributed by level of development, states at a low level of development should have the highest rates of political violence, states at a medium level of development should tend to have intermediate rates of violence, and states at a high level of development should tend to have low rates of violence. Moreover, given the proviso that the effect of rapid economic growth is conditional on the level of economic development of a country, the ratio interaction relationship also fits Olson's theory about the destabilizing effects of rapid economic growth. Finally, it allows for the possibility of an inverted U-curve, but only under the special circumstance that the vast majority of traditional societies have low rates of economic growth while a substantial proportion of transitional societies have high rates of economic growth.

Now let us consider the implications of the ratio interaction hypothesis for the separate relationships between level of economic development, rate of economic growth, and rate of political violence. With regard to level of economic development and political violence, there is no reason to expect the inverted U-curve necessarily to hold because countries at an intermediate level of development with slow growth would be expected to have low rates of political violence. There always should be an inverse monotonic rela-

tionship between level of development and violence, however. This is because countries with a high level of development necessarily will have low scores on the ratio of growth to development and, therefore, should have low rates of political violence. Moreover, the inverse monotonic relationship should be subject to heteroskedasticity such that accuracy of prediction varies positively with level of economic development. That is, the variance about the slope should be much greater for countries at low and medium levels of development than for those at a high level of development. This is because all countries at a high level of development are expected to have low rates of political violence, whereas countries at a low level of development will not be expected to have high rates of political violence if their rate of economic growth is slow, and countries at a medium level of development could have either intermediate rates of political violence if their growth is very fast or else low rates of political violence if their growth is very slow.

With regard to rate of economic growth and political violence, there are reasons to expect a positive relationship (subject, however, to heteroskedasticity), but it might be quite weak if most countries have medium-to-high levels of growth. The period following the end of World War II until the global recession of the mid-1970s was such a case. Although countries with very slow growth are expected to have low rates of political violence, countries with medium-to-high

rates of growth may or may not have nonlow rates of political violence, depending upon their level of development. Thus the typical finding of no statistically significant relationship between economic growth and political violence may be due to the confounding influence of level of economic development, as well as the fact that growth rates have tended to be relatively high during the periods studied. Moreover, a general tendency toward relatively high growth rates also would accentuate the inverse relationship between level of economic development and political violence, which also has been the most typical finding of cross-national research.

[Table 4-2 About Here]

According to the results reported in Table 4-2, we can see that Olson's theory is largely rejected. For the basic thesis of Olson's theory to be valid, there would be a positive relationship between growth rate and political violence. However, in section 4.2, a negative correlation between the two during the four periods from 1958 to 1977 was found. Thus, an alternative ratio hypothesis should incorporate the finding and reverse the scores assigned to the rate of growth (e.g., low growth rate has a high numerator). This alternative hypothesis argues that political violence can be expected to vary cross-nationally as a negative monotonic function of the ratio of rate of growth to level of development. High growth rate and high level of economic development are always associated with low level of violence. Low to

Table 4-2 The Distribution of the Ratio between Economic Growth and Economic Development and Political Violence⁺

1953 - 1957		Economic Growth					
		Lo		Med		Hi	
Level of Economic Develop- ment	Low	100%	(8)*	100%	(4)	20%	(5)
	Medium	100%	(2)	100%	(6)	54%	(13)
	High	100%	(3)	50%	(8)	50%	(8)
1958 - 1962		Economic Growth					
		Lo		Med		Hi	
Level of Economic Develop- ment	Low	100%	(3)	100%	(9)	80%	(5)
	Medium	67%	(3)	90%	(10)	25%	(12)
	High	50%	(2)	88%	(8)	50%	(16)
1963 - 1967		Economic Growth					
		Lo		Med		Hi	
Level of Economic Develop- ment	Low	83%	(23)	100%	(7)	33%	(3)
	Medium	50%	(2)	79%	(14)	40%	(20)
	High	71%	(7)	100%	(12)	39%	(18)
1968 - 1972		Economic Growth					
		Lo		Med		Hi	
Level of Economic Develop- ment	Low	75%	(24)	89%	(9)	67%	(6)
	Medium	86%	(7)	77%	(13)	59%	(17)
	High	50%	(6)	47%	(15)	63%	(19)
1973 - 1977		Economic Growth					
		Lo		Med		Hi	
Level of Economic Develop- ment	Low	64%	(27)	88%	(8)	25%	(4)
	Medium	50%	(6)	77%	(13)	57%	(21)
	High	50%	(6)	78%	(18)	71%	(17)

Note: * percentage follows in medium or high political violence.
 * case numbers are in the parentheses.

medium growth rates have different impact on political violence conditioned by the level of economic development. Stronger support is expected since negative correlations between economic development and political violence, economic growth and political violence have been found in section 4.1 and 4.2.

According to the expected rankings, two 3 X 3 cross-classification of rate of economic growth by level of economic development were created. One of them represents the expected ranking along with Olson's argument. The other represents a revised ratio model in which the negative impacts of economic growth is taken into account.

[Table 4-3 About Here]

From the results reported in Table 4-3, by comparing the rank order, Spearman (Rank) correlation coefficients were calculated.

[Table 4-4 About Here]

Again, the Spearman correlation coefficients, specified along the lines of Olson's argument, are not significant. The revised ratio fits better. In the period 1953-57, 1958-62, and 1968-72, significant Spearman coefficients support the ratio interaction hypothesis.

4.4 Alternative Indexes of Deprivation: Life Expectancy and Infant Mortality

Table 4-3 Expected Ranks For The Two Ratio Specifications

 Expected Ranks for Olson's thesis

		Economic Growth		
		Low	Medium	High
Level of Economic Development	Low	5	8	9
	Medium	2	5	7
	High	1	3	5

 Expected Ranks for Revised Ratio

		Economic Growth		
		Low	Medium	High
Level of Economic Development	Low	9	8	5
	Medium	7	5	2
	High	5	3	1

Table 4-4 Spearman Correlations For the Two Model, 1953-77

Spearman (Rank) correlation coefficients

	1953-57	1958-62	1963-67	1968-72	1973-77
Olson's	-0.25 (-0.68)	0.25 (0.68)	-0.20 (-0.54)	0.33 (0.92)	0.18 (0.49)
Revised	0.69** (2.56)	0.71** (2.66)	0.48 (1.45)	0.68** (2.43)	0.23 (0.62)

Note: Values in the first row are Spearman (Rank) correlation coefficients. T-scores are in teh parantheses.
 ** p < .05 two tailed.

Several indexes have used life expectancy and/or infant mortality as components to measure such as Physical Quality of Life Index (PQLI) and Human Development Index (HDI). In addition, the conventionally used indexes are protein per capita per diem, calories per capita per diem, physicians per million, percentage of dwellings with piped water, Gross National Product per capita, etc. All of these indexes share a common characteristics that is to reflect a particular aspect of general well-being. Infant mortality and life expectancy are the two measures that can summarize general well-being. Although the two are related to the wealth of countries, poor countries can have high life expectancy and low infant mortality rate. For example, in 1960 with Gross National Product per capita of US\$ 358 Taiwan had infant mortality rate of 31, Chile with US\$ 670 had infant mortality rate of 125. Thus, the two indexes mirror a situation in which how well governments are devoted in promoting the level of general welfare by distributing resources to social welfare, medical facilities, social insurance, nutrition, etc.

Infant mortality states a simple fact of human suffering. For example, in Afghanistan, 225 out of 1000 live birth infants die before one year of age in 1975, compared to Sweden where only 8 occurrences.³⁵ Six countries have rates over

³⁵Taylor and Jodice, World Handbook, 3rd eds. pp. 156-159.

200: Gabon Guinea, Upper Volta, Mali and Niger.³⁶ However, Angola has a low score of 24 in 1972.

