A CROSS-NATIONAL ANALYSIS OF POLITICAL INSTABILITY AND ECONOMIC DEVELOPMENT

BY

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I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY SUPERVISION BY LEILA HUCKO FRASER

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CHAPTER I

INTRODUCTION

Although the subject of political instability has been a prime concern of political theorists for centuries, the study of political instability, civil violence, and internal conflict[1] has recently received increased attention from professional researchers and laymen alike. Perhaps the newly awakened recognition of the turbulence of modern life has underscored the need for increased understanding of instability within nations. Or the development of new empirical tools in the social sciences may itself have stimulated the study of instability from new theoretical perspectives. Whatever the impetus, the increasing interest in instability is evident.

The new interest in political instability seems well founded and very useful. For many years, acts of instability were considered aberrations from the normal functioning of the political system. Even today, probably the most widespread common-sense belief about acts of instability are that they are manifestations of the "sickness" of one society or another. In the United States, we are constantly reminded of our "illness" by demonstrations, riots, and various forms of disorder. In other countries, the same manifestations of "illness" abound. Our mass media thrive on reports of riots and revolutions, coups and demonstrations, assassinations and revolts. It seems to the layman's eye that the world is in very poor health.

But what is the common view of the scholar who has recently turned in increasing numbers to the study of political instability? With the growth of empirical investigation into the phenomenon of political instability, it

has become apparent to researchers that acts of political instability are not aberrations from normal political life, but that internal conflict is an intricate part of the operation of political systems. We are not a sick society; we are a changing society, and change produces problems with which the political system must cope.

Area of Interest

The subject of societal change and political instability is a broad one. This research project is concerned with only a small aspect of the general problem. The focus is primarily on the nature of the relationship between economic development and political instability. Again, in regard to this specific topic in the general problem area of political instability, there is a discrepancy between a commonly held view of the relationship and that of several scholars. The common view is that economic development leads to political stability and the lack of such development produces instability. On the other hand, many scholars now believe that a more complex relationship exists between economic development and political stability. Generally, it is held that the relationship is curvilinear, with the highest levels of political instability occurring at middle levels of economic development, while less instability occurs at both low and high levels of economic development. What is known of the processes of economic development and social mobilization leads to the assumption that both the processes themselves and their consequences will be unsettling to the political system.

One of the most common ways of discussing this assumed interconnection between political instability and economic development has been to examine the political system in terms of its capabilities and the demands made upon it.[2] The analysis of the political system in terms of demands-capabilities ratios

perhaps encouraged the discussion of political instability as the result of the inability of the political system to meet the demands placed upon its institutions by the process of economic development. The currently popular jargon of demands-capabilities almost forces the conception of the relationship of economic development and political stability into the framework of an interdependence of economic and political systems each creating demands upon one another and each having to develop capabilities to deal with changes in the other system. I believe that much of the current literature on political instability and economic development is an outgrowth of the development of the demands-capabilities idea rather than an independent examination of the possible connections between economic development and political instability. As I will show in the chapter on the connections between economic development and political instability, much of this theorizing about the demands-capabilities connections between economic development and political instability is not supported by empirical evidence. Nevertheless, since so much of the literature attempting to show a relationship (particularly a curvilinear one, as previously mentioned) is based on the demands-capabilities language, I feel it necessary to briefly review the position of this school of thought.

The gist of the currently popular demands-capabilities conception of political development holds that a system becomes more politically developed as it creates increased capability for handling problems and acting upon demands. On a very simple level, one might say that the most politically developed system is the most effective system in handling its citizens', society's, and external demands. An underdeveloped political system, then, is one which is incapable of meeting whatever level of demands is placed upon it. Unsatisfied demands may be said to lead to disappointment and frustration, which according to fairly well substantiated psychological theory, is likely to

lead to aggression on the individual level. Theorists of this school then make the tenuous leap to the sociological level and conclude that politically underdeveloped states will experience more political instability than politically developed states because of the system's inability to meet demands and handle the resulting frustration.[3]

The curvilinear nature of the economic development-political instability relationship is usually based on the following type of reasoning. In a very economically underdeveloped, traditional society, social relationships and preferences are stable. Each person has his prescribed place in a system guided by traditional norms. One's position is accepted as a consequence of the traditional system. Political roles and relationships are prescribed, and political demands are small in number. The system remains fairly stable, because even though the capabilities of the system are limited, they are adequate to meet the low level of demands. Therefore, economically underdeveloped, traditional societies may be said to be politically developed since their capabilities are adequate to meet their demands.

At the other extreme, economically advanced, modern societies usually have both the material and institutional means to meet the high level of demands placed upon it. Occasionally, of course, new demands arise which create capability crises for the system. If they are ignored, frustration and aggression are likely. In general, however, modern systems have vast capabilities to meet their high level of demands. They are, in other words, politically developed.

In the middle ranges of economic development, the relationship between demands and capabilities becomes very complex. It is generally true, however, that the initial processes of social mobilization and economic development are disruptive of traditional ways. Centuries-old relationships and habits are

broken. Modernization increases awareness of a different world and raises the possibility of a new and materially better life. Awareness increases demands, not to the old traditional system, but to the new political system which takes the responsibility of satisfying demands in the effort to strengthen political integration and legitimacy. The new political system, however, is usually faced simultaneously with a great number of serious problems. Its material and institutional capabilities are limited. Not all problems can be solved at once. Hence, some demands upon the system must necessarily go unheeded. The resulting dissatisfaction often leads to aggression. Barring suppression or displacement of this aggression, economically modernizing countries are the most politically underdeveloped because their capabilities are insufficient to meet the increasingly high level of demands. These, then, are potentially the most politically unstable nations.

In sum, the multidimensional aspects of the development process are not linearly related. While culturally and economically, the progression or regression along the development continua may proceed in a linear fashion, the political dimension adds a curvilinear aspect. That is, while the cultural system may move from traditional through modernizing through modern norms as the economic system is urged to higher levels of growth and structural differentiation, the political system reaches the "height" of underdevelopment at the culturally transitional and economically intermediate ranges of development. Politically, this system is least capable of meeting demands and most overburdened with them.

Statement of Research Problem

Having given the nexus of the capabilities-demands perspective on the relationship between economic development and political instability, I will

now make it clear that one of the purposes of this research project is to question the hypothesis of this school of thought. I will try to test the curvilinearity of the relationship between economic development and political instability empirically. Such a test is necessarily a test of the demands-capabilities underpinning of the hypothesized relationship. Past empirical tests by members of the demands-capabilities school have achieved mixed results.[4] In my review of the literature, however, I found a continuing attachment to the inherent idea of demands-capabilities even when empirical tests did not support such a theoretical base. Perhaps the demands-capabilities idea is too comfortable and easy an explanatory device to be given up by some, but the attachment to this mode of explanation in the face of contrary evidence is most puzzling. If my data analysis should indicate that there is no curvilinear relationship between economic development and political instability, I will discount the conceptual scheme of demands-capabilities used to support theories of such curvilinear relationships. In addition, I would hope to arrive at alternative theoretical positions if indeed the demands-capabilities argument is lost.

The purpose of this research project is to determine whether or not there is a relationship between economic development and political instability, and if so, whether it is curvilinear as hypothesized by many current writers. Many authors who are interested in political and/or economic development merely assume that political stability is necessary for economic development, or that economic development leads to either political stability or instability. For example, Peter T. Bauer and Basil S. Yamey see the maintenance of law and order as one of the "minimum tasks" of the government which are "... of vital importance for economic growth and generally a necessary condition for such growth."[5]

Authors such as Simon Kuznets,[6] Charles Wolf Jr.,[7] and Cynthia T. Morris and Irma Adelman[8] have also supported the hypothesis that political stability is a necessary condition of economic development.

The study of the effect of economic development on political stability will be discussed in some detail in a later section of this chapter. It should be noted here, however, that there are conflicting views on the matter. Some writers suggest that economic development breeds political stability at least in the long run. These include Martin Needler[9] and Johan Galtung.[10] On the other hand, many writers have suggested that economic development leads to political instability. Included in this school of thought are Mancur Olson Jr.,[11] Bert Hoselitz and Myron Weiner,[12] and Harold and Margaret Sprout.[13] It has only been very recently, however, that such scholars have been undertaking empirical tests of their hypotheses.

This research project is based on an examination of three major relationships. First, I would like to determine whether political stability is necessary for economic development. Second, I will try to determine whether economic development necessarily leads to political stability. And finally, I will examine the relationship of simultaneous political stability and economic development. Obviously, the first two relationships involve time-lag data, while the general statement of the hypothesized relationship requires some measure of curvilinearity. However, a discussion of the nature of the data and analytical tools will be left until the next chapter.

In addition to an examination of these three basic relationships, the effect of other socio-economic and political variables on the relationships will be examined. For example, how do various characteristics of the political system (for example, legitimacy, participation) affect the basic relationship between economic development and political instability? Would high system legitimacy

encourage stability regardless of the state of economic development?[14] Or, does the existence of many opportunities for legal participation reduce the likelihood of political instability?[15] Other variables dealing with cultural, social, economic, and political aspects of nations will also be included in the analysis. In the end, I wish to determine the nature and intensity of the relationship between economic development and political instability in light of knowledge about many other variables. The complexity of the processes of economic and political development, as well as the profusion of views about the determinants of political instability, make it necessary to include many variables in this study.

Past Writing on the Relationship between Economic Development and Political Instability

An extensive review of the literature concerning the relationship between economic development and political instability was attempted in an early draft of this dissertation. Although interesting, the discussion of the literature at such length tended to be not entirely central to the purpose of this research project. It appears now that it is adequate to state that there has been a long history of attempts to connect economic development to political stability and to briefly summarize the main lines of more recent thinking about the subject.

One of the main methods of linking economic development to political instability has been the use of the concept of social mobilization. The development of the economy is said to be accompanied by changes in the life styles of and the social relationships among people within a country. Such changes are assumed to be disruptive. The literature on social mobilization abounds with the words "social tensions." The process of social mobilization which uproots people from their traditional ties and ways of life and exposes them to constantly changing social conditions is said to be a personally destabilizing experience.

In general, the new patterns of living and norms guiding behavior are assumed to conflict with traditional patterns and norms. The process of structural differentiation which is by definition a necessary concomitant of socio-economic and political development creates cleavages and conflicting norms. In addition, the pace of structural differentiation is uneven in different sectors making behavior and norms in one sector inconsistent with another.[16] All these changes are thought to produce tensions within the individual and among groups.

Although the specific connections between the process of social mobilization and political instability using the demands/capabilities concept is usually not precisely stated, the underlying assumption of much of the writing on social mobilization-political instability is that the newly mobilized groups place too many demands on the political system with which it cannot cope and therefore the political system becomes unstable. A good example of this kind of muted capabilities analysis is the notion of Samuel P. Huntington of the ways in which modernization tends to promote conflict among groups. He states that the processes of modernization "... produce alienation and anomic normlessness generated by the conflict of old values and new."[17] In the process of modernization, new groups "... become increasingly aware of themselves as groups and of their interests and claims in relation to other groups."[18] The structural and qualitative changes involved in urbanization, education, and communications are thought to increase aspirations. When groups and individuals try to attain their heightened goals (increase demands), they often fail due to lack of resources available to the society (lack of capabilities of political system to meet demands). Huntington believes the dissatisfaction created by this lack of success in achieving goals leads to political instability because "... opportunities for social and economic mobility and adaptable political institutions"[19] are absent.

Another example of the linkage of social mobilization to political instability through the implicit explanatory device of demands/capabilities is the writing of Karl Deutsch on social mobilization. Deutsch thinks that mobilization affects the political system and political stability in the following way: "The increasing numbers of the mobilized population and the greater scope and urgency of their needs for political decisions and governmental services, tend to translate themselves ... into increased political participation."[20] If the increased number of mobilized people cannot be assimilated into the modern sector in terms of employment, education, and the fulfillment of other needs (the meeting of demands), Deutsch believes that political instability is likely to occur.

Huntington and Deutsch are not alone in their linkage of social mobilization to political instability through demands-capabilities reasoning. The same general mode of analysis can be found in the writings of Wilbert E. Moore,[21] Arnold S. Feldman,[22] and as reviewed in the analysis of social mobilization theories by James Rule and Charles Tilly.[23] Rule and Tilly found three groups of theories to be current:

> 1) Major changes ... bring about a <u>breakdown of social controls</u>, through a) the weakening of the traditional elite, or b) the detachment of the masses from traditional norms ... (which) ... destroys the established means of regulating serious strains in society, and therefore encourages the direct expression of strain in violent protest.
>
> 2) Fundamental economic changes ... introduce <u>new privations</u> ... (for) ... groups through a) actual immiseration ... or b) the application of new constraints ... (which) ... induces drastic protest and conflict.
>
> 3) Major transformations of society involve the introduction of <u>new goals</u> ... (which) ... conflict increasingly with the existing institutions, especially those of government, and this discrepancy stimulates strenuous efforts to transform the institutions; when the institutions or their defenders resist, these efforts become more violent.[24]

Each of these ways of interpreting the connection between social change and political instability appears to state explicitly or to assume that mechanisms for regulating conflict among groups and handling demands are either nonexistent or are inadequate. In other words, the political institutions necessary to control conflict and absorb change are not well established. Generally, the capabilities of the political system for handling the increasing demands and conflicts accompanying social change are not well developed.

Although the literature linking social mobilization and political instability through implicit demands-capabilities analysis is quite extensive, there are many social scientists who have studied the subject of political instability more directly from the demands-capabilities perspective. In these analyses, the process of political development is usually defined as the increase in the capacity of the political system to handle change. To increase its capacity, it is assumed that the political system must develop its capabilities to handle demands and cope with change. The political system establishes institutions in developing its capabilities. If the capabilities and their institutions are adequate to meet the demands upon the political system, regulate conflicts among groups, and generally absorb change without breakdowns, it is said that the political system is developed. If, however, the political system's capabilities and institutions are not adequate for these tasks, the system is said to be underdeveloped. This assumes that when such a situation exists, political instability will be likely to result because of unmet demands, unregulated conflicts, and institutional rigidity.

Examples of the idea that overloads on the political system will lead to instability can be found in the writings of the following: Martin C. Needler in his linking of political instability to lack of political system capabilities in handling demands, conflicts, and social change;[25] Seymour Martin Lipset in

his discussion of the relation between political stability and system effectiveness;[26] Chalmers Johnson in his charge that revolutions are in large part caused by the inability of the political system to develop the capacity to handle social change;[27] Samuel P. Huntington and his hypotheses concerning the necessity of the development of adequate political institutions to maintain political stability;[28] Lucien Pye's linking of political instability and either inflexible or extremely uncertain public policy;[29] Aristide Zolberg's hypothesized connection between weak intermediate institutions and political instability;[30] Crane Brinton's linkage of the weakness of government institutions and major revolutions in France, England, Russia, and the United States;[31] Lucien Pye's hypothesized relationship between ineffective central political authority and insurrection;[32] and David Easton's suggestion that the stress created on the political system by a lack of support may be alleviated in a number of ways, all of which involve an attempt to increase system capabilities.[33]

In addition to the authors named above who have sought to connect political instability and the lack of system capabilities, there is a school of thought which tries to take this argument from the sociological level to the psychological level. The attempt is made to connect the processes of social mobilization and economic development to political instability through the use of the psychological theory linking frustration and aggression. In most cases, the process of socio-economic development is said to lead to increased individual aspirations and desires for improved ways of living. However, since material goods are severely limited in most economically developing systems, individual material aspirations are not attained. This is said to lead to aggression, which is assumed to take the form of acts of political instability since the frustration is generally blamed on the political system.

The frustration-aggression explanation of political instability is very commonly used in conjunction with theories involving a curvilinear relationship between economic development and political instability--the relationship this thesis will attempt to examine empirically in later chapters. It is generally hypothesized by frustration-aggression theorists that greater political instability occurs at middle levels of economic development rather than at low and high levels. If it is assumed that at low levels of economic development individuals' aspirations are low because of ignorance of the material benefits of modern life, an increase in aspirations (and consequently demands) as economic development gets underway and people become exposed to modern ideas and goods would be expected. However, the developing system would have only a limited amount of resources (inadequate capabilities). Thus, aspirations would not be achieved and frustration would result. If the political system were blamed for the failure to reach individual goals, acts of political instability might result.

The use of frustration-aggression theory to explain political instability has been attempted by the following authors: Martin Needler in his linking of increased aspirations to instability due to lack of system response;[34] Ronald Ridker in his linking of unfulfilled aspirations and discontent;[35] and Raymond Tanter and Manus Midlarsky in their study of the correlation between expectations and political violence.[36]

The main interest in this thesis is the use of frustration-aggression theory in the examination of the curvilinear relationship between economic development and political instability. Although these studies involve indicators of individual aspirations and frustration, the underlying reasoning of these writings assume a demands-capabilities framework on the sociological level. That is, individual aspirations and demands rise as the process of economic

development ensues; but the capabilities of the political system to handle demands is assumed not to grow as rapidly as aspirations and demands. Therefore, political instability will be greatest at middle levels of economic development since the unanswered demands will lead to frustration which is supposed to be manifested in acts of political instability. Since these connections between the psychological level and sociological level can be very circuitous and difficult to comprehend and since most of the recent empirical research on the curvilinearity of the relationship between economic development and political instability has been carried out by this frustration-aggression school, I think it is necessary to review their research in some detail. Such a review is especially important given my objective of using different methods of studying the curvilinearity of the relationship and of comparing the results of all such studies in order to derive a more satisfactory explanation of the relationship or lack of a relationship between economic development and political instability.

An extensive study of frustration-aggression and political instability has been carried out by Ivo and Rosalind Feierabend.[37] They believe that frustration causes aggression, so that political instability is caused by "... situations of unrelieved, socially experienced frustration."[38] These situations are defined as "... those in which levels of social expectations, aspirations, and needs are raised for many people for significant periods of time, and yet remain unmatched by equivalent levels of satisfactions."[39] The authors are interested in the social frustrations of many people and describe this overall "systemic frustration" as a ratio of "social want satisfaction" to "social want formation."[40] They recognize that rather than leading to aggression, frustration may be expressed productively, or it may be suppressed or displaced. Therefore, although they hypothesize that systemic frustration

will lead to political instability, the expected instability will not occur if a society has channels of productive expression, or it is non-participant, or if aggression is suppressed by the government or allowed to be displaced to minority groups or other countries, or if individual aggression provides for sufficient outlet for frustration.[41] Having stated these qualifying conditions, the authors redirect their attention to the measurement of systemic frustration and its relationship to political instability.

The Feierabends use some techniques of cross-national analysis to study eighty-four countries during the period from 1948 to 1962. They use their own measures of the intensity (1955-61) and frequency (1948-62) of acts of political instability. Their political instability measures are based on scalings of thirty types of political instability. To measure systemic frustration (1948-55), the authors use a ratio of the combined score on six indicators of want satisfaction (for example, GNP, caloric intake, newspaper circulation) to the country's want formation measured by either its literacy or urbanization score.[42] They also use a modernity index which combines scores on all indicators of want satisfaction and want formation. Having developed their measures of systemic frustration and political instability, the authors state their major hypothesis:

> The highest and the lowest points of the modernity continuum in any given society will tend to produce maximum stability in the political order, while a medium position on the continuum will produce maximum instability.[43]

The Feierabends believe this hypothesis to be true because modernity raises aspirations (want formation), while achievement (want satisfaction) generally is lower than aspirations at middle levels of modernity. Therefore, frustration and consequent aggression will be at a peak at middle levels of modernity. The results of Chi-square and simple correlation analysis indicate that the measure of systemic frustration is related to political instability, with high levels of

frustration occurring with high levels of political instability.[44] They also found that each indicator of want formation and satisfaction is significantly related to political instability.[45] These overall results, however, say nothing about their main hypothesis. To determine if the hypothesized curvilinear relationship exists, the Feierabends categorized the countries into three groups (traditional, transitional, and modern) based on their index of modernity. Each group was given a mean stability score, the authors assuming that the difference between these scores " . . . should be greatest between the transitional and moern groups but not between the transitional group and either of the other two groups."[46] They found that the difference between mean scores was significant between the transitional and modern groups but not between the transitional and traditional groups. This disproof of their hypothesis suggesting a curvilinear relationship is explained by stating that even the "traditional" countries have been exposed to modern life so that want formation was as high in these societies as in transitional societies. Over all countries, the Feierabends found a product-moment correlation of +.499 between want formation and instability.[47] Since they use want formation to measure frustration, this correlation may be interpreted as showing a moderate relationship between greater frustration and more instability.

Another extensive study of political instability based on frustration-aggression theory is Ted Gurr's study of civil violence.[48] He states that civil violence is caused by "frustration-induced anger."[49] The frustration is generated by "relative deprivation," what is " . . . defined as actors' perception of discrepancy between their value expectations and their environment's value capabilities."[50] In other words, individuals will become frustrated only if they perceive a difference in what they want and which they think they will get. Gurr's major hypothesis is the following:

> The occurrence of civil violence presupposes the existence of relative deprivation among substantial numbers of individuals in a society; concomitantly, the more severe the relative deprivation, the greater the likelihood and magnitude of civil violence.[51]

Gurr also includes instigating and mediating variables in his frustration-aggression model. Instigating variables include intensity of commitment to goals, acknowledged legitimacy of the deprivation, the perceived difference between what is sought and what is possible, and the existence of blocked opportunities for achieving goals.[52] Mediating variables include two sets of variables: 1) social control variables, such as actual repression, fear of repression, institutional channels for non-violent expression of frustration; and 2) social facilitation variables, which include common beliefs about violence, and certain structural and organizational mechanisms that facilitate violence (high interaction, protection from retaliation, and cues for violence).[53]

Gurr's study involves a multiple regression analysis of various indices of relative deprivation, value expectation, value capabilities, mediating and instigating variables, and civil violence. It is a cross-national study covering 119 countries using violence data from years prior to 1961. Gurr's overall measure of civil violence is a scale of the magnitude of civil violence which includes measures of the pervasiveness, intensity, and duration of violence. He also uses a measure of the likelihood of civil violence. Gurr utilizes twenty-nine indpendent variables as indicators of relative deprivation, value expectation, value capabilities, mediating variables, and instigating variables. He performed regression analyses over all the countries and within groups of countries based on their type of political system, technological development, size, and socio-cultural characteristics. Generally, he found that civil violence was better explained when he grouped countries according to various characteristics than when he analyzed all of them together.

Gurr's findings are too numerous to treat completely. An examination will be made of some of the major conclusions he reached, however. Of his five measures of deprivation, Gurr found that group discrimination and separatism were most often related to civil violence. However, his measure of availability of adequate jobs for trained men was not related to violence.[54] In terms of his measures of value capabilities for satisfying wants, Gurr found very weak relationships between economic capabilities and civil violence and no relationship between economic growth rates and civil violence. However, the levels of per capita income and civil violence were found to be slightly related in a curvilinear fashion, with low violence at low and high levels of income and higher violence at middle levels of income. From his analysis of economic variables, Gurr concludes the following: "There is no evidence that any particular level of economic performance is a necessary, sufficient, or strongly disposing condition for civil peace."[55] Gurr also measured political capabilities and found that one indicator was related to civil violence. Using the central government budget as a percentage of gross domestic product to measure the general capacity of the political system to meet demands, Gurr found that the higher the percentage, the less the civil violence; that is, when political systems have adequate capabilities, less civil violence will occur.[56]

The third category of independent variables, value expectations, included measures of the proportion of school-age males in school and rates of change of this proportion, as well as measures of the discrepancy between expectation and capabilities. He found no overall relationship between value expectation and civil violence and concluded that education does not increase aspirations to too high a level and that indicators using educational data are not good measures of expectations. In the category of mediating variables, Gurr found no strong relationship between either the social control variables or social facilitation

variables and the magnitude of civil violence. However, the mediating variable of the capacity of the political system for repression was slightly related to the likelihood of one form of civil violence, internal war. The likelihood of turmoil, on the other hand, was more closely related to the instigating variable of the intensity of anger.[57]

Gurr also analyzed the variables within "clusters" of countries based on four different control variables: pattern of political rule, technological development, size, and socio-cultural region.[58] In general, he found that fewer independent variables explained more variation in civil violence in the clusters compared to the overall analysis, but several variables had differing effects in different clusters. Among the political rule groups, the social control variables were important in explaining the magnitude of civil violence in authoritarian countries but not in democratic countries. However, in authoritarian, democratic, and elitist countries, low civil violence was associated with high government budgets.[59]

In the tecnhological clusters, Gurr found that 72% of the explained variation in magnitude of civil violence in highly developed countries was accounted for by separatism, non-violent protest, and lack of party mechanisms to mediate discontent. In moderately developed countries, 30% of the explained variation was accounted for by low executive stability, small police force, large military force, small government sector, and low educational opportunities. In the low developed level of countries, 76% of the explained variation was accounted for by educational opportunities, size of government sector and police force, loyalty of the military, access to elite, and unions and party systems. At the very low development level, 61% of the explained variation was accounted for by the size of the government sector and the military, discrimination, and non-violent protest.[60]

Gurr found no clear patterns in the independent variables' ability to explain variation in civil violence in the size clusters. But he did suggest the following:

> ... there is evidence that in the Dominant and Moderate countries, deprivation ... is considerably more important than mediating social conditions in determining levels of strife, while the pattern is reversed among the Small and Very Small polities.[61]

Interesting results were found in all socio-cultural clusters except the Asian group. In Africa, high violence was associated with high economic development, separatism, socio-cultural discrimination, small unions, and small government sectors. In Latin America, however, low violence was related to low government sectors, low military size, stable party system, high elite access, and high executive turnover. In the Anglo-Saxon cluster, 88% of the explained variation in civil violence was accounted for by discrimination.[62]

Since the main interest of this discussion is the relationship between economic development and political instability, it is interesting to note that the variables measuring economic development and growth were important in explaining the variation in civil violence in only four of the eighteen clusters. And none of the technological development clusters included any economic development variables as significant predictors of civil violence. Where per capita income was associated with violence (in the African, elitist, and small size clusters), the relationship was one which indicated that higher levels of per capita income occurred with higher levels of civil violence. Again, Gurr generally concludes that there is "... no evidence that any particular <u>level</u> of economic performance is a necessary, sufficient, or strongly disposing condition for civil peace."[63]

More recently, Gurr has refined and retested his model of frustration-aggression and civil violence. Using 114 countries in his analysis, he still

hypothesizes that " ... relative deprivation ... is the basic precondition for civil strife ... and ... the more widespread and intense deprivation is among members of a population, the greater is the magnitude of strife in one or another form."[64] He has changed some of the mediating variables in the new model by assuming that the hypothesized relationship is mediated by the social conditions of coercive potential of the regime, institutionalization, and social facilitation. And he has increased the importance of legitimacy as a mediating variable. To measure his independent variables, Gurr develops new indices of persisting deprivation, short-term deprivation, legitimacy, institutionalization, and social facilitation.

In testing his model, Gurr uses correlation and multiple regression analysis. In general, he found moderate separate correlations between his independent variables and the magnitude of civil strife. In a multiple regression, the independent variables together were found to account for 65% of the explained variation in magnitude of civil strife.[65] Some variables were more important than others in explaining the variation in civil violence. In the overall model, the social and structural facilitation variables accounted for 48% of the explained variation in civil violence, persisting deprivation for 24%, short-term deprivation for 12%, legitimacy for 11%, coercive potential for 4%, and institutionalization for 1%.[66] Social and structural facilitation includes variables such as the transportation network, organizational structure, and external support. These conditions along with both aspects of deprivation account for 84% of the explained variation in the magnitude of civil strife. While the legitimacy of the regime seems to add some explanatory power to the social and structural facilitation and deprivation variables, institutionalization seems to be unimportant. This appears to disconfirm the hypothesis of Huntington and others who consider institutionalization as necessary to

stability. However, Gurr states that although institutionalization has no direct effects on civil violence, it is important in determining the coercive potential of regimes, which is important for controlling short-term deprivation. Also, institutionalization is important for social facilitation, which is directly involved in determining civil violence.

In an interesting test of some of Gurr's earlier hypotheses, Bryant Wedge conducted interviews with students in Brazil in 1964 and in the Dominican Republic in 1965.[67] Civil violence had long been expected in Brazil, but had not occurred; on the other hand, civil violence occurred in the Dominican Republic where it had not been expected. Wedge tried to determine whether Gurr's deprivation model would explain this phenomenon. He found that the students he interviewed in Brazil felt deprived in their social aspirations but not in their personal aspirations. In the Dominican Republic, students felt deprived in both personal and social aspirations. Contrary to Gurr's expectation that the closer the goal is, the greater the frustration and violence, Wedge found that the Dominican students' desperation about achieving their goals increased their frustration and violent behavior. But Gurr's original assumption that legitimacy plays an important role in determining violence was found to be true. In Brazil, military intervention in politics was thought to be legitimate so that such intervention was not a precipitating cause of violence. However, in the Dominican Republic violence occurred when the military intervened because such action was not considered legitimate. Wedge also examined peaceful alternatives to the violent expression of frustration and goal-seeking. He found that there were more such opportunities in Brazil than in the Dominican Republic. And finally, in terms of Gurr's social mediating variables, Wedge found that Dominican students had high fear of retribution, high persistent anger, very violent beliefs and

traditions, high group support, and institutionalization of protest was low. The opposite characteristics held in Brazil. Wedge cites all these factors as generally confirming Gurr's basic model.

The variety of opinions and results of empirical studies on the relationship between economic development and political instability indicates the complexity of the association. Having discussed the sometimes conflicting beliefs about the nature of this relationship, I will attempt to determine whether the generally held notion about the curvilinearity of the relationship is true, and if not, whether any of the opposing views can be corroborated. In addition, I will attempt to examine the theoretical underpinnings of the various hypothesized relationships between economic development and political instability giving particular attention to the currently popular concept of demands/capabilities and its presumed significance in investigating the relationship between economic development and political instability.

NOTES FOR CHAPTER I

[1]The terms are not precisely interchangeable. However, for the present the term "political instability" will be used as an all-encompassing concept to capture the nature of all acts of aggression or internal conflict situations in which the political authority of the political system is a target or party.

[2]For a thorough discussion of capabilities, see Gabriel A. Almond and G. Bingham Powell, Jr., Comparative Politics: A Developmental Approach (Boston: Little, Brown and Company, 1966), Chapter VIII.

[3]Examples of this kind of theorizing can be found in the works of Ivo and Rosalind Feierabend and Ted Gurr. See especially Ivo K. and Rosalind L. Feierabend and Betty A. Nesvold, "Social Change and Political Violence: Cross-National Patterns," The History of Violence in America: A Report to the National Commission on the Causes and Prevention of Violence, ed. Hugh Davis Graham and Ted Robert Gurr (New York: Bantam Books, 1969), pp. 632-787, and Ted Robert Gurr and Charles Ruttenberg, The Conditions of Civil Violence: First Tests of a Causal Model (Research Monograph No. 28; Princeton: Princeton University Center of International Studies, 1967).

[4]Ibid.

[5]Peter T. Bauer and Basil S. Yamey, The Economics of Under-developed Countries (Chicago: University of Chicago Press, 1957), p. 163.

[6]Simon Kuznets, Modern Economic Growth: Rate, Structure, and Spread (New Haven: Yale University Press, 1966), p. 451.

[7]Charles Wolf, Jr., United States and the Third World (Boston: Little, Brown and Co., 1967), pp. 42-43.

[8]Irma Adelman and Cynthia T. Morris, "A Factor Analysis of the Interrelationship between Social and Political Variables and Per Capita Gross National Product," Quarterly Journal of Economics, Vol. 79, No. 4 (November, 1965), pp. 568-569.

[9]Martin C. Needler, Political Development in Latin America: Instability, Violence and Evolutionary Change (New York: Random House, 1968), p. 85.

[10]Johan Galtung, "A Structural Theory of Aggression," Journal of Peace Research, Vol. 2 (1964), p. 110.

[11]Mancur Olson, Jr., "Rapid Growth as a Destabilizing Force," Journal of Economic History, Vol. XXIII, No. 4 (December, 1963), pp. 529-552.

[12]Bert F. Hoselitz and Myron Weiner, "Economic Development and Political Stability in India," Dissent, Vol. 8 (Spring, 1961), p. 172.

[13]Harold and Margaret Sprout, "The Dilemma of Rising Demands and Insufficient Resources," World Politics, Vol. XX, No. 4 (July, 1968), p. 661.

[14]See Seymour Martin Lipset, Political Man (Garden City, New York: Anchor Books, 1963), Chapter 3 for a suggestive discussion of legitimacy and stability.

[15]This idea is developed in both Needler, op. cit. and Samuel P. Huntington, Political Order in Changing Societies (New Haven: Yale University Press, 1968).

[16]Neil J. Smelser, The Sociology of Economic Life (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1965), p. 113.

[17]Huntington, op. cit., p. 37.

[18]Ibid.

[19]Ibid., p. 54.

[20]Karl W. Deutsch, "Social Mobilization and Political Development," American Political Science Review, Vol. LV, No. 3 (September, 1961), p. 499.

[21]Wilbert E. Moore, "Industrialization and Social Change," Industrialization and Society, ed. Bert F. Hoselitz and Wilbert E. Moore (The Hague: Mouton, 1963), p. 349.

[22]Arnold S. Feldman, "Violence and Volatility: The Likelihood of Revolution," Internal War, ed. Harry Eckstein (New York: Free Press, 1964), p. 116.

[23]Charles Tilly and James Rule, Measuring Political Upheaval (Research Monograph No. 19; Princeton: Princeton University Center of International Studies, 1965), pp. 9-10.

[24]Ibid.

[25]Needler, op. cit., p. 46.

[26]Lipset, op. cit., p. 64.

[27]Chalmers Johnson, Revolutionary Change (Boston: Little, Brown and Co., 1966), p. 12.

