

DIMENSIONS OF DEVELOPMENT IN LATIN AMERICA:
POLITICAL DEVELOPMENT, SOCIO-ECONOMIC
DEVELOPMENT, AND DOMESTIC
POLITICAL INSTABILITY

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by
Patricia Kay Dube
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Patricia Kay Dube

A THESIS

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ABSTRACT

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Purpose

The purpose of this thesis was to determine the relationship between political development, socio-economic development, and domestic political instability in Latin America for the years 1960, 1963, and 1966 in order to contribute to a theory of Latin American political development.

Methods

The goals of this study were accomplished through the following methods: (1) after examining the analytical literature on political development, indices of political and socio-economic development and domestic political instability were constructed; (2) correlation coefficients were computed among the political, socio-economic, and instability variables to determine interrelationships; (3) image factor analysis was performed to determine the dimensions of development; (4) component factor analysis was applied to the data in order to reduce the development variables to a set of uncorrelated factors for

multiple regression; and (5) multiple regression analysis was employed in order to predict political development from socio-economic development and instability, and instability from political development and socio-economic development.

Findings

1. Political measures of integration, participation, and national finances were associated with socio-economic measures. Theoretical political measures, such as differentiation, showed a weak relationship with socio-economic measures.

2. Political measures of integration, participation, and national finances were associated with instability measures. Theoretical political measures, such as differentiation, were noticeably related to instability.

3. Only socio-economic measures of domestic wealth or economic industrial infrastructure were associated with forms of instability.

4. This study found that political development and domestic political instability in Latin America evolved around "citizenry awareness." The research did not generate a specific theory of Latin American development, although it moved in the direction of improving a theory of development.

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CHAPTER I

LITERATURE REVIEW

Basic Studies in Development

Political and Socio-Economic Development

Within recent decades, numerous empirical inquiries into the processes of development have been undertaken. Among these are inquiries that examine relationships between political and socio-economic development. For example, the thesis of Lerner's Middle East cross-national survey was that development represents a systemic process in which the "demographic, economic, political, communications, and cultural sectors of the society grow together and this joint growth occurs in regular phases."¹

The determination of such a relationship, an underlying goal of this work, may also be found in other inquiries. In a landmark study, Lipset compared the level of economic development with the occurrence of stable democracies, unstable democracies, and unstable dictatorships in English-speaking nations, Europe, and Latin America.²

¹ Daniel Lerner, The Passing of a Traditional Society (Glencoe: The Free Press, 1963), p. 401.

² Seymour Martin Lipset, "Some Social Requisites of Democracy," American Political Science Review, III (March, 1959), pp. 75-80.

From his study emerged the proposition that political development is highly correlated to such forms of socio-economic development as industrialization, urbanization, and education. Later, Cutright constructed an index of political development and tested the hypothesis that political institutions are interdependent with educational systems, economic institutions, communications systems, the degree of urbanization, and the distribution of the labor force within society. Correlating socio-economic variables with political index scores, Cutright found strong correlations between political and socio-economic development: .81 with communications development; .74 with educational advancement; .72 with industrial expansion; and .64 with urbanization.³

In a follow-up study, a team of social scientists sought to examine the causal relationships between political and socio-economic development. The McCrone-Cnudde study attempted to relate Cutright's data to theory by formulating and testing causal propositions concerning the development process.⁴ To do this, McCrone and Cnudde employed Lerner's conceptual framework

³Phillips Cutright, "National Political Development: Its Measures and Social Correlates," American Sociological Review, XXVIII (April, 1963), pp. 253-264.

⁴Donald J. McCrone and Charles F. Cnudde, "Towards a Communications Theory of Democratic Political Development: A Causal Model," American Political Science Review, LXI (March, 1967), pp. 74-83.

because it provided a "basis for causal formulation of the process of democratic development."⁵ By applying Simon-Blalock causal model analysis to the Cutright data and Lerner's conceptualization, they found that democratic development

occurs as a society is integrated through mass communications, that education affects political development indirectly by producing mass media growth, and that urbanization affects political development both by producing growth in educational levels and, to a much lesser extent, directly in terms of its own integrative effect.⁶

The Lerner, Cutright, and McCrone-Cnudde studies unanimously contend that communications is the best socio-economic indicator of political development. But in contrast to these studies, Olsen takes a broader view of political development by emphasizing the multidimensional relationships between political and socio-economic development. Accordingly, the "process of national political development is conceptualized as consisting of several interrelated and separately measurable dimensions." Thus, the basic proposition underlying Olsen's analysis is that dimensions of development tend to be interrelated so "that no one type of development--especially political--can proceed without concomitant growth in many other areas."⁷ For his study, Olsen constructed a political

⁵Ibid., p. 75.

⁶Ibid., p. 78.

⁷Marvin Olsen, "Multivariate Analysis of National Political Development," American Sociological Review, XXXIII (October, 1969), pp. 700-712.

index consisting of executive functioning, citizen influence, party organization, party diversification, and the Cutright index of political development. Correlating measures of industrialization, urbanization, transportation, communication, and education with the political index scores, Olsen notes that dimensions of political and socio-economic development are interrelated. One important aspect of this study is that Olsen discovered a strong relationship between extensiveness of the transportation network and all the political development indices.

Comparing Olsen's study to the previous research, several conclusions may be drawn. First, it is evident that Olsen's study substantiates Lipset's notion of the importance of economic growth for political development. Second, the emphasis of the previous research upon communication as the best socio-economic indicator of development is not validated by Olsen's study. Olsen's research shows the coefficients of transportation and education as being higher than Cutright's communication coefficient. Fundamental to Olsen's findings is the unusual strength of the correlations between dimensions of socio-economic and political development. All but one of these coefficients are above .83, and the figure for citizen influence reaches .98.⁸

⁸Ibid., p. 706.

Despite their differences, these studies indicate that political development is part of a broad process that includes socio-economic development. But recent studies have been characterized by the proposition that instability and "decay" might result in emerging nations if the society is not able to cope with the social changes thrust upon it during the development process.

Domestic Political Instability

Studies relating domestic political instability to development theory may be classified as one of three types: (1) theoretical approaches; (2) empirical inquiries into frustration-aggression; and (3) empirical studies illustrating the relationship of political and socio-economic development to instability. Each makes significant contributions to development theory.

Representatives of the first approach attempt to provide a conceptual framework for the study of domestic political instability. Huntington and Eisenstadt maintain that rapid mobilization and participation (socio-economic development) lead to "political decay" or "breakdowns on modernization."⁹ Huntington argues that rapid development of a society may "breed political instability" and produce

⁹S. N. Eisenstadt, "Breakdowns of Modernization," Economic Development and Cultural Change, XII (July, 1964), pp. 345-367; Samuel P. Huntington, "Political Development and Political Decay," World Politics, XVII (April, 1965), pp. 386-430; and Samuel P. Huntington, Political Order In Changing Societies (New Haven: Yale University Press, 1968).

"political decay" rather than political development. He stresses that because the level of institutionalization (political development) is low in advancing nations and the rate of mobilization and participation is high, emerging nations are buying rapid social modernization at the price of political degeneration.¹⁰ Likewise, Eisenstadt argues that the transitional societies face "breakdowns in modernization" because of the "inefficient ability to maintain sustained growth in major institutional structures capable of absorbing such changes with relative few eruptions."¹¹ Both scholars attribute the problem to the lack of a viable institutional structure that would deal with the problems generated by the structural changes imposed upon society by political and socio-economic development processes.

Other theoretical studies view domestic political instability as a psychological outgrowth of socio-economic discontent. Gurr postulated that an essential precondition for domestic political instability is relative deprivation. He defines relative deprivation as "actors perceptions of discrepancy between their value expectations and their environment's apparent value capabilities."¹² Analogously, the Feierabends and Nesvold use the concept of "systemic-frustration,"

¹⁰ Huntington, "Political Development and Political Decay," p. 386 and Political Order In Changing Societies, pp. 4-10.

¹¹ Eisenstadt, "Breakdowns of Modernization," p. 347.

¹² Ted Robert Gurr, "Psychological Factors in Civil Violence," World Politics, XX (January, 1968), pp. 248-278.

which they define as the ratio of social-wants to social satisfaction.¹³ In both studies, the fundamental recognition is that domestic political instability is the result of hindering or depriving individuals in their attempts to satisfy their needs and aspirations. The Gurr, Feierabend, and Nesvold reports rest upon the frustration-aggression hypothesis: "social discontent gives rise to anger which in turn results in the expression of political violence."¹⁴

In contrast to the theoretical studies are the empirical inquiries into the basic propositions of the frustration-aggression theory. In one such study, Nesvold investigated the basic propositions of the frustration-aggression theory, as well as insights from the Lerner and Cutright studies.¹⁵ Collecting data for indices of want satisfaction, want formation and constructing indexes of frustration and modernity for eighty four countries, Nesvold found that "the higher the level of systemic-frustration, as measured by the selected

¹³Ivo K. and Rosalind L. Feierabend and Betty Nesvold, "Social Change and Political Violence," in Anger, Violence, and Politics: Theories and Research, ed., by Ivo K. and Rosalind L. Feierabend and Ted Robert Gurr (Englewood Cliffs: Prentice-Hall, 1972), pp. 107-124.

¹⁴Ivo K. and Rosalind L. Feierabend and Ted Robert Gurr, eds., Anger, Violence, and Politics: Theories and Research (Englewood Cliffs: Prentice-Hall, 1972), p. 3.

¹⁵Betty A. Nesvold, "The Relation of Social Frustration and Modernity to Political Stability," in Macro-Quantitative Analysis: Conflict, Development, and Democratization, ed. by John Gillespie and Betty Nesvold (Beverly Hills: Sage Publications, 1971), pp. 149-155.

indices, the greater the political instability, and the stable countries are those which experience the least amount of measured systemic frustration."¹⁶

From this research evolved an inquiry into questions of systemic aggression, revolution, and political violence.¹⁷ The Feierabend and Nesvold constructed scales of permissiveness-coerciveness (a measure of democracy), stability-instability, satisfaction-frustration (level of socio-economic development), and a modernity index in order to test the relationship between the coerciveness of a regime and the level of political instability. They found a positive relationship between permissiveness, stability, satisfaction, and modernity. They also discovered a curvilinear relationship between levels of instability and coerciveness. Finally, the Feierabend and Nesvold study pointed out that political instability is positively related to the rapid rate of modernization and to the level of systemic-frustration (ratio between social-wants and social-frustration).

An investigation undertaken by the Schneiders portrays the third type of study: empirical studies depicting relationships of political and socio-economic development to domestic political

¹⁶Ibid., p. 149.

¹⁷Ivo K. and Rosalind L. Feierabend and Betty A. Nesvold, "The Comparative Study of Revolution and Violence," Comparative Politics, V, No. 3 (1971), pp. 393-424.

instability.¹⁸ This study examined six hypotheses, two of which are characteristic of this thesis. The specific propositions the Schneiders examined are:

- (1) The higher the rate of social mobilization, the greater the political violence.
- (2) The lower the level of economic development, the greater the political violence.
- (3) The lower the level of institutionalization (political development), the greater the political violence.
- (4) The higher the ratio between social mobilization and the stage of economic development, the greater the political violence.
- (5) The higher the ratio between social mobilization and institutionalization, the greater the political violence.
- (6) A high ratio between social mobilization and institutionalization will produce more political violence in nations with low economic development than in nations with higher development.¹⁹

Collecting data on selected variables of mobilization, economic development, institutionalization, and violence for Sweden, Norway, Britain, France, Germany, Italy, Belgium, Japan, Mexico, and Austria during the periods 1948-1968 and employing correlation analysis, the research team found that political violence in these nations is apt to occur when change (reflected through the rate of

¹⁸Peter R. and Anne L. Schneider, "Social Mobilization, Political Institutions, and Political Violence: A Cross-National Survey," Comparative Political Studies, XIV, No. 1 (1971), pp. 68-90.