In the 1970s, for most African countries the rate of life expectancy are in the thirties and forties. For developed countries, people are expected to live twice as long on average.

Both indexes indicate how resources are distributed to the public. If resources are inadequately distributed (bad government policy) or not available (simply poor), grievances are generated.

In the next section, first, we will test the robustness of rational action theory by controlling for real Gross Domestic Product per capita, the major index of deprivation theory. Secondly, in addition to real Gross Domestic Product per capita, we control for alternative deprivation indexes such as real Gross Domestic Product per capita growth and infant mortality and life expectancy.

4.5 Results and Discussion

To test the robustness of rational action theory, deprivation is used as a control variable. Since separatism can be interpreted as a measure either of rational action or

³⁶Ibid., Noticed in Taylor and Jodice, World Handbook 3rd ed., data used are from different years. For Gabon is from the year of 1961; for Guinea is from the year of 1955 and for Afghanistan Upper Volta and Mali are from the year of 1975.

deprivation, in the periods of 1958-62, 1963-67, 1968-72, and 1973-77, separatism is also controlled for it is also an aspect of rational choice theory.

In the first set of equations, from table 4-5 to table 4-10, we use real Gross Domestic Product per capita as the primary deprivation index to investigate the incorporated theory.

In the period 1948-52, while the index of democracy remains the most important determinant, the curvilinear effect of negative sanction is reduced to a linear one (4.5c). The deprivation assumption is supported by a strong negative relationship between real Gross Domestic Product per capita and political violence, and is independent from rational action indexes.

[TABLE 4-5 ABOUT HERE]

During the period 1953-57, lagged negative sanction is introduced to test the possible lagged effect specified by Hibbs. Unfortunately, the lagged negative sanction is not significant (4.6b). In addition, political violence is neither a linear nor an inverted-U function of negative sanctions in this period. Real Gross Domestic Product per capita is the most important index in this period (4.6a), while a marginal linear effect is found in the index of democracy.

[TABLE 4-6 ABOUT HERE]

Table 4-5 Regression* of Political Violence on Regime Democraticness,
Negative Sanctions, and Economic Development (1948-52)

	ln deaths per million population, 1948-52		
	(4.5a)	(4.5b)	(4.5c)
Constant	8.02	3.23	4.01
Real GDP per capita, 1950-52	-0.92*** (-3.78)	-0.68*** (-2.47)	-0.72*** (-2.68)
Democracy Index, 1948-52		0.85*** (2.99)	0.86*** (3.05)
Democracy Index, 1948-52 ²		-0.07*** (-2.87)	-0.07*** (-2.91)
Negative Sanctions, 1948-52		0.73* (1.30)	0.34*** (2.47)
Negative Sanctions, 1948-52 ²		-0.06 (-0.72)	
R_a^2	0.20	0.32	0.33
N	55	55	55

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

Table 4-6 Regression* of Political Violence on Regime Democraticness, Negative Sanctions, and Economic Development (1953-57)

	ln deaths per million population, 1953-57			
	(4.6a)	(4.6b)	(4.6c)	(4.6d)
Constant	8.66	7.51	7.69	7.57
Real GDP per capita, 1953-57	-0.99*** (-4.62)	-0.79*** (-3.00)	-0.78*** (-3.11)	-0.80*** (-3.18)
Democracy Index, 1953-57		-0.05 (0.19)	-0.08* (-1.50)	-0.07* (-1.40)
Democracy Index, 1953-57 ²		-0.002 (-0.10)		
Negative Sanctions, 1953-57		0.01 (0.03)	0.21 (0.97)	0.02 (0.11)
Negative Sanctions, 1953-57 ²		-0.000008 (-0.00)		
Negative Sanctions, 1948-52			-0.25 (-1.25)	
R_1^2	0.25	0.23	0.26	0.26
N	61	61	61	61

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

For the period 1958-62, the separatism index is also controlled. Since most African nations that are suffering from separatist movements were not independent yet (hence excluded from the sample), the insignificant impact is foreseeable. Negative sanction becomes linear while lagged negative sanction remains insignificant (4.7c). Though marginally significant, the index of democracy holds a curvilinear specification. Real Gross Domestic Product per capita, the index of deprivation, is the most important determinant in the last period (4.7e).

[TABLE 4-7 ABOUT HERE]

In the period 1963-67, the index of democracy regains its importance. Real Gross Domestic Product per capita maintains its significant impacts from the first period onward. Again, negative sanction is reduced to a linear effect while lagged negative sanction remains insignificant. Separatism becomes important in this period. Since newly independent African nations are more prone to ethnic conflicts, the growing importance of this variable is perceivable.

[TABLE 4-8 ABOUT HERE]

In the period 1968-72, all factors but lagged negative sanction are significant. The quadratic functions of regime democraticness and negative sanction hold. Real Gross Domestic Product per capita becomes an important determinant for the fifth period. Separatism remains an important determinant.

Table 4-7 Regression* of Political Violence on Regime Democraticness, Negative Sanctions, Economic Development, and Separatism (1958-62)

	ln deaths per million population, 1958-62				
	(4.7a)	(4.7b)	(4.7c)	(4.7d)	(4.7e)
Constant	7.62	6.09	4.81	5.09	5.25
Real GDP per capita, 1958-62	-0.82*** (-3.77)	-0.72*** (-2.62)	-0.59** (-2.28)	-0.66*** (-2.56)	-0.70*** (-2.60)
Democracy Index, 1958-62		0.36* (1.55)	0.38* (1.64)	0.36* (1.54)	0.32* (1.33)
Democracy Index, 1958-62 ²		-0.04* (-1.53)	-0.04* (-1.65)	-0.04* (-1.53)	-0.03* (-1.32)
Negative Sanctions, 1958-62		0.10 (0.17)	0.45** (2.14)	0.28** (1.78)	0.31** (1.87)
Negative Sanctions, 1958-62 ²		-0.06 (-0.66)			
Negative Sanctions, 1953-57			-0.23 (-1.21)		
Intensity of Separatism, 1960					-0.29 (-0.59)
R _a ²	0.15	0.20	0.22	0.21	0.20
N	78	78	78	78	78

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

Table 4-8 Regression* of Political Violence on Regime Democraticness, Negative Sanctions, Economic Development and Separatism (1963-67)

	ln deaths per million population, 1963-67				
	(4.8a)	(4.8b)	(4.8c)	(4.8d)	(4.8e)
Constant	5.90	2.70	5.36	5.24	3.05
Real GDP per capita, 1963-67	-0.60*** (-3.75)	-0.42** (-2.30)	-0.67*** (-3.03)	-0.65*** (-3.04)	-0.41*** (-2.37)
Democracy Index, 1963-67		0.36** (1.78)	0.39* (1.56)	0.39* (1.59)	0.49*** (2.38)
Democracy Index, 1963-67 ²		-0.04** (-1.88)	-0.04** (-1.67)	-0.04** (1.71)	-0.05*** (-2.43)
Negative Sanctions, 1963-67		0.71* (1.64)	0.24 (1.06)	0.30** (2.13)	0.27** (2.14)
Negative Sanctions, 1963-67 ²		-0.06 (-0.86)			
Negative Sanctions, 1958-62			0.09 (0.41)		
Intensity of Separatism, 1960					1.09*** (2.58)
R _a ²	0.11	0.22	0.21	0.22	0.26
N	106	106	106	106	106

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

[TABLE 4-9 ABOUT HERE]

In the period 1973-77, similar to the period 1968-72, the quadratic functions of both regime democraticness and negative sanctions are present (4.10d). Separatism, the most important determinant, solely accounts for eleven percent of total variation (4.10c). Real Gross Domestic Product per capita is only marginally significant.