[28]Huntington, op. cit., p. 12.

[29]Lucian W. Pye, Aspects of Political Development (Boston: Little, Brown and Co., 1966), p. 75.

[30]Aristide R. Zolberg, "The Structure of Political Conflict in the New States of Tropical Africa," American Political Science Review, Vol. LXII, No. 1 (March, 1968), pp. 70-87.

[31]Crane Brinton, The Anatomy of Revolution (New York: Vintage Books, 1965).

[32]Lucian W. Pye, "The Roots of Insurgency and the Commencement of Rebellions," ed. Eckstein, pp. 157-179.

[33]David Easton, A Systems Analysis of Political Life (New York: Wiley, 1965).

[34]Needler, op. cit., p. 56.

[35]Ronald G. Ridker, "Discontent and Economic Growth," Economic Development and Cultural Change, Vol. XI (October, 1962), pp. 1-2.

[36]Raymond Tanter and Manus Midlarsky, "A Theory of Revolution," Journal of Conflict Resolution, Vol. XI, No. 3 (September, 1967), p. 270.

[37]Ivo K. and Rosalind L. Feierabend, "Aggressive Behaviors within Polities: 1948-1962: A Cross-National Study," Journal of Conflict Resolution, Vol. X, No. 3 (September, 1966), pp. 249-271.

[38]Ibid., p. 250.

[39]Ibid.

[40]Ibid.

[41]Ibid., pp. 250-251.

[42]Ibid., pp. 257-258.

[43]Ibid., p. 257.

[44]Ibid., p. 258.

[45]Ibid., p. 259.

[46]Ibid., p. 261.

[47]Ibid., p. 262.

[48]Gurr and Ruttenberg, op. cit.

[49]Ibid., p. 1.

[50]Ibid., p. 3.

[51]Ibid., p. 5.

[52]Ibid., pp. 8-9.

[53]Ibid., pp. 8-14.

[54]Ibid., p. 60.

[55]Ibid., p. 70.

[56]Ibid., p. 69.

[57]Ibid., p. 92.

[58]Ibid., p. 92. The clusters of countries are defined as follows: 1) political--polyarchic, elitist, centrist, personalist, and traditional; 2) socio-cultural--Asian, Eastern European, African, Latin American, Anglo-Saxon, and Western European; 3) technological development--high, medium, low, very low; and 4) size--dominant, moderate, small, and very small. Ibid., pp. 19-26.

[59]Ibid., pp. 93-94.

[60]Ibid., pp. 96-97.

[61]Ibid., p. 97.

[62]Ibid., pp. 97-99.

[63]Ibid., p. 108.

[64]Ted Gurr, "A Causal Model of Civil Strife: A Comparative Analysis Using New Indices," American Political Science Review, Vol. LXII, No. 4 (December, 1968), p. 1104.

[65]Ibid., p. 1116.

[66]Ibid., p. 1121.

[67]Bryant Wedge, "The Case Study of Student Political Violence: Brazil, 1964, and the Dominican Republic, 1965," World Politics, Vol. XXI, No. 2 (January, 1969), pp. 183-206.

CHAPTER II

METHODOLOGY AND HYPOTHESES

General Method and Major Hypothesis

The object of this research project is to determine the relationship between economic development and political instability. One method of examining this relationship is to include many countries in the analysis so that an overall picture of the general relationship may be found. Since I am primarily interested in this overall general relationship, the techniques of cross-national analysis will be employed. The population consists of seventy-four countries which had populations of at least 800,000 in 1955 and had been independent for at least two years as of 1955.[1] The findings will hold for this population only. (See Appendix I for a list of the countries.) Obviously, many African nations which gained independence after 1955 will not be included in the analysis. This is an unfortunate omission, but it is necessary given the nature of the political instability data and the dearth of statistics on socio-economic conditions in most of these nations.

The limitations of the population are not the only difficulty involved in this study. The pitfalls of cross-national analysis are numerous. Besides the general lack and reliability of data, there is the basic problem of the validity of the variables. Some variables simple have different meanings in different countries. Adam Przeworski and Henry Teune point out: "The critical problem in cross-national research is that of identifying 'equivalent' phenomena and analyzing the relationships between them in an 'equivalent' fashion."[2] Even if equivalent phenomena can be defined, the problem of selecting valid empirical

indicators of the phenomena is another major problem. In recent years, attempts have been made to improve the quality of empirical indicators used in cross-national research. Perfection is far from sight, however. Many indicators remain which have weak theoretical ties to the concepts which they are supposed to represent. The empirical indicators used in this research project are similarly far from perfect. Nevertheless, in order to do any cross-national research at all, decisions regarding measurement must be made. These are sometimes quite arbitrary decisions, usually backed up with statements such as "Even though the data may be questionable, it's all we've got." Callous as this may seem, I believe it to have some merit. Assuming that one accepts the possibility and benefit of cross-national analysis (and I admit here that there are many scholars who do not), then to do any research at all, one must work with simply the best possible data available. However, the results of the data analysis must be accepted on the basis of the admitted measurement limitations.

Prior to stating the major hypothesis of this study, the major concepts of political instability and economic development will be defined both theoretically and empirically. There are a variety of definitions of political instability. Since there are numerous manifestations of political instability, it is very difficult to cover adequately all forms of instability in one definition. Ivo and Rosalind Feierabend have defined political instability as:

> . . . the degree or amount of aggression directed by individuals or groups within the political system against other groups or against the complex of officeholders and individuals and groups associated with them. Or, conversely, it is the amount of aggression directed by these officeholders within the polity.[3]

A more complete definition would include the mention of groups outside the political system as a source of aggression toward the system and aggression directed against property as well as against persons and groups. The general definition of political instability used in this study is the inability of the

political system to function efficiently because of the failure of the system to solve conflicts over politically-relevant ideas, men, and goods through peaceful channels of conflict resolution.

Since this is a broader definition than that of the Feierabends this project is based on the analysis of the acts of political instability or internal conflict which Rudolph J. Rummel has selected as indicators of internal conflict. Rummel's general definition of conflict is that it is "... a situation in which two or more parties direct their energies at each other in order to achieve goals that can only be gained at each other's expense."[4]

Rummel selected nine measures of domestic conflict which are acceptable as indicators of various forms of political instability. The measures are the following: assassinations, general strikes, guerrilla war, governmental crises, purges, riots, revolutions, anti-government demonstrations, and the number of people killed in all forms of domestic violence.[5] The nine indicators of political instability have been defined by Rummel as follows:

1) assassination: any politically motivated murder or attempted murder of a high government official or politician.

2) general strike: any strike of 1,000 or more industrial or service workers that involves more than one employer and that is aimed at national government policies or authority.

3) guerrilla warfare: any armed activity, sabotage, or bombings carried on by independent bands of citizens or irregular forces and aimed at the overthrow of the present regime.

4) major government crises: any rapidly developing situation that threatens to bring the downfall of the present regime--excluding situations of revolt aimed at such an overthrow.

5) purges: any systematic elimination by jailing or execution of political opposition within the ranks of the regime or the opposition.

6) riots: any violent demonstration or clash of more than 100 citizens involving the use of physical force.

7) revolutions: any illegal or forced change in the top government elite, any attempt at such a change, or any successful or unsuccessful armed rebellion whose aim is independence from the central government.

8) anti-government demonstrations: any peaceful public gathering of at least 100 people for the primary purpose of displaying or voicing their opposition to government policies or authority excluding those demonstrations of a distinctly anti-foreign nature.

9) number of people killed in all forms of domestic violence: any deaths resulting directly from violence of an intergroup nature thus excluding deaths by murder and execution.[6]

These indicators of political instability seem to cover all aspects of aggressive behavior which the Feierabends indicated by their definition plus acts of conflict involving those outside the political system as well as acts against property.

The data sources used by Rummel in collecting data on internal conflict for the period 1955-57 and by Raymond Tanter in collecting data on internal conflict for the period 1958-60 were the following: New York Times Index, New International Yearbook, Kiesing's Contemporary Archives, Facts on File, Britannica Book of the Year, and Deadline Data on World Affairs.

All nine indicators of internal conflict would be too cumbersome to use in the many regression analyses performed in the course of this project. Therefore, the decision was made to include only four measures. Two are indicators of the independent dimensions found by Raymond Tanter's factor analysis of all acts of internal conflict over seventy-four countries in the period 1955-60.[7] These dimensions are turmoil, indicated by the variable demonstrations, and internal war, indicated by the variable revolutions. In addition, the total number of acts of internal conflict of all nine types will be used as a measure of overall political instability. And the number of people killed in domestic violence will be used as a measure of the intensity of the political instability since neither Rummel nor Tanter have developed an independent measure of intensity using their indicators.

The other major concept of this study is that of economic development. In discussing this concept, a distinction must be made between economic growth, which is an increase in wealth or per capita product, and economic development, which "... includes the sense of qualitative improvement in the economy through a better social division of labor, the use of an improved technology, and the better utilization of natural resources and capital."[8] It is true that economic growth has historically been accompanied by industrialization.[9] Thus, the general conception of economic development includes both an increase in a country's wealth and the qualitative changes in its economic structure that are associated with industrialization. Even if a country should emphasize agriculture rather than industry in its development, the process would still rely on structural changes in regard to technology, labor, and use of natural resources and capital. Therefore, economic development is defined in this study as the process of economic change involving both an increase in the per capita product and major structural changes which increase the efficient use of technology, labor, capital, and/or natural resources.

To capture both the per capita income growth and structural change aspects of economic development, a number of different indicators have been selected. The common indicator of GNP per capita has been used for the years 1955, 1958, and 1960. Also included is a measure of the change in the structural differentiation of the economy: that is, the percentage of the work force employed in agriculture in 1955 and in 1960. It is usually assumed that as economic development proceeds, the GNP per capita should rise and the percentage of the work force employed in agriculture should decline.

GNP per capita is probably the most commonly used measure of economic development. Norton Ginsburg has pointed out some of the difficulties in using GNP per capita in terms of United States dollars. These problems include

the following: 1) the difference between official and real market exchange rates may obscure the real purchasing power of a domestic currency; 2) the United States dollar has greater purchasing power itself in some countries than in other countries; 3) translating per capita income into United States dollars may underestimate some valued goods and services in the subsistence sector; and 4) the use of the United States dollar to measure the value of goods and services assumes a Western value system which may not hold in some countries.[10] Even though these problems exist in comparing GNP per capita among countries, this indicator is the best one available to measure relative levels of income per capita. It will be used in this study as one measure of economic development.

Economic development also includes structural changes in the economy. Historically, these shifts have included the movement of labor from the agricultural sector to the industrial sector. A common measure of the structural level of development is therefore the percentage of the labor force in agriculture. The assumption is that high percentages of labor in agriculture implies a low level of economic development while low levels of labor in agriculture implies high levels of economic development. This is an imperfect but commonly used indicator of the level of structural development.

There is also an interest in the relationship between the pace of economic growth and political instability. The most widely used measure of the pace of economic growth is the GNP per capita growth rate over a specified number of years. In sum, then, the following measures of economic development will be used in the analysis of the relationship between economic development and political instability (data sources are listed in parentheses following each indicator): GNPp.c., 1955 (Dimensionality of Nations Project or DON); GNPp.c.,

1958 (United Nations Statistical Yearbook, 1967); GNPp.c., 1963 (U.N. Statistical Yearbook, 1967); Agricultural workers/labor force, c. 1955 (DON); Agricultural workers/labor force, c. 1960 (U.N. Demographic Yearbook, 1964); GNPp.c. growth rate, 1950-55 (DON); GNPp.c. growth rate 1955-60 (U.N. Statistical Yearbook, 1964, and U.N. Yearbook of National Account Statistics, 1965, 1966, 1967).

Having defined the two major concepts of economic development and political instability and given their empirical indicators, the major hypothesis of this study may now be discussed. The previous chapter of this dissertation reviewed the works of several authors who were concerned with the problem of the relationship between economic development and political instability. Many of these authors have stated that political stability affects economic development and that economic development has important consequences for political stability. There are conflicting views on the nature of the effects, however. Some have stated that political stability is necessary for economic development, while others say it is not. And some believe that economic development leads to political stability while others say it is destabilizing. There are also many variations of these basic beliefs. However, an impressive array of scholars take the position that economic development is destabilizing in the short run and stabilizing in the long run. This is the major interest of this research project.

The major hypothesis of this dissertation is the following:

> Across nations, economic development and political stability are curvilinearly related, with low levels of political instability occurring at both low and high levels of economic development and high levels of political instability occurring at middle levels of economic development.

Before discussing the minor hypotheses and the concepts involved in them and before engaging in a detailed discussion of methodology, it seems that a short description of the general methodology and statistical techniques used to

test the curvilinearity of the major hypothesized relationship would be helpful. This is especially necessary since the complete test of the major hypothesis involves adding additional variables to test related hypotheses by rather complicated statistical procedures. If the related hypotheses and the variables involved in them were discussed without any knowledge of these procedures, the reasons for the variables' inclusion would not be clear. Therefore, I will briefly describe the statistical test of the major hypothesis and the addition of other variables.

The major hypothesized relationship, as stated above, is mathematically descriptive of a parabolic curve: $Y = a + b_1X + b_2X^2$. This second-degree polynomial equation can be used to test the curvilinearity of the hypothesized relationship. Since the relationship is expected to be curvilinear, it is necessary to use a statistical technique which can determine the degree of curvilinearity. However, a measure of the relationship based on a curvilinear model alone would be insufficient. It must be determined whether the curvilinear model is more appropriate for the data than a linear model. To do this, some comparison of the results of the linear versus curvilinear models must be used. The techniques of regression analysis and testing for the significance of improvement in prediction in using a curvilinear regression model seem to be most appropriate for determining whether a curvilinear relationship does indeed exist between economic development and political stability. First the relationship will be examined using a linear regression model, $Y = a + bX$. Then the same relationship will be examined using a second-degree polynomial regression model, $Y = a + b_1X + b_2X^2$. The significance of the improvement in the predictive ability of the polynomial equation over the linear equation will then be determined by the use of an F-test of the difference in predictive powers of the two models. If the improvement in prediction using a polynomial model is significant, then it may be concluded that a curvilinear relationship does hold. If

it is not significant, then a linear relationship, if any, will hold. This method of determining the possible curvilinearity of the relationship between economic development and political stability has not been used by the authors whose works have been discussed. But it appears to be the most efficient way of determining the curvilinearity of the relationship. The precise statistical techniques used in this study will be more thoroughly discussed and compared to other measures of curvilinearity in a later section of this chapter.

A number of different variables will be used in the determination of the curvilinearity of the relationship in which our interest lies. Since economic development is a process involving both income growth and structural differentiation, the economic indicators used will be measures of both aspects of development. And political instability, as I have already noted, will be measured along several different dimensions and characteristics. Separate sets of regression equations and the accompanying F-tests will be performed using the various indicators of economic development and political instability.

Because of the assumed complexity of the relationship between economic development and political stability, the addition of other variables (called societal variables) in the study of the basic relationship appears to be necessary. The statistical tests involving the additional variables become quite complex.[11] The reasoning behind the inclusion of the additional variables is rather simple, however. After examining the basic relationship between economic development and political stability, a set of alternative hypotheses will be examined--each hypothesis involving a relationship between one category of societal variables and political stability and based on other researchers' theoretical and empirical analyses. The establishing and testing of these alternative hypotheses is carried out for the purpose of determining what variables in addition to economic development variables are related to political

stability. Then, in an attempt to describe in the best possible way the complex relationship among all the variables, the societal variables most highly correlated with political instability will be combined with economic development variables in a final set of statistical tests to determine the overall complex relationship between the economic development and societal variables on the one hand and political instability on the other.

Additional Hypotheses and Empirical Indicators

In including additional variables in the analysis of the relationship between economic development and political stability, it will first be determined whether the variables have any independent effects on political stability. Thus, the additional variables will be involved in a series of separate hypotheses with political stability as the dependent variable. Variables will be grouped in the following categories: population, health, communications, economic deprivation, education, cultural diversity, political system capabilities, political system characteristics, political participation, legitimacy, foreign involvement, want satisfaction, and bloc membership. These categories represent almost every kind of variable that has ever been connected to political instability. An attempt will be made to find the best predictors, if any, of political instability within each category. Finally, these best predictors will be combined in regression equations along with the best predictors of political instability from the economic development variables to determine the order of importance of the different variables in explaining variation in political stability.[12] Of course, combined in one equation, the importance of the predictors will change. This method of determining an overall relationship of economic development and political instability including other variables seems to be the most thorough of those available.

It is now necessary to discuss some of the expected individual effects of the additional independent variables. A discussion of their combined effects must wait for the actual data analysis. It will be interesting to see whether the combining of variables in the final equation will show them to have different effects than those hypothesized below for the separate categories of variables.

Before discussing the individual societal variables and their connections with political instability, a word of caution about the concepts and their indicators is necessary. As I stated at the beginning of this chapter, there are many problems involved in cross-national analysis not the least of which is the problem of selecting appropriate indicators of concepts. Two basic criteria of selection are, first, that the empirical indicator be a theoretically satisfying measure of the concept; that is, given the assumption that the concept can be measured empirically, the indicator chosen should be the one which is most theoretically justifiable. The second criterion is that of the successful use of the indicator in other studies. These criteria are not necessarily independent; often, when the same indicators are used by different researchers, this implies some shared agreement as to their theoretical adequacy. If empirical studies consistently achieve satisfactory results on the basis of the use of certain indicators, the indicators tend to become accepted as being valid indicators of certain concepts. The use of the indicator GNP per capita to measure the concept of economic development has achieved its prominence in economics partly because of its successful use in many studies over a long period of time. In fact, many social scientists engaged in cross-national research have reached the point at which they neglect to give any theoretical justification of their empirical indicators and merely make the statement that these indicators are generally accepted as adequate measures of certain concepts.

As for this second criterion of selection, earlier sections of this dissertation have discussed a number of concepts which previous researchers have claimed are important for explaining the relationship between economic development and political instability. Some of these researchers have selected empirical indicators for their concepts. Typically in the social sciences, the selection of indicators involves some "calculated risk" since we usually are not sure whether the indicators chosen will meet the first selection criterion--that is, adequately capture the meaning usually given to the concepts by others. Of course, the problem of using indicators which have been suggested by others is easier to cope with if the previous researchers have taken care to specify measurement procedures which would be adequate. Even in this case, one can still argue that the indicators may have theoretical shortcomings, but at least one knows how the concepts have been measured and presumably can measure them in the same way.

There has been enough research on problems similar to those of this study so as to have developed some common ways of measuring key concepts. Again, it can always be argued that despite scientific convention, existing measurement procedures and conceptualizations are to some extent inadequate and misleading; in fact, if the history of science is any guide, we expect this to be the case. But as one result of continuing empirical research, we expect to uncover the sources of measurement ambiguity, openness, and inadequacy with the goal of eventually resolving the difficulties. This process is speeded when our observations of the world do not comport with previous scientific theory or what is otherwise "expected" given our existing knowledge. When this happens, we ask ourselves whether our expectations were wrong (implying, usually, some necessity for revising our beliefs about reality) or whether we have made an error in method.

The question remains as to exactly why I chose certain indicators in this study. First, despite some major differences in explanatory focus and conceptualization, I wanted this study to converge with other studies of economic development and political instability. This implies the necessity for some measurement similarities. Of course, I would not have chosen to do this study at all unless I was convinced that these previous researchers had uncovered some highly interesting generalizations which ultimately appear capable of functioning in adequate explanation. Thus, I began the project with the view that the utility of many existing measurement procedures had at least been strongly suggested by what may be regarded as previous successes in explanation-building. However, I do not want to suggest that one should unconditionally accept existing measurement practices merely because they <u>are</u> existing practices. The empirical indicators used in this study were selected on the basis of both criteria discussed above. Thus, even where indicators have been successfully used before and (despite the possibility of error in measurement) have been accepted in cross-national analysis as being valid measures of certain concepts, I have tried to give at least some theoretical justification for their selection.

The concepts of political instability and economic development have already been defined and their indicators discussed. The societal concepts and their indicators will be presented shortly. First, however, it should be emphasized that several indicators were selected for each societal concept since the object of the regression analyses of each societal category with the political instability variables is to find the best empirical predictor of political instability in each societal category. In other words, I will start with several empirical indicators of the societal concepts, each indicator selected on the basis of the criteria mentioned above, and

then enter all indicators in separate regressions with the political instability variables to determine which indicator in each societal category is the best predictor of political instability.

The first category of societal variables is concerned with the concept of population pressure. Population pressures and urbanization are generally believed to be politically destabilizing. These destabilizing tendencies may be direct or indirect. For instance, Ulla Olin states: "Population growth seriously aggravates the risk of unrest by increasing the crowding and competition for scarce resources, but it is not directly responsible for the situation."[13] Population growth and economic development are usually accompanied by urbanization, which appears to be a more direct cause of unrest. Urbanization is thought to create tension by increasing the pace and complexity of life while breaking down traditional bonds and norms. Urbanization in itself brings together large groups of people, thereby making it easier for groups to organize and communicate. Urbanization also creates "psychological densities--intense interchange of ideas, rumors, and stimulations in crowded situations ... (which) ... are conducive to demagoguery and crowd formations."[14] In terms of frustration-aggression theory, urbanization is thought by some to increase frustration by increasing both relative and absolute deprivation. Absolute deprivation increases because aspirations are stimulated beyond reach of achievement, while relative deprivation increases because the lower classes have more contact with upper classes and their high standard of living.[15] However, all these effects of urbanization seem to be long term ones. In the short run, some feel that urbanization decreases the likelihood of political instability. Samuel P. Huntington notes that urbanization acts as a safety valve for relieving the countryside of potential dissidents.[16] Internal conflict may increase in the cities, but Huntington

believes this is a small price to pay for the aborting of a revolution in the countryside. Charles Tilly agrees with this assessment, although he stresses that political instability will be delayed in the cities for as long as it takes the rural migrants to assimilate to new groups.[17] In general, however, it is still assumed that the process of urbanization will increase the tendency toward political instability by creating vast problems with which the political system must cope and by making political organization and communication easier. Therefore, the following relationship is hypothesized between population pressure and political instability:

> Population pressures caused by rapid increase and urbanization have a tendency to increase political instability.

The empirical indicators chosen for the concept of population pressures are not only commonly used demographic indicators (therefore meeting the second criterion of selection) but can be convincingly justified theoretically as adequate measures of population pressure. As noted above, population pressures are created by rapid increases and movements of population that create problems for the political system. Rapid increase is one aspect of population pressure that can be measured directly empirically by using the common demographic measure of rate of population increase. In this study, annual percentage rate of increase from 1958-1961 is used. A related indicator is the birth rate of the population. Not only are high birth rates and high rates of population increase expected to be positively related to high rates of political instability, but other aspects of the notion of population pressure are expected to be similarly related. One of these other aspects of population pressure is the density of population. Theoretically, population density would seem to make population pressures more serious because of the effects of crowding noted above. Two indicators of population density are used in this study:

the ratio of population to national land area and the ratio of population to arable land. The first indicator measures general density while the second measures the more theoretically interesting density involving the question of the ability of the productive land to support the population. Another aspect of population pressure is considered to be sheer size of population. It may be argued that increases in large populations objectively give the political system more needs to attend and that large populations may be somewhat more difficult to control as well as satisfy. Therefore, this study includes population size as an indicator of one aspect of population pressure. Finally, the pressures caused by urbanization which have already been discussed are measured empirically by the indicator the percentage of population in cities of over 20,000 population. In sum, the population indicators with their data sources in parentheses are the following: 1) population increase, 1958-1961 (Russett, World Handbook of Social and Political Indicators[18] --called "Yale data" from here on); 2) population/national land area, 1955 (Dimensionality of Nations Project,[19] called "DON" from here on); 3) population/arable land, 1955 (DON); 4) live birth rate, 1955 (DON); 5) population size, 1955 (DON); 6) percentage of population in cities over 20,000 population, c. 1955 (Yale data).

Another theoretical interest is in the effect of the general health level of the population on political stability. On the basis of frustration-aggression theory discussed previously, it would appear that poor health and lack of attention to health problems would lead to discontent, which might lead to political instability. Particularly interesting is the relationship between early nutrition and later achievement in life. Many medical experts now believe that proper diets prior to the age of four are essential to normal brain growth and therefore to later achievement in life. Lack of achievement for whatever

reason is generally thought to lead to frustration which may lead to aggression in the form of acts of political instability. Therefore, the following relationship is expected between health levels and political instability:

> Generally, the better the health level of the population, the less likely it will be for political instability to occur.

I have selected six different indicators for the health level of the population. They are all commonly used measures in cross-national and demographic analyses. Life expectancy at birth is perhaps the most common measure of the general health level of the population. Countries in which people have high life expectancies generally have healthier populations than countries in which people have low life expectancies. The infant death rate is also a measure of the general health level of the population. The exact measure used in this study is the number of deaths of infants under one year of age per 1,000 live births. Countries with high infant mortality rates usually have populations which are more burdened with disease and other health problems than countries with low infant mortality rates. To measure the diet deficiencies discussed above, I have selected two measures that seem to capture the adequacy of diets for proper brain growth and general health. These measures are the ratio of proteins per capita of foodstuffs consumed to calories per capita of foodstuffs consumed and the ratio of calories consumed minus calories required[20] to calories required. Finally, another aspect of health level of the population is measured by indicators of the structural facilities available for health care. The indicators for this aspect of health level are the ratio of population to physicians and the ratio of population to hospital beds. Both of these indicators measure the adequacy of health care facilities for the population, thereby indirectly measuring the level of health. It can be expected that countries with poor health care facilities would be more likely to have less healthy

populations due to inadequate prevention and treatment of medical problems than countries with good health care facilities. To sum up, the concept of health level of the population is measured empirically in this study by the following indicators (data sources in parentheses): 1) life expectancy of females at birth, c. 1955 (Yale data); 2) number of deaths of infants under one year of age per 1,000 live births, 1955 (DON); 3) proteins per capita/calories per capita, 1955 (DON); 4) calories consumed minus calories required/calories required, c. 1955 (DON); 5) population/physicians, c. 1960 (Yale data); 6) population/hospital beds, c. 1960 (Yale data).

The next societal category included in this study is that of communications and literacy. Theoretically, it is believed that modern communications, transportation, and increased literacy facilitate the occurrence of political instability. Communications and literacy tend to increase aspirations and demands. When demands are not met, frustration is likely and political instability may result. Therefore, the following relationship is hypothesized between communications and political instability:

> The greater the development of communications, the more likely it will be for political instability to occur, especially if demands cannot be adequately met by the political system.

As empirical indicators of communications and literacy I have selected measures of different aspects of the concepts. It has been hypothesized that the growth of communications and increases in the level of literacy of the population tend to have a destabilizing effect on the political system if it cannot cope with the demands presented by the increasingly aware population. As a measure of literacy I have selected the indicator the <u>percentage literate of the population aged fifteen and over</u>. A literate person is defined as one who can "read and write a simple message."[21] The extent of communications and transportation has also been hypothesized to be related to political instability

in that improvements in communications and transportation not only allow increased demands to be communicated more rapidly to the political system but they facilitate organization for political protest. (Of course, improvements in communications and transportation also allow political systems to perfect the tools of repression, but it is felt that the politically destabilizing effects of such improvements outweigh the possibility of the political system increasing its control over the population). To measure communications I have selected the commonly used indicators of the ratio of daily newspaper circulation to population, the ratio of telephones to population, and the ratio of radio receivers to population. As an indicator of transportation I have used a measure of the availability of transportation to each person in a country: the ratio of railroad length per person to population distance. Population distance is defined as the "distance between any person in a given area and his nearest neighbor ... (or) ... the square root of the reciprocal of population density."[22] In sum, then, the indicators of literacy, communications, and transportation are the following (data sources in parentheses): 1) percentage literate of the population (Yale data); 2) newspaper circulation/population, 1955 (DON); 3) telephones/population, 1955 (DON); 4) radios/population, 1955 (DON); and 5) railroad length per person/population distance, c. 1955 (DON).

The next two societal variable categories are economic deprivation and want satisfaction. I will discuss these two concepts together since they are assumed to have related but opposite effects on political stability. Economic deprivation (defined as the absence of economic advantages expected by individuals) in terms of unemployment, high taxes, and unequal distribution of wealth are generally thought to increase discontent with the political system since these problems tend to be blamed on central governments. The process

of want satisfaction is defined as the fulfillment of the economic and social demands made by individuals on the political system, that satisfaction being given either by the political system or by the private sector. The process of want satisfaction tends to keep people content and thereby reduces the possibility of political instability. The following hypotheses are therefore suggested:

> The greater the economic deprivation, the more likely it will be for political instability to occur.
>
> The greater the amount of want satisfaction throughout the society, the less likely it will be for political instability to occur.

The empirical indicators for economic deprivation are not as direct as some of the indicators of the concepts mentioned previously. The concept of economic deprivation is more diffuse than that of communications or even health. But I have tried to select indicators that capture the basic meaning of economic deprivation. One of the best such indicators is unemployment. I used this measure in terms of the ratio of unemployment to working age population. It is expected that high levels of unemployment and high levels of political instability occur together. I used three additional measures of deprivation with somewhat more indirect connections to the concept of economic deprivation. The first of these indicators is the GINI index of agricultural land distribution, a measure of the extent of land ownership of certain percentages of the population. It is believed that in countries in which land is very unequally distributed, people will feel economically deprived, will tend to blame their unequal status on the political system, and will therefore be likely to engage in acts of political instability. The second indicator of economic deprivation is the ratio of tax revenue from income and wealth to total revenue. This indicator attempts to measure the tax burden on the population by showing the amount of taxes on individual wealth as compared to tax revenue from other sources. People whose incomes

are heavily taxed while other sources of revenue are not well used by the government may tend to feel economically deprived and therefore engage in acts of political instability more readily than people who feel that they are being fairly taxed. The third indicator of economic deprivation is an indirect, reverse indicator: private consumption as a percentage of GNP. Generally, as private consumption increases, the population's economic demands are being met; therefore, people would tend to feel less economically deprived than if private consumption were a decreasing or small percentage of total wealth.[23] With high levels of private consumption we would expect less economic deprivation and therefore less political instability. In sum, the indicators of economic deprivation are the following (sources given in parentheses): 1) GINI index of agricultural land distribution, c. 1955 (Yale data); 2) tax revenue from income and wealth/total revenue, 1955 (DON); 3) private consumption as a percentage of GNP, c. 1950-59 (Yale data); and 4) unemployment/working age population, c. 1958-60 (Yale data).

There are three empirical indicators of the concept of want satisfaction. One of these is the same as that used as a reverse indicator of economic deprivation: private consumption as a percentage of GNP.[24] This indicator is a measure of the state of the satisfaction of the economic needs of the population. We would expect high levels of private consumption to accompany greater want satisfaction and less political instability. The second indicator of want satisfaction measures another aspect of the satisfaction of both economic and social needs--that is, the satisfaction of these needs by the government. For this measure, I have selected the ratio of government expenditure to GNP. This is obviously a very rough measure since some of the government expenditure may be spent on military equipment and other investments that would not directly satisfy economic and social needs of the population. It was the best such measure available, however. Finally, another aspect of the general want satisfaction of the population is measured by the ratio of calories consumed minus

calories required to calories required.[25] This measures want satisfaction in that one can assume that if the population is being adequately fed, one major aspect of its needs are being satisfied. High ratios of calories consumed minus calories required to calories required would indicate high want satisfaction, in turn, these high ratios are expected to occur with low levels of political instability. In sum, the indicators of the concept of want satisfaction are the following (data sources in parenthesis): 1) private consumption as a percentage of GNP, c. 1950-1959 (Yale data); 2) government expenditure/GNP, 1955 (DON), and 3) calories consumed minus calories required/calories required, c. 1955 (DON).

The next societal category is that of education. As was noted before in the discussion of frustration-aggression theory in regard to political instability, there are conflicting views about the effects of education on stability. Although some believe that education is one means of achieving aspirations, the more commonly held view is that education increases aspirations without necessarily improving the opportunities for achieving other goals. In addition, the problem of "school-leavers" is generally recognized to have negative consequences for political stability in developing countries. That is, individuals who receive an elementary education but cannot go on to higher education because of lack of resources of the educational system are educated to some extent but not trained for roles in modern society. Consequently, discontent results from unemployment in combination with the increased aspirations encouraged by basic education. Therefore, the following hypothesis is in order:

> Increases in primary education without the opportunity to advance to higher education increases the possibility of political instability.

The empirical indicators of the concept of education are commonly accepted as being valid indicators of the amount of education in the various countries. The first indicator is the percentage of primary school pupils in the population

aged 5-14. This measure gives an estimate of the extent to which governments emphasize the importance of giving an education to young children. The second indicator, the percentage of pupils in secondary schools and colleges of the total population, measures the extent to which the government is committed to higher education. If the percentage of primary school pupils in a country is high but the percentage of secondary and college students is low, we would expect the phenomenon of disaffected school-leavers to occur and would also expect higher rates of political instability. In the multiple regression of education indicators and political stability indicators, if high percentages of primary school pupils explains a significant amount of variation in political instability while low percentages of secondary and college pupils adds significant explained variation, then the hypothesis would tend to be confirmed.[26] Finally, a third indicator of the concept of education is included in order to determine whether the overall commitment of the government to education has any importance for political stability. The indicator is the ratio of government education expenditure to total government expenditure. The interest of this indicator is in combination with the other two. If a country has a high percentage of primary school pupils, a low percentage of secondary school pupils, plus high rates of government expenditure in education, it may be that the level of political instability will be lower than if the rate of government expenditure for education is low, since it is assumed that high rates of expenditure in education are at least partially directed at increasing the availability of higher education once most of the population is receiving a primary education. In sum, then, the indicators of education are the following (data sources in parentheses): 1) primary school pupils/population aged 5-14, 1955 (DON); 2) pupils in secondary schools and colleges/total population, c. 1955 (DON);

and 3) government expenditure on education/government expenditure, 1958 (DON).