¹⁹Ibid., p. 24.

social mobilization) is outrunning the development of adaptable, legitimate and complex political institutions.²⁰ Secondly, the study showed that political violence is likely to occur when social mobilization is taking place faster than the rate of economic development. The authors also noted that a gap between social mobilization and the level of institutionalization has a greater impact on political violence in the less developed countries. A notable finding of the Schneider study was that the level of economic development is not in itself a strong indicator of violence. Instead they argue that

economic development might help produce higher levels of institutionalization which, in turn, may contribute to political order unless the rate of social mobilization is too rapid. The evidence, however, seems to best support a contention that the absence of political violence is the product of a proper balance among the three variables.²¹

In summary, the basic development studies cited illustrate that there is a close relationship between political and socio-economic development. Research has also indicated that processes of development enhance probabilities of domestic political instability in advancing nations. However, the question to consider now is whether this relationship applies to Latin America.²²

²⁰Ibid.

²¹Ibid.

²² John D. Martz, "The Place of Latin America in the Study of Comparative Politics," Journal of Politics, XVIII (February, 1966), pp. 57-80 and Edward J. Williams, "Comparative Political Development: Latin America and Afro-Asia," Comparative Studies in Society and History, II (June, 1969), pp. 342-354.

Latin America and Development Analysis

Studies testing the relationship between political and socio-economic development in Latin America have also been undertaken. In one of the best known and most comprehensive studies, Russell Fitzgibbon constructed a scale of political development.²³ Through surveys conducted at five year intervals from 1945-1965, Fitzgibbon asked a panel of judges to rate each of the twenty Latin American nations on fifteen separate dimensions, using a five point scale from "excellent" to "insignificant (virtually no) democratic development." The dimensions included such criteria as "an educational level sufficient to give the political processes some substance and vitality," "a fairly adequate standard of living," "free and competitive elections--honestly counted votes," and "civilian supremacy over the military." He employed these criteria because "they include the important conditioning and reflexive components of the total picture of a viable democracy in the Latin American context."²⁴

Fitzgibbon's scale of political development has important implications. For example, the scale reveals that certain nations

²³Russell H. Fitzgibbon, "A Statistical Evaluation of Latin American Democracy," Western Political Quarterly, IX (1969), pp. 607-619 and "Measuring Democratic Change in Latin America," Journal of Politics, XXIX (February, 1967), pp. 149-167.

²⁴Fitzgibbon, "Measuring Democratic Change in Latin America," pp. 149-151.

tend to remain relatively the same throughout the years. Uruguay, Costa Rica, and Chile have consistently ranked in the first three places on the scale of political development, while Paraguay, Haiti, Nicaragua, and Bolivia score the lowest on the scale. The Fitzgibbon scale also indicated that the mid-level nations have experienced the greatest change over time. From this, Fitzgibbon determined that Latin America has witnessed a ten per cent improvement in the move toward increased political development.

Following the Fitzgibbon study, Charles Wolf examined the political effects of economic programs in Latin America.²⁵ Using Fitzgibbon's scale as a measure of democracy and indices of selected economic development, Wolf found that there are significant positive correlations between the level of political development and economic indicators of gross national product per capita and gross national investment per capita. Based on Wolf's findings, it may be ascertained that there is a positive correlation between levels of economic and political development in Latin America.

Later, Needler sought to determine the relationships between political and economic development in the Latin American nations.²⁶

²⁵ Charles Wolf, Jr., "The Political Effects of Economic Programs: Some Indications From Latin America," Economic Development and Cultural Change, XIV, No. 1 (1965), pp. 1-20.

²⁶ Martin C. Needler, "Political Development and Socio-Economic Development: The Case of Latin America," American Political Science Review, LXII (September, 1968), pp. 889-897.

Needler measures the level of political development by means of two indexes: one based on the number of years a country has been ruled constitutionally between 1935 and 1964 and the other based on voter participation in national elections. Life expectancy was used as an index of economic development. By correlating these indexes, Needler found a close relationship between political and economic development in Latin America.

In addition to these general studies, there are more sophisticated investigations which attempt to correlate the occurrences of instability to development processes in Latin America. For example, Bwy maintains that political instability may be attributed to the frustration-aggression caused by social change.²⁷ He found that when systemic dissatisfaction is measured in terms of negative or positive changes in per capita gross domestic product, occurrences of guerilla warfare, government crises, and armed rebellions may be predicted. Furthermore, this study revealed that domestic political violence appears to be related to the "open or closed nature of the system, and if the systems are slipping into more closed patterns (i. e. losing Fitzgibbon points on democratic attainment)."²⁸ Thus, from Bwy's study, it may be concluded that levels of economic growth

²⁷ Douglas Bwy, "Political Instability in Latin America: The Cross-Cultural Test of a Causal Model," in Anger, Power, and Politics: Theories and Research, ed. by Ivo K. and Rosalind L. Feierabend and Ted Robert Gurr (Englewood Cliffs: Prentice-Hall, 1972), pp. 230-246.

²⁸ Ibid., p. 241.

and political development affect probabilities of domestic political instability in Latin America.

In another study, Banks compared the level of modernization, political change, and instability among the Latin American and Amer-European nations for the period 1869-1953.²⁹ Using factor analysis and correlation analysis, Banks found that there is a general tendency for political stability, democratic performance (political development) and modernization to positively correlate.

Summary

The research reviewed here indicated that political scientists have become increasingly concerned with aspects of development and the consequences of that process in the emerging nations of the world. These studies established that there is a linkage between political development, socio-economic development, and domestic political instability in the Third World. Despite the important contributions these studies have made to contemporary political science, only a few satisfactory theories of development have been formulated. Thus, a primary purpose of this work is to attempt to move in the direction of generating a meaningful theory of development for Latin America.

This study differs from others in a number of ways. Most of the development studies mentioned have not dealt with an operational

²⁹Arthur S. Banks, "Modernization and Political Change: The Latin American and Amer-European Nations," Comparative Political Studies, II (January, 1970), pp. 405-418.

definition of political development that is consistent with characteristics representative of development theory. For example, Lipset's study made no attempt to define democracy or political development. He implied that a nation is politically developed if it is a "stable democracy."³⁰ Cutright's index of political development concerned itself only with the competitiveness of elections for the chief executive and party competition in the legislature.³¹ This study will define the process of political development to encompass a variety of dimensions.

While the studies reviewed determined that political development is related to certain indicators of economic development, this research will take a multidimensional approach by linking political growth to the broad processes of socio-economic maturation.³² In this regard, socio-economic development will be viewed as a process that includes more than measures of wealth, education, communications, and urbanization, but also measures of social development such as motor vehicles per capita, number of persons per hospital bed, and energy production.

³⁰ Lipset, "Some Social Requisites of Democracy," pp. 69-105.

³¹ Cutright, "National Political Development," pp. 253-264.

³² Cutright, "National Political Development," pp. 253-264; Lipset, "Some Social Requisites of Democracy," pp. 69-105; McCrone and Cnudde, "Toward a Communications Theory of Democratic Development," pp. 72-79; and Olsen, "Multivariate Analysis of National Political Development," pp. 701-705.

This research also differs from most of the studies reviewed in that it will attempt to ascertain a meaningful relationship between the processes of political development, socio-economic development, and domestic political instability. Most of the previous investigations attributed domestic political instability to the psychological effects of frustration and systemic aggression. Although the Schneider study attempted to relate the occurrences of domestic political instability with socio-economic development, it is not directly relevant to this research.³³ This research focuses upon the occurrences of instability in the developing nations of Latin America as opposed to the seven developed Western European nations.

Furthermore, the studies relating Latin America to development analysis are inadequate. The Fitzgibbon study actually only measured the attitudes of informed scholars toward development in Latin America and offered on substantial evidence that political development is related to economic development. Finally Fitzgibbon never considered the problem of domestic instability.³⁴ Although the Wolf and Needler studies concerned relationships of political and socio-economic development and instability in Latin America, both

³³Schneider and Schneider, "Social Mobilization, Political Institutionalization, and Political Violence," pp. 69-90.

³⁴Fitzgibbon, "A Statistical Evaluation of Latin American Democracy," pp. 607-619 and "Measuring Democratic Change in Latin America," pp. 129-167.

studies are characterized by restricted dimensions.³⁵ For example, Needler measured the level of political development by an index based on political participation and the number of years a nation has been ruled by a constitutional government. He used life expectancy as the measure of economic development. Needler correlated these measures with indices of violence, but one questions the validity of his study when one realizes that Needler used such limited measures.

Of the research cited, only one study is analogous to this study. Banks used factor analysis, correlation analysis, and related techniques upon selected indices for certain Latin American and Amer-European nations.³⁶ This study will similarly investigate the relationship between indices of political and socio-economic development and political instability in Latin America. The difference between Banks' research and this endeavor is that the study will concentrate on all twenty Latin American nations for the time period 1960-1966 and employ a broader range of political and socio-economic variables.

³⁵Needler, "Political Development and Socio-Economic Development," pp. 889-897 and Wolf, "The Political Effects of Economic Programs," pp. 1-20.

³⁶Banks, "Modernization and Political Change," pp. 69-105.

CHAPTER II

RESEARCH DESIGN

Introduction

Hypotheses

This work attempts to move in the direction of generating a more comprehensive theory and establishing a multidimensional approach to the study of Latin American development. In order to accomplish this goal, this work seeks to synthesize and test a series of hypotheses that link certain aspects of political development, socio-economic development, and domestic political instability in Latin America. The primary hypotheses this study concentrates upon are:¹

- (1) There is no relationship between political development and socio-economic development in Latin America in the period 1960-1966.
- (2) There is no relationship between political development and domestic political instability in Latin America in the period 1960-1966.
- (3) There is no relationship between socio-economic development and domestic political instability in Latin America in the period 1960-1966.

¹ The hypotheses are stated in the null form to facilitate testing.

Time, Population, and Data Selection

This research focuses on the twenty Latin American nations for the period 1960-1966. Latin America is the subject of analysis because of interest and the apparent differences in levels of development among the nations of that area. The variables have been selected according to data availability, applicability, and appearance in development literature. The period 1960-1966 has been selected for research because of the lack of reliable data for earlier periods. In order to stay within resource limitations, the period has been divided into three year intervals. Thus, the data has been analyzed for the years 1960, 1963, and 1966. Figure 1 illustrates the data matrix.