[TABLE 4-10 ABOUT HERE]

To sum up, the deprivation index, real Gross Domestic Product per capita, is consistently significant at .01 one-tailed level for all but the last period. The last period is significant at .05 one-tailed. The independent effects of real Gross Domestic Product per capita Lagged negative sanction is not significant at all five periods. Thus, no support is found for the lagged negative linear impact argument. Separatism is significant for the last three periods but not the first period. The strong impacts of institutional democracy remain unchanged regardless of the controlling for the main deprivation index. Negative sanction holds an inverted-U specification only in the 1970s.

In the second set of equations, table 4.11 through table 4.15, in addition to real Gross Domestic Product per capita, other deprivation indexes are controlled: rate of real Gross Domestic Product per capita growth, infant mortality, and life expectancy. Since there are high correlations between life expectancy and infant mortality, they are entered into the

Table 4-9 Regression* of Political Violence on Regime Democraticness,
Negative Sanctions, Economic Development, and Separatism (1968-72)

	ln deaths per million population, 1968-72			
	(4.9a)	(4.9b)	(4.9c)	(4.9d)
Constant	4.14	3.01	2.40	2.41
Real GDP per capita, 1968-72	-0.39*** (-2.76)	-0.51*** (-3.16)	-0.44*** (-2.74)	-0.44*** (-2.74)
Democracy Index, 1968-72		0.36** (1.93)	0.41** (2.27)	0.42*** (2.52)
Democracy Index, 1968-72 ²		-0.03* (-1.49)	-0.03** (1.77)	-0.03** (-1.74)
Negative Sanctions, 1968-72		1.01*** (3.03)	0.91*** (2.79)	0.91*** (2.70)
Negative Sanctions, 1968-72 ²		-0.13** (-2.14)	-0.13** (-2.10)	-0.13** (-2.09)
Negative Sanctions, 1963-67				-0.004 (-0.03)
Intensity of Separatism, 1975			0.99*** (2.77)	0.99*** (2.75)
R_a^2	0.06	0.20	0.25	0.24
N	112	112	112	112

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

Table 4-10 Regression* of Political Violence on Regime Democraticness, Negative Sanctions, Economic Development and Separatism (1973-77)

	ln deaths per million population, 1973-77			
	(4.10a)	(4.10b)	(4.10c)	(4.10d)
Constant	2.19	1.53	0.81	0.80
Real GDP per capita, 1973-77	-0.15 (-1.25)	-0.27** (-2.00)	-0.18* (-1.43)	-0.17* (-1.33)
Democracy Index, 1973-77		0.31** (1.91)	0.38*** (2.47)	0.39*** (2.57)
Democracy Index, 1973-77 ²		-0.03** (-1.91)	-0.03** (-2.36)	-0.04** (-2.31)
Negative Sanctions, 1973-77		0.80*** (3.08)	0.66*** (2.71)	0.79*** (2.93)
Negative Sanctions, 1973-77 ²		-0.08** (-1.76)	-0.07** (-1.76)	-0.08** (-1.83)
Negative Sanctions, 1968-72				-0.15 (-1.12)
Intensity of Separatism, 1975			1.25*** (4.16)	1.28*** (4.25)
R _a ²	0.01	0.18	0.29	0.29
N	112	112	112	112

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

equations separately. Life expectancy has a negative impact on political violence (4.11b). The higher the life expectancy, the lower the deprivation people will perceive. A positive relation is found between infant mortality and political violence (4.11c). Since the higher the infant mortality the higher the grievance that people perceive, the higher mortality rate therefore has a positive impact on political violence. Although the index of democracy maintains the same relationship (as in table 4.6), the impact of real Gross Domestic Product per capita disappears.³⁷

[TABLE 4-11 ABOUT HERE]

In the period 1958-62, the rate of Gross Domestic Product per capita growth is the most important determinant. The index of democracy holds the inverted-U specification only marginally (4.12b).

[TABLE 4-12 ABOUT HERE]

In the period 1963-67, real Gross Domestic Product per capita is significant while real Gross Domestic Product per capita growth is not. Life expectancy is marginally significant in this period (4.13b). The inverted-U for regime democraticness holds. As in table 4.7, native sanction holds for the linear specification.

[TABLE 4-13 ABOUT HERE]

³⁷Two possible reasons are (1) high correlation between real GDP per capita on the one hand and infant mortality and life expectancy on the other; and (2) the reducing of cases.

Table 4-11 Regression* of Political Violence on Regime Democraticness, Economic Development, Economic Growth, Life Expectancy, and Infant Mortality (1953-57)

	ln deaths per million population, 1953-57		
	(4.11a)	(4.11b)	(4.11c)
Constant	8.21	4.49	0.44
Real GDP per capita, 1953-57	-0.89*** (-3.46)	0.002 (0.01)	0.06 (0.15)
Real GDP p.c. growth, 1953-57	0.04 (0.38)		
Life Expectancy, 1953-57		-0.05** (-2.07)	
Infant Mortality, 1953-57			0.0096** (1.68)
Democracy Index, 1953-57	-0.07* (-1.32)	-0.10** (-1.69)	-0.09** (-1.50)
R_a^2	0.29	0.28	0.26
N	55	53	52

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

Table 4-12 Regression^a of Political Violence on Regime Democraticness, Negative Sanctions, Economic Development, Economic Growth, Life Expectancy, and Infant Mortality (1958-62)

	ln deaths per million population, 1958-62		
	(4.12a)	(4.12b)	(4.12c)
Constant	4.36	4.29	2.98
Real GDP per capita, 1958-62	-0.42* (-1.50)	-0.14 (-0.34)	-0.27 (-0.60)
Real GDP p.c. growth, 1958-62	-0.22** (-2.32)	-0.24** (-2.24)	-0.26** (-2.36)
Life Expectancy, 1958-62		-0.04 (-1.22)	
Infant Mortality, 1958-62			0.004 (0.49)
Democracy Index, 1958-62	0.29 (1.23)	0.32* (1.34)	0.28 (1.12)
Democracy Index, 1958-62 ²	-0.03* (-1.41)	-0.03* (-1.39)	-0.03 (-1.23)
Negative Sanctions, 1958-62	0.22 (1.25)	0.21 (1.20)	0.19 (1.03)
R^2	0.23	0.28	0.24
N	66	59	57

^a t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

Table 4-13 Regression* of Political Violence on Regime Democraticness, Negative Sanctions, Economic Development, Economic Growth, Intensity of Separatism, Life Expectancy, and Infant Mortality (1963-67)

	ln deaths per million population, 1963-67		
	(4.13a)	(4.13b)	(4.13c)
Constant	3.23	2.90	3.09
Real GDP per capita, 1963-67	-0.42** (-2.28)	-0.11 (-0.38)	-0.40* (-1.48)
Real GDP p.c. growth, 1963-67	-0.03 (0.41)		
Life Expectancy, 1963-67		-0.04* (-1.39)	
Infant Mortality, 1963-67			0.0005 (0.10)
Democracy Index, 1963-67	0.47** (2.28)	0.44** (2.16)	0.51** (2.43)
Democracy Index, 1963-67 ²	-0.05** (-2.34)	-0.04** (-2.12)	-0.05** (-2.48)
Negative Sanctions, 1963-67	0.26** (2.06)	0.25** (1.86)	0.23* (1.63)
Intensity of Separatism, 1960	1.08*** (2.52)	1.01** (2.10)	1.04** (2.12)
R _a ²	0.26	0.28	0.27
N	101	91	89

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

In the period 1968-72, both real Gross Domestic Product per capita and real Gross Domestic Product per capita growth have negative impacts. Life expectancy and infant mortality are not significant. As in table 4-9, both quadratic functions of regime democraticness and negative sanction hold. Separatism remains the most important single variable.