The next societal category with which we must deal is cultural diversity. Writings on the subject of political and territorial integration usually assume that great cultural diversity within a political unit will decrease the possibility of peaceful political change. Where ethnic and religious groups have vastly different traditions and norms, agreement on societal goals through compromise in the political system will be difficult. And separate languages create further difficulties of communication within a political system. Thus, the following relationship is expected:

> The greater the cultural diversity of the population, the greater the likelihood of political instability.

As indicators of the concept of cultural diversity, I have selected six measures which gauge two aspects of cultural diversity, the variety of sub-cultures within a country and the strength of sub-cultures within a country. To measure the variety of sub-cultures within a country, I have chosen simple indicators of diversity in religion, language, and ethnicity within countries: within each country, the indicators measure the number of religions, the number of language groups, and the number of ethnic or racial groups. We would expect that countries with great numbers of different religions, language groups, and ethnic or racial groups would have the problems of integration discussed above and would therefore have more political instability than countries with less cultural variety. Because the mere number of various sub-cultures does not capture the full extent of the diversity of the culture, I have also included indicators of the dominance of major sub-cultures. These indicators of dominance are the ratio of membership in the largest religious group to population, the ratio of membership in the largest language group to population, and the ratio of membership in the largest ethnic group to population. It is

expected that if there is a highly dominant religion or language or ethnic group, the integration problems discussed above will be less serious than if there are many equally competitive groups. Therefore, countries with high membership ratios in dominant religious, language, or ethnic groups would tend to have less political instability than countries with no dominant subcultures. In sum, the indicators of cultural diversity are the following (data sources in parentheses): 1) number of religions, c. 1955 (DON); 2) number of language groups, c. 1955 (DON); 3) number of ethnic or racial groups, c. 1955 (DON); 4) membership in largest religion/population, 1955 (DON); 5) membership in largest language group/population, 1955 (DON); and 6) membership in largest ethnic or racial group, 1955 (DON).

Political capabilities are included in this study as a separate societal category because of the importance which many political scientists have attached to the concept of political capabilities. There is also an interest in many general characteristics of the political system because of the interest in exploring others' beliefs about the aspects of the political system which are important for political stability. I will treat the discussion of the hypotheses and empirical indicators of political capabilities and general political characteristics together because of their close theoretical association. In the last chapter, several theories of political capabilities and political stability were discussed. Most of the researchers mentioned stressed the importance of the ability of the political system to develop its capabilities to handle demands, conflict, and change.[27] Many writers feel that the development of institutions capable of these tasks is vital to the stability of the political system.[28] Others have hypothesized that regardless of the capabilities of the political system, the legitimacy of that system is most important for political stability.[29] And others have suggested that the level

of participation in the political system also seems to have an effect on political stability.[30]

The concept of capabilities has been rather thoroughly discussed by Gabriel Almond.[31] In terms of institutions which increase the capabilities of political systems in handling change, Almond cites the development of various institutions which increase capabilities. The extractive capability is enhanced by an efficient bureaucracy for tax collection. The regulative capability also relies on an efficient bureaucracy as well as on a well-trained police and military force. The distributive capability depends upon a welfare bureaucracy and an extensive educational system. The symbolic capability is increased by a widely accepted political creed. The responsive capability depends upon an adequate communications system and a political culture of participation. Whatever analytical language is used to describe the development of a political system's capabilities, the basic notion is the same: in order for a political system to meet the challenges which derive from social mobilization and economic development, it must develop the capacity to deal with the changing conditions and needs of its members. If the political system fails to develop such capabilities, it will be unable to perform sucessfully its role of goal attainment for the society as a whole. In this case, individuals and groups may become dissatisfied with the performance of the political system and either attempt to gain their demands by extra-legal means or seek to change the system itself. The following hypotheses attempt to describe the expectations of the relationship of the political characteristics discussed above with political stability:

> The greater the capabilities of the political system to meet demands and handle conflict and change, the less likely it is that political instability will occur.

> The greater the opportunities for peaceful participation and dissent in the political system, the less likely will it be for political instability to occur.
>
> The weaker the legitimacy of the political authority in power, the greater is the likelihood of political instability.

Some of the empirical indicators that I have selected to measure the political characteristics discussed above have been used by other investigators as indicators of political capabilities or other characteristics of the political system. The most common measures of political capabilities, however, have been simple measures of one or two aspects of the capacity of the political system.[32] I have tried to develop indicators for all aspects of political capabilities. Most of the indicators I have used are not direct measures of the political characteristics of interest to this study and can therefore be questioned as being non-representative of what they are supposed to measure. However, they are generally regarded as the best such indicators now available. If researchers continue to speak of the importance of the capacity of the political system, then there must be some attempt to measure, even if crudely, this quantitative concept. Capacity or capability suggests amounts; therefore, we must attempt to measure these political amounts.

I have followed Almond's capability categories in selecting indicators of political capabilities. The indicators of the extractive capability of the political system are the ratio of government revenue to government expenditure, the ratio of tax revenue to total revenue, and the ratio of technical assistance received to GNP per capita squared. It is expected that countries with high ratios of government revenue to expenditure and high ratios of tax revenue to total revenue have well developed extractive capabilities; such countries would have low rates of political instability if the hypothesis connecting high levels of political capability to low levels of political instability

holds. The relationship of the third indicator of extractive capability to political instability is not as clear. Political systems with low extractive capabilities are assumed to be in need of more technical assistance than systems with well developed extractive capabilities. Therefore, we would expect high ratios of technical assistance received to GNP[2] per capita (that is, low extractive capabilities) to be accompanied by high levels of political instability.

As an indicator of the distributive capability of the political system I have selected the commonly used measure of the ratio of government expenditure to GNP. This indicator is assumed to measure the distributive capability of the political system in that in modern times, people expect their governments to provide many welfare and other services which require large government expenditures; therefore, the higher the ratio of government expenditure to GNP, the greater the distributive capability of the government. And according to the capabilities hypothesis, the higher the ratio of government expenditure to GNP, the lower the level of political instability.

For the responsive capability, I have selected indicators of two aspects of responsiveness: responsiveness to welfare needs and responsiveness to political needs. The indicator of the first aspect of responsiveness is the ratio of population to hospital beds. This measure gives an indication of the willingness of the government to fulfill a basic medical need of the population. The other aspect of responsiveness (to political needs) is indicated by a special rating given to the voting system (ratings were given by the DON project as 0 = no voting at all, 1 = single party, plebescite voting with no effective primary, 2 = single party with effective primary, 3 = multi-party system with ban on extreme parties, and 4 = multi-party without limitation on parties).

The assumption is being made that the greater the number of parties allowed, the greater the opportunity for political participation. Thus, according to the capabilities hypothesis, multi-party voting systems without restrictions on parties will be found to be positively related to political stability.

The indicators I have selected for the regulative aspects of political capabilities are less satisfactory to me than the other capabilities indicators. Although the concept of regulative capability was not originally meant to connote political repression, it seems that the only indicators I have been able to devise measure the repressive aspect of regulation. Although repression is apparently one aspect of regulative capability, it would generally seem to indicate some deficiency or breakdown in other milder forms of political regulation. As such, high repression might actually indicate low regulative capability. However, if repression is taken to be a general indicator of regulative capability, then it should be positively associated with stability. Under another set of assumptions to be discussed shortly, repression may be assumed to be destabilizing since it precludes some types of political participation. Hypotheses concerning both regulative capabilities and political participation have not yet cleared up this apparent ambiguity. One possible way of helping to clarify this ambiguity is to empirically examine the association of political repression and political stability.

As measures of regulative capability, I have selected the ratio of military personnel to population and the amount of press censorship (ratings given by the DON project: 0 = complete or fairly complete censorship of news, 1 = some censorship of news, 2 = no censorship other than libel laws and national security curbs on news). According to the general capabilities hypothesis, the greater the regulative capability, the lower the level of political instability. Using the indicators I have selected for regulative capability, we would also expect

that in general lower levels of political instability will occur with higher levels of political regulation. As we have already noted, however, because the effects of intense repression are probably negative for stability, there would most likely be a point at which the indicators would be negatively correlated to political stability. In other words, there is a point at which the political system can "overdevelop" its regulative capability.

Finally, as an indicator of the symbolic capability of the political system, I have selected the number of national holidays in each country. This is also not a highly satisfactory indicator of the total symbolic capability of the political system, but it was the only such measure I was able to find. If the general hypothesis indicates that higher levels of symbolic capacity will occur with lower levels of political instability, then we would expect that countries with high numbers of national holidays would have low levels of political violence.

To summarize all the empirical indicators of political capabilities, I will briefly restate them with their sources in parentheses: 1) extractive capability - government revenue/government expenditure, 1955 (DON), tax revenue/total revenue, 1955 (DON), and technical assistance received/GNP^2 per capita, 1955 (DON); 2) distributive capability - government expenditure/GNP, 1955 (DON); 3) responsive capability - population/hospital beds, c. 1960 (Yale data), voting system, 1955 (DON); 4) regulative capability - military personnel/population, c. 1959 (Yale data), press censorship, 1954 (DON); and 5) symbolic capability - number of national holidays, c. 1955 (DON).

Participation in the political system is another concept which was discussed above in relation to political stability. I have selected six different indicators of political participation in an attempt to gauge as many different aspects of participation as possible. As a measure of the general amount of

participation, the indicator of the ratio of votes in national elections to the voting age population has been selected. The higher this ratio is, the less likely will political instability be. Of course many of the highest ratios will be found in countries with mandatory voting systems, but even when we control for the type of voting system, we would still expect to find high ratios of voting related to low levels of political instability. The indicator voting system which was used above as a measure of the responsive capability of the political system was also used as a measure of the existence of opportunities for participation. It is to be expected that the more parties from which people are able to choose a means of participating in the political system, the greater the likelihood of overall political stability. Another indicator of participation is the minimum voting age, again a measure of the extent of the opportunities for participation. According to the general participation hypothesis, we would expect more political stability in systems with lower minimum voting ages than in systems with more restricted voting qualifications. Two indicators of the repression of political participation were also included in this study, press consorship (as defined above) and freedom of opposition (ratings given by the DON project: 0 = political opposition not permitted and no groups allowed to organize for political action, 1 = restricted political opposition allowed, 2 = political opposition mostly unrestricted). The expectation is that in the long run the greater the amount of restriction on political activity, the more likely will it be for political instability to occur as people work outside the political system to get what they cannot get by working within the political system. Finally another aspect of participation is measured by the ratio of emigrants to population. This indicator attempts to measure withdrawal from the political system and,

partially, disaffection with the political system. It would be expected that high ratios of emigrants to population would occur with high levels of political instability. In sum, the empirical indicators of political participation are the following (data sources in parentheses): 1) votes in national elections/voting age population, c. 1960 (Yale data); 2) voting system, 1955 (DON); 3) minimum voting age, c. 1955 (DON); 4) press censorship, 1954 (DON); 5) freedom of opposition, 1955 (DON); and 6) emigrants/population, 1955 (DON).

To examine the hypothesis concerning the relationship between legitimacy and political stability, I have selected four empirical indicators of legitimacy. The first is a legitimacy rating given to each country by the DON project (1 = present government came into being through revolution, 0 = present government came into being through a legitimate transfer of power). According to the legitimacy hypothesis, we would expect countries in which the transfer of power in recent years has been legitimate to have experienced less overall political instability than those countries in which the transfer of power has not been legitimate. To add a longer time dimension to the concept of the legitimacy of countries' governments, I have also included three variables which attempt to measure the legitimacy of regimes previous to the present governments. One such measure is another rating given by the DON project, the legality of government change (0 = last and present government came into being through non-legal means, 1 = last or present government came into being through non-legal means, 2 = last and present government came into being through legal means). Two other measures of historical legitimacy are included as indirect measures of legitimacy. They are indicators of the tenures of governments. Tenure is not the same as legitimacy, but it captures one aspect of it. If governments persist over long periods of time, it may be argued that they tend to derive a certain legitimacy in the eyes of most

citizens. This may even be true for regimes which maintain themselves in power through repressive measures. The populace may not like the tactics of the government in controlling the population, but habit often makes them accept the legitimacy of the government's actions. This is not to say that long-standing repressive regimes are more legitimate than frequently changing regimes which come into power legally. It is only an attempt to capture an aspect of the acceptance of regimes as legitimate that is not captured in the two indicators mentioned above. The two measures of the tenures of governments are: average tenure of the last two governments (executive head) and the ratio of the number of years of the country's independence to the number of chief executives from 1945 to 1961. According to the legitimacy hypothesis, the longer the average tenure of the last two governments and the higher the ratio of years of independence to the number of chief executives (the fewer the chief executives per years of independence), the greater the likelihood of lower political stability. In sum, then, the four measures of political legitimacy are the following (data sources in parentheses): 1) legitimacy rating, 1955 (DON); 2) legality of government change, 1955 (DON); 3) average tenure of the last two governments, 1955 (DON); and 4) number of years of country's independence/number of chief executives, 1945-1961 (Yale data).

Finally, there are some general characteristics of political systems in which there is an interest in their relation to political stability. They generally describe the type of political system. Some of the indicators of the type of system have already been used for other political concepts discussed above. But I wanted to include a separate regression equation with these and other system-type variables with the political instability variables to try to determine if any specific type of political system has a significantly higher or lower level of political instability than other

types. My inquiry here is not led by any well-defined hypotheses, just curiosity. I have selected four indicators of political system type. One is a rating of the voting system given by the DON project (0 = no voting at all, 1 = plebescite-type voting only, with single party and no effective primary, 2 = single party with effective primary, 3 = multi-party system with ban on extreme parties, and 4 = multi-party system without limitation on parties). This rating of the voting system has already been discussed in the political participation category. There it was suggested that overall political stability will be greatest where there is the maximum chance of participation, that is in multi-party systems with no restrictions on parties. In this category of political system type, however, we are again questioning the role of the party system in overall political stability. It may be that there is an optimum point of participation which is best for the maintenance of political stability rather than a maximum point as the participation hypothesis would suggest. Another similar measure of the type of political system is the number of political parties. Again, the interest is in whether there is any relationship at all between the number of political parties and political stability, and if there is, what the optimum number for stability seems to be. One other aspect of political systems is measured by the two following political characteristics indicators: the political centralization rating given by the DON project (the sum of two ratings, one for municipalities' dominance by central authorities and one for the independence of intermediate government structures),[33] and the description of the system as federalist or unitary. Again, I am not guided by exact hypotheses here; I am simply curious as to the question of whether or not there is a relationship between the degree of centralization of political systems and their political stability. In sum, then, the indicators used to measure the nature of the political system are the

following (data sources given in parentheses). 1) voting system, 1955 (DON); 2) number of political parties, c. 1955 (DON); 3) degree of political centralization, c. 1955 (DON); and 4) federalist-unitary, c. 1955 (DON).

The final category of societal variables involves the concept of foreign involvement. The effects of foreign involvement on political stability are still debated. Some authors believe that internal conflict is in part caused by foreign war and the conduct of modern diplomacy "... which generate and legitimize patterns of violence and intensify the use of formal restraints as means of social control."[34] On the other hand, two major cross-national studies of internal conflict and its relation to external conflict covering the years 1955-57 and 1958-60 found that there was no statistically significant relationship between internal conflict and involvement in foreign conflict.[35] In terms of the effect of the drain on the political system's resources and strain on its capabilities by major foreign involvement, however, it would seem that such involvement would decrease the ability of the political system to meet domestic demands and therefore would increase political instability. Thus, the following relationship is hypothesized:

> The greater the extent of foreign involvement, the more likely will political instability be.

The empirical indicators of the extent of foreign involvement include three measures of the amount of conflict engaged in and two measures of the extent of military preparations. The measures of foreign conflict give some indication of the amount of conflict of varying nature. "Belligerent" conflict is indicated by the number of countries with which diplomatic relations had been severed, c. 1957.[36] "Diplomatic" conflict is indicated by the number of ambassadors expelled or recalled, c. 1957.[37] And "war" is indicated by the number of people killed in foreign conflicts, c. 1957.[38] Another aspect of foreign

involvement is the preparation for conflict, for which I have selected the following indicators: the ratio of military personnel to population, and the ratio of defense expenditure to GNP. These are not perfect measures of the preparation for foreign involvement since the figures may include domestic police personnel and expenditure for internal security rather than external security. However, there are no better measures of preparations for foreign conflict available. On the whole, the hypothesis discussed above would suggest that as both foreign conflict and/or preparations for foreign involvement as measured by the above indicators increased, we would expect that political instability would increase. In sum, the indicators of foreign involvement are the following (data sources in parentheses): 1) number of countries with which diplomatic relations have been severed, c. 1957 (DON); 2) number of ambassadors recalled or expelled, c. 1957 (DON); 3) number of people killed in foreign conflicts, c. 1957 (DON); 4) military personnel/population, c. 1959 (Yale data); and 5) defense expenditure/GNP, c. 1959 (Yale data).

All the societal concepts and their empirical indicators have now been presented. The addition of the societal concepts is aimed at including as many relevant aspects as possible in the examination of the relationship between economic development and political instability. Thus, as has been discussed, the regression analyses involving economic development and political instability variables and also those involving the societal variables and political instability will be carried out over all seventy-four countries as well as within homogeneous groups of countries. For these within group analyses, nations will be divided into groups on the basis of three separate criteria: economic development level, socio-cultural area, and type of political system. (The countries are listed according to their groups in Appendix I.) Thus, not only will the overall relationships between economic

development and political instability and the societal concepts and political instability be discussed, but these relationships will also be examined within the homogenous groups of nations in each category of economic development, socio-cultural group, and political system type. The object of this within-group analysis will be to determine whether the basic relationships found over all nations differ within different classes of nations.

Data Problems

The difficulties encountered in using the data that have been selected for this study mostly stem from the fact that they are aggregate measures. This is the price that must be paid in order to carry out cross-national comparison. The interest lies in nations and their characteristics; therefore aggregate data must be used. There are those who think that the use of aggregate data necessarily leads to false conclusions about the units being studied. However, it would seem that Erwin Scheuch is correct in stating that aggregate data are legitimately used as long as the unit about which one's conclusions refer is the unit which the aggregate data describe.[39] In other words, if economic development is characterized by aggregate data, then it would be proper for a conclusion reached in data analysis to refer to the economy but improper for the conclusion to refer to any one actor within the economy. This restriction is not carefully followed in cross-national studies, however. Because of the lack of individual data, aggregate data are often used to infer behavior and characteristics of individuals. And conclusions based on aggregate data often involve direct reference to individual behavior. Mention has already been made of both psychological and sociological variables in the general discussion of the area of inquiry of this project. In the recent empirical research on problems of political instability, theorizing has been based primarily on

psychological variables. As we discussed in Chapter I, the well-known theories of frustration-aggression in psychology have been used as the basis of research by several political scientists. Even when not explicitly cited, however, the psychological theory of frustration-aggression is implied in many analyses. In either circumstance, the hypothesized psychological determinants of political instability have been empirically measured mainly by sociological variables. Often, the theoretical leap between the empirical indicator and the psychological variable of interest is very broad. However, this study will not attempt to bridge this gap, since it will deal with the problem on the sociological level. No doubt I will engage in some implicit psychological hypothesizing, since my indicators of political instability are basically actions of individuals. However, I will not attempt to explain every relationship by implying individual attitudes, motivations, and behavior from sociological variables. The conclusions reached in this study will primarily refer to the aggregate units of the economy and political system, thereby avoiding some of the difficulties of using aggregate data.

Other difficulties of aggregate data will remain, however. The collecting of aggregate data is a demanding and expensive task. It is well-known that the quality of aggregate data about nations varies with their level of economic development. Rich nations have the resources and manpower to perfect techniques of data collection and spend large sums in such collection. Obviously, poorer nations cannot devote many resources to data collection. This is a handicap that must be accepted, however, if one wishes to study countries which include those in the lower levels of economic development.

One major problem involved in using aggregate data in cross-national research is that of non-comparability of indicators across nations. The meaning of concepts and their empirical indicators may vary across cultures. This

problem can be partially circumscribed by analyzing data not only across all nations but also within homogeneous categories of nations, the categories being based on similar traits. When the basis of categorizing nations is the socio-cultural background or the type of political system, the problem of at least gross non-comparability can be fairly well overcome. However, when grouping nations on economic data based on indices of welfare, the problem is more difficult to eradicate. The most commonly used measure of economic development level is GNP per capita. Some of the questions of this indicator's comparability across nations have been dealt with in previous sections. These included differences in free market and official exchange rates of the United States dollar, the inclusion of differently valued products in the national accounting of GNP, differences in internal purchasing power of United States dollars, and the understating of valued goods and services in poorer countries. Notwithstanding these difficulties, GNP per capita has been found to be the best existing measure of the level of economic development. If additional measures of the structural differentiation of countries are used, the non-comparability of GNP per capita may be partially overcome in the comparison of levels of economic development. This study includes both GNP per capita measures and indicators of the structural differentiation of the economy.

The reliability of the indicators of conflict behavior was studied by both Rummel and Tanter. Rummel cited the possibility of systematic error in understating acts of political instability because of three factors: news censorship, lack of interest in small countries leading to the under-reporting of their internal conflict by international press services, and the possibility of other more important world events making the report of more minor acts of political instability unlikely.[40] Rummel and Tanter separately tested data covering 1955-1960. Rummel used two measures of systematic error for the

period 1955-57. These consisted of tests of censorship and world interest. He found that error was not systematically correlated with his indicators of conflict.[41] Tanter tested for the possibility of systematic error for the period 1955-1960 with tests of censorship and two different tests of world interest. He too found no systematic correlations between the measures of political instability and the error measures.[42]

The reliability of the indicators of national characteristics other than the economic development indicators already discussed and the political instability measures varies. The variables selected from the Dimensionality of Nations Project and from the World Handbook of Social and Political Indicators were subjected to various tests of error by the original authors. Error varied widely but was generally found to be dependent most upon the level of economic development as has already been discussed. Indicators of national characteristics that were found to be extremely unreliable were not included in this study.

Another data problem that affects even the feasibility of cross-national research is not error in the data already collected but the fact that much data are entirely unavailable. Missing data can force researchers to exclude extremely interesting variables for lack of an adequate number of cases to analyze. The data concerned directly with political instability are complete in this study. However, many of the indicators describing characteristics of nations are not complete. Where data were missing, I tried to seek out further sources for the information. This was a successful approach for filling in missing information about the main indicators of economic development. However, many of the data on national characteristics simply are not available in any sources that I consulted. An attempt was made never to include variables on which data were missing for more than 20% of the countries in the study. When variables which had missing data were included, the result was usually the

elimination from a particular analysis of many of the less developed countries. These countries are usually those for which much data are not available. For the testing of the major hypothesis concerning the relationship between economic development and political instability, however, this study has complete sets of data on all countries.

The final major problem involved in analyzing data on a cross-national basis is that of badly skewed distributions. One of the assumptions of correlation analysis is normal distributions of the variables involved in the analysis. Non-normality affects the correlations in varying ways, depending on the nature of the distributions. The necessity of the assumption of normality is an intensely debated question in statistics.[43] Many social scientists who perform statistical tests of hypotheses using correlation and regression analysis state that although the assumption of normality is necessary for significance tests of correlations, it is not necessary for the simple calculation and reporting of correlations and regression components. Most try to achieve normality in their data, however, by performing transformations of varying types. Even then, distributions may still remain skewed. This is generally the case with data on national characteristics since there are only a few very rich countries and a great many more poor countries each with their varying characteristics. The data on political instability are more evenly distributed. All the data used in this study were examined for normality either by the authors of the data sources or by this author. Where necessary, transformations were performed to try to bring the data into more normal distributions. Many of the distributions are still skewed, however. But since our population of seventy-four countries is the entire population to which our results will refer, no significance tests will be performed thereby avoiding the necessity of normality for performing tests of significance in inferring from a sample to a population.

(The tests of significance of the difference between the polynomial and linear regression models should not be confused here with the common tests of significance of correlations in samples.)

Statistical Techniques

The main concern of this project is an examination of the form and degree of the relationship between economic development and political instability. In addition, because of the assumed complexity of this basic relationship, there is an interest in the effects of other national characteristics on the basic relationship between economic development and political instability. There are a variety of statistical techniques that might be used to examine such relationships. The ones most appropriate for determining the truth of the hypotheses and most appropriate for the nature of the data have been chosen.

The major hypothesis of this project concerns the expected curvilinearity of the relationship between economic development and political instability. It is expected that low levels of political instability occur at both low and high levels of economic development while higher levels of instability occur at middle levels of development. There are several different ways one might try to prove that such a relationship does exist. Nations could be grouped into classes of economic development level and simple statistical tests of differences among groups could be performed. There are also several measures of curvilinearity based on differences among groups. One such measure is the correlation ration, Eta. Nations would have to be grouped on the independent variable in order to determine the value of Eta. Then Eta is most easily interpreted in terms of E^2 which is the ratio of between-group variation to total variation in the dependent variable. Once E^2 is computed, an F test may be performed to test the significance of the difference between E^2 and r^2 to determine if a significant curvilinear relationship does exist. However,

the measure of Eta itself is subject to criticism on the grounds that as the number of groups of the independent variable increase the value of Eta approaches one. Therefore, Eta is affected not only by the actual curvilinearity of the relationship being measured but by the number of groups involved. The measure of curvilinearity chosen for this project overcomes this problem.

The method selected for testing the form as well as the degree of the relationship between economic development and political instability in this project is the determination of the degree of the relationship by the use of correlations based on both simple linear and polynomial regressions. The relationship between the economic development variables and political instability variables is first determined by simple linear regression. Then the independent variable in the regression equation is squared and treated as a second independent variable. The simple regression model is $Y = a + bX_1$. And the polynomial regression model is $Y = a + bX_1 + bX^2$. One may compare the resulting squared simple and multiple correlations to see if the inclusion of the polynomial term has increased the explained variation in the dependent variable. A more statistically sound test of the improvement in explaining the variation in the dependent variable is to perform an F-test of the significance of the decrease in error of prediction. In terms of the sums of squares of the regression, the total sum of squares (SST) may be divided into a portion due to the actual regression of X on Y (SSR) and that portion due to the residual or error (SSE). Adding variables to the regression equation will always reduce the error term, so that a simple statement of the fact that adding the polynomial term to the regression reduced the error term would be misleading. Therefore, a test of significance of the reduction in error or improvement in fit is in order. In other words, it is necessary to

determine statistically whether adding the polynomial term actually results in a better fitting regression line (or curve, in this instance). The F-test used for this determination is the following: $F_{1,\ n-3} = \frac{SSR_2 - SSR_1 \ / \ 1}{SSE_2/d.f.}$, where SSR = the sum of squares due to regression and SSE = the sum of squares due to error.[44] This test is a ratio of the improvement in prediction by inclusion of the polynomial term to the error mean square of the polynomial equation. If F is significant it may be concluded that a curvilinear model is more appropriate than a linear model and may be used to describe the relationship between the variables.

Both simple linear and polynomial regression analysis and the accompanying F-test for the improvement in prediction will be used to test the main hypothesized relationship between economic development and political instability. Since this study includes several different indicators of both economic development and political instability, there will be a large number of regressions to perform. At times political instability measures will be the dependent variables in the regression equations, at other times, the economic development measures will be the dependent variables. In all, there will be seventy-four regressions or thirty-seven pairs (linear and polynomial) to test the basic relationship between economic development and political instability. Hopefully, all possible aspects of the relationship will be tested by these regressions and the F-tests for the significance of the difference between the linear and polynomial models will be sufficiently convincing after testing thirty-seven pairs of regressions to conclude whether the relationship between economic development and political instability is actually curvilinear as hypothesized.

The hypotheses involving the effects of national characteristics on political instability will be tested by stepwise regression analysis. The statistical theory of regression is the same in stepwise as in other varieties

of regression, but the method of entering variables into the equation is different than in straight multiple regression.[45] The aim of the regression analysis involving the indicators of national characteristics (cultural diversity, political capabilities, health, etc.) and their indicators have been discussed in previous sections. All the indicators mentioned in each category will be entered into four separate regression equations with the following dependent variables: total political instability, revolutions (index variable for the dimension of internal war), demonstrations (index variable for the dimension of turmoil), and the number of domestic people killed in all acts of political instability (index of intensity). This will result in sixty-six regression equations. From these equations, the best predictors of political instability in its various forms will be selected. Perhaps some categories of national characteristics will include no variables which are good predictors of political instability. Other categories may include several good predictors. The best predictors of political instability from all categories of national characteristic variables will then be entered into certain of the regression equations involving the main variables indexing economic development and political instability. Assuming all major categories of variables with theoretical relevance to political stability and appropriate indicators of such variables have been included in this analysis, these final equations will hopefully include all the important factors affecting the political stability of nations.

Finally, there are several variables on which nations will be grouped to explore the relationship of economic development and political instability holding these variables constant. These variables are the type of political system, the economic development level, and the socio-cultural group. In each category of variable, nations will be placed into homogeneous groups

and certain regression equations will be determined for the relationship between variables within the groups. It will be interesting to see whether the basic relationships among variables that are found over all nations vary according to the level of economic development, the type of political system, or the nature of the socio-cultural background of the nations. To determine the nature of these within-group relationships, it will be necessary to perform separate regressions within the homogeneous groups. Selected regressions involving the relationship between economic development and political instability will be performed within each group in each of the three categories. Then, the final equations selected for the total population on the basis of the inclusion of the additional predictors of political instability will be examined within each of the categories. Finally, since one of the main theoretical bases of this project is a concern for the nature of the capabilities of political systems, regressions involving measures of political capabilities will be run to see if capabilities affect political instability differently in different types of nations. All these regressions will total approximately 134 additional equations. The desired result of the examination of all these regression equations is a final determination of the relationship between economic development and political instability, taking into account various national characteristics and homogeneous groupings of nations with their possible differing effects on the relationship between economic development and political instability.

NOTES FOR CHAPTER II

[1]The population used in this study was originally defined by Raymond Tanter. See Raymond Tanter, "Dimensions of Conflict Behavior within Nations, 1955-60: Turmoil and Internal War," Peace Research Society (International) Papers, Vol. III (1965), pp. 159-184.

[2]Adam Przeworski and Henry Teune, "Equivalence in Cross-National Research," Public Opinion Quarterly, Vol. 30, No. 4 (Winter, 1966-67), p. 553.

[3]Feierabend and Feierabend, op. cit., p. 250.

[4]Rudolph J. Rummel, "Dimensions of Conflict Behavior within and between Nations," General Systems Yearbook, Vol. 8 (1963), p. 4 (Author's italics).

[5]Ibid., p. 5.

[6]Ibid.

[7]Tanter, op. cit. In this work, Tanter also examined the reliability of the Rummel internal conflict indicators. He compared his results to factor analyses of conflict data collected independently by Harry Eckstein and found that the same two conflict dimensions resulted from both sets of data. Rummel has also compared factor analyses of his conflict data with the Eckstein data and found the indicators falling in the same dimensions. See Rudolph Rummel, "Dimensions of Conflict Behavior within Nations, 1946-59," Journal of Conflict Resolution, Vol. X, No. 1 (March, 1966), pp. 65-73.

[8]Helio Jaguaribe, Economic and Political Development: A Theoretical Approach and a Brazilian Case Study (Cambridge: Harvard University Press, 1968), p. 5.

[9]See Simon Kuznets, Modern Economic Growth: Rate, Structure, and Spread (New Haven: Yale University Press, 1966) for the most thorough treatment of economic development in modern history.

[10]Norton Ginsburg, Atlas of Economic Development (Chicago: University of Chicago Press, 1961), p. 1.

[11]There are several techniques for including additional variables in statistical analysis. If the interest lies in the effect of one main variable on another while taking into account the separate effects of other variables, partial correlation may be used to "hold constant" these other variables. If, however, the interest lies in the combined effects of several variables, multiple correlation is the most appropriate statistical technique. Because it is believed that the relationship between economic development and political stability is complex and dependent on the simultaneous operation of many variables, an attempt will be made to determine what the other important variables are and what their role is in the basic relationship between economic development and political stability.

[12]Although the various societal and economic variables that enter the final regression equation might be correlated, the stepwise multiple regression technique used in this study handles the problem of lack of independence by entering variables into the equation in the following way: The best predictor of the dependent variable enters first (that is, the independent variable which explains most variation in the dependent variable enters first). Then the variable which has already entered is held constant while partial correlations are determined for each of the remaining variables with the dependent variable. The variable which then explains the most additional variation in the dependent variable then enters the equation. These two variables are then held constant as partials are determined for the rest of the remaining variables, and the third variable to enter is that which explains the most additional variation in the dependent variable. This process continues until all statistically significant variables have entered. Thus, with the exception of the first entering variable, the variables are entered into the regression equation on the basis of their individual contributions to explaining variation in the dependent variable, regardless of whether or not they are intercorrelated themselves.

[13]Ulla Olin, "Social Unrest, Population Growth and Economic Development," Social Research, Vol. 33, No. 1 (Spring, 1966), p. 86.

[14]Shanti Tangri, "Urbanization, Political Stability, and Economic Growth," India's Urban Future, ed. Roy Turner (Berkeley: University of California Press, 1962), p. 200.

[15]Ibid., p. 208.

[16]Huntington, op. cit., p. 299.

[17]Charles Tilly, "Collective Violence in European Perspective," in The History of Violence in America, ed. Graham and Gurr, pp. 4-45.

[18]Bruce Russett, et al., World Handbook of Political and Social Indicators (New Haven: Yale University Press, 1964). Data from the Russett study were taken directly from computer tape and were spot-checked against data in the Russett book.