Data Domains and Variables

Political Development

After reviewing development literature, it was determined that political development represents a process that involves increased structural differentiation, increased mobilization and participation by the citizenry, a greater degree of secularization and rationalization, heightened degrees of institutionalization, and strengthened degrees of national integration.² These characteristics

²Gabriel A. Almond and G. Bingham Powell, Comparative Politics: A Developmental Approach (Boston: Little, Brown and Company, 1966), pp. 299-300; James S. Coleman, "The Development Syndrome," in Crises and Sequences in Political Development, ed. by Leonard Binder, James S. Coleman, Joseph LaPalombara, Lucian Pye, Sidney Verba, and Myron Weiner (Princeton: Princeton University Press, 1971), p. 100; Samuel P. Huntington, "Political Development and Political Decay," World Politics, XVII (April, 1965), pp. 386-428; Lucian Pye and Sidney Verba, eds., Political Culture and Political Development (Princeton: Princeton University Press, 1965), p. 13; Fred Riggs, "Bureaucracy and Political Development," in Bureaucracy and Political Development, ed. by Joseph LaPalombara (Princeton: Princeton University Press, 1962), pp. 6-7.

of developing polities serve as the domains for this study. Variables composing the domains come from four main sources: Cross-Polity Time Series Data, the United National Statistical Yearbook, The Political Handbook and Atlas of the World, and the Statistical Abstract of Latin America. The variables are listed in Table I following the discussion of the various domains.

Domain I: Differentiation. Differentiation refers to the process "whereby roles change and become more specialized or more autonomous or whereby new types of roles are established or new structures and subsystems emerge or are created."³ The measure differentiation has been employed because it represents one of the key characteristics fundamental to the study of polities as outlined by Almond, Coleman, Pye, and Ward.⁴ Each argue that a developed polity is characterized by a highly differentiated and functionally specific system of governmental organizations. The variables of legislative effectiveness, type of regime, parliamentary responsibility, and effective legislative selection have been employed because they best measure characteristics of differentiation as here defined. (See Appendix I for operational definitions of variables)

³Almond and Powell, Comparative Politics: A Developmental Approach, p. 22.

⁴Almond and Powell, Comparative Politics: A Developmental Approach, pp. 299-300; Coleman, "The Development Syndrome," p. 100; Pye and Verba, Political Culture and Political Development, p. 13; and Ward and Rustow, Political Modernization in Japan and Turkey, (Princeton: Princeton University Press, 1964), p. 434.

Domain II: Mobilization and Participation. The inclusion of mobilization and participation as a domain of political development was derived from Deutsch's research.⁵ Mobilization refers to the "process 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."⁶ According to Deutsch, this process promotes political participation and may be identified by examining such indicators as literacy, the extent of communications and voting participation in elections within society. For this study, the variables of radios per thousand, per cent of the population literate, and voting participation in presidential elections have been employed.

Domain III: Secularization and Rationalization. This domain is the product of a merger between the Almond concept of secularization and the Parsonian notion of rationalization. Secularization, the process in which a society becomes "increasingly rational, analytical, and empirical in their political actions," and rationalization, "movement from particularism to universalism, from diffuseness to specificity, from ascription to achievement, and from

⁵Karl Deutsch, "Social Mobilization and Political Participation," in Political Development and Social Change, ed. by Jason L. Finkle and Richard W. Gable (New York: John Wiley and Sons, Inc., 1971), pp. 384-405.

⁶Ibid., pp. 385-386.

affectivity to affective neutrality, have been selected as the third domain of political development.⁷ It is the contention of this writer, as well as that of Almond, Coleman, Eisenstadt, Riggs, and Ward, that a developed polity will exhibit a greater degree of secularization and rationalization.⁸ After examining the studies of the above scholars, the variables of executive selection, government revenue per capital, government expenditure per capita, and the ratio of defense expenditures to other expenditures have been adopted as measures of secularization and rationalization.

Domain IV: Institutionalization. Institutionalization refers to the adaptability, complexity, autonomy, and coherence of organizations and structures.⁹ From Huntington's study, one might ascertain that the more adaptable an organization, the older it is and the more ease an organization has with executive adjustment. Also, the more complex, autonomous, and coherent a political organization,

⁷Almond and Powell, Comparative Politics: A Developmental Approach, p. 24.

⁸Almond and Powell, Comparative Politics: A Developmental Approach, p. 24; James S. Coleman, "Conclusion," in The Politics of Developing Areas, ed. by Gabriel A. Almond and James S. Coleman (Princeton: Princeton University Press, 1960), p. 356; S. N. Eisenstadt, "Bureaucracy and Political Development," p. 99; Riggs, "Bureaucracy and Political Development," p. 122; and Robert E. Ward and Dankwart A. Rustow, eds., Political Modernization in Japan and Turkey, p. 97.

⁹Huntington, "Political Development and Political Decay," pp. 394-405.

the greater the number of free newspapers in a country, of major political parties, and people in organized labor forces. Thus, the variables of this domain are: executive adjustment, years of constitutional government, years of independence, per cent of free newspapers, number of major political parties, and the number of people in organized labor forces.

Domain V: Integration. Domain V has been designated as integration, since--as does Bruce M. Russett--the writer maintains that integration is a more inclusive process than simply the heightened interplay between "particular kinds of institutions and intergovernmental agencies."¹⁰ Integration represents the responsiveness and unification of actors in the political system. The process involves cooperative interplay between the political and economic institutions and processes of the social system. After carefully reviewing Russett's conception of integration, the six variables of domestic kilometers flown, passenger kilometers flown, mail ton flown, exports, imports, and the strength of the leading party were selected to represent this domain.

¹⁰ Bruce M. Russett, International Regions and the International System: A Study in Political Ecology (Chicago: Rand McNally, 1967), p. 99.

TABLE I
Measures of Political Development

DOMAIN I: DIFFERENTIATION

1. Legislative Effectiveness
2. Type of Regime
3. Parliamentary Responsibility
4. Effective Legislative Selection

DOMAIN II: MOBILIZATION AND PARTICIPATION

5. Radios Per Thousand
6. Per Cent of Population Literate
7. Votes Cast in Presidential Elections

DOMAIN III: SECULARIZATION AND RATIONALIZATION

8. Effective Executive Selection
9. Ratio of Defense Expenditures to Other Expenditures
10. Government Revenue Per Capita
11. Government Expenditure Per Capita

DOMAIN IV: INSTITUTIONALIZATION

12. Executive Adjustment
13. Years of Constitutional Government
14. Years of Independence
15. Per Cent of Free Newspapers
16. Number of Major Political Parties
17. Number of People in Organized Labor Forces

DOMAIN V: INTEGRATION

18. Domestic Kilometers Flown
 19. Passenger Kilometers Flown
 20. Mail Ton Kilometers Flown
 21. Imports
 22. Exports
 23. Strength of Leading Party
-

Socio-Economic Development

Cutright, Lerner, and Olsen define socio-economic development as a process that involves economic growth, increased communications, strengthened degrees of urbanization, and higher levels of education.¹¹ Thus, elements composing their definition serve as the domains of socio-economic development for this research. Socio-economic data comes from the Cross-Polity Time Series Data, the 1968 United Nations Statistical Yearbook, and the World Health Statistics Annual. The individual variables are listed in Table II following the discussion on the socio-economic domains.

Domain VI: Economic Growth. Economic growth may be ascertained by measuring a nation's gross national product or related indices. For this study, the variables of gross domestic product per capita, physicians per capita, number of persons per hospital bed, and total energy production in kilowatt hours represent measures of socio-economic development.

Domain VII: Mass Communications. Mass communications is defined as the ability of a society to transfer massive flows of information to a wide audience and the ability of the society to evaluate,

¹¹Cutright, "National Political Development," pp. 253-264; Lerner, The Passing of a Traditional Society; and Olsen, "Multivariate Analysis of National Political Development," pp. 699-712.

interpret, and respond to that which has been transmitted.¹² Mass communications represents an important indicator of socio-economic development because as a nation advances socially, economically, and politically, it will possess a more developed communications system.¹³ Following Olsen and Banks, the variables of newspapers per capita, telephones per capita, and railroad milage have been used to measure mass communications development.¹⁴

Domain VIII: Urbanization. The domain of Urbanization contains measures for both urbanization and transportation. Transportation has been combined with urbanization because of the nature of their relationship as found by Olsen (.74).¹⁵ Urbanization has been employed as a measure of socio-economic development because of the general assumption that developed polities are more urbanized. Variables representing Urbanization are similar to the ones used by

¹²Almond and Powell, Comparative Politics: A Developmental Approach, pp. 164-190 and Richard R. Fagen, Politics and Communication (Boston: Little, Brown, and Company, 1966).

¹³Cutright, "National Political Development," pp. 253-264; Lerner, The Passing of a Traditional Society; McCrone and Cnudde, "Toward a Communications Theory of Development," pp. 72-79; and Olsen, "Multivariate Analysis of National Political Development," pp. 699-712.

¹⁴Banks, "Modernization and Political Change," pp. 405-418 and Olsen, "Multivariate Analysis of National Political Development," pp. 699-712.

¹⁵Olsen, "Multivariate Analysis of National Political Development," p. 706.

Cutright and Olsen: population in cities greater than or equal to 100,000 and vehicles per thousand population.

Domain IX: Education. Basic development studies have established that education is a meaningful indicator of political development.¹⁶ For this study, three variables were chosen to represent the domain of education: primary enrollment per capita, secondary enrollment per capita, and university enrollment per capita.

TABLE II

Measures of Socio-Economic Development

DOMAIN VI: ECONOMIC GROWTH

- 24. Gross Domestic Product Per Capita
- 25. Physicians Per Capita
- 26. Number of Persons Per Hospital Bed
- 27. Total Energy Production in Millions of Kilowatt Hours

DOMAIN VII: MASS COMMUNICATIONS

- 28. Newspapers Per Capita
- 29. Telephones Per Capita
- 30. Railroad Mileage

DOMAIN VIII: URBANIZATION

- 31. Population in Cities Greater or Equal than One Hundred Thousand
- 32. Vehicles Per Thousand

DOMAIN IX: EDUCATION

- 33. Primary Enrollment Per Capita
 - 34. Secondary Enrollment Per Capita
 - 35. University Enrollment Per Capita
-

¹⁶David Apter, The Politics of Modernization (Chicago: Chicago University Press, 1966); Leonard Binder, James S. Coleman, Joseph LaPalmobara, Lucian Pye, and Myron Weiner, eds., Crises and Sequences in Political Development (Princeton: Princeton University Press, 1971); and James S. Coleman, ed., Education and Political Development (Princeton: Princeton University Press, 1965).

Domain X: Domestic Political Instability. For this study, the concept of domestic political instability has been regarded as the

degree or amount of aggression directed by individuals or groups within the political system against other groups or against the complex of office holders . . . [as well as] the amount of aggression directed by office holders against other individuals and groups.¹⁷

This definition was operationalized by ten variables collected from Cross-Polity Time Series Data and the World Handbook of Political and Social Indicators: assassinations, general strikes, guerilla warfare, government crises, purges, riots, revolutions, anti-government demonstrations, coups, and armed attacks (See Table III).

TABLE III

Measures of Domestic Political Instability

DOMAIN X: DOMESTIC POLITICAL INSTABILITY

- 36. Assassinations
 - 37. General Strikes
 - 38. Guerilla Warfare
 - 39. Government Crises
 - 40. Purges
 - 41. Riots
 - 42. Revolutions
 - 43. Anti-Government Demonstrations
 - 44. Coups
 - 45. Armed Attacks
-

¹⁷Ivo K. and Rosalind L. Feierabend, "Aggressive Behaviors Within Polities, 1948-1962: A Cross-National Survey," Journal of Conflict Resolution, X (September, 1966), pp. 249-271.