[TABLE 4-14 ABOUT HERE]

In the period 1973-77, real Gross Domestic Product per capita is not significant while real Gross Domestic Product per capita growth has a negative impact. Real Gross Domestic Product per capita represents an important aspect of deprivation. Both life expectancy and infant mortality are not significant. However, the two quadratic functions (of democraticness and repression) and separatism maintain significant as specified.

[TABLE 4-15 ABOUT HERE]

When controlling for life expectancy and infant mortality, the relationship between real Gross Domestic Product per capita and political violence becomes unclear. The reason may due to the high correlations between life expectancy and infant mortality on one hand and real Gross Domestic Product per capita on the other. The correlations for real Gross Domestic Product per capita and life expectancy for 1955 to 1975 are 0.74, 0.81, 0.85, 0.87, 0.89 with case numbers of 53, 59, 91, 100, and 101 respectively. The correlations for real Gross Domestic Product per capita and infant mortality for 1955 to

Table 4-14 Regression* of Political Violence on Regime Democraticness, Negative Sanctions, Economic Development, Economic Growth, Intensity of Separatism, Life Expectancy, and Infant Mortality (1968-72)

	ln deaths per million population, 1968-72		
	(4.14a)	(4.14b)	(4.14c)
Constant	1.95	2.20	3.73
Real GDP per capita, 1968-72	-0.29** (-1.89)	-0.46** (-1.77)	-0.41** (-1.77)
Real GDP p.c. growth, 1968-72	-0.16*** (2.92)	-0.19*** (-2.99)	-0.18*** (-2.85)
Life Expectancy, 1968-72		0.02 (0.85)	
Infant Mortality, 1968-72			-0.006 (-0.99)
Democracy Index, 1968-72	0.39** (2.28)	0.36** (1.96)	0.28* (1.59)
Democracy Index, 1968-72 ²	-0.03** (-1.78)	-0.03* (-1.61)	-0.02* (1.34)
Negative Sanctions, 1968-72	0.72** (2.34)	0.69** (2.10)	0.70** (2.16)
Negative Sanctions, 1968-72 ²	-0.09* (-1.63)	-0.10* (-1.60)	-0.10** (-1.71)
Intensity of Separatism, 1975	1.02*** (3.05)	1.11*** (2.88)	1.17*** (3.10)
R _a ²	0.29	0.29	0.28
N	111	100	98

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

Table 4-15 Regression* of Political Violence on Regime Democraticness, Negative Sanctions, Economic Development, Economic Growth, Intensity of Separatism, Life Expectancy, and Infant Mortality (1973-77)

	ln deaths per million population, 1973-77		
	(4.15a)	(4.15b)	(4.15c)
Constant	0.70	0.34	-0.43
Real GDP per capita, 1973-77	-0.14 (-1.12)		
Real GDP p.c. growth, 1973-77	-0.10*** (-2.55)	-0.10** (-2.36)	-0.10** (-2.30)
Life Expectancy, 1973-77		-0.11 (-0.83)	
Infant Mortality, 1973-77			-0.002 (-0.57)
Democracy Index, 1973-77	0.41*** (2.75)	0.45*** (2.93)	0.44*** (2.78)
Democracy Index, 1973-77 ²	-0.04*** (-2.66)	-0.04*** (-2.95)	-0.04*** (-2.84)
Negative Sanctions, 1973-77	0.68*** (2.87)	0.68*** (2.84)	0.69*** (2.76)
Negative Sanctions, 1973-77 ²	-0.07* (-1.79)	-0.07* (-1.65)	-0.07* (-1.64)
Intensity of Separatism, 1975	1.18*** (4.00)	1.08*** (3.21)	1.12*** (3.35)
R _a ²	0.33	0.33	0.32
N	112	101	100

* t ratio in parentheses.

* $p \leq .10$, one-tailed. ** $p \leq .05$, one-tailed. *** $p \leq .01$, one-tailed.

1975 are 0.82, 0.84, 0.82, 0.84, 0.85 with case numbers of 52, 57, 89, 98, and 99 respectively.

4.6 Summary

Observing the inverted-U impacts of institutional democracy and negative sanctions in the last chapter, support for the two premises of rational action theory were found. However, negative sanction does not hold on the specification of a curvilinear relationship in the period 1953-57 and 1958-62. In addition to these variables, in this chapter, we have controlled for other deprivation variables, (real Gross Domestic Product per capita, real Gross Domestic Product growth rate, infant mortality, and life expectancy), the level of significance of the two rational action variables is reduced. This is partly caused by the reducing case numbers due to missing values in these variables. For example, in table 4.5 to 4.10 we control for real Gross Domestic Product per capita for all six periods, the case numbers reduced from 75, 79, 90, 113, 121, and 121 to 55, 61, 78, 106, 112, and 112 respectively. The inclusion of life expectancy and infant mortality reduces case number even more.

In the period 1953-57 and 1958-62, real Gross Domestic Product per capita, life expectancy and infant mortality are relatively important. It is then meaningful for the

'modernization theorists' to focus on economic development during initial stages of development. Life expectancy and infant mortality are the strongest determinants in the period 1953-57. Real Gross Domestic Product growth rate is the most important determinant in 1958-62. All three deprivation variables are negatively correlated with the level of political violence.³⁸ This finding enables us to speculate that there was a shift in the importance favoring political (structural) factors after the 1950s. In the 1960s, most African countries obtained their independent status. In this post-colonial stage, political separatism and negative sanction become more important.³⁹ Structural factors such as the role of governments becomes more decisive while economic factors become less important. However, in the 1970s, the real Gross Domestic Product growth rate was one of the important determinants independent from political factors.

The major findings can be summarized as follows: (1) Deprivation theory is supported by the findings that real Gross Domestic Product per capita has a negative effect on

³⁸Real GDP per capita is highly correlated with life expectancy and infant mortality. This is the reason that there are insignificant relationships between real GDP p.c. and political violence in 1953-57, 1958-62, and 1973-77 periods. However, stronger relationships in 1963-67 and 1968-72 are the results of the absent influences by either life expectancy or infant mortality.

³⁹Reasons for political separatism have been given by D. Hibbs, Mass Political Violence: A Cross-national Causal Analysis.

political violence in all time periods. (2) Rational action theory is supported by the finding of an inverted U effect of democraticness on political violence in five out of six periods and by the finding of a positive effect of intensity of separatism on political violence in three out of four periods. (3) The effect of negative sanction on political violence is positive in three periods, which supports Deprivation theory, and it is an inverted U-curve in two periods, which support rational action theory. Thus, it appears that both rational action theory and deprivation theory are plausible for explaining cross-national variation of political violence. As Duff and McCamant pointed out,

"people may resort to collective violence because they are frustrated, as Gurr suggested, but they may also resort to violence because they sympathize with oppressed groups, because they see violence as the optimum strategy to obtain political power, because they enjoy the excitement of violent action, and so on."⁴⁰

This statement argues that any partial explanation will be misspecified.

In this chapter, the results indicate that both the rational action perspective and the deprivation perspective are necessary to explain the occurrences of political violence. Although a single theory is not supported, nevertheless, a thorough test of the major hypotheses has been

⁴⁰Duff, E. A. and J. F. McCamant, Violence and Repression in Latin America: a Quantitative and Historical Analysis. (New York: Free Press, 1976), p. 21.

conducted. After all, the multifaced nature of political violence revealed by the results of vigorous testing from empirical data is what is truly being pursued scientifically.