[19]The Dimensionality of Nations Project is an extensive attempt to collect data on 236 variables for all nations. Under the direction of Rudolph Rummel, the "DON" project has been discussed in many writings. See especially Sawyer, op. cit.; Rummel, "Indicators of Cross-National Patterns," op. cit.; and Rudolph Rummel, "The DON Project: A Five Year Research Program" (Research Report No. 9; University of Hawaii: Dimensionality of Nations Project, no date given).

[20]"Calories required" have been estimated for each country by the United Nations on the basis of average body build, work load, and climate.

[21]Russett, op. cit., p. 221.

[22]Norton Ginsburg, Atlas of Economic Development, p. 64.

[23]It could be argued that communist countries may have low rates of private consumption while still satisfying the population's economic needs through public expenditures. However, in the data I used the communist countries ranged from 72.9% private consumption to 55.8% private consumption, while "capitalist" countries ranged form 86% to 58.1%. The United States had 63.7% private consumption while West Germany had 58.7% private consumption. In general the failure of the communist countries to rank below the "capitalist" countries in private consumption as a percentage of GNP would tend to answer the argument against using this indicator because of the "inherent difference" of satisfying the population's economic needs under different economic systems.

[24]See note 23.

[25]See note 20.

[26]Of course, the multiple regression components show no direction of correlation, so that a confirmation of the hypothesis would require examining both the amount of variation explained plus the signs of the individual correlations between the education indicators and political instability variables.

[27]For example, Lipset, op. cit., p. 64, Johnson, op. cit., p. 12; and Needler, op. cit., p. 46.

[28]For example, Huntington, op. cit., p. 12 and Zolberg, op. cit.

[29]For example, see Lipset, op. cit., and Easton, op. cit.

[30]For example, see Huntington, op. cit.

[31]Gabriel Almond, "A Developmental Approach to Political Systems," World Politics, Vol. XVII, No. 2 (January, 1965), p. 206.

[32]For example, see Gurr and Ruttenberg, op. cit., pp. 64-66 and Michael C. Hudson, "Some Quantitative Indicators for Explaining and Evaluating National Political Performance," paper given at the 1967 annual meeting of the American Political Science Association, Chicago, September 5-9, 1967. (Mimeograph), pp. 19-21.

[33]The DON rating of political centralization is a sum of the two following ratings: for municipalities, 0 = council and executive appointed by higher units, or council indirectly elected and executive appointed from above, 1 = council indirectly elected and executive appointed or elected by the council, or council directly elected but executive appointed from above, or council indirectly elected or appointed from above while executive is popularly elected, 2 = council directly elected and executive elected by council or people, or appointed by council; for intermediate government structures, 0 = council advisory and appointed or elected indirectly and executive elected by council or appointed from above or there is no council and the executive is appointed, 1 = council advisory and elected and executive is appointed from above, or executive elected by people and council appointed from above, 2 = council directly elected and governing authority and executive appointed or elected by council or people.

[34]H. L. Nieburg, Political Violence: The Behavioral Process (New York: St. Martin's Press, 1969), p. 138.

[35]Rudolph J. Rummel, Dimensions of Conflict Behavior within and between Nations (Evanston, Illinois: Northwestern University, mimeograph, 1963) and Raymond Tanter, "Dimensions of Conflict Behavior within and between Nations, 1958-1960" (Bloomington: Indiana University, unpublished Ph.D. dissertation, 1964).

[36]"Belligerent" conflict is described by Raymond Tanter (who found three different dimensions of foreign conflict--belligerency, diplomatic, and war) as emotional activity in conflict with other states. See Tanter,"Dimensions of Conflict Behavior within and between Nations 1958-1960," p. 40.

[37]"Diplomatic" conflict is one of the three foreign conflict dimensions found by Tanter. This type of conflict is defined by Tanter as "... activities of a non-violent nature, e.g. diplomatic moves short of the use of force which are intended to influence other nations." See Tanter,"Dimensions of Conflict Behavior within and between Nations, 1958-1960, p. 39."

[38]"War" is the third foreign conflict dimension found by Tanter and defined as "... activities which index the preparation for war, war itself, and its consequences." See Tanter, "Dimensions of Conflict Behavior within and between Nations, 1958-1960," p. 39.

[39]Erwin K. Scheuch, "Cross-National Comparisons Using Aggregate Data: Some Substantive and Methodological Problems," Comparing Nations: The Use of Quantitative Data in Cross-National Research, ed. Richard L. Merritt and Stein Rokkan (New Haven: Yale University Press, 1966), pp. 131-167.

[40]Rudolph J. Rummel, "Dimensions of Conflict Behavior within and between Nations," General Systems Yearbook, p. 6.

[41]Ibid.

[42]Tanter, "Dimensions of Conflict Behavior within and between Nations, 1955-60," p. 165.

[43]R. C. Norris and H. F. Hjelm, "Non-normality and the Product-moment Correlation," Journal of Experimental Education, Vol. 29, No. 3 (March, 1961), pp. 261-270; M. D. Nefzger and J. Drasgow, "The Needless Assumption of Normality in Pearson's r,'" American Psychologist, Vol. XII, No. 10 (October, 1957), pp. 623-625; J. E. Milholland, "Comment on 'The Needless Assumption of Normality in Pearson's r,'" American Psychologist, Vol. XIII, No. 9 (September, 1958), pp. 544-546; and Arnold Binder, "Consideration of the Place of Assumptions in Correlational Analysis," American Psychologist, Vol. XIV, No. 8 (August, 1959), pp. 504-510.

[44]I am grateful to Dr. Foster Cady of the Department of Statistics, University of Kentucky for suggesting this test of significance to me.

[45]In regular multiple regression, the independent variables are entered into the equation at the researcher's discretion. In stepwise multiple regression, the independent variables initially selected by the researcher are entered into the equation in their order of importance in accounting for the explained variation in the dependent variable. The first independent variable entered is the one which explains the most variation in the dependent variable. After this, partial correlations are calculated to take out the influence of the already entered variables. Then, further variables are entered according to their order in explaining the most additional variation in the dependent variable, with partial correlations being re-calculated at each step. The calculation of the regressions for this project was performed by an IBM 360 computer using the UCLA Biomedical program for stepwise multiple regression, BMD02R. This program was revised by Mr. James Watts of the University of Kentucky Computer Center to allow for missing data. I am grateful to Mr. Watts for his help.

CHAPTER III

RESULTS OF ANALYSIS

Main Hypothesis

The major concern of this study has been the examination of the nature of the relationship between economic development and political stability. The major hypothesis stated in the previous chapter was that there is a curvilinear relationship between economic development and political stability, with low levels of instability occurring at both low and high levels of economic development and higher levels of political instability occurring at middle levels of economic development. The expectation that this relationship holds is based on the nature of the interdependencies of the political and economic systems and on an examination of the results of research concerning the relationship. As noted previously, however, the research of other authors has not included any precise tests of actual curvilinearity. This study was designed in part to overcome that weakness. By using a significance test of the difference between linear and curvilinear models of the relationship, it is hoped that a more precise examination of the relationship may be made.

Before discussing the results of the tests of curvilinearity, it would be useful to review the indicators of economic development and political instability as well as to report the simple correlations between the indicators of economic development and political instability. The main indicator of economic development used in this study is GNP per capita. This measure was used in the various correlation and regression analyses for three separate years. The GNP per capita in 1955 was included in analyses aimed at interpreting the effect of economic development on political stability. Where the effect of political

stability on economic development was of more interest, GNP per capita in 1963 was used. Finally, GNP per capita in 1958 was used as an indicator of economic development when the mutual effects of such development and political instability were being examined. The structural characteristics of economic development were measured by the percentage of the labor force employed in agriculture. Figures for 1955 were used when the effect of economic development on political stability was being examined, and figures for 1960 were used when the effects of political instability on economic development were being examined. Finally, the growth rate of GNP per capita from 1950 to 1955 was included in the analyses when the effects of the rate of economic development on political stability was being sought. And the GNP per capita growth rate from 1955 to 1960 was used when the effects of economic growth and political instability on each other were being investigated. The use of time-lagged data in studying the effects of one variable on another does not, of course, lead to definitive conclusions about causality. Especially when such complicated matters as economic development and political instability are involved, one cannot make firm causal statements simply because one variable preceded another. There are too many extraneous variables involved in such relationships to say that one variable caused another simply because it preceded it in time. However, the use of data for different periods of time over many variables may lead to interesting suggestions of the possibilities of certain variables helping to cause variations in others.

The indicators of political instability cover one period of time, 1955 to 1960. The major indicators are total conflict, demonstrations (indexing the dimension of turmoil), revolutions (indexing the dimension of internal war), and the number of domestic people killed (measuring intensity). Each of these variables was entered into regression equations with each of the

economic development indicators. In addition, GNP per capita in 1955 was entered into regressions with the additional five indicators of political instability originally devised by Rummel. This procedure was taken to insure that none of the indicators being left out of the study were more important than those included. In total, there were thirty-seven linear regressions and simple correlations and thirty-seven curvilinear regressions and multiple correlations.

It would be helpful to preface the analysis of curvilinearity with a discussion of the strength of the basic linear correlations. Of the simple correlations listed in Table 1, less than half exceeded $\pm$ .30 and only two are greater than $\pm$ .50. Although the correlations are small, they are consistently in the generally expected direction for linear correlations. Higher levels of political instability appear to occur with lower levels of economic development as measured by GNP per capita (negative correlations) and as measured by the percentage of the labor force engaged in agriculture (positive correlations). The only exception to the predicted relationships is in the case of demonstrations, whose low correlations with the economic development variables are in the opposite direction from the correlations of other instability variables with economic development variables.

In addition to the correlations listed in Table 1, the additional five indicators of political instability which were excluded from the main body of this study were correlated with GNP per capita in 1955. None of these correlations were above $\pm$ .30· assassinations, -.250; general strikes, -.068; government crises, -.225, purges, -.270; and riots, -.164. These small correlations are in the generally expected direction, indicating that there is some slight relationship between lower levels of economic development and higher levels of political instability.

Table 1

Simple Correlations between Economic Development Indicators and Political Instability Indicators

(N = 74)

Economic Development Variables	Political Instability Variables			
	Total Conflict	Revo-lution	Demon-strations	Number Killed
GNP p.c. 1955	-.302	-.565	+.039	-.417
GNP p.c. 1958	-.153	-.453	+.104	-.343
GNP p.c. 1963	-.206	-.505	+.014	-.374
Agri. labor/labor force, 1955	+.169	+.406	-.057	+.310
Agri. labor/labor force, 1960	+.086	+.409	-.131	+.303
GNP p.c. growth rate, 1950-55	-.264	-.392	+.021	-.134
GNP p.c. growth rate, 1955-60	-.258	-.358	-.107	-.150

As one may see upon examining Table 1, revolution consistently has the highest correlations with the economic development variables. At this preliminary stage of the analysis we may conclude that revolutions appear to occur more frequently at lower levels of GNP per capita and with higher proportions of the labor force engaged in agriculture. The relationship to GNP per capita is not stable, however, with the strongest correlation occurring with the 1955 data and the weakest with the 1958 data. This lower correlation in terms of the 1958 data also occurs with the measures of total conflict and number killed. This pattern suggests that present levels of economic development are not as important in determining political stability as earlier levels, suggesting a time lag relationship between economic development and political instability.

The 1963 correlations with total conflict, revolutions, and number killed are higher than the 1958 correlations but lower than the 1955 correlations indicating that political instability is not quite as strongly associated with later economic development as economic development is associated with later political stability. Although the correlations of demonstrations with GNP per capita in all three years are negligible, it is interesting to note that the pattern is again reversed for this variable. The correlation of demonstrations with the 1958 data is the highest of the three correlations.

Next to revolutions, the number killed has the highest correlations with GNP per capita. All are above -.30, indicating that there is a moderate association between lower levels of economic development and larger numbers of people killed in all forms of domestic conflict. Total conflict has fairly low correlations with GNP per capita, with only one above -.30. And demonstrations has negligible correlations with GNP per capita in all three years, but they are in the opposite direction from the correlations involving the other political instability variables. These correlations indicate a very slight tendency for more demonstrations to occur at higher levels of economic development.

The patterns concerning the strength of the correlations is the same when the structural characteristics of the economy are examined. It was expected that the linear relationships would indicate higher levels of political instability accompanying higher percentages of labor employed in agriculture. The positive correlations are true in all but the case of demonstrations where the negative correlations are negligible. Again, revolution has the highest correlations, which are fairly stable over the lapse of time. The number killed has the next best correlations, which are also stable over time. And total conflict has very low correlations although they are in the predicted direction.

The patterns of correlations involving the rate of growth of GNP per capita are slightly different from the patterns concerning the indicators of level of economic development. Except for one positive correlation involving demonstrations, there appears to be a very weak association between higher rates of growth and lower levels of political instability. The correlations are too low to warrant any exact conclusions, however. Only in the case of revolutions are the correlations moderate. Again, it is interesting to note that the correlations remain fairly stable from the 1950-55 time period to the 1955-60 time period, indicating that both previous and present rates of growth have the same effect on political stability, even if that effect is very small.

The correlations just reviewed are for all seventy-four nations of this study. To determine whether these basic linear relationships hold for different types of nations, selected relationships were examined within homogeneous groups of nations according to economic development level, political system type, and socio-cultural groups.[1] The conflict measures included in this part of the analysis are total conflict, as a measure of overall conflict patterns, and revolutions, as the best predicted individual indicator of conflict found in the regression equations. The results of the correlation analysis within groups is found in Tables 2, 3, and 4. Of the ninety-nine correlations in the tables, less than half (forty-two) are above $\pm.30$ and only twelve are above $\pm.50$. This, however, is a slightly better percentage of moderate to high correlations than in the overall analysis. Within each grouping the strength of the correlations varies. Only 37% of the correlations within the three economic development groups are $\pm.30$, whereas 41% of the political system groups' correlations and 47% of the socio-economic groups' correlations are $\pm.30$.

Although the correlations within the economic development groups are not generally high, the patterns of relationships are interesting.[2] The correlations between economic development indicators and total conflict and revolutions are generally lowest in the low economic development category. In this low group the relationships between GNP per capita in both 1955 and 1960 with total conflict are in the opposite direction of the same correlations in the overall population. The correlation between GNP in 1955 and revolutions is negative as in the overall population. It would seem that total conflict occurs more frequently at the higher economic development level within this low group. In light of our assumptions about curvilinearity, it might be conjectured that as higher levels of economic development are reached within the lowest economic development level, total conflict increases while revolution decreases. Looking at the low and medium columns in Table 2 gives this impression. The positive correlations between GNP per capita and total conflict are negative in the medium group, signifying that within this group more conflict occurs at the low level, perhaps among those nations just entering the medium group from the lowest group. And the negative correlation between revolutions and GNP per capita is stronger within the medium group, suggesting that higher levels of economic development are accompanied by lower levels of revolution, a trend also seen within the lowest group. Finally, within the highest economic development group the small to moderate correlations are all in the predicted direction of higher levels of economic development occurring with lower levels of political instability. The correlations involving total conflict are stronger in this group than within the overall population while the correlation involving revolution is much lower than in the overall population.

Table 2

Simple Correlations between Selected Economic Development and Political Instability Variables: Within Economic Development Groups

Economic Development Variables	Economic Development Level: Low (N = 25) Total Conflict	Low (N = 25) Revolution	Medium (N = 22) Total Conflict	Medium (N = 22) Revolution	High (N = 27) Total Conflict	High (N = 27) Revolution
GNP p.c., 1955	+.036	-.231	-.489	-.430	-.346	-.195
GNP p.c., 1963	+.308	--	-.473	--	-.517	--
Agricultural Workers/Labor Force, 1955	-.266	-.265	-.108	+.239	+.295	+.060
Agricultural Workers/Labor Force, 1960	-.182	-.023	-.068	+.175	+.253	+.082
GNP p.c. Growth Rate, 1950-55	-.418	--	-.476	--	-.012	--
GNP p.c. Growth Rate, 1955-60	-.408	--	-.441	--	-.003	--

Table 3

Simple Correlations between Selected Economic Development and Political Instability Variables: Within Political System Groups

Economic Development Variables	Political System Groups: Centrist (N = 24) Total Conflict	Centrist (N = 24) Revolution	Personalist (N = 15) Total Conflict	Personalist (N = 15) Revolution	Polyarchic (N = 31) Total Conflict	Polyarchic (N = 31) Revolution
GNP p.c., 1955	+.098	-.537	+.125	+.086	-.482	-.580
GNP p.c., 1963	+.205	--	+.183	--	-.489	--
Agricultural Workers/Labor Force, 1955	-.334	+.024	-.236	-.098	+.381	+.586
Agricultural Workers/Labor Force, 1960	-.410	+.178	-.463	-.202	+.434	+.630
GNP p.c. Growth Rate, 1950-55	-.151	--	-.772	--	-.031	--
GNP p.c. Growth Rate, 1955-60	-.250	--	-.172	--	+.049	--

Table 4

Simple Correlations Between Selected Economic Development and Political Instability Variables. Within Socio-Cultural Groups

Economic Development Variables	Socio-Cultural Groups									
	Asian (N=17)		Latin (N=19)		E. European (N=12)		W. European (N=16)		Anglo-Saxon (N=8)	
	Total Conflict	Revo-lution	Total Conflict	Revo-lution	Total Conflict	Revo-lution	Total Conflict	Revo-lution	Total Conflict	Revo-lution
GNP p.c., 1955	-.222	-.515	-.050	-.159	-.028	-.843	-.351	-.496	-.360	-.830
GNP p.c., 1963	-.090	--	+.128	--	+.310	--	-.393	--	-.465	--
Agricultural Workers/Labor Force, 1955	-.335	+.023	-.156	+.176	-.189	-.193	+.325	+.705	+.248	+.346
Agricultural Workers/Labor Force, 1960	-.115	+.272	-.008	+.151	-.177	+.379	+.166	+.443	+.303	+.504
GNP p.c. Growth Rate, 1950-55	+.739	--	-.607	--	-.241	--	+.357	--	-.244	--
GNP p.c. Growth Rate, 1955-60	-.336	--	+.261	--	-.086	--	+.039	--	-.093	--

The structural indicators of economic development are generally correlated less highly with total conflict and revolutions than the GNP per capita indicators. Again, however, the patterns among the three economic development groups are interesting. While in the total population the percentage of agricultural workers in the labor force was positively correlated with both revolution and total conflict, these correlations are all negative in the lowest economic development group. This indicates that there is a weak relationship within this group between low economic development and low conflict. This would be consistent with a curvilinear model. We might imply from these low negative correlations that as economic development proceeds, conflict increases. Upon examining the correlations of agricultural workers to conflict within the medium group, it can be seen that the correlations with total conflict are negative but are lower than the negative correlations in the lowest group. They are low enough to conclude that there is not a very good connection between the structural features of economic development in the medium level and total conflict. The correlations with revolutions are stronger but are positive, as in the predicted direction. The positive relationships are repeated in the highest economic development level. Although the correlations are small, they indicate that within this group there is a slight tendency for more conflict to occur at lower levels of development. The combination of the negative correlations at the lowest development level seeming to push the higher levels of conflict toward the medium development levels and the positive correlations at the highest development levels pushing the higher levels of conflict from the other end towards the middle development level gives a weak confirmation of a curvilinear model. The correlations are low enough, however, to make it necessary to deny any final claims for a curvilinear model.

When nations are categorized on the basis of their political system, the correlations between economic development variables and political instability are stronger than in the economic development groups.[3] In the nations characterized as centrist (including all communist, authoritarian, and totalitarian states), the relationship of total conflict to GNP per capita and to the percentage of agricultural workers is opposite to that in the overall population. The correlations are all very weak but all are in the positive direction indicating a very slight tendency for higher levels of conflict to occur at higher levels of economic development within this group. The relationship of revolution to GNP per capita within the centrist group is very similar to that in the overall population, while the relationship of revolution to the percentage of workers in agriculture is much weaker than in the overall population. Thus, while total conflict appears to increase with higher levels of economic development in the centrist nations, revolutions decrease as higher levels of economic development are achieved. It would appear that as economic development progresses, the centrist regimes themselves become more widely accepted or more repressive, which leads to fewer revolutions. But smaller scale conflict increases.

Within the personalist group, the relationship between economic development variables and political instability is completely reversed from the pattern in the overall population. The personalist nations, those in which central political authority is highly personalized, are characterized by fairly low positive correlations with GNP per capita and slightly higher negative correlations with the percentage of the labor force in agriculture. This indicates a slight tendency for higher conflict and revolutions to occur at higher levels of economic development. It appears that Huntington's thesis that highly personalized modernizing systems invite political instability by

the necessity of centralizing power to bring about reform holds true for these personalist regimes.[4] As economic development proceeds, perhaps in part by the efforts of the personalist leader, political instability seems to increase.

The polyarchic political systems, comprised mainly of Western democratic nations, have consistently stronger correlations between the economic development variables and political instability variables than in the overall population. All the correlations are in the predicted direction, indicating that there is a fairly strong correlation between higher levels of political stability and high levels of economic development. Since most of the polyarchic systems are also highly developed economically, it is interesting to note that the correlations for the polyarchic group are for the most part stronger than those of the high economic development group. This might seem to indicate that the political factor of type of political system strengthens the relationship between high economic development and low political instability. The variations in strength and direction of the correlations between economic development variables and political instability variables among the three different political system groups also leads one to believe that the type of political system has some bearing on the nature of the relationship between economic development and political instability.

Turning to the socio-cultural groupings in Table 4, it can be seen that the majority of the correlations are in the predicted direction.[5] This is also the grouping that has the best percentage of moderate to strong correlations. The correlations between GNP per capita and total conflict in the Asian group are very small but in the predicted direction. The relationship of GNP per capita to revolutions is stronger, indicating a moderate relationship between lower economic development and higher amounts of revolutions.

The correlations involving the percentage of the labor force in agriculture are negative for total conflict in the Asian group. This indicates a very slight relationship between low levels of structural economic development and lower total conflict. The correlations with total conflict are all low enough to be considered inconclusive, however. The correlations between agriculture workers and revolution in the Asian group are in the predicted direction but are very small. The Latin group also has very small correlations between all economic development variables and political instability variables. Not even revolution, which shows a strong correlation with GNP per capita in the other socio-cultural groups, has even a moderate relationship with economic development. This is the major difference between the Latin group and the other socio-cultural groups. This difference might be explained by this group's high loading on the group-based factor of Catholic culture, which instills submission to the authority of the Church and perhaps extends to submission of authority for the political regime. Or perhaps a more simple explanation lies in the possibility that so many revolutions and coups have occurred within this group that economic development level indeed makes no difference at all.

Within the East European group, the correlations among the economic development variables and total conflict range from negligible to moderate. They are mostly in the opposite direction from that predicted, however, indicating that there is a slight tendency within this group for more total conflict to occur at higher economic development levels. There is a very high correlation in the negative direction between GNP per capita and revolution. This correlation of -.843 is much higher than in the overall population, showing that there is a much stronger tendency for more revolutions to occur at lower economic development levels within this group than is true in the overall population. The correlations between agricultural workers and

revolutions in this group cloud the clear relationship stated above, however. There is a small negative correlation between agricultural workers in 1955 and revolutions while the correlation is moderately positive for the economic data of 1960. This may appear to indicate that although the general level of the economy in 1955 (as indicated by GNP per capita) was important for revolution, the structural features had negligible importance in 1955 and did not seem to increase in importance until several years later.

The West European and the Anglo-Saxon groups both have all correlations in the predicted direction, indicating moderate relationships between higher economic development and lower levels of political instability. Within the West European group the correlations between GNP per capita and total conflict are slightly higher than in the total population, while the correlation between GNP and revolution is slightly lower than in the overall population. However, the correlations between agricultural workers and both total conflict and revolutions are higher than in the general population. This indicates that within the West European group, the structural features of economic development are slightly more important for the occurrence of political instability. It would appear, therefore, that in these generally very densely populated countries, the placement of the population in the various sectors of the economy is more important to political stability than the level of income. However, population density cannot account for the entire difference since the structural features are also more important for political stability in the Anglo-Saxon countries, some of which are sparsely populated. (The results of the analysis of the Anglo-Saxon countries must be considered very cautiously, however, since the number of cases is so small). In addition to the importance of the structural features of economic development, the level of income is also important in the Anglo-Saxon countries. The correlations

between GNP per capita and total conflict are slightly higher in this group than in the total population, and the correlation with revolution is very much higher. This indicates that in these generally democratic, wealthy Anglo-Saxon nations political instability tends to be low at high levels of development and that revolutions almost never occur among the most highly economically developed.

Finally, it is interesting to note that in the great majority of cases in all groupings the relationship between the growth rate of GNP per capita and political instability is in the same direction as in the overall population. This indicates a general tendency for high rates of economic growth and low levels of political instability to occur together. This relationship is stronger in both the low economic development and medium development categories than in the general population but negligible in the highly developed group. This leads to the conclusion that in the developing countries rapid economic growth both creates the resources to meet demands and holds out the probability of a better life in the near future, whereas at the highest level of development the rate of growth is less meaningful for the population's behavior regarding acts of political instability. Again, in the polyarchic nations, many of which are already wealthy, there is a negligible relationship between the rate of economic growth and political instability. There is also a very small negative relationship within the centrist group, indicating that the rate of growth has little effect on political stability in these authoritarian and totalitarian states. Perhaps the populations of these nations are accustomed to the restrictions placed upon their ways of life so that the rate of economic growth is less meaningful to them. A very interesting pattern appears in the personalist group. The growth rate of 1955-60 has a very small negative correlation with total conflict, while the growth rate from 1950 to

1955 shows a very high correlation of -.772. This would appear to indicate that the present rate of growth is not as important to political stability as is past economic achievement in the personalist system.

Several positive relationships occur between the rate of economic growth and political instability in the socio-cultural groups. The Asian nations show a high positive correlation between growth rate from 1950 to 1955 with total conflict, indicating that high levels of political instability accompany high prior rates of growth. However, this relationship is reversed when rates of growth from 1955 to 1960 are used. Apparently, the destabilizing effects of high growth rates on political stability requires a time lag. In the Latin group the opposite relationship occurs. High growth rates from 1950 to 1955 occur with low levels of total conflict in 1955-60. But there is a slight tendency for high growth rates from 1955 to 1960 to accompany high levels of conflict. The East European and Anglo-Saxon groups both have very small negative correlations between rates of growth in both time periods and total conflict. But the East European group has small to moderate positive correlations with total conflict, indicating that high rates of growth occur with high levels of political instability. This review of the results of the correlational analysis involving growth rates and political instability leads to the conclusion that the authors who state that rapid growth is destabilizing are not upheld by these results. Both overall and in most of the groups, the tendency is for rapid economic growth to be accompanied by low levels of political instability. As has been discussed, however, there are some exceptions to this general trend.

In concluding the discussion of the basic relationship found between economic development and political instability, the direct tests of the main hypothesis will now be examined. This main hypothesis states that there is

a curvilinear relationship between economic development and political stability, with low levels of political instability occurring at both high and low levels of economic development and higher levels of political instability occurring at middle levels of economic development. To test this hypothesis, a direct test of the difference between a curvilinear regression model and a linear regression model was chosen. The direct test involves an F-test of the difference between the regression sum of squares of the linear equation and the regression sum of squares of the polynomial regression equation, with the polynomial equation using the square of the first independent variable as the second independent variable. This adds the parabolic curve which describes the hypothesis to the regression analysis. It may be recalled that thirty-seven simple correlations based on linear regressions were determined. These correlations involved variables describing both growth and structural features of economic development and variables indicating various kinds of political instability. The independent variable of each regression equation was then squared and entered into a second multiple regression equation as two separate variables. The resulting r, R, R^2, and increase in R^2 can be seen in Table 5. An examination of the difference between the r and R of the linear and polynomial models for each set of variables shows that there are very few large increases in R^2. In fact none of the polynomial terms adds more than 7.5% to the explanation of the variation of the dependent variable. And only six polynomial terms add more than 4%.

The question remains whether any of the increases in the correlations, large or small, are statistically significant thereby proving the validity of the curvilinear model. Of the thirty-seven pairs of regressions subjected to the F-test for the significance of the increase in the regression sum of squares, only six increases are significant at the .10 level and only five of

Table 5

Results of Linear and Polynomial Regressions: r, r^2, R, R^2, Increase in R^2, and F

Linear Regression Variables (X_1, Y)	r	r^2	Polynomial Regression Variables (X_1, X_2, Y)	R	R^2	Increase in R^2	F[a]
GNP p.c. 1955			GNP p.c. 1955^2	.3094	.0957		
Total Conflict	-.302	.090	GNP p.c. 1955	.3168	.1003	.0046	.6993
			Total Conflict				
Total Conflict			Total Conflict	.2061	.0425		
GNP p.c. 1963	-.206	.043	Total $Conflict^2$	.2949	.0870	.0445	3.459*
			GNP p.c. 1963				
Agricultural Workers/Labor Force, 1955			Agri. Workers, 1955	.1694	.0287		
			Agri. Workers, 1955^2	.2262	.0512	.0225	1.563
Total Conflict	+.169	.028	Total Conflict				
Total Conflict			Total Conflict	.0858	.0074		
Agricultural Workers/Labor Force, 1960	+.086	.007	Total $Conflict^2$	.2873	.0825	.0752	5.809**
			Agri. Workers, 1960				
GNP p.c. 1958			GNP p.c. 1958^2	.1749	.0306		
Total Conflict	-.153	.024	GNP p.c. 1958	.2837	.0805	.0499	4.405**
			Total Conflict				
GNP p.c. Growth Rate, 1950-55			GNP p.c. Growth Rate, $1950\text{-}55^2$	.2667	.0711		
Total Conflict	-.264	.069	GNP p.c. Growth Rate, 1950-55	.2668	.0712	.0001	.0026
			Total Conflict				

Table 5 (Continued)

Linear Regression Variables (X_1, Y)	r	r^2	Polynomial Regression Variables (X_1, X_2, Y)	R	R^2	Increase in R^2	F[a]
Total Conflict GNP p.c. Growth Rate, 1955-60	-.258	.067	Total Conflict Total Conflict^2 GNP p.c. Growth Rate, 1955-60	.2583 .2583	.0667 .0667	0	0
GNP p.c. Growth Rate, 1955-60 Total Conflict	-.258	.067	GNP p.c. Growth Rate, 1955-60^2 GNP p.c. Growth Rate, 1955-60 Total Conflict	.2677 .2717	.0717 .0738	.0021	.5428
GNP p.c. 1955 Revolution	-.565	.319	GNP p.c. 1955 GNP p.c. 1955^2 Revolution	.5648 .5713	.3190 .3264	.0073	.7333
Revolution GNP p.c. 1963	-.505	.255	Revolution Revolution^2 GNP p.c. 1963	.5048 .5507	.2549 .3033	.0484	4.948**
Agricultural Workers/Labor Force, 1955 Revolution	+.406	.165	Agricultural Workers, 1955 Agricultural Workers, 1955^2 Revolution	.4058 .4131	.1646 .1707	.006	.4736

Table 5 (Continued)

Linear Regression Variables (X_1, Y)	r	r^2	Polynomial Regression Variables (X_1, X_2, Y)	R	R^2	Increase in R^2	F[a]
Revolution Agricultural Workers/Labor Force, 1960	+.409	.167	Revolution Revolution^2 Agricultural Workers, 1960	.4090 .4707	.1673 .2215	.0542	4.945**
GNP p.c. 1958 Revolution	-.4526	.205	GNP p.c. 1958^2 GNP p.c. 1958 Revolution	.4569 .4575	.2087 .2093	.0006	.4022
GNP p.c. Growth Rate, 1950-55 Revolution	-.392	.154	GNP p.c. Growth Rate, 1950-55^2 GNP p.c. Growth Rate, 1950-55 Revolution	.3968 .3975	.1575 .1580	.0005	.1860
Revolution GNP p.c. Growth Rate, 1955-60	-.358	.128	Revolution Revolution^2 GNP p.c. Growth Rate, 1955-60	.3576 .3723	.1278 .1386	.0108	.8875
GNP p.c. Growth Rate, 1955-60 GNP p.c. Growth Rate, 1955-60^2	-.358	.128	GNP p.c. Growth Rate, 1955-60 GNP p.c. Growth Rate, 1955-60^2 Revolution	.3576 .3577	.1278 .1280	.0001	.0104
GNP p.c. 1955 Demonstrations	+.039	.002	GNP p.c. 1955 GNP p.c. 1955^2 Demonstrations	.0387 .1195	.0015 .0143	.0128	.8669

Table 5 (Continued)

Linear Regression Variables (X_1, Y)	r	r^2	Polynomial Regression Variables (X_1, X_2, Y)	R	R^2	Increase in R^2	F[a]
Demonstrations GNP p.c. 1960	+.014	.0001	Demonstrations Demonstrations^2 GNP p.c. 1960	.0141 .0232	.0001 .0005	.0004	.323
Agricultural Workers/Labor Force, 1955 Demonstrations	-.057	.003	Agricultural Workers, 1955^2 Agricultural Workers, 1955 Demonstrations	.0701 .0861	.0049 .0074	.0025	.2801
Demonstrations Agricultural Workers/Labor Force, 1960	-.131	.017	Demonstrations^2 Demonstrations Agricultural Workers, 1960	.1480 .1494	.0219 .0223	.0004	.3719
GNP p.c. 1958 Demonstrations	+.104	.011	GNP p.c. 1958 GNP p.c. 1958^2 Demonstrations	.1039 .1779	.0108 .0316	.0208	1.527
GNP p.c. Growth Rate, 1950-55 Demonstrations	+.021	.0004	GNP p.c. Growth Rate, 1950-55 GNP p.c. Growth Rate, 1950-55^2 Demonstrations	.0209 .0427	.0004 .0018	.0014	.0504
Demonstrations GNP p.c. Growth Rate, 1955-60	-.107	.012	Demonstrations Demonstrations^2 GNP p.c. Growth Rate, 1955-60	.1072 .1842	.0115 .0339	.0224	1.633

Table 5 (Continued)

Linear Regression Variables (X_1, Y)	r	r^2	Polynomial Regression Variables (X_1, X_2, Y)	R	R^2	Increase in R^2	F[a]
GNP p.c. Growth Rate, 1955-60 Demonstrations	-.107	.012	GNP p.c. Growth Rate, 1955-60	.1072	.0115		
			GNP p.c. Growth Rate, 1955-60^2 Demonstrations	.1078	.0116	.0001	.0434
GNP p.c. 1955 Number Killed	-.417	.174	GNP p.c. 1955^2	.4197	.1762		
			GNP p.c. 1955 Number Killed	.4201	.1764	.0002	.1594
Number Killed GNP p.c. 1960	-.374	.140	Number Killed	.3741	.1400		
			Number Killed^2 GNP p.c. 1960	.3857	.1488	.0088	.731
Agricultural Workers/Labor Force, 1955 Number Killed	+.311	.096	Agricultural Workers, 1955	.3105	.0964		
			Agricultural Workers, 1955^2 Number Killed	.4092	.1675	.0711	5.632**
Number Killed Agricultural Workers/Labor Force, 1960	+.303	.092	Number Killed	.3034	.0921		
			Number Killed^2 Agricultural Workers, 1960	.3383	.1144	.0224	1.793
GNP p.c. 1958 Number Killed	-.343	.118	GNP p.c. 1958^2	.3526	.1243		
			GNP p.c. 1958 Number Killed	.3618	.1309	.0066	1.059

Table 5 (Continued)

Linear Regression Variables (X_1, Y)	r	r^2	Polynomial Regression Variables (X_1, X_2, Y)	R	R^2	Increase in R^2	F[a]
GNP p.c. Growth Rate, 1950-55 Number Killed	-.134	.018	GNP p.c. Growth Rate, 1950-55	.1355	.0184		
			GNP p.c. Growth Rate, $1950\text{-}55^2$ Number Killed	.1359	.0185	.0001	.0235
Number Killed GNP p.c. Growth Rate, 1955-60	-.149	.022	Number Killed	.1497	.0224		
			Number Killed^2	.2417	.0584	.0360	2.712
			GNP p.c. Growth Rate, 1955-60				
GNP p.c. Growth Rate, 1955-60 Number Killed	-.149	.022	GNP p.c. Growth Rate, $1955\text{-}60^2$	.1713	.0293		
			GNP p.c. Growth Rate, 1955-60	.1714	.0294	.0001	.5072
			Number Killed				
GNP p.c. 1955 Assassination	-.250	.063	GNP p.c. 1955^2	.2664	.0710		
			GNP p.c. 1955 Assassination	.3110	.0967	.0257	2.541
GNP p.c. 1955 General Strikes	-.068	.005	GNP p.c. 1955^2	.0832	.0069		
			GNP p.c. 1955 General Strikes	.1793	.0321	.0252	1.904
GNP p.c. 1955 Government Crises	-.225	.051	GNP p.c. 1955^2	.2399	.0575		
			GNP p.c. 1955 Government Crises	.2791	.0779	.0203	1.964

Table 5 (Continued)

Linear Regression Variables (X_1, Y)	r	r^2	Polynomial Regression Variables (X_1, X_2, Y)	R	R^2	Increase in R^2	F[a]
GNP p.c. 1955			GNP p.c. 1955^2	.2762	.0763		
Purges	-.270	.073	GNP p.c. 1955 Purges	.2802	.0785	.0023	.420
GNP p.c. 1955			GNP p.c. 1955^2	.1719	.0296		
Riots	-.164	.027	GNP p.c. 1955 Riots	.1875	.0352	.0056	.5718

[a]The F value was calculated by use of the following formula:

$$F_{1,\ n-3} = \frac{SSR_2 - SSR_1/1}{SSE_2/n-3}$$

where SSR = the sum of squares due to regression for the Linear (1) and Polynomial (2) regressions, and $SSE_2/n-3$ = the error mean square for the polynomial regression. F-tables used for determining significance were those in E. S. Pearson and H. O. Hartley (eds.), Biometrika Tables for Statisticians (Cambridge: Cambridge University Press, 1958), pp. 158-159.