Statistical Techniques¹⁸

Four statistical techniques have been employed to test the basic hypotheses of this study: product-moment correlation, image factor analysis, component factor analysis, and multiple regression. Figure 2 indicates the procedures adopted.

Product-Moment Correlation

Before factor analysis could be applied, the basic data matrix required transformation. Product-moment correlation matrix transformation has been selected because it may be applied to data measured in different units on different scales. The technique of product-moment correlation was also used in order to determine interrelationships of political development, socio-economic development, and domestic political instability.

Factor Analysis

The technique of factor analysis may be used in a variety of ways.¹⁹ In this work, the technique has been utilized as a method for delineating interdependencies among variables. To accomplish

¹⁸Programs for this study were provided by the Political Data Analysis Center, Government Department of Sam Houston State University and executed by the Data Processing Center, Sam Houston State University.

¹⁹Rudolph J. Rummel, Applied Factor Analysis (Evanston: Northwestern University Press, 1970), pp. 1-5, 12-13, 101-105, 112-121.

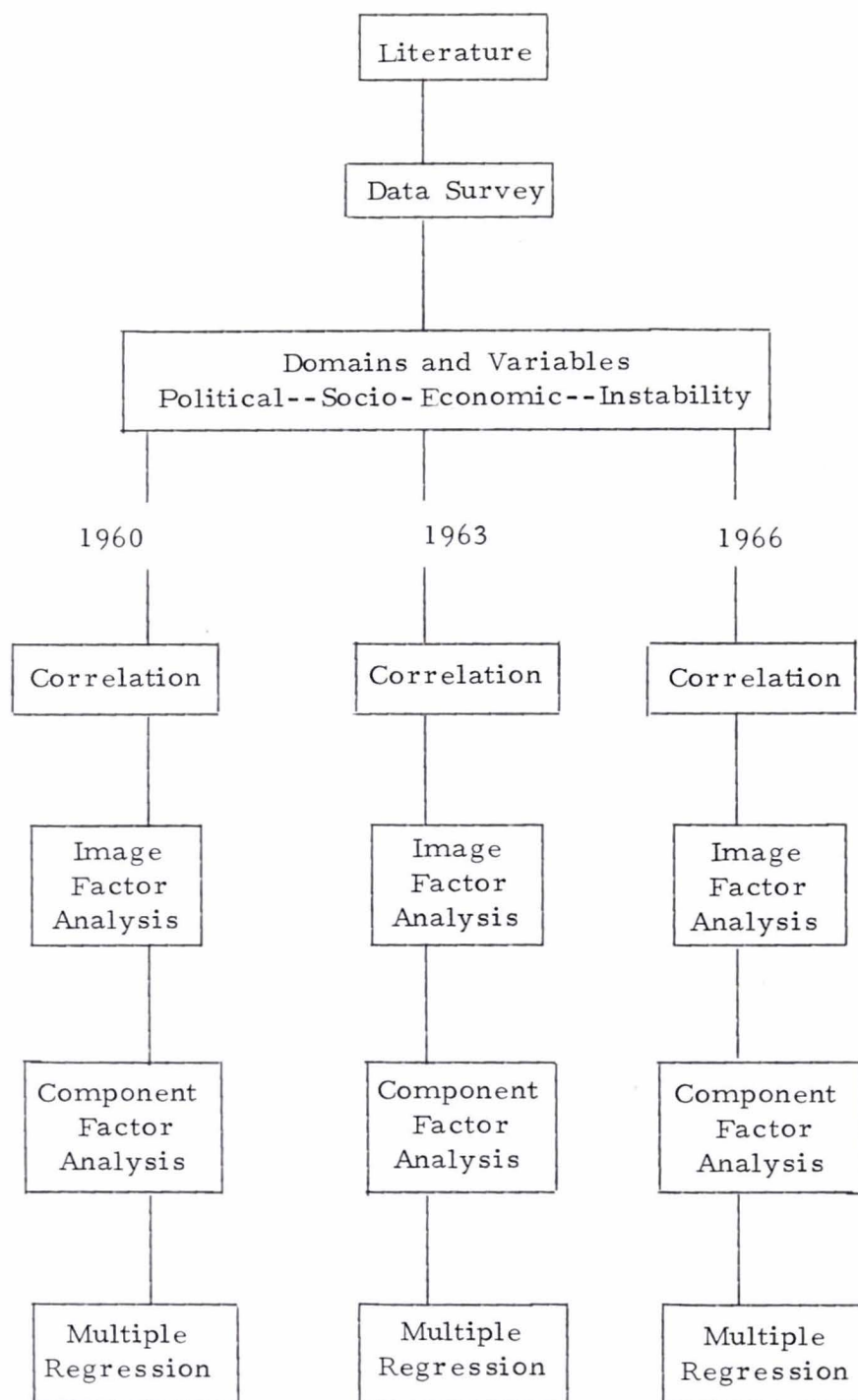


Fig. 2.--Analysis Flow Chart

this goal, the techniques of image and component factor analyses have been used.

Image and Component Factor Analyses. Image factor analysis defines major factors based on the common variance of the data. This technique has been adopted in order to delineate the common factors as to determine which domains, variables, and resulting factors contribute to developmental processes and instability in Latin America. Component factor analysis has been utilized in order to ascertain the dimensions of the data domains from both common and unique variation to input as a set of uncorrelated factors for multiple regression.²⁰

Factor Techniques and Rotation. After the unrotated solution has been established through the principal axes technique, the rotated solution is then determined through the varimax criteria. The rotated solution has first been determined for all factors with eigenvalues greater than or equal to zero. Then the factors have been evaluated for a factor cutoff on the basis of interpretability and then are rerotated. This process has been employed to delineate the dimensions of development and instability.

²⁰Herbert Hannah, "Dimensions of International Conflict," (Ph. D Dissertation, University of Hawaii, 1972), p. 55.

Multiple Regression

Multiple regression, a technique that allows a single dependent or criterion variable to be predicted from a set of independent or predictor variables, has been utilized to derive predictions of political development from socio-economic development and domestic political instability, and occurrences of instability from political and socio-economic development. Factor scores from the principal component analyses have been used as the dependent and independent variables in the multiple regression.

CHAPTER III

CORRELATION ANALYSES

Correlations: 1960-1963-1966

Correlations among the domains of political development, socio-economic development and domestic political instability remained constant over time (Tables IV-XII). For example, indicators from the political domain of Integration exhibited strong degrees of association with each other. Also, Deutsch's contention that mobilization increases political participation was supported by these findings:¹ radios per thousand, the best indicator of Social Mobilization, always correlated highly with presidential votes. Huntington's proposition that "age" is an indicator of Institutionalization was reinforced by the data:² years of independence and constitutional government showed a moderate interrelationship. Radios and presidential votes were the best overall indicators of political development.

Measures of socio-economic development proved to be moderately interrelated over time. Telephones per capita was the

¹Karl Deutsch, "Social Mobilization and Political Development," American Political Science Review, LV (September, 1961), pp. 493-514.

²Huntington, "Political Development and Political Decay," p. 390.

TABLE IV

IMAGE CORRELATIONS AMONG POLITICAL MEASURES (1960)^a

Measures ^b	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Legislative Effectiveness																				
2. Legislative Selection	58																			
3. Radios Per Thousand	-27	03																		
4. Per Cent Literate	15	-01	27																	
5. Presidential Votes	-30	18	90	06																
6. Executive Selection	-54	-76	-15	-28	-23															
7. Defense Expenditures	-23	25	06	-05	22	-19														
8. Government Revenue	20	-01	07	09	-03	-04	-23													
9. Government Expenditure	30	08	08	16	07	-08	-32	51												
10. Executive Adjustment	-22	-30	31	-16	25	41	05	50	28											
11. Years of Constitution	49	49	25	45	26	-46	12	00	08	-12										
12. Years of Independence	59	51	-09	04	-11	-38	32	06	04	-18	35									
13. Free Newspapers	-14	-13	03	22	05	07	-10	13	41	-23	-09	08								
14. Political Parties	-03	21	28	14	45	-17	25	03	14	-15	28	14	22							
15. Labor Members	-27	-06	93	26	81	-07	02	20	29	36	18	-13	16	15						
16. Domestic km Flown	-27	14	83	-04	92	-20	16	-02	09	23	21	-21	-13	58	69					
17. Passenger km Flown	-33	12	84	01	92	-20	19	-08	00	18	21	-23	-11	57	69	99				
18. Mail Ton km Flown	-23	11	82	-08	76	-21	10	-13	-11	03	16	-15	-08	31	69	82	84			
19. Imports	-16	02	94	23	83	-16	-05	24	39	35	23	-07	14	27	97	78	75	73		
20. Exports	01	04	62	15	58	-13	-10	50	78	48	16	-02	21	26	75	58	49	38	83	
21. Party Strength	-04	32	-08	-36	05	-04	61	-23	-12	-01	10	44	14	04	-14	-03	-03	09	-14	-14

^aCorrelations rounded off and multiplied by 100.^bRegime and Parliamentary Responsibility were eliminated due to lack of variability in the data.

TABLE V
IMAGE CORRELATIONS AMONG POLITICAL MEASURES (1963)^a

Measures	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. Legislative Effectiveness																						
2. Regime	61																					
3. Parliamentary Responsibility	00	-16																				
4. Legislative Selection	65	-55	-26																			
5. Radios Per Thousand	-30	-30	01	25																		
6. Per Cent Literate	44	-33	10	25	22																	
7. Presidential Votes	-12	-25	-14	25	95	15																
8. Executive Selection	-75	81	19	-87	-31	-33	-31															
9. Defense Expenditure	-27	08	04	09	-14	-16	-04	-02														
10. Government Revenue	30	-18	10	01	06	17	05	-06	-29													
11. Government Expenditure	39	-18	-07	13	12	21	13	-19	-32	95												
12. Executive Adjustment	-39	-14	09	-12	66	-05	73	-07	16	-11	-06											
13. Years Constitution	29	-27	-16	16	26	44	28	-32	-10	01	08	18										
14. Years Independent	26	11	-28	16	01	04	-12	-15	36	-09	-01	-13	35									
15. Free Newspapers	05	13	-31	10	-03	03	05	-12	17	06	17	02	-11	20								
16. Political Parties	-02	00	-19	-02	34	21	49	-11	18	12	19	28	34	17	-08							
17. Labor Members	05	-36	14	17	89	34	82	-25	-23	31	29	55	28	-01	-09	19						
18. Domestic km Flown	-15	-21	-09	22	81	00	85	-26	-09	-01	04	66	23	-18	-25	56	64					
19. Passenger km Flown	-19	-17	-11	17	80	00	83	-22	-10	-06	-01	65	22	-20	-23	55	61	99				
20. Mail Ton km Flown	-14	-23	-11	23	84	-09	82	-27	-12	-16	-12	48	18	-14	-16	34	63	84	84			
21. Import	-02	-33	22	12	92	21	85	-20	-23	34	32	58	18	-17	-15	35	90	77	75	76		
22. Export	16	-26	03	18	62	17	64	-24	-16	77	76	37	16	02	06	39	75	51	46	38	77	
23. Party Strength	08	-21	-35	05	12	03	17	-23	21	-23	-16	-11	-01	39	16	29	-03	03	04	13	-05	-08

^aCorrelations rounded off and multiplied by 100.