Chapter V

Conclusion

In order to understand the occurrences of political violence, theories based on rational choice, relative deprivation, structural, and class conflicts have been developed to explain the motivation, likelihood, and occurrence of collective political violence. All these theories are related to the process of modernization, the role of states, and individual rationality. Among these theories, Huntington is the most ambitious by providing the gap hypotheses. In the Gap theory, he uses structural imbalance theory to explain the occurrence of political violence in the modernizing world. In chapter two, using two improved alternative models, Huntington's Gap hypotheses are tested over four five-year intervals during the period of 1958 to 1977 to ascertain the validity of structural explanation. With the two alternative models, methodologically testing Huntington's Gap theory is improved. First, it combines the three Gap hypotheses into a cohesive one. This combined linear interactive model becomes testable because all the variables are at the same level of analysis. Then regression analysis is used to determine the impact of the Gap in the model. Secondly, a structural model is specified according to Huntington's Gap theory. In the model, direct

and indirect effects of social mobilization, economic development, mobility opportunity, and political institutionalization are specified as a hierarchical ordered structural model. Then the LISREL procedure is used to evaluate the relative weights these variables' impacts. Since the empirical evidence in this study does not support his argument, the author uses other theories--rational choice theory and deprivation perspective--to explain the occurrence of political violence in the process of modernization.

In chapter three, rational choice theory is used to explain the emergence of collective rebellious behavior. By utilizing data on regime democraticness, negative sanctions, and separatism encompassing a longer period of time, both individual rationality and structural factors are carefully observed. These improved tests, therefore, have incorporated rational choice theory with power-struggle/resource mobilization theory. In the tests over six periods, countries with intermediate levels of regime democraticness are assumed to be violence-prone because the benefits gained by participating in a rebellious movement exceed the costs. Countries with intermediate levels of negative sanctions are speculated upon as violence-prone because the severe measures taken by the regime impose a high cost while a low levels of sanctions encourage peaceful solutions. Countries with a high potential for separatism are supposed to have a high levels of violence because the secession movements taken by dissidents cause

violent confrontation. The results show that rational choice theory is generally supported. However, large variations across the six periods are found in the level of negative sanctions. According to the plot of figure 3-2a, it is obvious that the distributions are subjected to heteroskedasticity. These types of distributions show the lack of robustness. Thus, countries with higher levels of negative sanctions may have uncertain levels of political violence.

In chapter four, in addition to variables of rational choice theory, the variables underpinning deprivation theory such as Gross Domestic Product per capita and Gross Domestic Product per capita growth rate are controlled. Because a lift in living standards can alleviate frustration, the worsening living conditions will increase frustration and result in political violence. Thus, countries with lower levels of economic development or stagnation are violence prone. In this study, real Gross Domestic Product per capita is found to be negatively associated with deaths per one million population. Real Gross Domestic Product per capita growth rate is also found to be negatively correlated with our measure of violence. Although the rational choice explanation holds up, the empirical evidence also supports a deprivation theory (measured by real Gross Domestic Product per capita and real Gross Domestic Product per capita growth rate) of collective violence.

This study reveals the reasons why developing countries are perpetually characterized as violence prone societies. With the contemporary international influence, no society today is able to remain 'traditional'. The force of modernization is growing as a trend of history. Countries that are unable to modernize economically or politically are eventually more susceptible to vicious cycles. The vicious cycles are created by at least two means. First, since growth in terms of real Gross Domestic Product per capita is essential for developing countries to become more developed, slow growth will result in lower level of development in the long run. Countries with either slow growth rates (sometimes negative) or low levels of development seem inclined to more violence. Violence further weakens the economy.¹

Slow Growth ---> Remain Developing ---> Violence ---> Slower Growth

Secondly, developing countries that are neither able to reach a high level of democratization nor able to maintain high coercive force would fashion another type of vicious cycle. Middle-level democracies tend to attract violence.

¹D. K. Gupta, The Economics of Political Violence: The Effect of Political Instability on Economic Growth (N.Y.: Praeger, 1990), chapter 9. After manipulating a model simulation, he indicates that political instability has a "devastating effect" on economic growth (chapter 9, pp. 235-236).

This violence leads to more repression which begets further violence.

Intermediate --> Violence --> Repression --> More Violence
Democracies Prone

The results of more repression will slow down the process of democratization; the results of more violence will reduce the capability for growth.

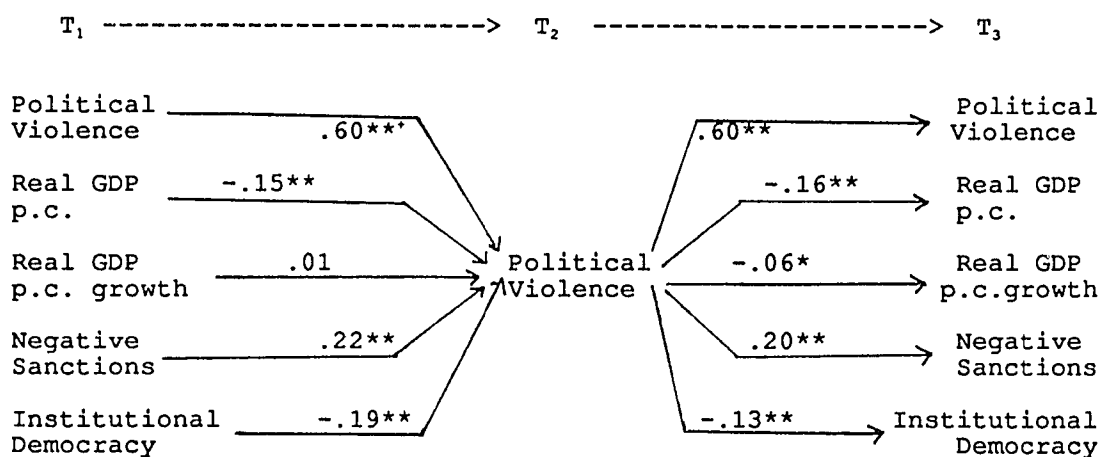
To sum up, developing countries will remain developing when they are unable to boost economic growth. Modernizing nations will remain undemocratic when political factors related to violence induce more repression. Last but not least, both vicious cycles may also intertwine and lead to a stage of perpetual instability, stagnation, and repression.

In a pooled data analysis over the years, 1948-77, for all independent countries, real Gross Domestic Product per capita, negative sanctions, and institutional democracy have time-lagged effects on political violence. Political violence, in turn, has negative time-lagged effects on real Gross Domestic Product per capita and real Gross Domestic Product per capita growth rate. Also, political violence has inverted-U impacts on both negative sanctions and institutional democracy.

[Figure 5-1 About Here]

These vicious cycles can be broken by two channels. First, countries should boost economic growth as a first

Figure 5-1 The Vicious Cycle With One Year Lag: 1948 - 1977



Note: Pearson Correlation Coefficients.

** p < .001 * p < .01 one-tailed

priority while maintaining low levels of political violence. After reaching a medium to high level of economic development, these countries should forge toward full democratization reform.² A higher level of economic growth and development can offset some occurrences of violence because people are calmed by a better material life. Both Taiwan and South Korea were able to absorb tremendous opposition contestation, strikes, riots, armed attacks, etc. in the eighties. These two cases are successful examples. Secondly, countries may pursue a route of full democratization. This route reduces political factors related to violence. After reaching full democratization, these countries can promote their economic development and redistribution. Countries, such as India and Costa Rica, that have established their democratic regimes with relatively egalitarian income distribution do survive. It is mal-distribution rather than slow growth that causes a regime to break down. However, prolonged slow growth will eventually hurt the legitimacy of a country.³

²Huntington indicated that these countries have better chance to be democratic in "Will More Countries Become Democratic?" Also, there is a stage of choice in S. Huntington, and J. M. Nelson, No Easy Choice: Political Participation in Developing Countries. (Cambridge: Harvard University Press, 1978).