*Significant at .10 level.

**Significant at .05 level.

these at the .05 level. Looking at Table 5, it can be seen that of the six significant increases, four of them involve economic development data for a time period after the time period for the political instability data. Both total conflict and revolutions are involved in curvilinear relationships with GNP per capita in 1963 and with the percentage of agricultural workers in 1960. In order for the exact nature of the relationships to be determined it was necessary to examine the actual curves themselves. Therefore, the cases were plotted and curves fitted so that the substance of the curvilinear relationships could be determined.

The results of the examination of the curves are very interesting. Of the six significant curvilinear relationships only two turned out to be in the hypothesized form of high conflict occurring at middle levels of economic development and lower conflict occurring at both high and low levels of economic development. These two relationships were those involving the percentage of agricultural workers in 1955 and number killed and GNP per capita in 1958 and total conflict. The other four relationships were those involving economic data in the early 1960's as the dependent variables and conflict data in the late 1950's as the independent variables. Thus, the conflict variables were squared in the polynomial regressions in these four cases. And the actual plotting of cases involved in the relationships gave results contradicting the hypothesized curvilinear relationship.

The original hypothesis stating that high levels of conflict occur at middle levels of economic development while lower levels of conflict occur at high and low levels of development does not indicate any causal relationship. Thus, for it to hold, economic data for years both before, during, and after the period of conflict should be found to be related to the conflict data in a curvilinear fashion. The regressions involving economic data in

years prior to the conflict were shown to be linear. Only one regression involving economic data for a time period simultaneous to the conflict period was shown to be curvilinear. And of the eight relationships involving economic data for a time period after the period of conflict, four were found to be linear (those involving demonstrations and number killed) while four were found to be curvilinear (those involving total conflict and revolutions). The mere statement that some of these relationships were curvilinear is not enough, however. And indeed when the actual curves were examined, it was found that instead of these four curvilinear relationships confirming the original hypothesis of curvilinearity, they showed the relationship to be curvilinear in a different sense. Upon examining the curve describing the relationship between total conflict and GNP per capita in 1963, it was found that the curve started out in the negative direction, turning up at the end, indicating that at low levels of conflict the nations have high GNP per capitas, at middle levels of conflict the nations have medium to low GNP per capitas, and at high levels of conflict the nations have medium to high GNP per capitas. Similarly, the curve involving the percentage of agricultural workers (positive in direction, turning down at the end) indicated that at low levels of conflict, the nations had low percentages (high economic development), at medium levels of conflict the nations had high to moderate percentages (low to medium economic development), and at high levels of conflict the nations had moderate to low percentages (medium to high development). These findings differ from the original hypothesized relationship in that whereas low economically developed nations were expected to have low conflict, they showed low to medium conflict; where middle level developed nations were supposed to have high conflict, they actually had medium to high conflict; and most striking, where high developed nations were expected to

have low conflict they had medium to high conflict. These great differences in conflict behavior at high levels of economic development seem to indicate that the relationship between development and stability is very complex. It is not true that economic development necessarily leads to more stability. The relationships discussed above indicate that high development may be preceeded by either stability or instability.

The patterns found in the curvilinear relationships involving revolution are very similar to those involving total conflict. Again, the curve describing the relationship between revolution and GNP per capita in 1963 (a negative slope turning up at the end) indicates that at low levels of revolution, the nations have high GNP per capitas; at medium levels of revolution, the nations have medium GNP per capitas; and at high levels of revolution, the nations have both low and high levels of GNP per capita. This contradicts the expected relationship in that highly developed countries are found to have both very low levels of revolution and a few cases of high levels of revolution, whereas medium developed countries have medium levels of revolution and low developed countries have high rates of revolution. The results of the regression involving percentage of agricultural workers and revolution is slightly different. Here, the curve (positive, turning down at the end) indicates that at low levels of revolution, the nations are highly developed (low percentages of agricultural workers); at medium levels of revolution, the countries are low to moderately developed (high to medium percentages); and at high levels of revolution, the nations are again low to moderately developed. The contradiction to the original hypothesis here is that the low developed countries, instead of having few revolutions, seem to have a great many, while medium developed countries have fewer revolutions than the less developed countries. Again the relationship is complex and leads to the

conclusion that political instability in the form of revolution does not necessarily lead to economic stagnation.

Although it is true that these four curvilinear relationships involve patterns contrary to the relationship that was originally predicted, they by themselves cannot definitively establish the existence of another form of curvilinear relationship. Not only do they differ among themselves as to what types of countries have what amounts of conflict, but the strengths of the correlations based on the regressions are too small to warrant any strong statements about the existence of a certain kind of relationship. For instance, the correlation between total conflict and GNP per capita in 1963 is only -.206. The addition of the polynomial term increases the correlation to .294, which gives an R^2 of only .087. The correlation between total conflict and agricultural workers in 1960 is a very small +.085. The polynomial term increases the correlation to .287, but this still only produces an R^2 of .085. The revolution correlations are somewhat stronger. Revolution's correlation with GNP per capita in 1963 is -.504, with the polynomial term increasing it to .550. This results in an R^2 of .30. The correlation between revolution and agricultural workers is +.409. The polynomial term increases it to .470, which gives an R^2 of .221. Thus, even the best curvilinear model that could be found only involves an explanation of 30% of the variation in the dependent variable. It must be concluded, therefore, that these relationships are too weak to prove any hypothesis of curvilinearity beyond question.

The other two statistically significant curvilinear relationships were shown by the plotted curves to be in the direction predicted by the original hypothesis; that is, the highest conflict and intensity of conflict are at the middle levels of economic development, while lower conflict and intensity

occur at both low and high levels of economic development. The relationship involving GNP per capita in 1958 and total conflict seems to indicate that current levels of income have some importance for political stability in terms of the curvilinear relationship described by the main hypothesis. However, the strength of the relationship is extremely weak, the correlation between the two variables being only -.153. The polynomial term increases the correlation to .283, but the variation in the dependent variable explained by the independent variables is only 8%. The only significant relationship found to involve the percentage of agricultural workers in 1955 is that with the number killed. It appears that the structure of the economy may have the same importance for the intensity of political instability when that structure is considered both prior to and after the period of instability, since the correlations involving the number killed and agricultural workers in both 1955 and 1960 are about the same (+.310 and +.303, respectively). It is interesting to note, however, that only the relationship involving the 1955 economic structure data proves to be curvilinear. This would seem to indicate that prior structural factors help to explain higher levels of intensity of political instability at middle levels of development, while the middle levels of development appear to have less intense political instability when structural features which occur after the period of political instability are considered. Conjecturing about this difference may lead one to assume that as time passes and the structure of the economy changes, the middle level nations according to the 1955 data move closer to the high development level and decrease their conflict but still have more intense conflicts than at the highest level. At the same time, the lowest level nations may change their economic structure and increase the intensity of their conflicts to a point at which they become more intense than those of the middle level nations. This is, of course, a

very tenuous explanation but the best one that can be found for the discrepancy in the shape of the relationship between structural economic development in 1955 and 1960 with the intensity of political instability.

In conclusion, it should be stated that although there are a small number of curvilinear relationships among the economic development and political instability variables, the overwhelming evidence is in favor of an overall linear relationship between economic development and political instability. That is, instead of higher levels of political instability occurring at middle levels of economic development, the highest levels of political instability occur at the lowest levels of economic development. Perhaps if this study had included the very underdeveloped nations of Africa, a general curvilinear relationship would have been found. However, for the population of nations involved in this study, a curvilinear relationship does not generally hold. And there seem to have been enough nations included in the lowest group so that any increase in conflict between that group and the next should have borne out a curvilinear pattern. In the examination of the differences within economic development groups previously undertaken, a slight tendency for the strength of the relationship between development and stability to increase did appear between the lowest and middle groups. However, this increase apparently was not strong enough to be significant statistically. It must be concluded, therefore, that the relationship between economic development and political stability is linear. This relationship is very weak in most cases, with the general exception of relationships involving revolutions. And the variations in the relationship among various groupings of nations lead us to conclude that although the relationship between economic development and political instability is linear and generally negative, the relationship appears weak on the whole and variable when other factors are

taken into consideration. Because it was realized at the very start of this project that the relationship between economic development and political instability is very complex, steps were taken to include other variables which were assumed to have some effect on the basic relationship. The inclusion of these other variables will be discussed in following chapters.

NOTES FOR CHAPTER III

[1]See Appendix 1 for a list of nations according to their groups.

[2]The levels of economic development are those used by Ted Gurr and Charles Ruttenberg, The Conditions of Civil Violence, pp. 20-25. The authors originally created the levels on the basis of Brian Berry's "technological development scale." Berry ran a factor analysis of forty-three indicators over ninety-five countries and found four factors, one of which he called technological development. This factor included high associations among national product, industrialization, urbanization, transportation, technology, and other indicators usually associated with economic development. He then divided the countries into five groups of nineteen countries each. Due to lack of cases in my lowest group (the lowest group being composed mainly of African nations not included in this study), I combined the two lowest categories. See Brian J. Berry, "Basic Patterns of Economic Development," ed. Ginsburg, pp. 110-113.

[3]The different types of political system used in this study are some of those used by Gurr and Ruttenberg, loc. cit. I used only three of their five categories since there were too few cases in the elitist and traditional categories for adequate statistical analysis. These political types were originally determined by Banks and Gregg in a factor analysis of sixty-eight political variables over 115 countries. See Arthur S. Banks and Phillips M. Gregg, "Grouping Political Systems: Q-Factor Analysis of A Cross-Polity Survey," American Behavioral Scientist, Vol. IX (November, 1965), pp. 3-6.

[4]See Huntington, op. cit., p. 176.

[5]The socio-cultural groupings are from Gurr and Ruttenberg, op. cit., pp. 20-22. The authors based their groups on the work of Bruce Russett who produced the groups by a factor analysis of fifty-four variables on eighty-two countries. Finding four theoretically meaningful factors, Russett used the countries' factor loadings on all four dimensions to place them into the different socio-cultural groups. The four factors are economic development, communism, intensive agriculture, and Catholic culture. See Bruce Russett, International Regions and the International System (Chicago: Rand McNally, 1967), pp. 14-25.

CHAPTER IV

THE EFFECT OF POLITICAL CAPABILITIES ON POLITICAL STABILITY

Earlier chapters of this thesis developed the theoretical grounds for expecting the particular curvilinear relationship which was suggested to hold. Part of the most popular reasoning supporting the curvilinearity hypothesis was based on the nature of the role of the capabilities of political systems in determining political stability. It is commonly suggested that political capabilities are adequate to meet the levels of demands and problems at both low and high levels of economic development. Thus, an efficiently functioning political system is said to have greater possibilities for maintaining stability than one in which the problems before the political system are not met. It is commonly hypothesized that higher levels of political instability occur in middle-level economically developed systems because it is these systems that do not generally have adequate capabilities for handling the increased problems connected with economic growth and social mobilization. Any investigation of the relationship between economic development and political stability, therefore, should include an examination of the effects of political capabilities on this relationship. Thus, to illuminate the relationship between economic development and political stability, the effects of political capabilities on political stability were sought. After these effects have been determined, it will then be possible to include any relevant variables in a description of the relationship between economic development and political stability. If the capabilities reasoning is to hold, then it should be expected that high capabilities will enhance the chances of political

stability, so that inverse relationships between the indicators of political capabilities and political instability should occur.

To test the effects of political capabilities on stability, the previously discussed techniques of stepwise multiple regression were used. This allowed the inclusion of several different measures of capabilities in an examination of their effect on the various measures of political instability. The statistical method employed allows one to determine the most important variable of any number included in relation to the dependent variable. Thus, the variable which enters the equation first is the one which accounts for the greatest amount of explained variation in the dependent variable and is, therefore, the best predictor of the dependent variable. The next variable to enter explains the most additional variation in the dependent variable (the explained variation that is left unexplained by the first entered variable), and so on. From one regression equation involving a variety of indicators of capabilities, therefore, it is possible to determine if together they are substantially related to the measures of political instability and also which of the capabilities measures is the best predictor of instability.[1]

The indicators of political capabilities which were discussed at length in Chapter II were included in four different stepwise regressions with each of the conflict measures: total conflict, revolutions, demonstrations, and the number killed in all forms of political instability. It should be recalled that all five kinds of political capabilities are measured by the nine indicators. The regulative capability of political systems is indicated by the following variables: military personnel as a percentage of the population, and press censorship (ratings by the DON project from 0 meaning complete censorship to 2 indicating complete press freedom). The responsive capabilities of the political system are measured by the following variables: the

number of inhabitants per hospital bed, and the voting system (ratings given by the DON project from 0 meaning no voting to 4 meaning multi-party system without restrictions). The extractive capabilities of the political system are indicated by these variables: government revenue as a percentage of government expenditure, tax revenue as a percentage of total revenue, and technical assistance received as a percentage of GNP[2] per capita. The distributive capability of political systems is measured by the amount of government expenditure as a percentage of GNP. And finally, the symbolic capability is measured by the number of national holidays in each country, admittedly not the best possible measure of symbolic capability but the one most readily available.

The results of the stepwise multiple regressions in the whole population of seventy-four nations can be seen in Table 6. Some interesting differences are apparent in the importance of different kinds of capabilities for different aspects of political instability. The multiple correlation of the capabilities measures with total conflict is .606 (R^2 = .37). The most important variable in explaining the variation in total conflict is the percentage of government revenue to expenditure. This is an indicator of the extractive capability of the political system. By itself it explains 23% of the variation in total conflict. The symbolic capability indexed by the numbers of holidays explains an additional 9%. And the voting system as an indicator of the responsive capabilities of the system adds 2%. Together these three variables account for 34% of the variation out of a total of 37%. It is interesting to note that the variable indexing the distributive capability added only .4% to the explained variation, while the regulative capabilities were also unimportant. Of the three most important variables for explaining variations in total conflict, only one (government revenue) has a simple correlation with

Table 6

Results of Stepwise Multiple Regressions of Political Capabilities and Instability Variables (N = 50)[a]

Dependent Variable: Total Conflict, R = .606, R^2 = .37			
Independent Variables	R	R^2	Increase in R^2
Government Revenue/Expenditure (Extractive)	.475	.22	
Number of Holidays (Symbolic)	.563	.31	.09
Voting System (Responsive)	.582	.34	.02
Tax Revenue/Total Revenue (Extractive)	.585	.34	.006
Government Expenditure/GNP (Distributive)	.589	.35	.004
Inhabitants per Hospital Bed (Responsive)	.594	.35	.006
Technical Assistance Received (Extractive)	.599	.36	.006
Censorship (Regulative)	.605	.37	.007
Not Entered[b]: Percentage Military of Population (Regulative)			

Dependent Variable: Revolution, R = .792, R^2 = .63			
Independent Variables	R	R^2	Increase in R^2
Technical Assistance Received (Extractive)	.570	.33	
Percentage Military of Population (Regulative)	.661	.44	.11
Censorship (Regulative)	.727	.53	.09
Government Revenue/Expenditure (Extractive)	.781	.61	.08
Inhabitants per Hospital Bed (Responsive)	.788	.62	.01
Government Expenditure/GNP (Distributive)	.791	.63	.004
Voting System (Responsive)	.792	.63	.001
Not Entered[b]: Tax Revenue/Total Revenue (Extractive) Holidays (Symbolic)			

Table 6 (Continued)

Dependent Variable: Demonstrations, R = .580, R^2 = .34

Independent Variables	R	R^2	Increase in R^2
Government Revenue/Expenditure (Extractive)	.399	.16	
Government Expenditure /GNP (Distributive)	.454	.21	.05
Inhabitants per Hospital Bed (Responsive)	.503	.25	.05
Percentage Military of Population (Regulative)	.521	.27	.02
Holidays (Symbolic)	.546	.30	.03
Technical Assistance Received (Extractive)	.572	.33	.03
Censorship (Regulative)	.576	.33	.005
Voting System (Responsive)	.580	.34	.003

Not Entered[b]: Tax Revenue/Total Revenue (Extractive)

Dependent Variable: Number Killed, R = .610, R^2 = .37

Independent Variables	R	R^2	Increase in R^2
Voting System (Responsive)	.318	.10	
Technical Assistance Received (Extractive)	.410	.17	.07
Government Expenditure/GNP (Distributive)	.452	.21	.04
Government Revenue/Expenditure (Extractive)	.481	.23	.02
Percentage Military of Population (Regulative)	.528	.28	.05
Inhabitants per Hospital Bed (Responsive)	.559	.31	.03
Censorship (Regulative)	.601	.37	.05
Tax Revenue/Total Revenue (Extractive)	.608	.37	.008
Holidays (Symbolic)	.610	.37	.002

[a]The number of cases included is fifty instead of the entire population of seventy-four because of the amount of missing data. Different nations had data missing on various indicators and were eliminated from the statistical computations by the computer program.

[b]Not significant at .10 level.

total conflict in an inverse relationship of any strength (r = -.47). And the correlation between holidays and total conflict is +.34, indicating that conflict increases as the number of holidays increases. This is theoretically satisfying, however, because it is generally the case that less developed countries have more national holidays than more developed countries. The correlation can then be interpreted as indicating a small relationship between low economic development and high total conflict. The general conclusion that may be reached after considering these various simple and multiple correlations, then, is that the ability of a political system to maintain a high percentage of revenue to expenditures will enhance its chances for total political stability. This ability of the political system to extract enough resources to cover its expenses appears to give great importance to the efficient use of resources by the political system. It says nothing, however, about the way in which those resources are used (the distributive capacity was not important for total conflict, it will be recalled). Apparently, the response of the political system to demands is not as important for political stability as is its simple ability to extract resources.

The multiple correlation of the political capability variables with revolution is the highest of all the instability variables (R = .792, R^2 = .63). The pattern of the relationship of the variables to revolution is slightly different than the pattern with total conflict. Whereas in the regressions with total conflict the extractive variable of the percentage of government revenue to expenditure was the most important with secondary importance of the symbolic and responsive capabilities, the variable describing technical assistance (a measure of extraction) is the most important in explaining revolution (R^2 = .33), while the two variables indexing the regulative capabilities are next in importance (the percentage military of population increases R^2 by

11% and censorship by 9%). These two variables are followed by another indicator of the extractive capability, government revenue to expenditure which adds 8%. Together, these four variables account for 61% of the variation in revolutions. The responsive and distributive capabilities appear to be unimportant in explaining revolution, a finding which might surprise many revolutionaries. This finding is compatible with much of the writing on revolution which indicates that the responsiveness of the government is not necessarily a factor in determining the outbreak of revolution. The simple correlations between revolution and the most important variables in explaining it are the following: with technical assistance, $r = +.57$; percentage military of population, $r = -.44$; censorship, $r = -.32$; and percentage revenue of expenditure, $r = -.30$. These correlations may be interpreted as showing a moderate relationship between a high percentage of military and low revolution, a high degree of censorship (low rating) and a high degree of revolution, indicating that the regulative capabilities of nations do not necessarily have consistent effects upon the outbreak of revolution. Although a large military force may seem to deter revolution, press censorship may have the opposite effect. The simple correlation involving the percentage revenue is of expenditure merely indicates that there is a slight tendency for more revolutions to occur in nations with a small ratio of revenue to expenditures. And the correlation of revolution with technical aid indicates a moderate relationship between larger amounts of technical assistance received and greater numbers of revolutions.

The multiple correlation of the political capabilities variables with demonstrations is .580 ($R^2 = .34$). As is the case with total conflict and revolution, the first variable to enter the equation with demonstrations is an indicator of the extractive capability, the percentage revenue is of

expenditure (R^2 = .16). The similarity of importance of variables ends with the first entering variable, however. The second and third most important variables in explaining demonstrations are an indicator of the distributive capability (expenditure as a percentage of GNP, which increases R^2 by 5%) and an indicator of the responsive capability (the number of inhabitants per hospital bed, which increases the R^2 by 5%). All together, however, these three variables account for only 25% of the variation in demonstrations. It is interesting to note, however, that demonstrations may be in part determined by the performance of the political system in accumulating and using its resources in a way that materially benefits the population. It is also interesting that the responsive capability indexing response to material needs (hospital beds) was more important in explaining demonstrations than was the responsive capability variable indicating a response to the political needs of the population (voting system). The only simple correlation of any of these variables with demonstrations to exceed $\pm$.30 is that with revenue as a percentage of expenditure. The correlation is -.40, indicating that there is a slight tendency for higher percentages of revenue to occur with a low number of demonstrations. On the whole, it may be concluded that the ability of a political system to collect adequate resources and use them to benefit its members has consequences for the occurrence of demonstrations against the political authority.

The pattern created by the relationship between the indicators of political capabilities and the number of people killed in all forms of political instability is slightly different from the other three patterns. The voting system as an indicator of the responsive capability of political systems enters the equation first but explains only 10% of the variation in the number killed. The extractive indicator, technical assistance, enters next and

increases the explained variation by 7%. The next five variables indexing every capability except the symbolic each add from three to five percent to the explained variation. This would seem to indicate that no one variable contributed overwhelmingly to the explanation of variation in the number killed. The multiple correlation of all the capabilities variables and the number killed is .610 (R^2 = .37). Only two of the independent variables have simple correlations with the number killed above $\pm$.30: voting system, -.32; and technical assistance, +.31. This indicates that more responsive voting systems occur slightly more frequently with low number killed and that countries receiving a higher percentage of their national product in technical assistance have a small tendency to have a greater number killed. These tendencies may lead to the conclusion that political systems that are more responsive and self-sufficient are likely to have less intense political instability, although the weakness of the correlations and the large number of predictor variables caution against any strong conclusions about political instability.

Since most of the patterns of relationships of political capabilities to political instability seem to indicate that political capabilities have at least a weak relationship to various forms and intensity of political instability, it is of interest to determine whether these relationships hold when the nations in the overall population are grouped on the basis of the level of economic development and on the basis of the type of political system. This examination of the effects of the same political capabilities variables was carried out for three economic development groups and the three political system types only for the instability variable of total conflict. Such an examination seems to be sufficient to determine any major effects of the homogeneous groupings of nations. The interest lies primarily in the order

of entry of variables into the regression equations within each group and not in the actual R and R^2 since some of the groups are so small that the value of R approaches one simply because the number of independent variables is almost as great as the number of cases in the regression. Nevertheless, the R's and R^2's are listed in Table 7 for the entering variables.

In the overall population the most important political capability variable in explaining total conflict was an indicator of the extractive capability, followed by measures of the symbolic and responsive capabilities. The symbolic capability is not important within any of the economic development groups and only enters one equation in the political system groups (polyarchic). On the other hand, indicators of the extractive capabilities were the first entering variables in the highly economically developed systems, the personalist political group, and the polyarchic group. Thus, within each of these groups, the ability of the political system to gather resources is the most important of its political capabilities for explaining political instability. The simple correlations between the extractive capability variables and total conflict indicate that political stability and greater extractive capability are positively related. The responsive capabilities seem to be the most important of the political capabilities determinants of instability in the medium economic development group and the low economic development group. The simple correlations of the responsive variables with total conflict, however, show that the effects of the political system's responsive capability may differ. In the medium economic development group, the correlation of total conflict with inhabitants per hospital bed (the indicator of responsive capability) is +.73, indicating a strong relationship between greater responsive capability (a low ratio of inhabitants per hospital bed) and less total conflict. In the low economic development group the relationship between

Table 7

Order of First Few Entering Variables in Stepwise Multiple Regressions Involving Political Capabilities and Total Conflict Within Groups of Nations

High Economic Development (N = 24)[a]			
Independent Variables	R	R^2	Increase in R^2
Government Revenue/Expenditure (Extractive)	.492	.24	
Technical Assistance Received (Extractive)	.647	.42	.17
Percentage Military of Population (Regulation)	.675	.46	.04
Voting System (Responsive)	.691	.48	.02
Number of Holidays (Symbolic)	.708	.50	.02
Medium Economic Development (N = 12)[a]			
Independent Variables	R	R^2	Increase in R^2
Inhabitants per Hospital Bed (Responsive)	.734	.54	
Tax Revenue/Total Revenue (Extractive)	.895	.80	.26
Technical Assistance Received (Extractive)	.914	.84	.03
Censorship (Regulative)	.950	.90	.07
Low Economic Development (N = 14)[a]			
Independent Variables	R	R^2	Increase in R^2
Voting System (Responsive)	.574	.33	
Tax Revenue/Total Revenue (Extractive)	.705	.50	.17
Technical Assistance Received (Extractive)	.763	.58	.09
Government Revenue/Expenditure (Extractive)	.780	.61	.03
Political System: Centrist (N = 8)[a]			
Independent Variables	R	R^2	Increase in R^2
Censorship (Regulative)	.854	.73	
Government Expenditure/GNP (Distributive)	.940	.89	.15
Inhabitants per Hospital Bed (Responsive)	.976	.95	.07

Table 7 (Continued)

Political System: Personalist (N = 11)[a]

Independent Variables	R	R^2	Increase in R^2
Government Revenue/Expenditure (Extractive)	.640	.41	
Censorship (Regulative)	.825	.68	.27
Tax Revenue/Total Revenue (Extractive)	.879	.77	.09
Technical Assistance Received (Extractive)	.914	.84	.06

Political System: Polyarchic (N = 28)[a]

Independent Variables	R	R^2	Increase in R^2
Technical Assistance Received (Extractive)	.488	.24	
Government Revenue/Expenditure (Extractive)	.609	.37	.13
Number of Holidays (Symbolic)	.658	.43	.06
Inhabitants per Hospital Bed (Responsive)	.693	.48	.05

[a]The number of cases within each group involved in these capabilities regressions is lower than the numbers in the original groups because of the amount of missing data on the capabilities variables.

responsive capabilities and instability appears to be inverse. The correlation between the voting system and total conflict is +.58 and the correlation between inhabitants per hospital bed and total conflict is -.43. Thus, a moderate relationship exists between greater responsive capability and greater total conflict within the low economically developed group. Finally, within the centrist group, the regulative capability appears to be the most important of the political capabilities for explaining variation in total conflict. It appears from the positive sign of the simple correlation between censorship (the indicator of the regulative capability) and total conflict that there is a relationship between greater censorship (a low rating) and less total conflict within the centrist group.

The differences among the groups of nations just discussed show that although most of the groups follow a pattern of relationship of political capabilities to political instability similar to that of the overall population, there are a few groups (the low economic development group and the centrist group) in which the nature of the relationship appears to be opposite to the expected greater capabilities - greater stability relationship. At least the development of some of the capabilities by political systems does not seem to necessarily insure political stability.

NOTES FOR CHAPTER IV

[1]Perhaps it should be emphasized here that multiple correlations do not have negative or positive signs because the independent variables entered into the multiple regression may be either positively or negatively related to the dependent variable. Since I wanted to go further into the explanation of political instability than just the statement of the fact that certain independent variables accounted for x amount of variation in the dependent variable I have attempted to use the multiple correlation results in combination with knowledge of the individual simple correlations between the separate independent variables and the dependent variables. The simple correlations can add an understanding of the directions of the relationship between the independent and dependent variables.

CHAPTER V

EFFECTS OF SOCIETAL VARIABLES ON THE RELATIONSHIP BETWEEN ECONOMIC DEVELOPMENT AND POLITICAL INSTABILITY

Relationships Between Separate Categories of Societal Variables and Political Instability

In the development of the theoretical expectations in the previous chapters, the main categories of variables entering the discussion were economic development variables, political instability variables, and political capabilities variables. The relationship among these three sets of variables, however, was said to be affected by a category of variables called societal variables. Thus, the basic relationship between economic development and political instability is affected not only by the nature of the political capabilities of nations (which happen to be of greater theoretical interest in this project than the other societal variables) but also by many aspects of the nations which may act in combination with development and instability variables to produce either the same or different patterns than those established by an examination of the basic relationships. For instance, while the level of economic development may be fairly important in explaining variations in the occurrence of revolutions, an examination of a variety of societal variables may show that economic development is less important in explaining revolution than is indicated when economic development variables are considered alone. Especially since most of the simple correlations between economic development variables and political instability variables are fairly small, the necessity of considering other variables is apparent. Hopefully, the inclusion of societal variables will give a clearer indication of the relationship among many characteristics of nations and political instability, leading to an array of variables that explain the occurrence of political instability

better than the economic development variables do. If political instability is only partially explained by economic development variables, then other factors should be sought to explain more of the variation in political instability.

Variables describing the characteristics of nations are numerous. In order to narrow down the number of variables which explain variations in political instability, a wide range of variables in several areas of characteristics are included as indicators of those areas or categories. The categories of societal variables used in separate regressions with political instability variables are the following: population, health, communications, economic deprivation, education, cultural diversity, political system characteristics, political participation, political legitimacy, foreign involvement, want satisfaction, and bloc membership. These categories of societal variables and their indicators were discussed in Chapter II. It was also suggested in Chapter II that these variables were expected to have certain relationships with the various political instability variables. To determine whether these expected relationships hold, the variables within each category of societal variables were entered into regression equations with each of the political instability variables. The general relationship of each of the categories to the political instability variables can then be described by the multiple correlation coefficient and R^2. In addition, it is possible to determine from an examination of the order of entry into the stepwise multiple regressions and the increase in R^2 which variables within each category of societal variables explain most variation in the political instability variables. The best predictors within each category of societal variables (assuming that there are good predictors of instability among the societal variables) are then entered into a series of final equations along with the economic

development, political capabilities, and political instability variables.[1] These final equations include a variety of societal variables with the intention of explaining as much variation in political instability as possible. The discussion of the results of the analysis of the final equations will be postponed, however, until the results of the regressions involving the societal variables and political instability alone are discussed.