TABLE VI
IMAGE CORRELATIONS AMONG POLITICAL MEASURES (1966)^a

Measures ^b	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Legislative Effectiveness	-47																				
2. Regime	77	-46																			
3. Legislative Selection	-17	60	-13																		
4. Radios Per Thousands	05	26	-36	29																	
5. Per Cent Literate	-21	71	-11	96	23																
6. Presidential Votes	-77	52	-69	19	-06	21															
7. Executive Selection	-01	-04	17	07	-21	04	-03														
8. Defense Expenditure	22	07	-14	10	41	11	-05	-14													
9. Government Revenue	35	14	-01	16	41	18	-17	-01	94												
10. Government Expenditure	-40	81	-45	54	13	63	39	06	17	23											
11. Executive Adjustment	16	21	03	14	48	18	-09	13	01	09	15										
12. Years Constitution	26	01	17	01	-03	02	-30	44	-12	05	01	34									
13. Years Independence	-07	41	-25	09	27	16	-03	-13	15	27	33	-05	15								
14. Free Newspapers	33	-19	08	-09	24	-15	-63	20	24	33	06	17	47	38							
15. Political Parties	-26	60	-17	85	21	91	28	04	18	15	51	24	-18	-05	-26						
16. Labor Members	-16	51	02	77	10	85	14	16	05	08	39	24	-16	-08	-24	94					
17. Domestic km Flown	-18	52	00	78	11	85	15	18	04	07	41	22	-16	-08	-28	95	99				
18. Passenger km Flown	-20	47	03	90	08	91	14	03	-10	-07	38	19	-19	-06	-31	89	90	90			
19. Mail Ton km Flown	-08	46	-17	88	33	85	17	-03	45	40	45	15	-08	-01	-10	88	74	75	77		
20. Imports	04	48	-12	66	30	73	12	-02	69	68	47	18	04	17	11	74	62	60	53	85	
21. Exports	33	-23	43	06	-00	05	-69	09	-30	-18	-21	-13	30	27	41	-09	03	06	13	-09	-20
22. Party Strength																					

^aCorrelations rounded off and multiplied by 100.

^bParliamentary Responsibility was eliminated due to lack of data variability.

TABLE VII
IMAGE CORRELATIONS AMONG SOCIO-
ECONOMIC MEASURES (1960)^a

Measures	1	2	3	4	5	6	7	8	9	10	11	12
1. Gross Domestic Product	76											
2. Physicians Per Capita	65	96										
3. Persons-Hospital Beds	-46	-49	59									
4. Energy Production mkwh	17	27	-49	59								
5. Newspapers Per Capita	61	75	-56	14	94							
6. Telephones Per Capita	64	90	-54	32	87	96						
7. Railroad Mileage	31	57	-20	81	30	53	94					
8. Cities--100,000	12	20	-05	91	07	23	79	93				
9. Vehicles	27	38	-17	87	12	33	82	84	93			
10. Primary Enrollment	43	30	-43	01	32	30	05	-14	04	83		
11. Secondary Enrollment	43	34	-61	01	64	47	-05	-06	-03	33	91	
12. University Enrollment	65	85	-49	26	80	90	50	20	31	31	42	87

^aCorrelations rounded off and multiplied by 100.

TABLE VIII
IMAGE CORRELATIONS AMONG SOCIO-
ECONOMIC MEASURES (1963)^a

Measures	1	2	3	4	5	6	7	8	9	10	11	12
1. Gross Domestic Product	77											
2. Physicians Per Capita	67	94										
3. Persons-Hospital Beds	-46	-46	60									
4. Energy Production mkwh	17	30	-17	99								
5. Newspapers Per Capita	54	70	-41	10	90							
6. Telephones Per Capita	65	87	-45	27	84	94						
7. Railroad Mileage	26	50	-17	65	15	37	78					
8. Cities--100,000	13	25	-13	97	07	21	64	99				
9. Vehicles	25	42	-17	94	14	35	72	93	96			
10. Primary Enrollment	42	16	-51	-01	20	22	-01	-08	-06	76		
11. Secondary Enrollment	44	26	-45	01	50	40	-25	-01	-03	41	87	
12. University Enrollment	74	82	-48	24	71	83	39	17	32	35	36	89

^aCorrelations rounded off and multiplied by 100.

TABLE IX

IMAGE CORRELATIONS AMONG SOCIO-
ECONOMIC MEASURES (1966)^a

Measures	1	2	3	4	5	6	7	8	9	10	11	12
1. Gross Domestic Product	92											
2. Physicians Per Capita	73	84										
3. Persons-Hospital Beds	-45	-54	68									
4. Energy Production mkwh	25	30	-22	99								
5. Newspapers Per Capita	49	58	-36	07	80							
6. Telephones Per Capita	69	81	-54	29	73	94						
7. Railroad Mileage	42	48	-24	69	20	43	84					
8. Cities--100,000	13	18	-13	96	03	18	67	99				
9. Vehicles	31	35	-18	94	11	33	77	92	94			
10. Primary Enrollment	34	22	-53	04	14	20	-01	-04	-01	80		
11. Secondary Enrollment	27	27	-44	03	46	32	-04	05	-02	45	81	
12. University Enrollment	70	79	-57	21	60	79	44	11	26	27	39	82

^aCorrelations rounded off and multiplied by 100.

TABLE X

IMAGE CORRELATIONS AMONG DOMESTIC
POLITICAL INSTABILITY MEASURES (1960)^a

Measures ^b	1	2	3	4	5	6	7	8	9
1. Assassinations	68								
2. General Strikes	-06	17							
3. Guerilla War	09	-08	72						
4. Government Crises	58	-22	20	83					
5. Purges	37	-09	46	37	83				
6. Riots	51	-19	09	54	44	68			
7. Revolutions	57	-16	35	65	41	56	72		
8. Demonstrations	28	-09	27	37	44	36	43	58	
9. Armed Attacks	06	-18	53	11	57	30	27	16	86

^aCorrelations rounded off and multiplied by 100.

^bCoups were omitted due to lack of data variability.

TABLE XI

IMAGECORRELATIONS AMONG DOMESTIC
POLITICAL INSTABILITY MEASURES (1963)^a

Measures ^b	1	2	3	4	5	6	7	8	9
1. General Strikes	74								
2. Guerilla War	-08	73							
3. Government Crises	19	37	74						
4. Purges	-12	27	45	79					
5. Riots	15	56	23	09	91				
6. Revolutions	-03	02	38	41	-06	63			
7. Demonstrations	02	17	15	34	37	16	79		
8. Coups	-04	01	00	30	-01	31	34	53	
9. Armed Attacks	-04	74	20	06	68	-18	18	-05	87

^aCorrelations rounded off and multiplied by 100.

^bAssassinations was omitted due to lack of data variability.

TABLE XII

IMAGE CORRELATIONS AMONG DOMESTIC
POLITICAL INSTABILITY MEASURES (1966)^a

Measures ^b	1	2	3	4	5	6	7
1. Guerilla War	77						
2. Purges	19	10					
3. Riots	-07	11	77				
4. Revolutions	09	11	60	55			
5. Demonstrations	-09	03	59	50	73		
6. Coups	14	07	17	07	19	38	
7. Armed Attacks	56	21	21	26	26	13	80

^aCorrelations rounded off and multiplied by 100.

^bAssassinations, General Strikes, and Government Crises were eliminated due to lack of data variability.

best representative of the Communications domain. The 1960 and 1963 correlations between telephones and newspapers per capita supported relationships reported by Olsen (.87).³ Notable socioeconomic indicators were energy production and university enrollment from the domains of Economic Growth and Education, respectively.

Finally, certain unapparent clustering patterns emerged among indices of domestic political instability. Guerilla war consistently related the spontaneous armed attacks occurrences. Similarly, riots showed noticeable interdependences with the mass participation occurrences of antigovernment demonstrations, purges, revolutions, and coups. Assassinations always related to structured forms of instability such as government crises, purges, riots, and revolutions.

Despite the constant nature of the correlations through time, certain differences may be detected upon examination of the development and instability domains. The most noticeable differences occurred within the political domain of Differentiation. The interdependency of legislative selection and legislative effectiveness strengthened over time; thus, indicating that these two measures of Differentiation are positively related to political development. On the other hand, regime and parliamentary responsibility (additions

³Olsen, "Multivariate Analysis of National Political Development," p. 712.

to the Differentiation domain in 1963) were inversely related to Differentiation measures. The most notable changes in this domain were with regime. The 1963 data recorded this variable as being partially or inversely related to measures of political development, except executive selection (.81). A turnabout occurred with the 1966 findings: regime became highly associated with all indicators of Integration, except party strength.

Correlations Among Political and Socio-Economic Measures

Correlations among political and socio-economic measures revealed a number of findings (Tables XIII-XV). The most outstanding was the strengthened associations among measures of political and socio-economic development over time. This heightened relationship reinforced the Lerner contention that development represents a systemic process in which the "demographic, economic, political, communications, and cultural sectors of a society grow together and this joint growth occurs in regular phases," and the Cutright hypothesis that political development is interdependent with educational systems, degrees of urbanization, communications networks, and economic institutions.⁴ A rise in the high correlations between gross domestic product and political measures substantiated

⁴Cutright, "National Political Development," pp. 75-80 and Lerner, The Passing of a Traditional Society, p. 401.

TABLE XIII

IMAGE CORRELATIONS AMONG POLITICAL AND SOCIO-ECONOMIC MEASURES (1960)^a

Measures ^b	Legislative Effectiveness	Legislative Selection	Radios	Literate	Votes	Executive Selection	Defense Expenditure	Government Revenue	Government Expenditures	Executive Adjustment	Constitution	Independence	Newspapers	Political Parties	Labor	Domestic km Flown	Passenger km Flown	Mail Ton km Flown	Imports	Exports	Party Strength
Gross Domestic Product	07	09	-18	-68	-14	-06	27	-17	82	09	33	08	45	12	43	12	05	-07	50	73	-18
Physicians Per Capita	04	-08	47	61	-14	-06	27	-17	26	19	37	09	21	-15	58	-15	05	-02	52	44	-32
Persons-Hospital Beds	07	09	-18	-68	-14	-06	27	-17	-26	-04	-29	17	-25	-39	-17	-39	-13	20	-20	-19	40
Energy Production mkwh	-30	11	94	13	95	-20	13	03	10	21	25	-16	03	47	87	47	95	86	90	61	07
Newspapers Per Capita	26	02	25	65	11	-19	-41	07	22	-15	45	01	22	02	26	02	00	-06	28	21	-41
Telephones Per Capita	08	-01	47	60	33	-13	33	14	34	14	35	-04	23	-11	52	-11	13	01	51	43	-36
Railroad Mileage	-41	-06	89	29	81	-05	10	-04	-01	23	19	-13	14	10	91	10	66	62	83	46	-11
Cities--100,000	-29	12	91	01	91	-13	11	-52	-02	21	22	-10	-14	45	79	45	92	84	83	51	-03
Vehicles	-38	01	90	04	89	08	08	02	14	29	16	-16	22	37	88	37	80	77	86	60	05
Primary Enrollment	-16	-26	06	47	-14	25	-19	39	44	21	23	-22	40	07	19	07	-11	-14	17	29	-23
Secondary Enrollment	29	05	01	59	-04	-23	-51	31	31	-11	44	-27	09	19	-01	19	03	-09	08	11	-51
University Enrollment	11	09	42	61	28	-19	-20	30	39	14	25	09	34	-04	51	-04	05	-03	49	45	-27

^aCorrelations rounded off and multiplied by 100.^bRegime and Parliamentary Responsibility were eliminated due to lack of data variability.