³Lipset points out that long-term crisis in effectiveness could erode legitimacy. Thus, economic crisis indirectly affects political stability. S. M. Lipset, Political Man: The Social Bases of Politics (Garden City, N.Y.: Doubleday and Company, 1959), pp. 78-80. However, Seligson and Muller indicate that Costa Rica, Jamaica, and Israel suffered from long-term economic depression without experiencing democratic

The inconsistent results of this study can be interpreted as entailing a shift in terms of the relative importance of economic versus political factors as determinants of political violence. In the 1950s, economic factors were the major determinants, while in the sixties and seventies, political factors became predominant. The reason for this shift is unclear.⁴ In any event, by using data of six five-year intervals for multiple tests, the understanding of political violence is enhanced. For example, Hibbs employed only a single test and found no empirical support for either rational choice theory or deprivation theory.⁵ Although Muller and Weede found support for rational choice theory, their investigation focuses mainly on the 1973-77 period.⁶ This study, which allows for multiple tests of the robustness of the

breakdown. M. A. Seligson and E. N. Muller, "Democratic Stability and Economic Crisis: Costa Rica, 1978-1983." International Studies Quarterly 31 (1987), 301-326. p. 322.

⁴These shifts, based on my speculation, are the two major changes in the early 1960s: (1) newly independent nations joined the global community; and (2) bi-polarized cold-war confrontation between the United States and the Soviet Union. For the first change, nation building and ethnic conflicts play more crucial role in most of the Middle East, and the African countries. For the second change, external induced internal wars happen more frequently and last longer.

⁵D. P. Hibbs Jr. 1973. Mass Political Violence: A Cross-National Causal Analysis (New York: Wiley, 1973).

⁶E. N. Muller, and E. Weede. "Cross-National Variation in Political Violence.", Journal of Conflict Resolution 34 (1990):624-51.

theories, found that hypotheses of both rational choice theory and deprivation theory are supported.

In the future, more sophisticated research methodology and data need to be explored. First, the possibility of reciprocal causation between repression and violence should be studied. Secondly, it would be useful to try to estimate the parameters of a dynamic causal model consisting of economic, political, and cultural subsystem variables. Thirdly, a pooled-time series solution, analyzing each case across time and multiple cases across space, may reveal more information about the causal determinants of political violence.

Appendix A

The Gap Theory proposed by Huntington as follows:

$$\frac{\text{Social Mobilization}}{\text{Economic Development}} = \text{Social Frustration}$$

$$\frac{\text{Social Frustration}}{\text{Mobility Opportunity}} = \text{Political Participation}$$

$$\frac{\text{Political Participation}}{\text{Political Institutionalization}} = \text{Political Instability}$$

Let X_1 = social mobilization
 X_2 = economic development
 X_3 = social frustration
 X_4 = mobility opportunity
 X_5 = political participation
 X_6 = political institutionalization
 X_7 = political instability

If Huntington was dealing with entailments instead of mathematical equalities, a more accurate way of presenting the relationships in the equations of (1), (2), and (3) in chapter two would be as follows:

$$\begin{aligned} X_3 &= A_1 + B_1 (X_1 / X_2) & (a) \\ X_5 &= A_2 + B_2 (X_3 / X_4) & (b) \\ X_7 &= A_3 + B_3 (X_5 / X_6) & (c) \end{aligned}$$

where X_3 , X_5 , and X_7 are predicted values. In (a), (b), and (c) we use the ratio of X_1 to X_2 to estimate X_3 , the ratio of X_3 to X_4 to estimate X_5 , and the ratio of X_5 to X_6 to estimate X_7 respectively. A_1 , A_2 , and A_3 are intercepts, and B_1 , B_2 , and B_3 are coefficients. If we eliminate intercepts by standardizing equation (a), (b), and (c), then the relations are:

$$\begin{aligned} X_3 &= B_1 (X_1 / X_2) && (A) \\ X_5 &= B_2 (X_3 / X_4) && (B) \\ X_7 &= B_3 (X_5 / X_6) && (C) \end{aligned}$$

These relations can be expressed more parsimoniously as:

$$X_7 = B_1 * B_2 * B_3 (X_1 / (X_2 * X_4 * X_6)) \quad (d)$$

And since the product of B1, B2, and B3 is a constant, we can use B to represent it:

$$X_7 = B * (X_1 / (X_2 * X_4 * X_6)) \quad (D)$$

Equation (D) is identical with the equation (5) in chapter two.

SELECTED BIBLIOGRAPHY

- Agency for International Development, 1972. 1974. 1983. *U.S. Overseas Loans and Grants*.
- Almond and J. S. Coleman, *The Politics of the Developing Areas*. Princeton: Princeton University Press.
- Banfield, E. C. 1958. *The Moral Basis of a Backward Society*. New York: The Free Press.
- Banks, A. 1979. *Cross-Polity Time Series Data*. Cambridge: MIT Press.
- Berger, P. 1976. *Pyramids of Sacrifice*. Garden City, New York: Anchor Press.
- Ben-Dor, G. 1975. "Institutionalization and Political Development: a Conceptual and the Theoretical Analysis", *Comparative Studies in Society and History*. 17 (July):309-325.
- Black, C. E. 1966. *The Dynamic of Modernization: a study in comparative history*. New York: Harper & Row.
- Berkowitz, L. 1968 . *The Roots of Aggression: A Re-examination of the Frustration-Aggression Hypothesis*. N.Y.: Atherton Press.
- Bollen, K. A. 1989. *Structural Equation with Latent Variables*. New York: John Wiley & Sons Inc.
- _____, 1980 "Issues in the Comparative Measurement of Political Democracy," *American Sociological Review* 45 (June):370-390.
- Bollen, K. A. and R. W. Jackman, 1989. "Democracy, Stability, and Dichotomies", *American Sociological Review*. 54:612-621.
- Chalmers, J. A. and R. B. Shelton, "An Economic Analysis of Riot Participation." *Economic Inquiry* 13 (1975):322-336.
- Coleman, J. S. 1969. "Conclusion: the Political System of the Developing Area." In G. G. Almond and J. S. Coleman, *The Politics of the Developing Areas*. Princeton: Princeton University Press.

- Coleman, J. S. (ed.), 1968. *Education and Political Development*. Princeton: Princeton University Press.
- Collins, J. N. 1973. "Foreign Conflict Behavior and Domestic Disorder in Africa. In J. Wilkenfeld (eds), *Conflict Behavior and Linkage Politics*. New York: David Mckay Co.
- Connor, W. 1973. "The Politics of Ethnonationalism" *Journal of International Affairs*. 27: 1-21.
- Cnudde, C. F. and D. E. Neubauer. 1987. *Empirical Democratic Theory*. Chicago: Markham.
- Cutright, P. 1968. "National Political Development: Measurement and Analysis." *American Sociological Review*, 38:253-264.
- Dahl, R. 1971. *Polyarchy: Participation and Opposition*. New Heaven: Yale University Press.
- Davies, J. C. 1969. "The J-Curve of Rising and Declining Satisfaction as a Cause of Some Great Revolutions and a Contained Rebellion." In H.D. Graham, and T. Gurr (eds.), *The History of Violence in America*. New York: Praeger, pp.690-730.
- _____, 1962. "Toward A Theory of Revolution." *American Sociological Review*, 27:5-19.
- Davis, J. A. 1959. "A Formal Interpretation of the theory of Relative Deprivation." *Sociometry*, 20:280-96.
- Deutsch, Karl W. 1961. "Social Mobilization and Political Development", *American Political Science Review*, 55:493-514.
- Dollard, J. et al. 1939. *Frustration and Aggression*. New Haven: Yale University Press.
- Downes, B. 1970. "A Critical Reexamination of the Social and Political Characteristics of Riot Cities." *Social Science Quarterly*, 51:349-60.
- Duff, E. A., and J. F. McCamant. 1968. "Measuring Social and Political Requirements for System Stability in Latin America." *American Political Science Review*, 62(4): 1125-43.
- Duvall, R. and M. Welfling. 1973a. "Determinants of Political Instability in Black Africa", *Comparative Political Studies*, 5 (January):387-417.