None of the twelve regressions involving the various categories of societal variables and total conflict produced multiple correlations as high as the .606 (R^2 = .37) resulting from the regression involving political capabilities with total conflict. The R^2 for each of the categories of societal variables with total conflict are as follows: population, .25; health, .28; communications, .20; economic deprivation, .01; education, .16; cultural diversity, .30; political system characteristics, .11; political participation, .30; political legitimacy, .23; foreign involvement, .12; want satisfaction, .09; and bloc membership, .14. None of the categories of societal characteristics by themselves explain much variation in total conflict. Nevertheless, it was decided to select the best predictors of total conflict from each societal category (providing its correlation with total conflict is above $\pm$.30) to enter into the final equations along with the capabilities and economic development variables to determine whether their combination with other variables permits a better explanation of the variation in total conflict.

The societal variables selected to enter the final equations with total conflict represent nine of the twelve categories of societal variables. (See Table 8.) The best predictor in the population category is the rate of population increase. Its correlation with total conflict is +.31, explaining 9% of the explained variation in total conflict. The positive correlation

Table 8

Best Societal Variable Predictors of Political Instability

Societal Category (N)[a]	Total Conflict				Revolution			
	Best Predictor	Category R^2	Predictor r	Predictor r^2	Best Predictor	Category R^2	Predictor r	Predictor r^2
Population (63)	Population Increase	.25	+.306	.093	Birth Rate	.39	+.474	.224
Health (51)	Life Expectancy	.23	-.421	.177	Life Expectancy	.61	-.717	.515
Communications (69)	Literacy	.20	-.332	.110	Literacy	.37	-.564	.318
Economic Deprivation (37)	---	.06	--	--	---	.30	--	--
Education (61)	Primary Enrollment	.16	-.343	.117	Primary Enrollment	.45	-.644	.414
Cultural Diversity (43)	Language Group/Pop.	.30	-.320	.102	Ethnic Gp./Pop.	.36	-.398	.158
Political System Characteristics (72)	Political Parties	.11	+.317	.101	---	.18	--	--
Political Participation (53)	Percentage Voting	.30	-.343	.118	Percentage Voting	.46	-.388	.151
Political Legitimacy (60)	Holidays	.23	+.427	.183	Holidays	.40	+.491	.241
Foreign Involvement (64)	---	.12	--	--	Military/Pop.	.27	-.358	.128
Want Satisfaction (47)	---	.09	--	--	---	.07	--	--
Bloc Membership (74)	Bloc	.14	+.367	.135	---	.04	--	--

Table 8 (Continued)

	Demonstrations				Number Killed			
	Best Predictor	Category R^2	Predictor r	r^2	Best Predictor	Category R^2	Predictor r	r^2
Population (63)	Population Size	.14	+.335	.112	Urbanization	.27	-.325	.106
Health (51)	---	.03	--	--	Life Expectancy	.35	-.471	.221
Communications (69)	---	.12	--	--	Newspaper Circ.	.27	-.466	.218
Economic Deprivation (37)	---	.01	--	--	---	.22	--	--
Education (61)	---	.007	--	--	Sec. School, College	.35	-.574	.329
Cultural Diversity (43)	---	.11	--	--	---	.34	--	--
Political System Characteristics (72)	---	.07	--	--	---	.11	--	--
Political Participation (53)	Emigration	.19	-.295	.087	Voting System	.30	-.338	.114
Political Legitimacy (60)	---	.05	--	--	Holidays	.18	+.343	.118
Foreign Involvement (64)	---	.05	--	--	Expel-Recall Amb.	.21	+.341	.116
Want Satisfaction (47)	---	.01	--	--	---	.07	--	--
Bloc Membership (74)	---	.05	--	--	---	.0003	--	--

[a]The number of cases for each category varies due to different amounts of missing data on different variables.

indicates that the hypothesized relationship between demographic characteristics and political instability is weakly confirmed; that is, as population pressures increase, total conflict tends to increase. It is interesting, however, that urbanization was the least important of all the population variables in explaining variation in total conflict. Among the health variables, life expectancy accounted for 18% of the explained variation in total conflict ($r = -.42$). Again the sign of the correlation generally confirms the expectation that the better the health level of the population (measured by life expectancy), the less likely is political instability to occur. In the communications category, literacy best predicts total conflict ($r = -.33$, accounting for 11% of the explained variation). Literacy itself is very highly correlated with communications (newspapers, +.84; telephones, +.78; radio, +.80) so that the hypothesis that the development of communications enhances the possibility of political instability is not borne out. However, the hypothesis was qualified by stating that it would hold only when demands were not met so that this regression is not a direct test of the hypothesis.

The best predictor of total conflict in the education category is enrollment in primary schools ($r = -.34$, $r^2 = .12$). The weak correlation indicates that there is a slight tendency for higher enrollments in primary schools to be accompanied by lower total conflict, which is not a confirmation of the hypothesis stating that increases in primary enrollment without opportunities to advance to higher education increases the likelihood of instability. However, since the opportunities for advancement to secondary education are not measured by this variable, the hypothesis cannot be directly confirmed here. In the cultural diversity category, the best predictor of total conflict is the membership of the largest language group as a percentage of the population ($r = -.32$, $r^2 = .10$). The sign of the correlation indicates that there is a

weak relationship between more homogeneity of cultural makeup and less total conflict, thereby confirming the hypothesis that greater cultural diversity and greater instability tend to occur together.

In the general political characteristics category the best predictor of total conflict is the number of political parties ($r = +.31$, $r^2 = .10$). This indicates a slight tendency for more total conflict to occur in systems with greater numbers of political parties. The number of political parties, however, does not determine the level of political participation. In the actual political participation category, all except one of the six variables included indicate that higher levels of participation occur with lower levels of total conflict. This tends to confirm the hypothesis that greater opportunities for political participation enhance the chances of political stability. The best predictor of total conflict in this category is the percentage of the population voting in a major election around 1960 ($r = -.34$, $r^2 = .12$).

In the political legitimacy category the best predictor is the number of holidays ($r = +.42$, $r^2 = .18$). This indicates that as the number of holidays increases, total conflict increases. The number of holidays is not, however, a very good measure of legitimacy so that it is difficult to confirm or disconfirm the hypothesis that weak legitimacy and high instability occur together. And in fact, the most direct measure of legitimacy included in this category (a direct rating of legitimacy) entered into the regression equation last but was correlated with total conflict in a way to indicate a confirmation of the hypothesis. Finally, the measure of bloc membership by itself accounts for 14% of the variation in total conflict ($r = +.37$). It is entered into the final equations with total conflict in order to determine whether any variation in membership in various international blocs explains any variation in internal political stability.

Of the three categories whose variables failed to explain much variation in total conflict, two are quite surprising eliminations. The variables measuring economic deprivation explained almost no variation in total conflict while those indexing want satisfaction explained only 9%, too little to be included in the final equations. The failure to find either of these categories of variables important to the occurrence of total conflict is contrary to several of the major theories discussed in the previous chapters connecting economic deprivation and lack of want satisfaction to aggression in the form of political instability. The other exclusion, the category of foreign involvement, is compatible with various findings of Rummel and others on the lack of a relationship between external conflict and internal conflict.[2]

The same procedure of using the indicators of various categories of societal variables in regression equations to find the best predictor of instability within each category was also carried out with the three other measures of political instability: revolution, demonstrations, and number killed in all forms of political instability. The results of these regressions may be seen in Table 8. Generally, none of the categories of societal variables explains as much variation in the three different measures of political instability as do the political capabilities measures previously discussed, although the health variables come close to doing so in the revolution and number killed regressions as well as education in the number killed regression. As far as the hypothesized relationships among the societal and instability variables are concerned, the conclusions reached about the hypotheses upon examination of the regressions involving total conflict generally hold with the three other instability variables. There are several exceptions to the relationship found between the societal variables and total conflict, however. Whereas foreign involvement was not found to be an important predictor of instability

as measured by total conflict, one of the indicators of foreign involvement is moderately correlated with revolution ($r = -.35$). There is a slight tendency for greater percentages of military to population to occur with fewer revolutions. The hypothesis that greater foreign involvement leads to greater internal conflict cannot be confirmed by this one correlation, however, since it is possible that the large percentage of military troops may be used to suppress internal revolt rather than engage in foreign combat. On the other hand, the hypothesis is supported by the moderate correlation between diplomatic conflict and the number killed ($r = +.34$). The only other difference from the results of the regressions involving total conflict is the disconfirmation of the hypothesis that the greater the population pressures are the greater is the likelihood of increased instability. The correlation between urbanization and number killed ($r = -.32$) indicates that higher levels of urbanization have a slight tendency to occur with lower levels of people killed in all forms of instability. Of course, this may merely indicate that more highly urbanized nations have fewer people killed in domestic violence rather than indicate that the pressures of urbanization do not increase political violence. Perhaps a better measure of the pressures would be the rate of urbanization rather than the absolute level.

The number of societal indicators selected for the final equations varied considerably among these three instability variables. (It may be recalled that only those indicators within each societal category which both entered the regressions first and had simple correlations with the dependent instability variable above $\pm.30$ were selected for the final equations with those instability variables, the economic development variables, and the political capabilities variables). The following eight variables were selected from the regressions of the societal categories and revolution: population - birth

rate, health - life expectancy, communications - literacy, education - enrollment in primary schools, cultural diversity - proportion of largest ethnic group to population, political participation - percentage voting, political legitimacy - number of holidays, foreign involvement - proportion of military personnel to population. Only two variables were selected to enter the final equations involving demonstrations: population - population size, and political participation - emigration. For the final equations with number killed, seven variables were selected from the societal categories: population - urbanization, health - life expectancy, communications - newspaper circulation, education - secondary and college enrollment, political participation - voting system, political legitimacy - number of holidays, and foreign involvement - expulsion or recall of ambassadors.

Analysis of the Final Equations

The inclusion of the various societal variables in final equations with economic development, political capabilities, and political instability variables involved a process of elimination. It was both theoretically uninteresting and physically impossible to include the societal variables and political capabilities variables in all thirty-seven of the basic regressions of economic development and political instability. It was decided, therefore, to include the six basic regressions that were found to be significantly curvilinear as well as a representative selection of other types of relationships. In all, thirteen final regression equations were established. They are the following:

Dependent Variable	Independent Variables
total conflict	GNP per capita, 1955 (economic development indicator) revenue/expenditure (political capabilities indicator) nine societal variables for predicting total conflict (population increase, life expectancy, literacy, primary school enrollment, ratio of largest language group to population, voting system, percentage voting, number of holidays, bloc membership)
revolution	GNP per capita, 1955 technical assistance received (political capabilities indicator) eight societal variables for predicting revolution (birth rate, life expectancy. literacy, primary school enrollment, ratio of largest ethnic group to population, percentage voting, number of holidays, proportion of military personnel to population)
demonstrations	GNP per capita, 1955 revenue/expenditure (political capabilities indicator) two societal variables for predicting demonstrations (population size, emigration)
number killed	GNP per capita, 1955 technical assistance received (political capabilities indicator) seven societal variables for predicting number killed (urbanization, life expectancy, newspaper circulation, secondary and college enrollment, voting system, number of holidays, expulsion or recall of ambassadors)
GNP per capita, 1963	total conflict total conflict^2 revenue/expenditure nine societal variables most related to total conflict
GNP per capita, 1963	revolution revolution^2 technical assistance received eight societal variables most related to revolution

Dependent Variable	Independent Variables
total conflict	agricultural workers/labor force, 1955 revenue/expenditure nine societal variables most related to total conflict
revolution	agricultural workers/labor force, 1955 technical assistance received eight societal indicators most related to revolution
number killed	agricultural workers/labor force, 1955 agricultural workers/labor force, 1955^2 technical assistance received seven societal variables most related to number killed
total conflict	GNP per capita growth rate, 1955-60 revenue/expenditure nine societal variables most related to total conflict
agricultural workers/labor force, 1960	revolution $revolution^2$ technical assistance received eight societal variables most related to revolution
agricultural workers/labor force, 1960	total conflict $total\ conflict^2$ revenue/expenditure nine societal variables most related to total conflict
total conflict	GNP per capita, 1958 GNP per capita, 1958^2 revenue/expenditure nine societal variables most related to total conflict

The thirteen final regression equations were run with data on the entire population and also within each of the eleven separate groups of the three groupings of nations (economic development level, political system type, and socio-cultural area). The aim of this final analysis is to determine whether a combination of economic development variables, political capabilities variables, societal variables, and political instability variables will improve

upon the explanation of the weak relationships between just the basic economic development and political instability variables. In addition, it is desirable to see if the results of the overall analysis of the final thirteen equations changes when the equations are examined within homogeneous groups of nations.

The most interesting general finding in the overall population for all the regressions involving economic development variables as independent variables is that when these variables are combined in regressions with other independent variables, their contribution to the explanation of variation in all of the political instability variables is minimal. This can be seen in Table 9 by examining the order of entry into the regressions of the economic development variables and the additional variation in the instability variables which they explain.

In no case does the economic development variable add more than 4% to the explained variation in the dependent variable and in most instances the addition is much less. In all cases the addition of the capabilities and societal variables adds a substantial amount of explained variation in either the political instability variables or economic development variables to the small amounts of variation explained by the economic and instability variables alone. In addition, it is interesting to note that this final grouping of independent variables improves upon the amount of variation explained by the political capabilities variables alone for total conflict and the number killed, but the political capabilities variables alone accounted for more variation in both demonstrations and revolution than do the final set of independent variables.

Two aspects of the relationships among the variables indicated by the final equations are of interest. One is the improvement in explaining each independent variable by the addition of the final combination of societal and

Table 9

Results of Thirteen Final Stepwise Multiple Regressions: Whole Population

1. Dependent Variable: Total Conflict, R = .692, R^2 = .48 (N = 46)[a]

Independent Variables	R	R^2	Increase in R^2
Literacy	.508	.26	
Government Revenue/Expenditure	.617	.38	.12
Holidays	.673	.45	.07
Political Parties	.679	.46	.007
Primary School Enrollment	.684	.47	.007
GNP p.c. 1955	.687	.47	.004
Life Expectancy	.689	.48	.002
Membership Largest Language Group/Pop.	.692	.48	.003

Not Entered[b]: Percentage Voting
Bloc Membership
Population Increase

2. Dependent Variable: Total Conflict, R = .688, R^2 = .474 (N = 46)[a]

Independent Variables	R	R^2	Increase in R^2
Literacy	.508	.258	
Government Revenue/Expenditure	.617	.380	.12
Holidays	.673	.453	.07
Political Parties	.679	.461	.007
Primary School Enrollment	.684	.468	.007
Membership Largest Language Group/Pop.	.686	.471	.002
Life Extectancy	.687	.472	.001
Percentage Voting	.688	.473	.0008
Population Increase	.688	.474	.0007
Agricultural Workers/Labor Force, 1955	.688	.474	.0001

Not Entered[b]: Bloc Membership

Table 9 (Continued)

3. Dependent Variable: Total Conflict, R = .688, R^2 = .474 (N = 46)[a]

Independent Variables: Same as Last Regression up to and Including Population Increase.
Not Entered: Bloc Membership
GNP p.c. Growth Rate, 1955-60

4. Dependent Variable: Total Conflict, R = .713, R^2 = .508 (N = 46)[a]

Independent Variables	R	R^2	Increase in R^2
Literacy	.508	.258	
Government Revenue/Expenditure	.617	.380	.12
Holidays	.673	.453	.07
Political Parties	.679	.461	.007
Primary School Enrollment	.684	.488	.007
Membership Largest Language Group/Pop.	.686	.471	.002
Life Expectancy	.687	.472	.001
GNP p.c. 1958	.688	.474	.001
GNP p.c. 1958^2	.710	.505	.03
Population Increase	.711	.506	.001
Bloc Membership	.712	.507	.001
Percentage Voting	.713	.508	.001

5. Dependent Variable: Revolution, R = .763, R^2 = .58 (N = 47)[a]

Independent Variables	R	R^2	Increase in R^2
Life Expectancy	.722	.52	
Holidays	.744	.55	.03
Military Personnel/Pop.	.753	.56	.01
Percentage Voting	.757	.57	.006
Literacy	.759	.57	.003
Birth Rate	.760	.58	.001
Membership Largest Ethnic Group/Pop.	.761	.58	.001
Primary School Enrollment	.762	.58	.001
Technical Assistance Received	.763	.58	.0007
GNP p.c. 1955	.763	.58	.0003

Table 9 (Continued)

6. Dependent Variable: Revolution, $R = .766$, $R^2 = .587$ $(N = 47)^a$

Independent Variables	R	R^2	Increase in R^2
Life Expectancy	.722	.522	
Holidays	.744	.554	.03
Military Personnel/Pop.	.753	.567	.01
Percentage Voting	.757	.573	.007
Literacy	.759	.577	.003
Agricultural Workers/Labor Force, 1955	.761	.579	.002
Membership Largest Ethnic Group/Pop.	.763	.582	.002
Birth Rate	.765	.585	.003
Primary School Enrollment	.766	.587	.001
Not Entered[b]: Technical Assistance Received			

7. Dependent Variable: Demonstrations, $R = .462$, $R^2 = .21$ $(N = 64)^a$

Independent Variables	R	R^2	Increase in R^2
Government Revenue/Expenditure	.342	.12	
Population Size	.446	.20	.08
GNP p.c. 1955	.462	.21	.01
Not Entered[b]: Emigration			

8. Dependent Variable: Number Killed, $R = .685$, $R^2 = .47$ $(N = 53)^a$

Independent Variables	R	R^2	Increase in R^2
Secondary School and College Enrollment	.531	.28	
Life Expectancy	.584	.34	.06
Voting System	.623	.39	.05
Urbanization	.646	.42	.03
Expel or Recall Ambassadors	.665	.44	.02
Technical Assistance Received	.675	.46	.02
Newspaper Circulation	.681	.46	.008
Holidays	.684	.47	.004
GNP p.c. 1955	.685	.47	.002

Table 9 (Continued)

9. Dependent Variable: Number Killed, R = .711, R^2 = .505 (N = 53)[a]

Independent Variables	R	R^2	Increase in R^2
Secondary School and College Enrollment	.531	.282	
Life Expectancy	.584	.341	.06
Voting System	.623	.388	.05
Urbanization	.646	.417	.03
Expel or Recall Ambassadors	.665	.442	.02
Technical Assistance Received	.675	.455	.01
Newspaper Circulation	.681	.464	.008
Agricultural Workers/Labor Force, 1955^2	.684	.468	.004
Agricultural Workers/Labor Force, 1955	.710	.504	.04
Holidays	.711	.505	.001

10. Dependent Variable: GNP p.c. 1963, R = .935, R^2 = .875 (N = 46)[a]

Independent Variables	R	R^2	Increase in R^2
Life Expectancy	.923	.852	
Literacy	.925	.856	.004
Holidays	.928	.861	.004
Total Conflict	.928	.862	.001
Total $Conflict^2$	.933	.873	.009
Population Increase	.934	.873	.001
Percentage Voting	.935	.874	.001
Bloc Membership	.935	.875	.0002

Not Entered[b]: Membership in Largest Language Group/Pop.
Political Parties
Government Revenue/Expenditure
Primary School Enrollment

11. Dependent Variable: Agriculture Workers/Labor, R = .927, R^2 = .861 (N = 46)[a]

Independent Variables	R	R^2	Increase in R^2
Life Expectancy	.877	.769	
Bloc Membership	.894	.800	.03
Literacy	.914	.836	.04
Total $Conflict^2$	.919	.845	.008
Political Parties	.922	.850	.005
Total Conflict	.925	.856	.006
Percentage Voting	.926	.857	.001
Population Increase	.926	.859	.001
Holidays	.927	.860	.0007
Membership in Largest Language Group/Pop.	.927	.860	.0007
Government Revenue/Expenditure	.927	.860	.0002
Primary School Enrollment	.927	.861	.0002

Table 9 (Continued)

12. Dependent Variable: GNP p.c. 1963, R = .941, R^2 = .833 (N = 47)[a]

Independent Variables	R	R^2	Increase in R^2
Life Expectancy	.912	.833	
Technical Assistance Received	.933	.870	.037
Birth Rate	.936	.876	.005
Holidays	.938	.880	.003
Literacy	.939	.883	.003
Percentage Voting	.940	.884	.001
Military Personnel/Population	.941	.885	.0006
Primary School Enrollment	.941	.885	.0004
Revolution	.941	.886	.0003
Revolution^2	.941	.886	.0008
Membership in Largest Ethnic Group/Pop.	.941	.887	.0003

13. Dependent Variable: Agricultural Workers/Labor, R = .921, R^2 = .848 (N = 47)[a]

Independent Variables	R	R^2	Increase in R^2
Life Expectancy	.868	.753	
Holidays	.887	.787	.03
Membership in Largest Ethnic Group/Pop.	.895	.801	.01
Percentage Voting	.902	.813	.01
Literacy	.910	.829	.02
Birth Rate	.915	.837	.008
Revolution^2	.919	.845	.007
Military Personnel/Pop.	.920	.846	.001
Revolution	.921	.848	.002

Not Entered[b]: Technical Assistance Received
Primary School Enrollment

[a]The N varies because of the different amounts of missing data on different variables.

[b]Not significant at .10 level.

capabilities variables with the economic development and political instability variables. The other aspect of the relationship which holds interest is the importance of the different indicators of the various categories of variables in explaining the dependent variable. There are four final equations involving total conflict as the dependent variable. The addition of the final variables improves the explanation of variation in total conflict by a range of 37.7% to 44.6%. The original amount of explained variation in total conflict accounted for by GNP per capita in 1955 alone was 9%, while the addition of the final variables increases the explained variation to 48%. The final variables together account for 47.4% of the explained variation in total conflict in the equation involving the percentage of agricultural workers in 1955, an increase from only 2.8% using the economic variable alone. The amount of variation in total conflict explained by the GNP per capita growth rate, 1955-60 alone is 6.7% while the inclusion of the final set of variables increases the amount explained to 47.4%. Finally, the only significant curvilinear relationship with total conflict as the dependent variable included GNP per capita 1958 and its square as the independent variables which together accounted for only 8.1% of the explained variation in total conflict. Adding the final set of independent variables increases the amount of explained variation to 50.8%. While the improvement in explanation of the variation in total conflict by the addition of the societal and capabilities variables to the economic development variables is quite good, in the best case only slightly over half of the variation in total conflict is explained by these variables.

The order of entry of independent variables into the stepwise regression equations is interesting for two main reasons: 1) the importance of the societal categories and capabilities variables is different for each of the political instability variables; and 2) in no case are the economic

development variables important in explaining political instability when the societal and capabilities variables are included among the independent variables. When total conflict is the dependent variable, the economic development variables add from almost no explained variation to only 3.1% in the case of GNP per capita in 1958 and its square. The order of entry of variables into the regression equations involving total conflict as the dependent variable indicate that three variables together account for most of the explained variation in total conflict. The first variable to enter all the equations is literacy (the indicator of the societal category of communications) which by itself accounts for 26% of the explained variation in total conflict. The extractive capability measure of total government revenue to total expenditure enters second, adding 12% to the explained variation. And the number of holidays (included in the final equations as a measure of political legitimacy) enters third, adding 7% to the explained variation. Together these three variables account for 46% of the total 48% of variation in total conflice explained by the independent variables. The first variable entered, literacy, has moderate to high simple correlations with most of the other independent variables (population increase, -.59; percentage voting, +.53; life expectancy, +.92; primary school enrollment, +.91; holidays, =.46; memebership in largest language group/population, +.32; and GNP per capita, 1955, +.79). And the simple correlations between total conflict and the independent variables are moderate (life expectancy, -.59; literacy, -.51; primary enrollment, -.44; holidays, +.46; revenue/expenditure, -.43; GNP per capita, 1955, -.45). When partial correlations are calculated holding literacy constant, all of the individual moderate correlations between the other independent variables and total conflict drop to below $\pm.12$, except for holidays ($r = +.31$) and revenue/expenditure ($r_p = -.41$). This seems to indicate that literacy, the number of holidays, and revenue/expenditures are all independently related to total

conflict and act more effectively in combination to explain the variation in total conflict. Substantively, by combining the information of the order of entry into the equations and the signs of the simple correlations between the three most important variables and total conflict, it is possible to conclude that there is a moderately strong tendency for high levels of total conflict to occur in nations that have low literacy rates (poorly developed communications facilities), low ratios of revenue to expenditures (poorly developed extractive capabilities), and a high number of national holidays (or high legitimacy, if this is indeed an adequate measure of legitimacy).

The political instability indicator of revolution is included in two of the final equations as a dependent variable. The original regression of revolution on GNP per capita in 1955 showed that GNP explained 31.9% of the explained variation in revolution, while the addition of the societal and capabilities variables in the final equation increases the amount of explained variation by 26.1% to a total of 58%. The addition of the set of final variables added even more explained variation in revolution to the equation involving the percentage of agricultural workers in 1955, from 16.5% to 58.7%. Thus, a little over half of the variation in revolution is explained by each one of the final equations.

The order of entry of variables into the equations with revolution as a dependent variable differs from the order in the total conflict regressions, although the economic development variables again account for almost no additional explained variation in revolution. Life expectancy (the health level indicator) enters the equation first and by itself accounts for 52% of the explained variation in revolution. The number of holidays (indicator of legitimacy) enters second but only accounts for an additional 3% of the explained variation. And the proportion of military personnel to population (indicator of regulative capability) enters third but accounts for only an additional 1% of the variation. Together these three variables account for

57% of the explained variation in revolution. The importance of the health level alone in explaining revolution can be seen by the results of partialing on the indicator of health level, life expectancy. Life expectancy is fairly highly correlated with the other independent variables (military personnel, +.42; percentage voting, +.62; literacy, +.91; birth rate, -.82; primary school enrollment, +.86; holidays, -.52; membership in largest ethnic group/population, +.54; GNP per capita, 1955, +.83; technical assistance received, -.89). And revolution is moderately correlated to most of the independent variables (military personnel, -.43; percentage voting, -.42; life expectancy, -.72; literacy, -.67; birth rate, +.63; primary school enrollment, -.64; holidays, +.53; membership in largest ethnic group/population, -.32; technical assistance, -.59; GNP per capita, 1955, +.63). When partial correlations are run holding life expectancy constant, all the correlations are lowered to below $\pm$.12 except for military personnel (still lowered considerably to $r_p = -.21$) and holidays ($r_p = +.26$). The best independent predictor of revolution, therefore, is the health level of the population as indexed by life expectancy. It appears that high levels of revolution occur much more frequently in nations with low health levels (low life expectancies) than in countries with high health levels. Political factors appear to be much less important in explaining the occurrence of revolution, and the explanatory value of economic development factors after health level is considered is nil.

The political instability variable, demonstrations, entered into only one of the final equations. The addition of the final set of variables adds 20.8% to the .2% of the variation in demonstrations explained by GNP per capita in 1955 alone. However, this additional variation explained only brings the total of explained variation to 21%. Again, demonstrations is the worst-explained political instability variable. The order of entry into

the final equation indicates that political capabilities variables and demographic variables best predict the occurrence of demonstrations. Revenue/expenditure (extractive capability) enters first, explaining 12% of the variation by itself. The population measure, population size, enters second and accounts for an additional 8% explained variation. Although GNP per capita in 1955 enters third, it accounts for only an additional 1%. Revenue/expenditure is not correlated even moderately with any of the other entering variables. Demonstrations are moderately correlated with population size (+.34) and revenue/expenditure (-.34). Partialing on revenue/expenditure, the correlation between demonstrations and population size stays about the same, but the correlation between GNP per capita in 1955 and demonstrations rises from a negligible -.02 to a very minute -.13. This would seem to indicate although the economic development variable does not add much additional explained variation to demonstrations, what it does add is due to its effects independent of the extractive capabilities of nations. On the whole, however, the rather poorly explained variable of demonstrations is best accounted for by the extractive capability of nations and the size of their populations. There seems to be a very slight tendency for higher levels of demonstrations to occur in countries with low extractive capabilities and large populations. This combination of predictive variables seems to suggest that demonstrations are more likely to occur where resources are inadequate to meet the needs of large populations.

There are two final equations which include the number of people killed in all forms of political instability as the dependent variable. The addition of the final set of independent variables to the equation involving only GNP per capita in 1955 as the independent variable increases the explained variation from 17.4% to 47%. And the addition of the final set of independent

variables to the curvilinear relationship involving percentage of agricultural workers in 1955 and its square improves the explained variation by 33.8%, from 16.7% in the polynomial regression with two independent variables to 50.5% in the final regression. Again, the economic development variables are fairly unimportant in explaining the number killed when the final set of variables is considered.

The order of entry of independent variables into the equations differs from the order for the other three instability variables. The first variable to enter is a measure of the level of education, enrollment in secondary schools and colleges, and it accounts for 28% of the variation by itself. Second to enter is a health measure, life expectancy. This variable adds 6% to the explained variation. The third to enter is voting system (here a measure of political participation), which adds 5% more to the explained variation in the number killed. The enrollment in secondary schools and colleges has fairly high correlations with the other independent variables (urbanization, +.67; life expectancy, +.65; newspaper circulation, +.72; voting system, +.34; holidays, -.37; GNP per capita, 1955, +.65; technical assistance, -.63). The correlations between the number killed and the independent variables tend to be moderate (urbanization, -.37; life expectancy, -.53; newspaper circulation, -.53; voting system, -.37; enrollment in secondary schools and colleges, -.53; holidays, +.35; GNP per capita, 1955, -.47; technical assistance, +.41). When the first entering variable, enrollment in secondary schools and colleges is held constant, the correlations between the independent variables and the number killed drop considerably. The partial correlations involving the second and third entering variables are -.29 and -.24, respectively. This appears to indicate that while the education level of a country is most important in explaining the number of people

killed in political violence, the health level and availability of peaceful means of political participation add additional predictive power. It seems there is a moderate tendency for higher numbers of people to be killed in political violence in countries which have low levels of education and health and restricted systems for peaceful political participation.

Finally, in the multiple regressions involving various economic development variables as dependent variables and instability variables as independent variables, the addition of the final set of independent variables increases the explained variation of the dependent variables from below 10% to at least 85% in all four regressions. Thus, the polynomial regression involving total conflict and its square as the independent variables and GNP per capita in 1963 as the dependent variable indicated that together the independent variables accounted for only 8.7% of the explained variation in GNP. This is increased to 87.5% by the addition of the societal and capabilities variables. Total conflict and its square explained only 8.2% of the explained variation in the percentage of agricultural workers in 1960, but the additional set of independent variables increased the explained variation to 86.1%. Revolution and its square accounted for 30.3% of the explained variation in GNP per capita in 1963, while the additional variables increased this variation to 88.7%. And revolution and its square accounted for 22.1% of the explained variation in the percentage of agricultural workers in 1960, the addition of the societal and capabilities variables increasing this variation to 84.8%. In none of the multiple equations does either total conflict or revolution account for more than an additional 1.4% of the explained variation, all of the instability variables entering in low order. The first entering and by far the best predictor of both economic development variables in all four equations is life expectancy, the indicator of the level of health. This variable alone accounts

for from 75 to 85% of the explained variation in the economic variables. This is not to say, however, that the life expectancy of a population determines the level of GNP per capita. On the contrary, the causal relation is most likely in the other direction. However, the results of the regressions indicate that life expectancy is by far the best of a number of predictors of economic development level. In addition, the minimal contribution of the instability variables to the explanation of variation in economic development indicates that one is much better off knowing the health level of a population than its political instability record when trying to predict future levels of economic development. Indeed, when life expectancy is held constant, all the simple correlations between the economic variables and the instability variables drop considerably: total conflict and GNP per capita in 1963, $r = -.48$, $r_p = -.07$; total conflict and percentage agricultural workers, $r = +.38$, $r_p = -.13$; revolution and GNP per capita, $r = -.63$, $r_p = +.09$; and revolution and agricultural workers, $r = +.57$, $r_p = -.18$. Thus, when the variations in the health level of populations are taken into account, the relationship between economic development and total conflict and revolution becomes even weaker than it is when no other variables are taken into prior consideration.

The results of the thirteen final regressions involving societal and capabilities variables as well as economic development and political instability variables leads to the general conclusion that economic development variables are not important in explaining variations in political instability variables nor are political instability variables important in the explanation of economic development.

Analysis of Final Equations within Homogeneous Groups

The preceding results are based on an analysis of the thirteen equations within the entire population of this study. It is possible that if certain kinds of similar nations are considered separately in terms of the thirteen equations, the results of the regressions involving the entire population may not hold within the homogeneous groups. Therefore, the thirteen final equations were examined within the eleven homogeneous groups of nations delineated by the three different categories of nations: economic development groups, political system types, and socio-cultural groups. As in the examination of the regressions involving political capabilities within the small groupings, the interest lies in the order of variables' entry into the stepwise regressions rather than in the multiple correlation or R^2. As before, the number of cases within some of the groups is so small that the multiple correlations approach one in many instances merely because the number of independent variables is large compared to the small number of cases involved in the regressions.