TABLE XIV

IMAGE CORRELATIONS AMONG POLITICAL AND SOCIO-ECONOMIC MEASURES (1963)^a

Measures	Legislative Effectiveness	Regime	Parliamentary Responsibility	Legislative Selection	Radios	Literate	Votes	Executive Selection	Defense Expenditure	Government Revenue	Government Expenditure	Executive Adjustment	Constitution	Independence	Newspapers	Political Parties	Labor	Domestic km Flown	Passenger km Flown	Mail Ton km Flown	Imports	Exports	Party Strength
Gross Domestic Product	40	-35	-07	19	24	48	22	-28	-34	75	78	-08	33	04	13	15	47	03	-02	-07	37	65	-01
Physicians Per Capita	16	-25	14	12	44	58	39	-15	-14	30	29	32	38	14	10	-01	70	11	08	-01	43	47	-11
Persons-Hospital Bed	-15	02	-11	13	-18	-64	-16	-09	34	-27	-30	06	-17	09	09	-37	-26	-13	-12	11	-25	-22	-22
Energy Production mkwh	-11	-27	-05	23	93	12	96	-28	-11	10	15	70	26	-14	-10	53	79	92	91	87	91	66	04
Newspapers Per Capita	47	-29	-02	21	21	58	14	-30	-42	09	14	-05	45	13	05	45	13	05	-00	41	-04	-05	15
Telephones Per Capita	30	-33	03	17	39	60	33	-26	-43	30	35	28	35	-04	08	-06	62	11	09	-04	37	38	-20
Railroad Mileage	-38	-22	12	-07	71	21	70	-01	07	-05	-07	68	13	-07	11	18	68	47	47	48	66	38	23
Cities--100,000	-17	-24	-02	19	92	07	94	-25	-09	-01	03	71	25	-16	-17	51	77	96	96	89	87	57	06
Vehicles	-13	-27	-07	24	93	14	98	-29	-10	07	12	72	19	-13	10	41	82	82	82	82	87	64	13
Primary Enrollment	31	-14	24	01	03	64	-03	-08	-17	41	41	-29	26	-10	16	13	11	-11	-11	-13	15	19	04
Secondary Enrollment	64	-37	24	18	-01	58	-07	-31	-53	28	33	-24	38	-25	-19	18	08	-01	-03	-07	11	09	-25
University Enrollment	40	-35	08	22	39	65	35	-34	-22	49	58	27	38	16	27	09	58	03	-01	-09	38	56	-08

^aCorrelations rounded off and multiplied by 100.

TABLE XV

IMAGE CORRELATIONS AMONG POLITICAL AND SOCIO-ECONOMIC MEASURES (1966)^a

Measures ^b	Legislative Effectiveness	Regime	Legislative Selection	Radios	Literate	Votes	Executive Selection	Defense	Government Expenditures	Government Revenue	Government Expenditure	Executive Adjustment	Constitution	Independence	Newspapers	Political Parties	Labor	Domestic km flown	Passenger km flown	Mail Ton km flown	Imports	Exports	Party Strength
Gross Domestic Product	13	39	19	31	70	34	-04	-15	74	75	29	29	32	14	29	23	44	10	11	03	45	66	-13
Physicians Per Capita	-00	58	-26	32	72	37	18	-30	33	31	44	44	53	17	29	10	44	11	11	08	35	46	-20
Persons-Hospital Beds	-14	-23	27	-19	-70	-19	31	26	-40	-38	-30	-30	-22	10	-29	-41	-27	-16	-16	-07	-29	-28	-18
Energy Production mkwh	-19	63	-03	93	21	97	22	05	14	17	54	-26	-12	05	05	-23	79	92	92	95	87	73	-02
Newspapers Per Capita	31	13	-01	19	60	12	-18	-17	-00	04	03	41	23	-04	15	11	11	-04	-05	-00	11	09	02
Telephones Per Capita	03	49	-31	32	72	33	13	-22	37	36	36	36	34	-01	10	-04	45	18	19	09	35	40	-23
Railroad Mileage	-57	79	-61	73	37	72	63	-08	15	06	70	70	14	-22	13	-35	75	53	57	59	70	51	-31
Cities--100,000	-23	57	-06	86	13	91	21	08	-00	02	46	24	-18	-06	-06	-27	75	97	97	96	79	60	00
Vehicles	-28	76	-18	89	21	95	30	-06	10	13	62	17	-17	23	23	-22	75	85	85	89	80	70	-02
Primary Enrollment	25	-08	-06	11	65	06	-40	-13	43	46	09	37	02	33	33	60	13	-03	-03	-01	22	20	23
Secondary Enrollment	59	-26	26	08	47	00	-50	-17	25	27	-07	35	-20	-10	-10	33	00	03	-10	03	16	11	04
University Enrollment	-03	58	-38	32	74	31	09	-16	33	41	47	34	09	35	35	18	34	04	05	01	29	33	-21

^aCorrelations rounded off and multiplied by 100.^bParliamentary Responsibility was eliminated due to lack of data variability.

Wolf's research finding that gross national product and political development are positively related in Latin America.⁵

The most noticeable relationships were among the socio-economic domain of Urbanization and political measures of Mobilization-Participation and Integration. These measures, except for literacy and party strength, were highly interrelated over time. For example, the average correlation among presidential votes and vehicles was .94.

Finally, correlations among measures of political and socio-economic development contradicted findings uncovered by Olsen. While this work detected exceptionally high correlations between presidential votes and the socio-economic indicators of vehicles, cities, newspapers, telephones, and energy production, Olsen found only moderate associations with his corresponding variables of Citizen Influence (.59, .44, .46, .46, and .38, respectively). Another discrepancy concerned railroad mileage. Olsen reported that railroads were relatively weak predictors of political development. Finally, in contrast to the high correlations noted by Olsen, this study showed that newspapers was only moderately related to literacy.⁶

⁵Wolf, "The Political Effects of Economic Programs," pp. 1-20.

⁶Olsen, "Multivariate Analysis of National Political Development," pp. 699-712.

Several factors may account for the differences in the two undertakings: (a) Olsen's data was for a group of 115 nations while the data of this research related only to the twenty Latin American nations; (b) Olsen's domain of Citizen Influence was measured by electoral representation in politics as opposed to votes cast in presidential elections; (c) Cities was concerned with the population in cities greater or equal to 100,000 while Olsen's "cities" was concerned with the population in cities greater or equal to 20,000; and (d) Newspapers and telephones were per capita measures while Olsen's corresponding indicators were newspapers and telephones per 1000 population.

Correlations Among Measures of Development and Instability

Despite the fact that overall correlations among measures of development and instability were weak to moderate, certain definite features became evident (Tables XVI-XXI). First, not any one developmental indicator correlated with any one type of instability occurrence, but was associated with several forms. Second, the frequency of moderate interrelations among development and instability measures dropped over time. Third, instability occurrences were apt to be moderately to highly related to development indicators such as regime or gross domestic product that are tangible to the populous. Theoretical measures like legislative differentiation, legislative effectiveness, and energy production which are inanimate

TABLE XVI

IMAGE CORRELATIONS AMONG POLITICAL AND DOMESTIC
POLITICAL INSTABILITY MEASURES (1960)^a

Measures ^b	Legislative Effectiveness	Legislative Selection	Radios	Literate	Votes	Executive Selection	Defense Expenditure	Government Expenditure	Government Revenue	Government Expenditure	Executive Adjustment	Constitution	Independence	Newspapers	Political Parties	Labor	Domestic km Flown	Passenger km Flown	Mail Ton km Flown	Imports	Exports	Party Strength
Assassinations	18	14	18	-13	27	-20	05	22	22	52	32	08	16	26	-30	36	05	-01	-01	35	55	20
General Strikes	15	11	-14	29	-14	-16	-41	-11	-11	-04	-35	11	-34	02	-10	-20	-16	-14	-15	-17	-20	-33
Guerilla War	-27	-35	-02	32	-15	14	24	01	04	22	22	06	-14	-15	-33	-12	-15	-16	-23	-03	10	02
Government Crises	09	13	27	26	30	-19	14	32	65	20	20	22	27	48	02	47	10	03	-09	46	68	10
Purges	-17	-55	-06	-06	-13	49	-20	31	54	59	-34	-43	-43	09	-37	21	-12	-19	-22	15	48	-25
Riots	29	02	16	01	09	-06	-17	45	84	25	-02	07	20	20	06	37	17	05	10	44	80	-03
Revolutions	-01	-15	03	15	05	14	14	22	52	21	21	02	23	25	01	26	02	12	-23	23	51	09
Demonstrations	03	03	52	30	41	-01	09	06	32	20	20	05	09	04	07	68	34	30	40	63	59	-02
Armed Attacks	-35	-65	13	22	-11	50	-17	15	09	53	53	-18	-49	-28	-47	31	-09	-10	-11	19	21	-42

^a Correlations rounded off and multiplied by 100.

^b Regime, Parliamentary Responsibility, and Coups were eliminated due to lack of data variability.

TABLE XVII

IMAGE CORRELATIONS AMONG POLITICAL AND DOMESTIC
POLITICAL INSTABILITY MEASURES (1963)^a

Measures ^b	Legislative Effectiveness	Regime	Parliamentary Responsibility	Legislative Selection	Radios	Literate	Votes	Executive Selection	Defense Expenditures	Government Revenue	Government Expenditures	Executive Adjustment	Constitution	Independence	Newspapers	Political Parties	Labor	Domestic km Flown	Passenger km Flown	Mail Ton km Flown	Imports	Exports	Party Strength
General Strikes	-14	-16	-11	17	32	20	46	-19	27	-20	-19	41	09	-19	-29	63	16	55	55	43	28	13	14
Guerilla War	09	-12	-16	07	-06	-44	-08	-12	-06	37	33	03	02	21	-21	-12	06	10	06	-02	-01	32	-14
Government Crises	-17	-16	-24	08	53	-01	58	-16	02	07	16	72	21	24	-09	31	47	53	50	29	43	43	17
Purges	-26	-01	-20	-13	41	-25	38	05	01	-10	-02	50	10	34	15	-22	39	12	11	21	22	15	24
Riots	18	-14	-21	07	-07	-05	01	-13	15	54	51	-04	03	18	-19	27	07	11	06	-11	03	42	06
Revolutions	-77	64	-25	-42	11	-53	26	55	19	-24	-20	55	-08	03	18	11	-02	18	21	15	01	-01	-18
Demonstrations	-20	12	-14	-31	03	-25	-05	23	07	-04	-00	13	-01	11	-09	02	01	06	06	-01	-04	-07	21
Goups	-54	68	-14	-84	-27	-38	-18	73	-01	-11	-11	-02	-07	15	11	22	-32	-19	-15	-20	-27	-22	16
Armed Attacks	20	-14	01	04	02	-13	03	-08	-11	82	73	-07	01	09	-12	07	27	10	05	-07	23	69	-19

^aCorrelations rounded off and multiplied by 100.

^bAssassinations was eliminated due to lack of data variability.