- _____, 1973b. "Social Mobilization, Political Institutionalization, and Conflict in Black Africa", *Journal of Conflict Resolution*, 17 (December):673-702.
- Eisenstadt, S. N. 1964a. "Breakdown of Modernization", *Economic Development and Cultural Change*, 12 (July):345-67.
- _____, 1964b. "Modernization and Conditions of Sustained Growth", *World Politics*, 16 (July):576-594.
- Feierabend, I., R. Feierabend, and B. Nesvold. 1969. "Social Change and Political Violence: Cross National Patterns," in Hugh D. Graham and T. Gurr (eds.) *Violence in America: Historical and Comparative Perspectives*, A Report to the National Commission on the Causes and Prevention of Violence, pp. 632-687. New York: Signet Books.
- Finkel, E. S., and J. B. Rule. 1970. "Relative Deprivation and Related Psychological Theories of Civil Violence." *Research in Social Movements, Conflicts and Change*, 9:47-69.
- Finkel, E. S., E. N. Muller, and K-D Opp. 1989. "Personal Influence, Collective Rationality, and Mass Political Action." *American Political Science Review*, 83:885-903.
- Flanigan, W., and E. Fogelman. 1971. "Patterns of Political Violence in Comparative Historical Perspective." *Comparative Politics*, 3(1):1-20.
- Galtung, J. 1964. "A Structural Theory of Aggression." *Journal of Peace Research*, 1(2): 94-119.
- Garfinkel, H. 1967. *Studies in Ethnomethodology*. New York: Prentice-Hall.
- Gastil, R. D. 1988. *Freedom in the World: Political Rights & Civil Rights 1987-1988*. N.Y.: Freedom House.
- Geertz, C. 1963. *Old Societies and New States: the quest for modernity in Asia and Africa*. New York: Free Press.
- _____, 1967. "The Integrative Revolution: Primordial Sentiments and Civil Politics in New States." In C. Welch (ed.) *Political Mobilization*. Belmont, Calif: Wadsworth Publishing Co., pp. 167-87.
- Gillespie, J. V. and B. A. Nesvold, eds. 1971. *Macro-Quantitative Analysis: Conflict, Development, and Democratization* Beverly Hills: Sage Publications.

- Goldstone, J. A. (ed.) *Revolutions: Theoretical, Comparative and Historical Studies*. San Diego: Harcourt Brace Jovanovich.
- Graham, H. D. and T. Gurr (eds.) *Violence in America: Historical and Comparative Perspectives*, A Report to the National Commission on the Causes and Prevention of Violence, New York: Signet Books.
- Gupta, D. K. 1990. *The Economics of Political Violence: The effect of Political Instability of Economic Growth*, New York: Praeger.
- Gupta, D. K. and Y. P. Venieris. 1981. "Introducing New Dimensions in Macro Models: The Sociopolitical and Institutional Environments." *Economic Development and Cultural Change*. 29: 31-58.
- Gurr, T. R. 1989. *Polity II: Political Structures and Regime Change, 1800-1986 [Computer File]*. Boulder, CO: Center for Comparative Politics [producer], 1989. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 1990.
- _____, 1973. "The Revolution-Social-Change Nexus: Some Old Theories and New Hypotheses", *Comparative Politics*, 5: 359-392.
- _____, 1970. *Why Men Rebel*. Princeton: Princeton University Press.
- _____, 1969. "A Comparative Study of Civil Strife" in Graham and Gurr (1969) :572-632.
- _____, 1968. "A Causal Model of Civil Strife: A comparative Analysis Using New Indices", *American Political Science Review*, 62:1104-1124.
- Gurr, T. R. and R. Duvall. 1973. "Civil Conflict in the 1960s", *Comparative Political Studies*, 6:135:169.
- Gurr, T. R. and C. Ruttenberg. 1967. "The Conditions of Civil Strife: First Tests of a Causal Model." Research Monograph no. 28. Center of International Studies, Princeton University, April.
- Gurr, T. R. et al. 1978. *Comparative Studies of Political Conflict and Change: Cross-National Data Sets*. Ann Arbor, MI: Inter-university Consortium for Political and Social Research.

- Hardy, M. 1979. "Economic Growth, Distributional Inequality, and Political conflict in Industrial Societies." *Journal of Political and Military Sociology*, 5: 209-27.
- Hibbs, D. P. Jr. 1973. *Mass Political Violence: A Cross-National Causal Analysis*. New York: Wiley.
- Huntington, S. P. 1971. "Civil Violence and the Process of Development." *Adelphi Papers*. 83: 1-15.
- _____, 1968. *Political Order in Changing Society*. New Haven: Yale University Press.
- _____, 1965. "Political Development and Political Decay.:" *World Politics*, 17(3): 386-430.
- Huntington, S. and J. M. Nelson. 1978. *No Easy Choice: Political Participation in Developing Countries*. Cambridge: Harvard University Press.
- Jackman, R. W. 1974. "Political Democracy and Social Equity: A comparative analysis." *American Sociological Review*. 39:29-45.
- Johnson, C. 1966. *Revolutionary Change*, Boston: Little, Brown.
- Johnson, O. ed. 1987. *Information Please Almanac*, New York: Houghton Mifflin Co.
- Joreskog, K. and J. Sorbom, *LISREL 7: A Guide to the Program and Application* 2nd. ed. Chicago: SPSS Inc.
- Kuznets, S. 1955. "Economic Growth and Economic Inequality," *American Economic Review*, 45: 1-28.
- Lerner, D. 1963. *Toward a Communication Theory of Modernization: A Set of Conditions and Political Development*. Princeton: Princeton University Press.
- _____, 1958. *The Passing of Traditional Society*. New York: The Free Press.
- Lichbach, M. I. 1987. "Deterrence or Escalation: The puzzle of Aggregate Studies of Repression and Dissent" *Journal of Conflict Resolution*, 31:266-97.
- Lieske, J. A. 1979. "Inadvertent Empirical Theory: A Critique of 'The J-curve Theory and Black Urban Riots.'" *Political Methodology*, 6: 29-62.

- Lieske, J. A. 1978. "The Conditions of Racial Violence in American Cities: A Development Synthesis." *American Political Science Review*, 72:1324-40.
- Lijphart, A. *Democracies: Patterns of Majoritarian and Consensus Government in Twenty-One Countries*. New Haven: Yale University Press.
- Linehan, W. 1976. "Models for the Measurement of Political Instability", *Political Methodology*, 3:441-486.
- Lipset, S. M. 1981. *Political Man*. expanded ed. Baltimore, Maryland: The Johns Hopkins University Press.
- _____, 1959. "Some Social Requisites of Democracy: economic development and Political Legitimacy" *American Political Science Review*, 53:69-105.
- Mehden, von der F. R. 1973. *Comparative Political Violence*. Englewood Cliffs, N.J.: Prentice-Hall.
- Miller, N. E. et al. 1941. "The Frustration-Aggression Hypothesis," *Psychological Review*, 48: 337-42.
- Muller, E. N. 1988. "Inequality, Repression, and Violence: Issues of Theory and Research Design." *American Sociological Review*, 53(5): 800-806.
- _____, 1985. "Income Inequality, Regime Repressiveness, and Political Violence," *American Sociological Review*, 50:47-61.
- Muller, E. N. and M. A. Seligson, 1987. "Inequality and Insurgency", *American Political Science Review*, 81:425-51.
- Muller, E. N. and K.-D. Opp. 1986. "Rational Choice and Rebellious Collective Action.", *American Political Science Review*, 80:471-89.
- Muller, E. N. and E. Weede. 1990. "Cross-National Variation in Political Violence.", *Journal of Conflict Resolution*, 34:624-51.
- Nardin, T. 1971. "Theory of Conflict Management," *Peace Research Reviews*, 4:1:98.
- Nagel, J. H. 1976. "Erratum." *World Politics* 28:315.
- _____, 1974. "Inequality and Discontent: A Non-Linear Hypothesis." *World Politics*, 26:453-477.