The order of entry of the first few variables into the separate regression equations within the homogeneous groups can be seen in Tables 10, 11, and 12. The results of the regressions involving total conflict as the dependent variable in the entire population indicated that three types of variables were of importance in explaining variation in total conflict: communication, political capabilities (extractive), and political legitimacy. The four economic development variables were found to be unimportant in explaining variation in total conflict when combined with the final set of independent variables. This lack of predictive value of the economic variables continues when nations are grouped in terms of their level of economic development, with two exceptions. (See Table 10). The percentage of agricultural workers is second in importance

Table 10

Most Important Independent Variables for Thirteen Final Regressions Within Economic Development Groups

Final Regression Number[a]	Economic Development Groups: Low (N = 9)	Medium (N = 13)	High (N = 24)
1. Y = Total Conflict	Literacy Primary School Enrollment	Life Expectancy Revenue/Expenditure	Life Expectancy Revenue/Expenditure
2. Y = Total Conflict	Literacy Primary School Enrollment	Life Expectancy Agri. Workers, 1955	Life Expectancy Revenue/Expenditure
3. Y = Total Conflict	Literacy Primary School Enrollment	Life Expectancy Agri. Workers, 1955	Life Expectancy Revenue/Expenditure
4. Y = Total Conflict	Literacy Primary School Enrollment	Life Expectancy Revenue/Expenditure	Life Expectancy Revenue/Expenditure
5. Y = Revolution	Technical Assistance Received	Primary School Enrollment	Life Expectancy
6. Y = Revolution	Technical Assistance Received	Primary School Enrollment	Life Expectancy
7. Y = Demonstrations	Revenue/Expenditure GNP p.c. 1955	Population Size Emigration	Population Size Revenue/Expenditure
8. Y = Number Killed	Secondary, College Enrollment Technical Assistance Received	Life Expectancy Secondary, College Enrollment	Voting System Life Expectancy
9. Y = Number Killed	Secondary, College Enrollment Technical Assistance Received	Life Expectancy Secondary, College Enrollment	Voting System Life Expectancy
10. Y = GNP p.c. 1963	Life Expectancy Political Parties	Life Expectancy	Life Expectancy
11. Y = Agri. Workers/ Labor Force, 1960	Literacy Life Expectancy	Life Expectancy Holidays	Life Expectancy Bloc Membership
12. Y = GNP p.c. 1963	Life Expectancy Technical Assistance Received	Life Expectancy Revolution	Life Expectancy
13. Y = Agri. Workers/ Labor Force, 1960	Primary School Enrollment	Life Expectancy Holidays	Life Expectancy

[a]See Table 9 for full lists of variables in each of the thirteen final regressions, which are listed in the same order in Tables 9, 10, 11, and 12.

Table 11

Most Important Independent Variables for Thirteen Final Regressions Within Political System Groups

Final Regression Number[a]	Political System Groups: Centrist (N = 7)	Personalist (N = 10)	Polyarchic (N = 29)
1. Y = Total Conflict	Life Expectancy Political Parties Population Increase	Population Increase Revenue/Expenditure Holidays	Literacy Revenue/Expenditure Bloc Membership
2. Y = Total Conflict	Life Expectancy Agri. Workers, 1955	Population Increase Revenue/Expenditure	Literacy Revenue/Expenditure
3. Y = Total Conflict	GNP p.c. Growth Rate, 1955-60 Primary School Enrollment	Population Increase Revenue/Expenditure	Literacy Revenue/Expenditure
4. Y = Total Conflict	Life Expectancy GNP p.c. 1958[2]	Population Increase Revenue/Expenditure	Literacy Revenue/Expenditure
5. Y = Revolution	Military Personnel Ethnic Group/Population	Life Expectancy GNP p.c. 1955	Literacy
6. Y = Revolution	Military Personnel Ethnic Group/Population	Life Expectancy Percentage Voting Agri. Workers, 1955	Literacy
7. Y = Demonstrations	GNP p.c. 1955 Revenue/Expenditure	Population Size	Population Size
8. Y = Number Killed	Urbanization GNP p.c. 1955 Secondary, College Enrollment	Urbanization Secondary, College Enrollment	Life Expectancy
9. Y = Number Killed	Urbanization Agri. Workers, 1955	Urbanization Secondary, College Enrollment	Life Expectancy
10. Y = GNP p.c. 1963	Political Parties Primary School Enrollment	Life Expectancy Population Increase	Life Expectancy
11. Y = Agri. Workers/ Labor Force, 1963	Population Increase Life Expectancy	Life Expectancy Political Parties	Life Expectancy
12. Y = GNP p.c. 1963	Literacy Technical Assistance Received	Technical Assistance Received	Technical Assistance Received
13. Y = Agri. Workers/ Labor Force, 1963	Birth Rate Military Personnel	Life Expectancy	Life Expectancy

[a]See Table 9 for full lists of variables in each of the thirteen final regressions, which are listed in the same order in Tables 9, 10, 11, and 12.

Table 12

Most Important Independent Variables for Thirteen Final Regressions Within Socio-Cultural Groups

Final Regression Number[a]		Socio-Cultural Groups				
		Latin (N = 16)	Asian (N = 6)	E. European (N = 6)	W. European (N = 12)	Anglo-Saxon (N = 7)
1.	Y = Total Conflict	Pop. Increase GNP p.c. '55	Literacy Lng./Pop.	GNP p.c. '55 Pct. Voting	Bloc Membership Rev./Exp.	Pct. Voting
2.	Y = Total Conflict	Pop. Increase Holidays	Literacy Agri. Workers '55	Bloc Membership Agri. Workers '55	Bloc Membership Rev./Exp.	Pct. Voting
3.	Y = Total Conflict	Pop. Increase Holidays Rev./Exp.	Literacy Lng/Pop.	GNP p.c. Grth. Rt. 1955-60 Lng./Pop.	Bloc Membership Rev./Exp.	Pct. Voting Lng./Pop.
4.	Y = Total Conflict	Pop. Increase GNP p.c. '58[2]	Literacy Lng./Pop.	Bloc Membership Literacy	Bloc Membership Rev./Exp.	Pct. Voting
5.	Y = Revolution	Mil. Personnel GNP p.c. '55	Life Expectancy	Mil. Personnel Holidays	---	---
6.	Y = Revolution	Mil. Personnel	Life Expectancy	Mil. Personnel Holidays	---	---
7.	Y = Demonstrations	Emigration GNP p.c. '55 Pop. Size	Rev./Exp. Pop. Size	GNP p.c. '55 Pop. Size	Pop. Size	Rev./Exp. GNP p.c. '55 Pop. Size
8.	Y = Number Killed	Voting System Expel Ambassador Urbanization	Holidays Voting System	Urbanization Holidays	Holidays Expel Ambassador	GNP p.c. '55 News. Circ.
9.	Y = Number Killed	Voting System Expel Ambassador Urbanization	Holidays Voting System	Urbanization Agri. Workers '55	Holidays Expel Ambassador	News. Circ.
10.	Y = GNP p.c. 1963	Life Expectancy Lng./Pop. Tot. Conf.[2]	Pop. Increase	Literacy	Literacy	Tot. Conf.[2] Life Expec. Literacy
11.	Y = Agri. Workers '63	Life Expectancy Pop. Increase	Primary Enrol.	Literacy Pop. Increase	Life Expectancy Lng./Pop.	Holidays Tot. Conf. Rev./Exp.
12.	Y = GNP p.c. 1963	Tech. Assis.	Tech. Assis.	Literacy	Literacy	Mil. Personnel Tech. Assis.
13.	Y = Agri. Workers '63	Life Expectancy	Primary Enrol. Tech. Assis.	Literacy Birth Rate	Life Expectancy Ethnic/Pop.	Tech. Assis.

[a]See Table 9 for full lists of variables in each of the thirteen final regressions, which are listed in the same order in Tables 9, 10, 11, and 12.

in explaining variation in total conflict in the medium economic development group. And GNP per capita in 1955 is second in explaining variation in demonstrations in the low development group. The importance of other variables in explaining total conflict within the three economic development groups shows a difference between the lowest group on the one hand and the medium and high groups on the other. Communications is the most important variable in explaining variation in total conflict in the lowest development group, as in the whole population. Communications is most often followed by education in this group rather than capabilities as in the whole population. The medium and highest economic groups most often show the health indicator as being the best predictor of total conflict followed by the capabilities measure. This difference among the economic development groups make it appear that in the very poor countries, there must be some basic level of communications and education in order for acts of political instability to occur, but that once the middle and higher levels of economic development accompanied by improved communications and education are reached, the most important predictors of total conflict then become the general health level of the population and the ability of the political system to use resources efficiently.

The results of the total conflict regressions within the political system groups reveal that unlike the trend in the whole population, the role of economic development variables in explaining the variation in total conflict is at least fairly important within the centrist group. The economic variables enter early in three of the four total conflict regressions within the centrist group. The health level, however, entered first in three of the four equations so that some combination of economic development indicators and the health level seem to be the best predictor of total conflict within the centrist

countries. The polyarchic group follows a similar pattern to the overall population in that communications and capabilities are most important for explaining variation in total conflict. However, in the personalist group the population variable of population increase is the best predictor of total conflict, followed by capabilities. It appears from these results that while in the centrist nations both the level of economic development and the general health level of the population are important for predicting total conflict, in the personalist and polyarchic nations the capabilities of the political system in gathering resources is second in importance for predicting total conflict only to the weight of the problem of population increase in the personalist nations and the existence of varying communications capabilities within the polyarchic systems. The centrist nations, those whose political systems' control over their populations is greatest, appear to need to perform well economically to deter political instability. The control of personalist nations over the occurrence of political instability seems to depend more on the independent fact of the rate of population increase, while the polyarchic systems seem to require both the communications systems and resource capabilities to carry on their democratic style of governing peacefully.

The patterns established by the total conflict regressions within the socio-cultural groups vary considerably. In the Latin nations, the most important variable in explaining variation in total conflict is the population factor of population increase. This variable is followed by the economic development level in two regressions and political legitimacy and capabilities in two regressions. These variables would seem to indicate that rate of population increase in combination with the ability of the political system to support its population adequately helps to determine

the amount of political instability. In the Asian group, on the other hand, the communications variable is most important in explaining variation in total conflict, followed by the amount of cultural diversity in three regressions and the structural level of economic development in one regression. It appears that in the Asian group, level of literacy and communications systems in combination with the problem of language diversity is most important in accounting for the level of political instability. In the East European group, the level and rate of economic development appear to be most important in explaining variation in total conflict. Bloc membership also explains much of the variation in total conflict within this group. It appears that within the East European group, not only is economic performance important in maintaining stability but the allegiance to a certain group of nations has some significance for political stability. Bloc membership is also the best predictor of the degree of total conflict within the West European group. It is followed by capabilities so that the performance of the political system in terms of using whatever resources it has as well as its outside allegiances help to explain variations in political stability. Finally, within the Anglo-Saxon group, the most important variable in explaining variation in total conflict is the measure of political participation. Apparently, in the Anglo-Saxon nations, the availability of opportunities to participate peacefully in political activities is important in determining the amount of political instability in the form of total conflict.

In the total population, there are two regressions involving revolution as the dependent variable. The variables that are most important in explaining variation in revolution in the overall population are those indexing health, political legitimacy, and capabilities (in that order). The trends are fairly

similar within the various groups of nations. As in the entire population, the variables indicating economic development are not found to explain much variation in revolution when combined with the final set of independent variables. However, in the total population, the regulative capability is third in importance in explaining variation in revolution, but in the lowest development group it is not the regulative capability which is most important but the extractive capability in the form of technical assistance received. In the medium economic development group, the level of education is most important in explaining variation in the occurrence of revolution. And in the highest development group, it is the health level which accounts for most variation in revolution. These differences make it appear that the existence of resources is more important to the occurrence of revolution at the lowest levels of economic development whereas at the medium and highest levels of development the opportunities available to share in the fruits of development are more important.

The patterns within the political system groups are interesting. In the centrist group, the regulative capability is most important in explaining the occurrence of revolution, followed by cultural diversity in terms of the ethnic composition of the populations. The ability to repress even ethnically diverse populations therefore seems to be most important for accounting for revolutions in the centrist nations, with high repression and low revolution occurring together. The pattern in the personalist group is similar at least in the entry of the first variable to the entire population. Within the personalist nations, the health level is most important for determining the occurrence of revolutions. In addition, this is the only group within which the economic development variables are important at all in explaining variation in revolution. It appears that when political power is concentrated in one leader, his maintenance in power is in large part determined by his ability to deliver

the benefits of economic development to the people. On the other hand, the most important variable category for explaining variation in revolution within the polyarchic group is communications. It appears that as in the case of total conflict, the polyarchic systems' ability to maintain a communications system that can support democratic means of governing has great importance for the occurrence of revolution.

In the socio-cultural groups, there were no revolutions in the West European and Anglo-Saxon groups and therefore no predictors. In the Latin countries the regulative capability is the most important variable in explaining variation in revolution, as is the case in the East European group. In the East European group, not only is the size of the military force important in explaining the occurrence of revolution, but the legitimacy of the regime (as indexed by holidays) is second in importance just as in the overall population. Finally, in Asia the health level of the population explains most variation in revolution, as it does in the entire population.

There is only one regression involving demonstrations in the overall population. It shows that the small amount of variation that is explained is done so by the extractive capability and the population factor of population size. The patterns within the groupings of nations are very similar to the overall results. The extractive capability is most important in explaining the variation in demonstrations in the lowest economic development group. The level of income per capita is also important within this group. The population characteristic of population size is the best predictor of demonstrations in both the medium and highest economic development levels. In general, then, the ability of the political system to use resources effectively is most important in determining the occurrence of demonstrations in the lowest group, while the mere fact of population size accounts for most of the variation in

demonstrations in the medium and highest level groups.

Within the centrist group, the level of per capita income is most important in explaining variation in demonstrations. The extractive capability is also fairly important within this group. In the personalist and polyarchic groups, however, the size of the population again accounts for most of the explained variation in demonstrations. In these two types of political systems it is not the capabilities of the political system which determine the occurrence of demonstrations but more often the population size. In the centrist nations, however, both economic performance and the efficient use of resources by the political system account for much of the variation in demonstrations.

Most of the best predictors within the socio-cultural groups are the capabilities and demographic measures. In the Latin group, however, the most important variable in explaining variation in demonstrations is emigration, which is a measure of the opportunities for peaceful political participation (or complete withdrawal from the system, as in the case of this variable). The second variable entering the regression in the Latin group is the level of per capita income, followed by population size. It appears that in the Latin group, the availability of alternatives to demonstrating opposition to the regime as well as the level of economic development is more important in explaining the occurrence of demonstrations than are capabilities or population size. In the Asian group, on the other hand, the extractive capability and population size are again most important in explaining variation in demonstrations. In the West European group, population size alone is the best predictor of demonstrations. In the East European group the level of economic development followed by population size are most important in explaining variation in demonstrations. Finally, in the Anglo-Saxon group, the extractive capability explains most variation in demonstrations. It is

followed, however, by the level of economic development and then by population size, so that political, economic, and human resources best explain the occurrence of demonstrations.

There are two final equations involving the number killed in all forms of political instability in the overall population. The results of these regressions show that three types of variables are important in explaining variation in the number killed: education, health, and political participation. The economic development variables again are not important in predicting the dependent variable. The patterns within the individual groups of nations are somewhat different than for the whole population. Within the economic development groups, the order of importance of variables differs with the level of development. In the lowest group, education is the most important variable in explaining variation in the number killed, followed by extractive capabilities and the population feature of urbanization. Within the medium economic group, health is the best predictor of the number killed, followed by education. And in the highest group, political participation is the most important variable in explaining variation in the number killed, followed by the health level of the population. These different patterns of order of importance seem to indicate that in the lowest level of development the performance of the political system in providing some of the features of modern life as well as in obtaining resources is most important in explaining variations in the number killed. In the middle level of economic development both the improvement in health level and the performance of the political system in providing education is most important, while in the highest level, the opportunities for peaceful political participation seem to be the most important in determining the intensity of political instability.

Within the political system groups, the population feature of urbanization is most important in accounting for variation in the number of people killed both in the centrist and personalist groups. In the centrist group, this is followed by the economic development variables and then the education variable. In the personalist group, education is the second best predictor of the number killed. In the polyarchic group, on the other hand, the general health level of the population is the best predictor of the number killed. These varying patterns would seem to indicate that in political systems in which control of the population is essential to political stability, the physical placement of and access to that population is most important in determining the intensity of political instability. In political systems which rely upon the population's cooperation rather than coercion, the physical placement of the population seems not to be important. Instead, the general well-being of the population appears to be important in determining the intensity of political instability.

In some of the socio-cultural groups, political factors account for more of the variation in the number killed than they do in the overall population. Within the Latin group, the indicator of political participation explains most of the variation in the number killed. It is followed by the index of foreign involvement (measured by diplomatic conflict) and urbanization. Political factors are also important predictors of the number killed in the Asian group. Political legitimacy is the most important independent variable in this group, followed by political participation. Thus, both the acceptance of the regime's legality and the availability of opportunities for peaceful political participation appear to be important factors in determining the intensity of political instability in the Asian group. Legitimacy is also the best predictor of the number killed within the West European group. Here, the amount of foreign

involvement (at least the amount of diplomatic conflict) is the second most important predictor of the intensity of political instability. Within the East European group, urbanization is the most important predictor of number killed. In addition, one regression within this group results in the structural feature of the economy of percentage of the labor force in agriculture being the second best predictor of intensity. This characteristic coupled with the urbanization predictor seems to indicate again that the physical dispersion of the population is very important in accounting for certain aspects of political instability in coercive systems. Finally, within the Anglo-Saxon group, the level of per capita income is the best predictor in one equation and the level of communications follows income in accounting for variation in the number killed in the first equation. Thus, it appears that within the Anglo-Saxon group, economic development factors and aspects of the communications systems best explain variations in the intensity of political instability.

There are four regressions involving economic development variables as dependent variables. Two of the regressions include total conflict and its square among the independent variables and two include revolution and its square as independent variables. In the overall population the economic development variables are best predicted by the health level of the population. This result is carried out for the most part within the economic development groups. The exceptions are that communications rather than health level best explain the variation in the structural level of economic development in the low development group in the regression with total conflict as an independent variable, and the level of education is the best predictor of structure in the low group for the regression involving revolution. The only political instability variable that enters into any of the regressions

within the economic development groups at an early stage is revolution, which is the second best predictor of the level of economic development in terms of income per capita in the medium development group.

The results of the regressions involving economic development variables as dependent variables are a little more varied in the political system groups, although the political instability variables are consistently absent as predictors in all the regressions. In the regressions involving total conflict and its square, the personalist and polyarchic groups follow the overall pattern with health being the best predictor of the economic development variables. The centrist group, however, differs from this pattern in that the political characteristic of number of political parties allowed is the best predictor of the level of income per capita, while the population feature of the rate of population increase explains much of the variation in the structural level of development. In the two regressions with revolution and its square as two of the independent variables, the health level is the best predictor of the structural level of development in the personalist and polyarchic groups. Within the centrist group, the best predictor of the structural level of development is again an indicator of population, the birth rate. In the regressions involving revolution and its square as two of the independent variables and the income level of development, the extractive capability as measured by the amount of technical assistance received best predicts the level of income per capita in the personalist and polyarchic groups, while the best predictor in the centrist group is communications followed by extractive capability.

The pattern of the variables' importance in explaining variation in economic development variables established by the regressions in the overall population seems to be most weakly upheld in the groups based on socio-cultural

area. In the equations involving total conflict and its square as two of the independent variables, the health level is the best predictor of the level of income per capita only in the Latin group and of the structural level of development in both the Latin and West European groups. In these equations in the other groups, the best predictor of the level of income per capita in the Asian group is the population feature of the rate of population increase. In both the East and West European groups the best predictor is the level of communication. And in the Anglo-Saxon group, the variable which accounts for most of the variation in the level of per capita income is the square of total conflict. This is the only case in these four regressions in which an instability variable is the first to enter the equation. In the other regression involving total conflict and its square as two of the independent variables, the structural level of economic development is best predicted in the Asian group by the education level, in the East European group by the level of communications, and in the Anglo-Saxon group by political legitimacy.

In the two regressions involving the economic development variables as dependent variables and revolution and its square as two of the independent variables, the instability variables do not enter early into the regressions in any of the groups. In the explanation of variation in level of per capita income, capabilities variables are important in the Latin and Asian groups (extractive) and in the Anglo-Saxon group (regulative). The communications variables are the most important predictors of variation in income per capita in the East and West European groups. Finally, the structural level of development is best predicted by the general health level in the Latin and West European groups, by education in the Asian group, by communications in the East European group, and by the extractive capability in the Anglo-Saxon group.

The results of the analysis of the thirteen final regression equations within the various homogeneous groups of nations show that while many of the relationships indicated by the results of the analysis using the whole population remain stable in various groups, there is enough deviation from the overall patterns to preclude the acceptance of the conclusions reached in the analysis of the final equations in the whole population without qualifying them with the observations made about the differences in patterns of relationships among the homogeneous groups. No doubt, it is much more difficult to think of the relationship between various economic, political capability, and societal variables, on the one hand, and political instability variables on the other hand as being qualified by differences among various types of nations. Nevertheless, the relationships do tend to vary with differences in the level of economic development, the type of political system, and the socio-cultural group. It would have been much better to discuss the strength of the relationships within the various groups as well as the order of variables' entry into the regression equations. However, the small number of cases in most of the homogeneous groups denied any meaningful interpretation of the numerical results. Even limiting the discussion to simply the differing orders of entry of variables into the regression equations in the various groups, however, is enough to indicate that political instability can only be thoroughly studied when different types of nations are taken into prior account. Only in this way will the complexity of the relationship of political instability to its determinants be fully indicated.

NOTES FOR CHAPTER V

[1]There are several categories of societal variables which are not included in the final equations due to the great amount of missing data on the variables which would lower the N of the final equations considerably. The categories not included are economic deprivation and want satisfaction for the regressions involving each of the four instability variables, and cultural diversity in the regressions involving demonstrations and number killed. On the whole, however, the correlations of those variables with the instability variables was small enough to warrant exclusion on the basis of lack of relationship as well as small N.

[2]Rudolph J. Rummel, Dimensions of Conflict Behavior within and between Nations (Evanston, Illinois: Northwestern University, mimeograph, 1963) and Raymond Tanter,"Dimensions of Conflict Behavior within and between Nations, 1958-1960"(Bloomington: Indiana University, unpublished Ph.D. dissertation, 1964).

CHAPTER VI

CONCLUSION

The Relationship between Economic Development and Political Instability

The results of the entire data analysis lead to one major conclusion about the validity of the main hypothesis concerning the existence of a curvilinear relationship between economic development and political stability: the data for these countries in the time period studied do not support it. Not only were the increases in the amount of variation explained in economic development and political instability very small when a curvilinear model was introduced, but only six of the thirty-seven small increases were statistically significant. In addition, four of these six significant curvilinear relationships indicated that the nature of the relationship between the variables involved was curvilinear in a manner different than that proposed by the main hypothesis. Whereas the hypothesis stated that low levels of political instability would occur at both low and high levels of economic development and higher levels of instability would occur at middle levels, four of the actual curvilinear relationships indicated that low and high levels of economic development quite often were accompanied by higher levels of instability than was the case at the middle levels of economic development. On the whole, however, even these curvilinear relationships involved a very small amount of explained variation in the dependent variables. It must be concluded, therefore, that basically there is no curvilinear relationship of any importance between economic development and political instability.

Barring the existence of a curvilinear relationship between economic development and political instability does not rule out the possibility that these

two factors are related in a linear fashion. The results of the analysis of the simple linear relationship between various measures of economic development and various indicators of political instability showed, however, that the relationship that exists is a generally small one except for the moderate relationship between the occurrence of revolution and the level of income per capita. On the whole, however, economic development does not explain much variation in political instability, nor does political instability explain much variation in the level of economic development. These results are contrary to the theorizing of many authors reported in the previous chapters. Those, such as Bauer and Yamey and Kuznets[1] who state that political stability is a necessary condition of economic development are not upheld by the findings of this project. Not only were the simple correlations between economic development and political stability small but the four significant curvilinear relationships involving economic development variables as dependent variables showed that high levels of economic development may be preceeded by either political stability or instability. And a variety of authors[2] who state that economic development leads to political instability in one way or another are not supported by this study.

The results of this study do support the few authors I found in my search of the literature who deny the lack of a relationship between economic development and political instability. Rudolph J. Rummel collected extensive data on political instability and socio-economic and political variables. In an analysis of political instability (1955-57) and national characteristics, Rummel used the four major factor dimensions of characteristics found by another author. These dimensions are the technological, demographic, size, and contrast in income and external relations.[3] He ran correlations of these factors with his nine indicators of political instability. The technology

factor, which is essentially a level of economic development indicator, showed a moderate correlation only with revolutions (+.42). However, when he controlled for the other dimensions, the correlation dropped to +.12. Thus, he found no clear relationship between political instability and economic development.

In another study, Rummel attempted to discover his own dimensions of national characteristics and political instability.[4] Using 236 variables on eighty-two nations for 1955, Rummel found the following dimensions of characteristics and behavior: economic development, size, political system, density, Catholic culture, foreign conflict behavior, and domestic conflict behavior. He found these dimensions to be independent and states: "... the domestic conflict behavior of a nation is largely unrelated to its economic development or political system."[5] Jack Sawyer confirms this finding using the same economic development data and different political instability data.[6] He found only very slight correlations between GNP per capita and indicators of political instability.

Political Capabilities' Effects on Political Stability

The lack of a strong relationship between economic development and political stability does not necessarily mean that there are no factors connected with economic development that are related to political stability. Indeed, the major part of the data analysis presented in the previous chapters was an attempt to show the nature of the complex relationship between a variety of factors and political instability. One of the groups of variables with which the analysis was most concerned was the political capabilities of nations and how these capabilities affect political stability. When the effect of political capabilities was considered independently of economic development, capabilities were found to account for much more variation in political instability

than the economic development variables alone. It will be recalled that different kinds of political capabilities best explained different kinds of political instability. On the whole, the extractive capability as measured by the ratio of government revenue to expenditure was important in explaining variation in total instability. The responsive capability as measured by the openness of the voting system was important in explaining variation in the number of people killed in all forms of political instability, but it and the distributive capability were not very important in explaining the other kinds of instability.

As I will recapitualte in the next section, the addition of several of the societal variables to the political capabilities variables in the regressions equations with total instability and the number of people killed as separate dependent variables changes the importance of the explanatory power of the capabilities variables and adds additional explained variation in the dependent variables. The addition of the societal variables to the equations with revolution and demonstrations as independent variables does not increase the explanatory power of the political capabilities variables. The extractive capability as measured by the ratio of government revenue to expenditure and by the need for technical assistance was most important in explaining variation in revolutions and demonstrations. It may be concluded, therefore, that there is a basic difference in the importance of political capabilities for different kinds of political instability. The development of adequate political capabilities--at least the extractive capability--seems to be important for the maintenance of the political system's authority. In other words, in terms of acts of instability directed expressly at the authority of the political system (demonstrations and revolution), it appears to be crucial for the political system to develop its extractive capabilities in order to

effectively maintain its authority in order to avoid these acts of political instability that show direct dissatisfaction with the authority of the political system. On the other hand, general political instability and the intensity of that instability (measured respectively by total internal conflict and the number of people killed in domestic political violence) appear to depend less on political capabilities than on other sociological factors. This more diffuse political violence is better explained by more diffuse social factors, as I have already discussed in Chapter V. It would appear from this analysis that if a political system wished to avoid direct challenges to political authority, it would be well advised to improve its extractive capabilities in order to maintain itself in power efficiently; but if it prefers to reduce general political violence, it would be better off to emphasize the fulfillment of social needs. Of course, these suggestions are merely speculative, since the question of direct causation of political instability still has not been settled by this or any other analysis.

In terms of the analysis of political capabilities and instability within the homogeneous groups of nations, controlling for the type of political system seemed to make no difference in the order of importance of capabilities in explaining instability. However, controlling for the level of economic development indicated that the responsive capability was more important in explaining instability in the low and medium economic development groups than was the extractive capability. As I have already shown, however, the direction of the effects of the development of the responsive capability is different in the two groups. In the low economic development group, the relationship found indicated that the greater the responsive capability as measured by the openness of the political party system the greater was the total amount of conflict. In the overall population it was found that the greater the extractive

capability, the less general political instability there was. It is interesting to note that although the most important predictor of political instability in the low economic development group was the responsive capability (and in the opposite direction than that predicted), the three next important variables in predicting instability within this group are measures of the extractive capability. And these three variables are related to instability in the predicted direction. Thus, in the low economic development group, the development of the responsive capability and extractive capability work in opposite directions on political stability. In the medium economic development group, the responsive capability was again the most important variable in explaining variation in political instability, but in this group the direction of the relationship is in the predicted direction of greater responsive capability, greater political stability. In this group also the extractive capability was next most important in explaining political instability. Finally, in the high economic development group, the extractive capability is most important for explaining political instability. The greater the extractive capability in this group, the greater the political stability.

In sum, these relationships might be interpreted to indicate that, purely in terms of political capabilities, at the lowest level of economic development, the development of political capabilities has a mixed effect on political stability with the development of the responsive capability acting negatively on stability while development of the extractive capability acts positively on stability. As a country develops, it appears that at the middle levels of economic development, the responsive capability is important for the maintenance of overall stability while the extractive capability is also important. Then, as a country develops further, the extractive capability alone appears to dominate the explanation of political instability. It appears that at this

high level of economic development, the ability of the political system to extract sufficient revenue to maintain the system efficiently and effectively outweighs all other political capabilities.

Societal, Political Capabilities, and Economic Development Variables in Explaining Political Stability

As I have previously discussed, when political capabilities variables were combined with economic development and societal variables, they generally explained less variation in total political instability and number killed than they did alone but they were still important in regard to their order of entry into the regression equations. And the addition of the societal variables to the capabilities indicators did not increase the amount of variation explained in revolutions and demonstrations, although the order of importance of explanatory power did change in favor of one of the societal variables in the regression with revolution as the dependent variable. In all, then, the addition of the societal variables adds more information to the explanation of variation in most kinds of political instability. On the other hand, the economic development variables explain almost no variation in political instability when combined with the capabilities and societal variables. It must be concluded, therefore, that even though there is a small relationship between economic development and political instability when only these two types of variables are included in an analysis, there seems to be almost no relationship between them when other variables are considered. These other variables are more important to political stability than is economic development and more important to economic development than is political stability.

In general, then, economic development variables were not found to be important for political stability nor were political stability variables found to be important for economic development when other variables were considered.

These other variables had varying effects on economic development and political instability depending upon which variables were used as dependent variables. On the whole, however, an analysis of the final thirteen equations in the overall population showed that economic development was not important in explaining variation in political instability and the contribution of political instability to explaining variation in economic development was almost non-existent. However, as I have shown, when countries are divided into groups on the basis of their stage of economic development, relationships between the societal and political variables, on one hand, and political instability, on the other hand, are illuminated. I am not, therefore, claiming that economic development is irrelevant.

In general, the addition of societal variables to the political capabilities and economic development variables improves upon the amount of variation explained in the amount of total conflict and the number killed while revolution and demonstrations have more variation explained by political capabilities alone. On the whole, the final equations indicated that certain of the political capabilities remained fairly important in the explanation of variation in political instability. More often, however, various societal variables were the best predictors of political instability. In the case of total conflict, it was found that communications (as measured by literacy) explained most variation in conflict, followed by the extractive capability (measured by the ratio of government revenue to expenditure) and legitimacy (measured by the number of national holidays). High total conflict was most often accompanied by low communications facilities and low literacy, poor extractive capabilities, and a high number of holidays. The best predictor of revolution was found to be the general health level of the population (as measured by life expectancy) followed by legitimacy and regulative capabilities although these two variables add very little additional explained variation. High

levels of revolution seem to occur in nations with low health levels. The extractive capability (as measured by the ratio of government revenue to expenditure) was the best predictor of demonstrations, with population size second. High levels of demonstrations occurred with poor extractive capabilities and big population size. The number killed was best predicted by the education level (measured by enrollment in secondary schools and colleges), the health level (measured by life expectancy), and the amount of political participation (measured by number of political parties). High numbers killed appear to occur more frequently with low education and health levels and low levels of political participation. These relationships among the societal and capabilities variables, on the one hand, and the political instability variables, on the other hand, serve to emphasize the lack of relationship between economic development and political instability. None of the economic development variables were important in explaining any of the political instability variables in the analysis of the thirteen final equations in the entire population.

When the thirteen final equations were considered within the homogeneous groups of nations in terms of economic development level, political system type, and socio-cultural area, the overall relationships among the variables held in the majority of cases but some interesting variations were found when using these controls. There were a number of variations in order of entry of societal, capabilities, and development variables into the equations. The most interesting of these differences are that within the centrist group, the economic development variables and regulative variables are generally more important in explaining instability than in the overall population as are the communications and economic development variables in the polyarchic and Anglo-Saxon groups and the political participation variables in the Latin and Anglo-Saxon groups. The overall relationships among the societal, capabilities,

economic development, and political instability variables, therefore, must be qualified by reference to the varying importance of variables within different homogeneous groups of nations.

If there is no strong relationship between economic development and political instability in the overall population and, with the few exceptions noted above, within the homogeneous groups of nations, then there must be some other variables that explain variation in political instability that are being mistaken as economic development by many of the authors whose works we have mentioned. The complexity of the processes of economic development and political development often confuse the researcher into accepting the most obvious but often erroneous explanation of the connections between the two processes. As we have already seen, many authors have stated that the process of economic development "naturally" leads to political instability because it is generally upsetting to the social system in ways which we have discussed at length. However, since I have found that there is no strong direct relationship and certainly no curvilinear relationship between economic development and political instability, I must not only state that the other researchers appear to be mistaken but I must try to show which of the factors I have found to be most closely related to political instability I think other researchers are mistaking for economic development.

In order to best show the factors I feel are being mistaken for economic development in their relationship to political instability, I will examine the order of entry of variables into the final equations within the three separate economic development groups of countries. If I can discover which variables best explain political instability at these different levels of economic development, perhaps I can show which of these variables are being mistaken for the process of economic development and its effect on political stability. Of

course, most of the societal variables are themselves correlated with the level of economic development, but by looking at the relationships within economic development groups we are, in effect, controlling for the level of economic development and looking at independent effects of the societal variables on political instability, regardless of the level of economic development.