TABLE XVIII

IMAGE CORRELATIONS AMONG POLITICAL AND DOMESTIC
POLITICAL INSTABILITY MEASURES (1966)^a

Measures ^b	Legislative Effectiveness	Regime	Legislative Selection	Radios	Literate	Votes	Executive Selection	Defense Expenditures	Government Expenditures	Government Revenue	Government Expenditures	Executive Adjustment	Constitution	Independence	Newspapers	Political Parties	Labor	Domestic km Flown	Passenger km Flown	Mail Ton km Flown	Imports	Exports	Party Strength
Guerilla War	14	-11	15	-15	-28	-09	-22	-03	11	08	-19	-02	28	-25	01	02	-01	-01	-10	-10	-02	10	-10
Purges	-26	21	-53	07	13	-01	28	-14	07	03	23	-06	10	02	19	11	-10	-12	-11	16	08	-40	
Riots	-41	60	-33	36	-05	48	24	01	01	09	85	07	-19	22	04	25	42	41	38	22	25	-08	
Revolutions	-28	37	-49	05	09	18	20	-09	41	43	65	06	16	39	40	20	00	-03	-10	13	40	-02	
Demonstrations	-36	70	-41	34	21	43	24	23	09	22	77	16	12	27	02	37	36	40	21	21	22	-02	
Coups	-12	09	-12	-01	02	07	-01	20	-08	-08	00	10	22	-17	-05	41	31	36	04	09	01	14	
Armed Attacks	07	-00	02	-14	-34	-05	-13	-09	24	20	28	-05	21	-21	19	05	-07	-07	-15	03	17	-20	

^aCorrelations rounded off and multiplied by 100.

^bAssassinations, Government Crises, and Parliamentary Responsibility were eliminated due to lack of data variability.

TABLE XIX
IMAGE CORRELATIONS AMONG SOCIO-ECONOMIC AND DOMESTIC
POLITICAL INSTABILITY MEASURES (1960)^a

Measures ^b	Gross Domestic Product	Physicians	Hospital Beds	Energy Production	Newspapers	Telephones	Railroad Mileage	Cities	Vehicles	Primary Enrollment	Secondary Enrollment	University Enrollment
Assassinations	48	35	30	13	08	36	27	06	20	-11	-16	38
General Strikes	21	22	-28	-16	63	46	-16	-17	-16	04	64	43
Guerilla War	22	35	-20	-12	04	13	11	-15	-15	36	-11	03
Government Crises	80	60	-16	20	24	52	36	12	29	30	-06	59
Purges	36	20	04	-12	-05	14	-01	-21	03	37	-06	12
Riots	69	18	03	15	06	14	-01	08	18	25	01	21
Revolutions	62	36	-05	-01	01	25	13	05	06	19	-19	34
Demonstrations	33	33	-01	47	06	27	53	47	52	02	-18	37
Armed Attacks	14	41	-16	00	11	26	26	-01	03	37	02	17

^aCorrelations rounded off and multiplied by 100.

^bCoups was eliminated due to lack of data variability.

TABLE XX

IMAGE CORRELATIONS AMONG SOCIO-ECONOMIC AND DOMESTIC
POLITICAL INSTABILITY MEASURES (1963)^a

Measures ^b	Gross Domestic Product	Physicians	Hospital Beds	Energy Production	Newspapers	Telephones	Railroad Mileage	Cities	Vehicles	Primary Enrollment	Secondary Enrollment	University Enrollment
General Strikes	-29	-17	-03	50	-20	-17	20	52	42	-13	04	15
Guerilla War	07	-13	48	-05	-22	-09	-24	-03	-12	-42	-27	-06
Government Crises	11	31	-01	52	-01	30	55	51	53	-40	-32	34
Purges	01	29	22	20	-00	25	46	21	32	-34	-47	26
Riots	19	-08	04	-00	-23	-08	-32	-02	-10	04	00	05
Revolutions	-36	-10	33	20	-30	-16	26	21	23	-53	-58	-18
Demonstrations	-14	-08	-07	-04	-17	-07	-12	01	-06	02	-09	-13
Coups	-25	-27	-04	-23	-23	-28	-09	-20	-24	-14	-24	-25
Armed Attacks	48	13	07	07	-10	08	-19	02	-00	06	-00	23

^aCorrelations rounded off and multiplied by 100.

^bAssassinations was eliminated due to lack of data variability.

TABLE XXI
IMAGE CORRELATIONS AMONG SOCIO-ECONOMIC AND DOMESTIC
POLITICAL INSTABILITY MEASURES (1966)^a

Measures ^b	Gross Domestic Product	Physicians	Hospital Beds	Energy Production	Newspapers	Telephones	Railroad Mileage	Cities	Vehicles	Primary Enrollment	Secondary Enrollment	University Enrollment
Guerilla War	06	-09	-03	-08	-09	-11	-18	-06	-11	-32	-25	-19
Purges	-04	13	-18	-02	11	04	28	-01	03	06	-02	32
Riots	02	13	-25	44	-13	15	42	43	49	03	-04	22
Revolutions	36	31	21	08	-04	23	17	-01	15	17	-11	29
Demonstrations	27	30	-33	35	07	42	47	33	40	00	-19	46
Coups	-06	-02	-07	06	-07	15	03	18	01	-09	-20	02
Armed Attacks	-07	-01	-12	-08	-12	-07	-06	-09	-08	-16	-11	-11

^aCorrelations rounded off and multiplied by 100.

^bAssassinations, Government Crises, and General Strikes were eliminated due to lack of data variability.

to the population were consistently mildly or inversely related to instability occurrences.

Finally, data supported those writers which attribute instability to systemic frustrations. Political-instability findings substantiated the Deutsch and Huntington propositions which relate increased social mobilization and political participation to group systemic frustration:⁷ riots, anti-government demonstrations, guerilla warfare, general strikes, and purges were always associated with the measures of presidential votes and radios. The frequency of executive adjustments' correlation with instability backed the Huntington and Eisenstadt thesis that breakdowns in institutions produce instability.⁸

Socio-economic-instability correlations supported the Huntington, Eisenstadt, and Lerner argument that economic growth, communications development, and increases in education enhance political instability.⁹ The data revealed that these measures of socio-economic development positively related with tumultuous

⁷Deutsch, "Social Mobilization and Political Development," pp. 493-514 and Huntington, "Political Development and Political Decay," pp. 386-430.

⁸Eisenstadt, "Breakdowns of Modernization," pp. 345-367 and Huntington, "Political Development and Political Decay," pp. 386-430.

⁹Eisenstadt, "Breakdowns of Modernization," pp. 354-367; Huntington, "Political Development and Political Decay," pp. 386-430; and Lerner, The Passing of a Traditional Society.

forms of citizen participation: riots, assassinations, revolutions, and government crises.

Summary

Correlation coefficients uncovered in this study determined relationships among measures of political development, socio-economic development, and domestic political instability of which the following were the most important:

- (1) The Social Mobilization Participation measures of radios and presidential votes were the best overall indicators of political development. Notable socio-economic indicators were energy production and university enrollment.
- (2) Correlations among measures of political and socio-economic development strengthened over time--indicating that political and socio-economic development are inter-dependent processes.
- (3) Development indicators such as regime or gross domestic product that are tangible to the populous were consistently related to the tumultuous forms of citizen participation such as riots, armed attacks, revolutions, or government demonstrations.

CHAPTER IV

FACTOR ANALYSES

Dimensions of Latin American Development: 1960-1963-1966

Dimensions of Political Development

Six factors--with at least three common factors accounting for a minimum of 52% of the total variance--emerged among the political measures of 1960, 1963, and 1966 (Tables XXII-XXIV).

FACTOR I: Integration and Participation. FACTOR I was identified as Integration and Participation because variables from the domains of Social Mobilization-Participation, Institutionalization, and Integration had consistently high loadings. The loadings of the measures indicate that integration is synonymous with Deutsch's view of mobilization.¹ Finally, measures loading high on FACTOR I showed the strongest correlations with political development.

FACTOR II: Legislative Differentiation. The second factor was labeled Legislative Differentiation because the measures of

¹Deutsch, "Social Mobilization and Political Development," pp. 493-514.

TABLE XXII
IMAGE DIMENSIONS OF POLITICAL MEASURES (1960)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V	FACTOR VI
Radios 97	Executive	Government	Defense	Newspapers 94	Literate 93
Votes 92	Selection	Expenditures 90	Expenditures 92	Adjustment -40	Party
Imports 92	Legislative	Exports 73	Party		Strength -45
Mail Flown 90	Selection	Adjustment 35	Strength 76		Constitution 30
Passenger	Legislative	Government			
km Flown 90	Effectiveness 59	Revenue 30			
Labor 90	Adjustment -47	Imports 30			
Domestic	Constitution 35				
km Flown 89	Independence 35				
Exports 60					
Parties 31					
Total Variance: 31.3%	12.1%	9.0%	8.5%	6.2%	6.8%

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE XXIII

IMAGE DIMENSIONS OF POLITICAL MEASURES (1963)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V	FACTOR VI
Votes 96	Executive	Government	Parliamentary	Literate	Defense Ex-
Radios 95	Selection -95	Revenue 98	Responsibility -87	Constitution 69	pensitures 88
Domestic	Legislative	Government	Parties 40	Parties 37	Parties 47
km Flown 90	Selection 90	Expenditure 96			Adjustment 34
Passenger	Regime	Exports 76			
km Flown 90	Legislative -79	Imports 33			
Mail Flown 89	Effectiveness 79				
Imports 88					
Labor 82					
Adjustment 76					
Exports 57					
Parties 39					
Total Variance:	13.9%	13.1%	6.6%	6.8%	6.0%
30.3%					

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE XXIV
IMAGE DIMENSIONS OF POLITICAL MEASURES (1969)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V	FACTOR VI
Mail Flown 97	Legislative	Government	Parties 84	Defense	Constitution -89
Labor 95	Selection 95	Revenue	Party	Expenditure 95	Literate -74
Votes 95	Legislative	Government	Strength 61		
Passenger	Effectiveness 88	Expenditure 95	Executive		
km Flown 94	Executive	Exports 68	Selection -61		
Domestic	Selection	Imports 40			
km Flown 94	Party	Literate 34			
Radios 92	Strength 41	Party			
Imports 86	Adjustment -39	Strength -34			
Exports 67	Regime -38				
Regime 53					
Adjustment 44					
Total Variance: 32.7%	13.1%	13.4%	7.6%	5.4%	6.9%

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

legislative effectiveness and legislative selection from the domain of Differentiation loaded higher than any other political indicator. Indicators loading on FACTOR II revealed a variety of findings. For example, the 1960 data pointed out that Huntington's measures of institutional age--years of constitutional government and years of independence--moderately loaded on Legislative Differentiation; thus substantiating that age is a supporting factor essential to the differentiation process. Findings for 1966 showed party strength as a moderate force affiliated with FACTOR II. Finally, the data showed that legislative and executive measures were negatively related. This evidence supports the literature which contends that in Latin America legislatures are not independent of the executive branch.²

FACTOR III: National Finances. National Finances was the name given to the third factor because the loadings of government revenue, government expenditures, and exports exemplified national financial and trade characteristics. National Finances may not be a direct indicator of political development, but it does give an indication of some independent variables affecting and often promoting forms of political development such as integration.³

² Jacques Lambert, Latin America: Social Structures and Political Institutions (Berkeley: University of California Press, 1967), pp. 345-358 and Robert A. Packenham, "Legislatures in Political Development," in Legislatures in Developmental Perspectives, ed. by Allan Kornberg and Lloyd Musolf (Durham: Duke University Press, 1970), p. 545.