- Neubauer, D. E. 1967. "Some conditions of democracy," *American Political Science Review*, 83:577-595.
- Oberschall, A. 1978. "Theories of Social Conflict", *Annual Review of Sociology*. 4:291-315.
- _____, 1973. *Social Conflict and Social Movements*. Englewood Cliffs, N.J: Prentice-Hall.
- Olson, M. 1971. *The Logic of Collective Action*, Cambridge: Harvard University Press.
- _____, 1963. "Rapid Growth as a Destabilizing Force", *Journal of Economic History*, 23:529-552.
- Organski, F. K. 1965. *Stages of Political Development*. New York: Alfred A. Knopf.
- Parsons, T. 1951. *The Social System*. Glencoe, Illinois: Free Press.
- _____, 1949. *The Structure of Social Action*. New York: Free Press of Glencoe.
- Packenham, R. A. 1973. *Liberal America and the Third World*. Princeton: Princeton University Press.
- Panning, W. H. 1983. "Inequality, Social Comparison, and Relative Deprivation", *American Political Science Review* 77:323-29.
- Pennock, J. R. *Democratic Political Theory*. Princeton, NJ.: Princeton University Press.
- Plamenatz, J. *Democracy and Illusion*. London: Longman.
- Pye, L. 1966. *Aspects of Political Development*. Boston: Little Brown.
- Rhoda, R. 1978. "Political Instability and Institutionalization in Developing Countries: an Empirical Evaluation of the Huntington Model", *Public Data Use*, 6 (January):38-44.
- Rostow, W. W. 1960. *Stages of Economic Growth: A Non-Communist Manifesto*. Cambridge: Cambridge University Press.
- Ruhl, J. M. 1975. "Social Mobilization and Political Instability in Latin America: a test of Huntington's theory", *Inter-American Economic Affairs*, 29 (Autumn):3-21.

- Rummel, R. 1963. "Dimensions of Conflict Behavior Within and Between Nations. *Yearbook of the Society for General Systems Research*. 8:1-49.
- Rummel, R. J. 1970. *Applied Factor Analysis*. Beverly Hills: Sage Publications, Inc.
- Russett, B. 1964. "Inequality and Instability: The Relation of Land Tenure to Politics." *World Politics*, 16: 442-54.
- Salert, B. 1976. *Revolutions and the Revolutionaries*. New York: Elsevier.
- Sartori, G. 1987. *The Theory of Democracy Revisited*. 2 vols, Chatham, N.J.: Chatham House Publishers.
- _____, 1987. "What Democracy Is Not" in C. F. Cnudde, and D. E. Neubauer. 1987. *Empirical Democratic Theory*. Chicago: Markham.
- Schneider, P. R. and A. L. Schneider. 1971. "Social Mobilization, Political Institutionalization and Political Violence", *Comparative Political Studies*, 4 (April):69-90.
- Schumpeter, J. 1955. *The Theory of Economic Development*. Cambridge: Harvard University Press.
- Sigelman, L. 1979. "Understanding Political Instability: an Evaluation of the Mobilization - Institutionalization Approach", *Comparative Political Studies*, 12:205-28.
- Sigelman, L. and M. Simpson. 1977. "A Cross-National Test of the Linkages Between Economic Inequality and Political Violence." *Journal of Conflict Resolution*, 21: 105-28.
- Small, M. and J. D. Singer, 1982. *Resort to Arms: International and Civil Wars, 1816-1980*. Beverly Hill, Calif: Sage.
- Smith, A. K., Jr. 1969. "Socioeconomic Development and Political Democracy:causal analysis", *Midwest Journal of Political Science*, 13 (February):95-125.
- Snyder, D. 1976. "Theoretical and Methodological Problems in the Analysis of Governmental Coercion and Collective Violence", *Journal of Political Military Sociology*, 4:277-293.
- Snyder, D., and E. Kick. 1979. "Structural Position in the World-System and Economic Growth." *American Journal of Sociology*, 80:1096-1126.

- Snyder, D., and C. Tilly. 1972. "Hardship and Collective Violence in France, 1830 to 1960." *American Sociological Review*, 37:520-32.
- Snyder, D., and C. Tilly. 1972. "On Debating and Falsifying Theories of Collective Violence." *American Sociological Review*, 37:520-30.
- Sorokin, P. A. 1964. *Social and Cultural Mobility*. London: The Free Press of Glencoe.
- Summer, R. and A. Heston, "A New Set of International Comparisons of Real Product and Price Levels Estimates for 130 Countries, 1950-1985." *The Review of Income and Wealth* 34 (March 1988):1-25.
- Tanter, R. and M. Midlarsky, 1967. "A Theory of Revolution," *Journal of Conflict Resolution*, 11:264-280.
- Taylor, C. and M. Hudson. 1972. *World Handbook of Political and Social Indicators*. 2nd ed. New Haven: Yale University Press.
- Taylor, C. L. and D. A. Jodice. 1983, *World Handbook of Political and Social Indicators*, 3rd eds., vols. 1 & 2. New Haven: Yale University Press.
- Tilly, C. 1978. *From Mobilization to Revolution*. Boston: Addison and Wesley.
- _____, 1973. "Does Modernization Breed Revolution", *Comparative Politics*, 5:425-47.
- _____, 1969. "Collective Violence in European Perspective," In H. D. Graham and T. R. Gurr (eds.) *Violence in America: Historical and Comparative Perspectives*, pp. 4-42. A report to the National Commission on the Causes and Prevention of Violence, June 1969. New York: Signet Book.
- Weede, E. 1987. "Interaction Effects in Cross-National Studies", *Quality and Quantity*, 21:361-375.
- _____, 1981. "Income Inequality, Average Income, and Domestic Violence", *Journal of Conflict Resolution*, 25:304-14.
- Wei, D. M. 1978. "Sources of Communal Conflicts and Secessionist Politics in Africa." *Ethnic and Racial Studies*, 1:286-305.

- Weiner, M. and S. P. Huntington, 1987. *Understand Political Development*. Boston: Little, Brown and Company.
- Welch, C. ed. 1967 *Political Mobilization*. Belmont, Calif: Wadsworth Publishing.
- Welfling M. 1973. "Political Institutionalization: Comparative Analysis of African Party System." Sage Professional Papers In *Comparative Politics*, Beverly Hills: Sage Publications, Inc..
- Wilkenfeld, J. (eds), *Conflict Behavior and Linkage Politics*. New York: David Mckay Co.
- Wu, M. 1989. *Daily Reports on the Movement for Democracy in China: April 15 - June 24, 1989*. New York: Mouren Wu, et al. (in Chinese).
- Yough, S.N. 1981. "Modernization, Institutionalization, and Political Violence: A Cross-National Study", *Journal of East Asian Affairs*, 1:1-48.
- Yough, S.N. and L. Sigelman. 1976. "Mobilization, Institutionalization, development and Instability: a note of reappraisal", *Comparative Political Studies*, (July):223-32.
- Zimmermann, E. 1983. *Political Violence, Crises and Revolution*. Cambridge, MA: Schenkman.