In the low economic development group, the order of the variables' entry into the final equations is almost the same as in the overall population. However, whereas the health level of the population best explained revolution in the overall population, the extractive capability as measured by the amount of technical assistance needed explained most of the variation in revolution in the low economic development group. And since the extractive capability was most important in explaining variation in demonstrations in the low group, we may conclude that our analysis of the importance of the development of capabilities to the curtailing of political instability in the form of direct challenges to the political system holds in the low economic development group. As far as total political instability and the number of people killed in political violence (or the more diffuse political instability as we have labeled these two variables) are concerned, the most important variables in explaining this more diffuse instability are the indicators of communications (as measured by literacy) and education (as measured by enrollment in secondary schools and colleges). It is low literacy, low levels of higher education, and low extractive capabilities that are most important in explaining high levels of different kinds of political instability in the lowest economic development group. Instead of low economic development itself explaining political instability, it is rather the lack of progress in educating the population and in the political system's developing adequate resources to operate efficiently that are important; these are the factors that best explain political

instability at low levels of economic development, not the low level of economic development itself.

At the middle level of economic development there are some very interesting results in the search for the non-economic predictors of political instability. According to the curvilinear hypothesis I have discussed throughout this thesis, we would expect to find the capabilities variables being the most important explanatory factors in political instability, for it is at this level where demands are supposed to outstrip the capabilities of the political system and most political instability is supposed to occur because of the inability of the political system to meet the demands. On the contrary, we find that not one political capability entered a regression equation first in this middle economic development group. Instead, societal variables are of primary importance in explaining all kinds of political instability. We still find the same division of types of explanatory factors between the direct and diffuse forms of political instability, with the health level of the population (measured by life expectancy) explaining most variation in the diffuse instability (total instability and the number killed in political violence) and education and population pressures best explaining the more direct challenges to the political system. Variation in revolution is best explained by the level of education (measured by the ratio of primary school enrollment to school age population), while demonstrations are best explained by population pressures (measured by both population size and amount of emigration). We can conclude from these differences that even though direct measures of political capabilities were not important in explaining variation in political instability in this middle level economic development group, there is a difference for the political system in the kinds of political instability best explained by different societal factors that should be noted. The more diffuse forms of political instability appear to be best explained by the general health level

of the population--a factor that may not be directly attributable by those in poor health to the political system. But the two forms of more direct political instability are best explained by the level of education, which people usually do blame on the political system if the level is low, and population pressures, which multiply and exaggerate all problems for the political system. These societal factors, then, are those which I beleive others have mistaken for economic development factors in accounting for political instability.

Finally, at the highest levels of economic development, political capabilities again enter the explanatory picture--once as the best predictor of the number killed and again as secondary in importance in explaining demonstrations and total instability. There is also a difference in this group in the importance of the best explanatory variables for the diffuse and direct forms of instability in that there is no clear dist-nction between explanatory variables for these two general forms of violence. In this highest economic development group, direct violence is best explained by the health level of the population and by population pressures. Variation in revolution is best explained by health level as measured by life expectancy, and demonstrations are best explained by population pressures (size). Whereas we have assumed in the discussion of the middle level economic development group that the health level of the population is not generally blamed on the political system, perhaps at the highest levels of economic development in which social welfare is a political expectation, a low health level may be interpreted by the population as a failure of the political system. On the other hand, the health level is also the best predictor of total political instability (one kind of diffuse violence). The political capability of high effectiveness of extraction is second in importance in predicting total

political instability in this group, however, so that the political system is also important in the explanation of diffuse political instability. The other form of diffuse instability is the number killed in all forms of domestic political violence. The best explanatory factor for this instability variable is the responsive capability as measured by the type of voting system. Apparently, the ability of the political system to provide adequate opportunities for political participation and its ability to maintain a high health level while extracting adequate resources is associated with less diffuse political instability. In general, then, at the highest levels of economic development the most important variables in explaining political capability are a combination of health, population pressure, and political capabilities variables. At this highest level of economic development, therefore, the quality of the population and the extractive and responsive capabilities of the political system are most important in explaining political instability.

On the whole it may be concluded that the importance of the entire data analysis to the theorizing of other authors examined in earlier chapters is twofold: 1) the analysis indicates that the relationship between economic development and political instability is weak and complex rather than strong and straightforward as suggested by many of the authors; and 2) many of the relationships between non-economic variables and political stability suggested by the authors were upheld by this analysis. For instance, population pressures, low health levels, poor comunications and low levels of literacy, poor education, and more diverse cultures were all associated with higher levels of political instability. Political factors were also shown to have some importance for political stability. The detrimental effects of the lack of efficiency in governing pointed out by Lipset, Tsurutani, and Pye was upheld by the finding that poor extractive capabilities, which indicates low efficiency,

were very important in explaining variation in most kinds of political instability.[7] On the other hand, the idea that lack of legitimacy promotes political instability[8] was not upheld by the results of this study. Where legitimacy was found to be important at all, the indication was that legitimacy did not necessarily promote stability. Finally, the importance of opportunities for political participation to political stability indicated by Huntington[9] is upheld by the results of this study. High political participation consistently accompanied low instability.

Alternative Theories of Political Stability

The original aim of this research project was to try to determine the relationship between simple measures of economic development and political instability on the basis of a curvilinear model of the relationship. Using a variety of other research into the problems of political instability, I added additional variables to the analysis of the relationship between economic development and political instability. Particularly because I felt that the relationship would be very complex, I attempted to include in the statistical analysis many of the factors that I and others have considered to be important in some way for political stability. As I have shown in the several reviews of the data analysis in this and previous chapters, there was no strong direct relationship between economic development and political instability and no significant curvilinear relationship between them.

One of the results of my interest in investigating the curvilinear relationship between economic development and political instability was an examination of the demands-capabilities underpinning of the curvilinear relationship. Those who have stressed the curvilinearity hypothesis usually have done so on the basis of the assumption that at medium levels of economic development

demands rise and political capabilities are low, the result being increased amounts of political instability at this level of economic development. Thus, one of the side effects of this research project was to test the currently popular concept of demands-capabilities. Since most scholars who use the demands-capabilities language assume the underlying hypothesis that political development is the process of developing institutions and capabilities to meet generally increasing demands, the test of the relationship between capabilities and stability I have performed can be interpreted as an examination of the usefulness of the demands-capabilities conceptual framework.

As I have already discussed in the previous section on the effect of political capabilities and political stability, capabilities alone accounted for more variation in revolution and demonstrations than did their combination with the societal variables. Even here, however, the order of explanatory importance of variables changed in favor of a societal variable when societal variables were combined with the capabilities variables in regression equations with revolution as the dependent variable. I noted that the type of political instability that was best explained by political capabilities was that which involved direct confrontations with and challenges to the authority of the political system. On the other hand, more diffuse overall political instability and the general intensity of political instability (measured by the number killed in domestic political violence) were better predicted when combinations of societal and capabilities variables were entered into equations with total internal conflict and the number killed as separate dependent variables. Thus it would seem that more diffuse political instability depends more upon societal factors than do direct challenges to the authority of the political system. As we have seen, however, this varies with the level of economic development.

Would the results discussed above make us conclude that the demands-capabilities school of thought is correct? I cannot make this conclusion from the results of my data analysis. It should be recalled that the capability that was most often important in explaining variation in instability was the extractive capability. It is being assumed here that when most scholars use the demands-capabilities framework along with the underlying assumption of high demands-low capabilities-high political instability, the capabilities that are most central to this assumption are the responsive and the distributive; that is, the capabilities most crucial to the immediate fulfilling of demands are those which are assumed to be most important for political stability. On the basis of the finding of this study that the extractive capability is most important for explaining political instability, coupled with the finding that in the lowest economic development group the responsive capability actually showed negative effects on political stability, we must conclude that the assumption of the demands-capabilities school is not very strong. Even given the fact that political capabilities alone accounted for more variation in revolution and demonstrations than the combination of political capabilities and societal variables, the order of importance of explanatory power changed in favor of the societal variables when they were added to regressions with revolution as the dependent variable; and even though a capabilities variable remained the most important predictor of demonstrations, again it was the capability of extraction that was this best predictor.

It is personally difficult for me to have come to the conclusions reached above, since I have been a strong advocate of the demands-capabilities framework in the past. I cannot bring myself to totally reject this framework of analysis however; indeed, the disconfirming relationships I did find were not strong enough and the measurement techniques not sensitive enough to totally

reject the plausibility of this school of thought. I do think, however, that my data analysis has shown that sole reliance on the demands-capabilities-instability assumption is a mistake. That is why although many of the authors discussed previously were certain there was a curvilinear relationship between economic development and political instability, I did not find any overall curvilinear relationship between them. The authors who use frustration-aggression models are particularly prone to accept this curvilinear thesis with the accompanying assumptions on the sociological level that capabilities must be adequate to meet rising demands. This frustration-aggression school of thought is one of four different schools of thought on political instability that I have become familiar with in my research. If we reject the simple demands-capabilities hypothesis or if at least we conclude that the demands-capabilities assumptions underlying the curvilinear hypothesis are not true (I prefer this second alternative since I feel that the demands-capabilities framework offers some insights into many problems of political development), then what alternative and possibly better theories of political instability do we have? As a conclusion to this long, involved study of the relationship between economic development and political instability, I will offer three alternative theories proposed by others and interpreted and expanded by myself. I should preface this section, however, with the caveat that although I will propose these alternatives to the demands-capabilities analysis of political instability, I cannot prove any one of them to be correct. My comments are made as mere suggestions of possible alternative explanations of political instability.

As I have mentioned above, the demands-capabilities analysis of political instability in the form of frustration-aggression theories is one of four different types of theories of political instability. Frustration-aggression

theories on the psychological level as explanations of political instability are usually used in conjunction with the concept of relative deprivation. The assumptions of this school of thought, which I have discussed at length in previous chapters, are based on the connection of overloads of demands on low capability political systems with political instability. But as I have shown in some detail, political capabilities appear to have mixed effects on political stability, and more important for the frustration-aggression hypothesis, capabilities are not important explanatory factors at the middle levels of economic development--the level at which relative deprivation is assumed to be greatest. We must conclude, therefore, that as a general theory of political instability, frustration-aggression conceptualizing is inadequate.

The second of the four different kinds of explanatory theories of political instability is the assumption that political violence is a form of political bargaining and its causes stem basically from failures in the processes of conflict resolution in the political system. Since conflicts over authority, goods, and values are an intricate part of the political system, conflict can be understood as a normal part of the activities within the political system. Scholars who link political instability to malfunctions of the conflict resolution mechanisms of the political system usually assume that if a system can adequately resolve conflicts, its stability will be enhanced. If conflict within the system becomes uncontrollable, then political instability may occur.

Several authors have studied political instability from the perspective of conflict as a normal bargaining process of the political system. If it is agreed that the values which a political system is said to allocate are scarce, then it is easy to understand why conflict over such values occurs within the political system. Individuals and groups vie for the scarce values. In their efforts to win in their quest for such values, the actors in the political

system use their own resources to gain their ends. H. L. Nieburg states that if groups have few material resources, they will use the threat of violence and violence itself to bargain for the values allocated by the political system. Thus, he concludes that violence is not deviant behavior but "... a natural form of political behavior."[10] He adds, however, that violence is an extreme form of political behavior that will only be used when no other tactics of bargaining succeed. Nieburg indicates that political violence can be decreased if the political system provides other means of bargaining to all groups. If access to peaceful bargaining procedures is not available, the threat of violence may itself "... operate to moderate demands and positions, thereby setting into peaceful motion the informal political processes of negotiation, concession, compromise, and agreement."[11] On the other hand, the threat of violence as a bargaining tactic may make political authorities more rigid in their denial of demands. No convincing empirical evidence is available to prove whether the threat of violence will make the political system more flexible or more rigid, although a few studies have taken a step in this direction.

In a study of political violence in Peru, James Payne reached a conclusion similar to Nieburg that violence is part of the bargaining process rather than being deviant behavior.[12] He studied the decision-making process in terms of issues that could lead to violence and found that the government was likely to meet demands of groups who threatened to use violence. In Peru's case, it was the President who was the major actor in the decision-making process to make concessions to threatened violence since he was the target of most opposition. This leads us to suspect that in order for threatened violence to be an effective bargaining tactic, it must be directed at the part of the decision-making structure which is most likely to meet demands

to deter the threatened violence.

The threat of violence or violence itself is not always directed to the political decision-making structure. In another study, this one of the incentives of political leaders in Colombia, Payne found that violence was used by the two political parties in a "defensive feud"[13] in which each party thought that the other wanted to eliminate it. Payne thinks violence was a common form of political conflict in Colombia because of the status-oriented incentives of political leaders, the fact that political office was a high-status occupation, and the fact that recruitment to such office was open and upward social mobility possible.[14] When these conditions hold, intense conflict over the occupation of political decision-making roles is likely and violence will often occur. In another study of Colombia, Richard S. Weinert concurs with Payne in his finding that violence is used as a part of intense bargaining over the control of position of political authority.[15]

Based on his study of political violence in Europe, Charles Tilly agrees with Payne and Weinert in their assumption that violence is part of the bargaining process within the political system. He states: "... violent protests seem to grow most directly from the struggle for established places in the structure of power."[16] Tilly believes that social and economic changes do not themselves cause political violence. Rather, socio-economic changes such as urbanization and industrialization create the groups which vie for places in the political power structure and occasionally use violence as a bargaining tactic. The political conditions that lead to violence are those of change, when old groups are losing power and new groups are seeking power. Therefore, the political system itself is a source of violence. It would seem, however, that if the political system had established mechanisms of conflict resolution, violence would not have to accompany change deriving from any source.

The theory of political instability we have just been discussing appears to some to be a simple, straightforward explanation of the occurrence of political violence. It seems to me, however, to be a much too simplistic notion of the causes of political instability. As Tilly noted, there are factors involved in creating the setting in which political bargaining, including violent political bargaining, occurs. For a complete theory of political instability, therefore, it would seem more appropriate to examine these sociological factors than to take them as given.

The third school of thought in the explanation of political instability is concerned with values rather than political, sociological, or objective economic conditions of individuals within the political system. One of the better known conceptualizations of this school is that of the need for value consensus for political stability; that is, in order for a political system to operate effectively and without disruption, there must be an overall agreement among the members of the system on the values which underlie crucial structures and activities of the system. For instance, Taketsugu Tsurutani believes that the basic source of political stability is " ... the existence of consensus ... between the government and the governed as well as among groups within the governed, concerning the broad goal of society within a given time context and the means to implement its attainment."[17] He defines the consensus itself as an agreement on the form of decision-making. Consensus makes for efficient governing, and if consensus does not exist efficiency is absent and tension is created.

Chalmers Johnson places values in a central position in his explanatory scheme of revolutions. Johnson concentrates not so much on the consensus of values among individuals and among groups as upon the agreement of a society's values with their environment. If society's values and the realities of the

For if reality and values differ, then it appears that the weight of changing to reach compatability is not with the values but with the reality. Thus the reality of political and social institutions and political authority structures must change to be compatible with society's values if stability is to be maintained. This incompatibility of values and reality is often cited as the basis of revolutionary movements in the United States today. The revolutionaries are not trying to change their values but institutions and authority structures. Thus, we must retreat again to the consideration of social and political structures and not just focus on the incompatibility of values and reality. And the example of the revolutionary movement in the United States illustrates a further difficulty of trying to explain political instability simply by reference to incompatibility of values and reality. Although the revolutionaries proclaim that they know the true values of American society, it would not be erroneous to assume that they do not indeed hold the same set of basic values as the majority of citizens in the society they are trying to save. So the incompatibility of values and reality alone is an incomplete explanation of the source of political instability. Again, it is not the incompatibility of society's values and reality that is important for political instability but the incompatibility of the values of a certain segment of the populace and their political organization and effectiveness and their challenge to social and political institutions that is important. Hence, we are back to a re-emphasis of the importance of social and political factors in the explanation of political instability.

The fourth and final category of explanation of political instability with which I will deal considers social and political institutions and political authority structures to be the most important factors in the explanation of political instability. This fourth category of theorizing about the causes of

political instability includes some aspects of the theory of social mobilization and many of the theories of social change. Although I have already discussed the general conceptualization of the process of social mobilization in connection with its reliance on the demands-capabilities framework in the political sphere, some of the theorizing in the literature on social mobilization gives insight into purely sociological factors that effect political instability. Since we have seen in the data anlysis presented in this and previous chapers that in general it is a combination of societal and certain political capabilities variables that best explain variation in political instability, the examination of social mobilization and other social change theories lends credibility to the conclusions reached in this research project. After presenting some of the theorizing involved in this school of thought on the causes of political instability, I will try to interpret and expand its utility in explaining political instability.

Karl Deutsch has discussed the process of social mobilization most thoroughly. He defines the process as one " ... in which major clusters of old social, economic, and psychological commitments are eroded or broken and people become available for new patterns of socialization and behavior."[20] The process includes changes in " ... residence, occupation, social setting, face-to-face associates, institutions, roles, ways of acting, experiences, expectations, memories, habits, and needs."[21] Deutsch sees these changes as having important implications for the political system. First, the numbers of people in the "politically relevant strata" are increased. This may mean that more demands will be placed on the political system. Second, demands on the political system change because of the qualitative changes in living experienced by those undergoing the social mobilization process. Deutsch sees the changed needs of the population as leading to increased governmental

functions and services. It is necessary, therefore, for the government to increase its capabilities by an "... increase in numbers and training of government personnel, increase in governmental offices and institutions, and significant improvement in administrative organization and efficiency."[22]

In addition to an increase in the capabilities of the government, Deutsch discusses a further way in which the processes of social mobilization affect the political system. The change in the composition of "politically relevant strata" brings demands for a change in the composition of the leadership and the direction of their policies. The functions of the leadership change as well as the patterns of recruitment to elite positions. In addition, further changes in the system of communication between the elite and the "politically relevant strata" must occur. In general, with the increase in numbers of the "politically relevant strata" and the enlarging channels of communication between them and the elite, political participation increases. This is assuming, of course, that the elite is anxious to increase its base of support and recruitment. Needless to say, this is not always the case; hence, power struggles which manifest themselves in various acts of political instability are common accompaniments to the processes of social mobilization.

The processes of social mobilization, then, create great challenges to and strains upon the political system. Not only are there basic struggles for power and over policy direction, but the necessity for the political system to increase its capabilities may be ignored by the elite or impossible to achieve given scarce resources. The scarcity of resources includes not only material resources but also the politically important resource of support for the system. Individuals and groups may be both weak in their support for the political system and increasingly strong in the focalization of their new-found demands. Therefore, conflict both among groups and between groups and the government may be another manifestation of the effects of the processes of

social mobilization. Indeed, S. N. Eisenstadt believes that conflict is an integral part of the process of modernization. He sees modernization as involving

> ... disorganization ... (and) ... dislocation, with the continual development of social problems, cleavages and conflicts between various groups, and movements of protest ... (and) ... resistance to change ... (with) ... increased mutual interdependence and impingement of major groups and strata ... (creating) ... the possibility of conflicts among them.[23]

Since the political system is generally assumed to be the arbiter of conflict among groups, it is easy to see why the processes of modernization or social mobilization would create very great strains upon the system. Often the system cannot cope with the problems it faces and acts of political instability result.

Moving to more general studies of social change, we find that in a very interesting study of the economic, social, and political factors associated with the development process, Irma Adelman and Cynthis T. Morris concluded that sociological changes are the bases of both economic development and political development.[24] Thus it is the " ... increased functional specialization and evolution of new mechanisms for integrating society"[25] that determine the success of economic and political development. In their factor analysis of forty-one indicators of socio-economic and political development over seventy-four countries, they found " . . . an intimate association between the pace of economic progress and noneconomic forces."[26] This association varies at different levels of socio-economic development, with social factors most important for economic development at low levels and political factors increasingly important at high levels but not at middle levels. This finding would seem to be compatible with my conclusion that at low and especially middle levels of socio-economic development societal factors are important in explaining political instability whereas at high levels of economic development, political factors become important; and I have tried to show that these

societal and political factors have been mistaken for economic factors in the explanation of political instability.

It can be seen from the theories of social mobilization and social change I have just discussed that there is an emphasis here on change of political institutions. All of these theories of social mobilization and social change, resting as they do on the need for change of social and political institutions and the development of mechanisms for the absorption of new groups, naturally lead to an emphasis on reform in political and social institutions. But here we run into another complication in the explanation of political instability. If social and political factors are most important in the explanation of political instability, then the changes in social and political institutions which these theories suggest should lead to increased political stability. However, one of the ironies of political instability that many authors have noticed is that political and social reform has led not to stability but to instability. This apparent effort of a political authority to hasten its own demise was noted by de Tocqueville as occurring prior to the French Revolution. And Crane Brinton noted the attempts of the governments to reform in all four of his countries experiencing revolutions.[27]

Huntington has elaborated on the possibility of reform inducing political instability.[28] Focusing on reform of traditional political structures, he notes that in order to reform, the central political authority must concentrate and strengthen its power to promote reforms. This centralization of power makes it more difficult for new groups to become absorbed into the political system. The process of centralization of power therefore alienates the new groups and the reforms themselves alienate traditional groups. Opposition to the political authority now comes from all sides, and the authority must use coercion to continue reforming. Coercion increases opposition and acts of

political instability may result. Therefore, it is not the reforms themselves which lead to political instability but the opposition generated by changes in the political system which leads to calls for entirely different changes in the political system. Huntington concludes: "In no society do significant social, economic, or political reforms take place without violence or the imminent likelihood of violence."[29] The process of reform itself is destabilizing to the society, the economy, and the political system. Reform cannot, therefore, insure political stability. The dilemma is that in order to cope with socio-economic change, the political system must reform its institutions, but the changes undertaken may very well lead to political instability rather than peaceful change. Therefore, a simple reliance on changes in social and political institutions will not provide an adequate explanation of political instability.

If it is not the emphasis on changes in social and political institutions which necessarily gives theories of social mobilization and social change a basis for explaining political instability, then we may ask what other aspects of these processes are important for political stability. I believe that the changes involved in social mobilization are most important for the analysis of political instability not so much in the creation of new demands or even in the assumed necessity of the political system's increase in capabilities for handling demands as in the fact that the processes of social change create new groups which become the sources of the new and perhaps increased demands. If political and social structures do not change to accommodate the new groups, then it seems that no matter how much they reform, the changes will not satisfy the new groups. These new groups, of course, not only bring demands upon the political system, but also vie for positions of power among themselves. Thus, it appears to be true that the development of both mechanisms for absorption

of new groups and of adequate conflict resolution procedures are necessary (thus, those who stress the political bargaining aspect of political instability seem to have stated at least part of the truth).

Since I have stated that mere changes in political and social institutions to generally increase the ability of the political system to answer demands is not adequate for the maintenance of political stability, there must be another crucial sociological or political factor that we have not yet examined. I believe that this factor is the absorption of the new groups created through the process of social mobilization into the political system through the widening of opportunities for social and political mobility. Others have noted the importance of this factor. Among the institutions which are said to be necessary in political development are " ... basic legal and political frameworks that guarantee free allocation and access to institutional spheres and roles."[30] Open social and political mobility systems are means of absorbing the individuals whose ambitions have increased in the process of social mobilization and economic development. "Political mobility bestows or withholds the representation, status, and influence that accommodates the tensions of change."[31] Without open channels of mobility, people and groups who desire increased access to and status within the political system are likely to become discontented with the existing system. This discontent may manifest itself in acts of political instability. Therefore, institutions that insure social and political mobility are vital to the stability of the political system.

These new groups, which must be given the opportunity for mobility and which Deutsch and others have assumed to be in the "politically relevant strata," alter the struggle for elite positions and also over elite policies. The change in social and political institutions that seems to be necessary for

the maintenance of political stability, therefore, is not simply the development of social reforms and increased capabilities for the purpose of answering increased demands. Rather one of the most crucial changes appears to be the restructuring of the nature and source of political authority in ways that not merely increase the capacity to handle demands by giving bread and policies, but to absorb the new groups into the power structure itself. It appears that the maintenance of political stability in the process of all social change is partly based on giving the newly formed groups that are "politically relevant" not only the results of political actions but a piece of the political action. Finally, it should be stated that this restructuring and absorption of groups into the political system need not be along the lines of Huntington's model of absorption through democratic political party participation. It can also mean the development of a single political organization through which new groups can achieve status--either of an elitist nature (as in the Communist Party structure in the Soviet Union) or of a mass variety (as in China and Guinea). The restructuring of the authority structures can even occur through representation in the bureaucracy or by giving the groups a feeling of responsibility and importance within the political system (as working to fulfill harvest quotas in Cuba). The restructuring may even be based on the increasing of the new groups' status through the adoption of an ideology which attaches importance to their role.

I have spent several chapters of this thesis developing the analysis of the variables which best explain variation in political stability. As we have seen, it has been a complicated process because the subject of the research is complex. Based on the conclusion that societal and political capabilities variables rather than economic variables best explained variation in political stability, I have tried to develop a set of alternative explanations of political

instability (alternatives to both economic and simple political capabilities theories). In these last few pages, I have tried to describe several alternative theories and to infer the most crucial explanatory factors for the conceptualization of political instability which I have examined. No simple, one sentence conclusions have been reached. Because of the complexity of the factors involved in the explanation of political instability and the arguments and questions that inevitably remain unanswered, I have used this whole last chapter as a statement of conclusion. Complex though the subject may be, I have attempted to point out not only the empirical factors that I found to be important for the explanation of political instability but also the social and political processes I inferred to be important from a knowledge of the empirical factors and an examination of the alternative theories of political instability. Thus, although the conclusions I have reached may not be simple or even very precise, I feel that I have located and discussed some of the factors which are crucial to the explanation of political instability.

This dissertation grew out of a long-standing interest in the general relationship between economic development and political development. After researching the connections between these two aspects of development, I concluded that the task was so overwhelming and the relationships so complex that I would profit more from a focused analysis of limited aspects of the connections between economic and political development. Since much of the literature I have discussed in previous chapters made the assumption that either economic development was a necessary condition of political stability or that political stability was a necessary condition of economic development, I decided that the validity of these assumptions must be ascertained before I could look further into the general relationship between economic and political development. Based on the conclusions of this dissertation as

presented in this and the previous three chapters, I may now admit that my original interest in the general relationship was not so displaced after all; that is to say, if economic development and political development are to be discussed as two aspects of the overall process of countries' development, then the relationship between them must be examined in all its complexity. I have learned through this research project that studying simply the relationship between economic development and political instability yields fruitless results. It is only when other factors involved in economic and political development were discussed that interesting conclusions could be made for the complex connections between political stability, political development, and economic development. For me, this research project has been of most benefit not in the unveiling of any direct and strong relationships between the processes of political and economic development and their connections with political stability, but in the discovery of many varied relationships among the scores of variables included in this study. These relationships have revealed a part of the complexity of the process of economic and political development. I am convinced that although this research project was only one small aspect of a broad area of interest to me, the results have been very helpful in reformulating my theoretical assumptions not only about the relationship of economic development and political stability but about the whole process of economic and political development.

NOTES FOR CHAPTER VI

[1]Bauer and Yamey, op. cit., and Simon Kuznets, Modern Economic Growth.

[2]Olson, op. cit., Needler, op. cit., Galtung, op. cit., Sprout and Sprout, op. cit., and Hoselitz and Weiner, op. cit.

[3]Rudolph J. Rummel, "Testing Some Possible Predictors of Conflict Behavior within and between Nations," Peace Research Society Papers, Vol. I (1964), p. 84.

[4]Rummel, "Some Empirical Findings on Nations and Their Behavior."

[5]Ibid., p. 6

[6]Sawyer, "Dimensions of Nations: Size, Wealth, and Politics."

[7]Lipset, op. cit., Tsurutani, op. cit., and Pye, "The Roots of Insurgency and the Commencement of Rebellions."

[8]Lipset, op. cit., and Easton, op. cit.

[9]Huntington, op. cit.

[10]Nieburg, op. cit., p. 5.

[11]H. L. Nieburg, "The Threat of Violence and Social Change," American Political Science Review, Vol. LVI, No. 4 (December, 1962), p. 869.

[12]James L. Payne, "Peru: The Politics of Structured Violence," Journal of Politics, Vol. 27, No. 2 (May, 1965), pp. 362-374.

[13]James L. Payne, Patterns of Conflict in Colombia (New Haven: Yale University Press, 1968), p. 160.

[14]Ibid., p. 68.

[15]Richard S. Weinert, "Violence in Pre-Modern Societies: Rural Colombia," American Political Science Review, Vol. LX, No. 2 (June, 1966), pp. 340-347.

[16]Charles Tilly, "Collective Violence in European Perspective," ed. Graham and Gurr, p. 10.

[17]Tsurutani, op. cit., p. 911.

[18]Johnson, op. cit., p. 81

[19]Ken Southwood, "Riot and Revolt: Sociological Theories of Political Violence," Peace Research Reviews, Vol. 1, No. 3 (June,1967), p. 13.

[20]Deutsch, op. cit., p. 494.

[21]Ibid.

[22]Ibid., p. 499.

[23]Eisenstadt, op. cit., pp. 20 and 22.

[24]Irma Adelman and Cynthia T. Morris, Society, Politics, and Economic Development: A Quantitative Approach (Baltimore: The Johns Hopkins Press, 1967).

[25]Ibid., p. 156.

[26]Ibid., p. 6.

[27]Brinton, op. cit.

[28]Huntington, op. cit., p. 176.

[29]Ibid., p. 357.

[30]Eisenstadt, op. cit., p. 154.

[31]Lester G. Seligman, "Political Mobility and Economic Development," Social Structure and Mobility in Economic Development, ed. Neil J. Smelser and Seymour M. Lipset (Chicago: Aldine Publishing Co., 1966), p. 363.

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APPENDIX[a]

COUNTRY	POLITICAL SYSTEM TYPE	SOCIO-CULTURAL TYPE	ECONOMIC DEVELOPMENT LEVEL
Afghanistan	Centrist	Asian	Low
Albania	Centrist	E. European	Medium
Argentina	Personalist	Latin	High
Australia	Polyarchic	Anglo-Saxon	High
Belgium	Polyarchic	W. European	High
Bolivia	Polyarchic	Latin	Low
Brazil	Polyarchic	Latin	Medium
Bulgaria	Centrist	E. European	Medium
Burma	Elitist	Asian	Low
Cambodia	Elitist	Asian	Low
Canada	Polyarchic	Anglo-Saxon	High
Ceylon	Polyarchic	Asian	Medium
Chile	Polyarchic	Latin	Medium
China-Peking	Centrist	E. European	Low
China-Taiwan	Centrist	Asian	Medium
Colombia	Polyarchic	Latin	Medium
Costa Rica	Polyarchic	Latin	Medium
Cuba	Centrist	Latin	Medium
Czechoslovakia	Centrist	E. European	High
Denmark	Polyarchic	W. European	High
Dominican Republic	Personalist	Latin	Low
Ecuador	Personalist	Latin	Low
El Salvador	Personalist	Latin	Medium
Ethiopia	Centrist	African	Low
Finland	Polyarchic	Anglo-Saxon	High
France	Polyarchic	W. European	High
Germany (D. D. R.)	Centrist	E. European	High
Germany (Fed. Rep.)	Polyarchic	W. European	High
Greece	Polyarchic	W. European	Medium
Guatemala	Personalist	Latin	Low
Haiti	Personalist	Asian	Low
Honduras	Personalist	Latin	Low
Hungary	Centrist	E. European	High
India	Polyarchic	Asian	Medium
Indonesia	Elistist	Asian	Low
Iran	Centrist	Asian	Low
Iraq	Personalist	Asian	Medium
Ireland	Polyarchic	W. European	High
Israel	Polyarchic	W. European	Medium
Italy	Polyarchic	W. European	High
Japan	Polyarchic	W. European	High
Jordan	Centrist	Asian	Low
Korea (Dem. Rep.)	Centrist	E. European	Low
Korea (Rep. of)	Personalist	Asian	Low

COUNTRY	POLITICAL SYSTEM TYPE	SOCIO-CULTURAL TYPE	ECONOMIC DEVELOPMENT LEVEL
Lebanon	Personalist	W. European	Medium
Liberia	Centrist	African	Low
Mexico	Polyarchic	Latin	High
Mongolia	Centrist	E. European	Low
Nepal	Centrist	Asian	Low
Netherlands	Polyarchic	W. European	High
New Zealand	Polyarchic	Anglo-Saxon	High
Nicaragua	Personalist	Latin	Low
Norway	Polyarchic	Anglo-Saxon	High
Pakistan	Elitist	Asian	Low
Panama	Personalist	Latin	Low
Paraguay	Personalist	Latin	Low
Peru	Personalist	Latin	Medium
Philippines	Polyarchic	Asian	Medium
Poland	Centrist	E. European	High
Portugal	Centrist	W. European	Medium
Rumania	Centrist	E. European	Medium
Saudi Arabia	Centrist	Asian	Low
South Africa	Centrist	Anglo-Saxon	High
Spain	Centrist	W. European	High
Sweden	Polyarchic	Anglo-Saxon	High
Switzerland	Polyarchic	W. European	High
Thailand	Personalist	Asian	Low
Turkey	Polyarchic	Asian	Medium
United Kingdom	Polyarchic	W. European	High
United States	Polyarchic	Anglo-Saxon	High
U.S.S.R.	Centrist	E. European	High
Uruguay	Polyarchic	Latin	Medium
Venezuela	Polyarchic	Latin	High
Yugoslavia	Centrist	E. European	Medium

[a]These groupings were given in Ted Gurr and Charles Ruttenberg, The Conditions of Civil Violence: First Tests of a Causal Model (Research Monograph No. 28; Princeton: Princeton University Center of International Studies, 1967), pp. 20-22. The authors originally selected these groups from those found by Arthur S. Banks and Phillip M. Gregg, "Grouping Political Systems: Q-Factor Analysis of A Cross-Polity Survey," American Behavioral Scientist, Vol. IX (November, 1965), pp. 3-6.

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