³ Russett, International Regions and the International System: A Study in Political Ecology, p. 127.

FACTORS IV - VI. Three additional minor factors are found in the period 1960-1966. These factors were identified as Defense Spending, Modified Institutionalization, and Literacy.⁴

Dimensions of Socio-Economic Development

Socio-economic development was characterized by six dimensions with three factors accounting for approximately 70% of the total variance (Tables XXV-XXVII).

FACTOR I: Socio-Economic Development. Indicators loading high on FACTOR I obviously portrayed agents representative of Socio-Economic Development. Socio-Economic Development qualified Russett's factor of Economic Development as outlined in his research on international regions.⁵

FACTOR II: Economic-Industrial Infrastructure. Examination of the elements composing FACTOR II suggested that this factor be recognized as the dimension of Economic-Industrial Infrastructure. Energy production and measures of Urbanization

⁴Defense Spending was FACTOR IV in 1960, FACTOR VI in 1963, and FACTOR V in 1966. Modified Institutionalization was FACTOR V in 1960 and FACTOR IV in 1966. Literacy was FACTOR VI in 1960 and FACTOR V in 1963. Finally, there were changes in factor classifications in 1963 and 1966: FACTOR IV in 1963 was labeled Lack of Parliamentary Responsibility and FACTOR VI in 1966 was classified as Lack of Institutional Age.

⁵Russett, International Regions and the International System: A Study in Political Ecology, pp. 16-21.

TABLE XXV

IMAGE DIMENSIONS OF SOCIO-ECONOMIC MEASURES (1960)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V	FACTOR VI
Telephones 92	Energy	Secondary	Primary	Gross Domestic	Hospital
Physicians 90	Production	Enrollment	Enrollment	Product	Beds
University	Cities	Hospital	Hospital	54	30
Enrollment	Vehicles	Beds	Beds		
Newspapers	Railroads	Newspapers	-31		
87		42			
82					
Gross Domestic					
Product					
57					
Railroads					
41					
Hospital Beds					
-40					
Total Variance:	29.3%	11.8%	8.4%	3.0%	1.0%
32.4%					

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE XXVI

IMAGE DIMENSIONS OF SOCIO-ECONOMIC DEVELOPMENT (1963)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V	FACTOR VI
Telephones 93	Cities 99	Primary	Secondary	Gross Domestic	Hospital
Newspapers 89	Energy	Enrollment 85	Enrollment 82	Product 46	Beds 32
University 85	Production 98	Hospital	Railroads -41		
Enrollment 84	Vehicles 95	Beds -55			
Gross Domestic	Railroads 66	Gross Domestic			
Product 63		Product 35			
Railroads 32					
Hospital					
Beds -37					
Secondary					
Enrollment 30					
Total Variance: 32.0%	28.6%	11.3%	8.5%	2.6%	1.3%

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE XXVII

IMAGE DIMENSIONS OF SOCIO-ECONOMIC MEASURES (1966)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V	FACTOR VI
Telephones 91	Cities 99	Primary Enrollment 86	Secondary Enrollment 81	Gross Domestic Product 58	Railroads 44
Physicians 87	Energy Production 98	Hospital Beds -54	Newspapers 36		
University Enrollment 84	Vehicles 95				
Gross Domestic Product 71	Railroads 70	Secondary Enrollment 31			
Newspapers 68					
Hospital Beds -52					
Railroads 38					
Total Variance: 31.5%	28. %	10.2%	7.7%	3.2%	1.9%

^a Loadings rounded and multiplied by 100. Only loadings \geq to 30 reported.

(Cities and Vehicles) and Communications (Railroad Mileage) represent ingredients and products common to an industrialized society.⁶

FACTOR III: Health and Supportative Education Factor. A third dimension of socio-economic development emerged in the period 1960-1966. FACTOR III was named the Health and Supportative Education Factor because of the moderate to high loadings of supportive education and health facility measures.

FACTORS IV - VI. The remaining minor factors, accounting for less than 12% of the total variance, were labeled, respectively, as Literacy, Domestic Wealth, and Medical Facilities.⁷

Dimensions of Domestic Political Instability

An examination of the instability variables produced three dimensions of domestic political instability (Tables XXVIII-XXX).

FACTOR I: Forms of Turmoil. Representative variables from the 1960 FACTOR I illustrated aggressive actions characterized by underlying organization and planning. Identified as Turmoil, this factor consisted of six variables that correspond to the Turmoil

⁶W. W. Rostow, Politics and the Stages of Growth (New York: Cambridge University Press, 1971), pp. 289-294.

⁷FACTOR VI of 1963 was identified as Railroads instead of Medical Facilities.

TABLE XXVIII
IMAGE DIMENSIONS OF DOMESTIC POLITICAL
INSTABILITY MEASURES (1960)^a

FACTOR I		FACTOR II		FACTOR III	
Assassinations	80	Armed Attacks	78	Guerilla War	75
Crises	76	Purges	69	Armed Attacks	35
Revolutions	69	Guerilla War	33		
Riots	58	Riots	32		
Purges	34				
Total Variance:					
24.7%		15.0%		10.0%	

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE XXIX
IMAGE DIMENSIONS OF DOMESTIC POLITICAL
INSTABILITY MEASURES (1963)^a

FACTOR I		FACTOR II		FACTOR III	
Armed Attacks	91	Crises	77	Strikes	84
Guerilla War	79	Purges	71		
Riots	79	Demonstrations	54		
Total Variance:					
24.3%		16.4%		9.7%	

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE XXX
IMAGE DIMENSIONS OF DOMESTIC POLITICAL
INSTABILITY MEASURES (1966)^a

FACTOR I		FACTOR II		FACTOR III	
Riots	86	Guerilla War	84	Coups	59
Revolutions	71	Armed Attacks	75		
Demonstrations	70				
Total Variance:					
25.8%		19.8%		6.3%	

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

Factor noted by Tanter.⁸ With the exception of guerilla war loading less than .30, my criteria of government crises, assassinations, revolutions, riots, anti-government demonstrations, and purges also compared with the Organized Conflict Factor reported in Bwy's study.⁹

Described as Modified Turmoil, the 1963 and 1966 FACTOR I contained less and varying measures that also describe planned and aggressive behavior. The Modified Turmoil factor for these years was represented by armed attacks, riots, guerilla war, revolutions, and demonstrations.

FACTOR II: Internal War. With the exception of the exclusion of domestic killed, it was notable that loadings on this factor were similar to those which emerged on Tanter's second factor of Internal War.¹⁰ Thus, because this factor was characterized by violent activities such as purges, riots, armed attacks, or guerilla war, this factor was labeled Internal War.

⁸Raymond Tanter, "Dimensions of Conflict Behavior Within and Between Nations," in Macro-Quantitative Analysis: Conflict, Development, and Democratization, ed. by John Gillespie and Betty Nesvold (Beverly Hills, Sage Publications, 1971), pp. 85-112.

⁹Bwy, "Political Instability in Latin America," pp. 230-246.

¹⁰Tanter, "Dimensions of Conflict Behavior Within and Between Nations," pp. 85-112.

FACTOR III: Subversion. The Subversion Factor appeared to be quite weak in defining aggressive behavior. With the exception of two moderate loadings in 1960, the 1963 and 1966 factors each had only one notable loading. Other loadings were relatively weak.

Dimensions of Political and Socio-Economic Development

Ten factors--with at least five common factors accounting for a minimum of 70% of the total variance--emerged among the merged political and socio-economic measures (Tables XXXI-XXXIII).

FACTOR I: Integration. FACTOR I was identified as Integration because variables depicting economic and political integration had consistently high loadings. Measures loading on FACTOR I showed the strongest correlation coefficients with political and socio-economic development.

FACTOR II: Political-Social Institutions. Political-Social Institutions was the name given to the second factor because variables loading on this factor exemplified products of political and socio-economic development. It must be noted that loadings on this factor were primarily economically oriented.

FACTOR III: Political Differentiation. The third factor was labeled Political Differentiation because of the nature of the political

TABLE XXXI

IMAGE DIMENSIONS OF POLITICAL AND SOCIO-ECONOMIC MEASURES (1960)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Energy	Telephones	Executive	Government	Defense
Production	Physicians	Selection	Expenditure	Expenditure
Cities	University	Legislative	Government	Party Strength
Radios	Enrollment	Selection	Revenue	Secondary
Votes	Newspapers	Legislative	Exports	Enrollment
Passenger	Literate	Effectiveness	Domestic	Newspapers
km Flown	Hospital	Constitution	Product	Independence
Domestic	Bed's	Adjustment	Adjustment	
km Flown	Domestic	Independence	Primary	
Mail Flown	Product		Enrollment	
Vehicles	Railroads		Imports	
Imports	Secondary			
Labor	Enrollment			
Railroads	Labor			
Exports	Constitution			
Parties				
Legislative				
Effectiveness -33				
Total Variance:	16.7%	9.8%	10.2%	6.8%
30.6%				
FACTOR VI	FACTOR VII	FACTOR VIII	FACTOR IX	FACTOR X
Parties	Free	Primary	Party Strength	Independence
Hospital Beds	Newspapers -86	Enrollment	Literate	Legislative
Secondary	Adjustment -60	Constitution	Government	Effectiveness
Enrollment		Secondary	Revenue	
		Education		
		Literate		
Total Variance:	4.5%	4.3%	2.4%	3.5%
5.3%				

^a Loadings rounded off and multiplied by 100. Only loadings ≥ 30 reported.

TABLE XXXII

IMAGE DIMENSIONS OF POLITICAL AND SOCIO-ECONOMIC MEASURES (1963)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Cities 99	Telephones 93	Executive 95	Government 97	Defense 81
Energy 98	Physicians 90	Selection 95	Revenue 97	Expenditure 45
Production 95	Newspapers 84	Defense 95	Government 95	Constitution 38
Votes 95	University 79	Expenditure 86	Exports 78	
Vehicles 94	Enrollment 55	Legislative 81	Domestic 69	
Radios 93	Literate 54	Selection 81	Product 42	
Domestic 93	Domestic 46	Legislative 80	University 42	
km Flown 93	Product 39	Effectiveness 36	Enrollment 36	
Passenger 92	Labor 39	Regime 36		
km Flown 92	Railroads 39	Secondary 36		
Mail Flown 88	Hospital 39	Enrollment 36		
Imports 71	Beds 36			
Adjustment 67	Constitution 36			
Railroads 57				
Exports 45				
Parties 45				
Total Variance: 29.8%	13.9%	10.0%	10.5%	8.1%
FACTOR VI	FACTOR VII	FACTOR VIII	FACTOR IX	FACTOR X
Parliamentary 82	Free 91	Primary 87	Party 89	Independence 89
Responsibility 82	Newspapers -91	Enrollment 87	Strength -91	Constitution 50
Parties -42		Hospital Beds -71	Railroads -54	
		Literate 69	Hospital Beds 33	
		Secondary 63	Secondary 31	
		Enrollment 42	Enrollment 31	
Total Variance: 4.4%	4.3%	4.2%	4.2%	4.2%

^a Loadings rounded off and multiplied by 100. Only loadings \geq 30 reported.

TABLE XXXIII

IMAGE DIMENSIONS OF POLITICAL AND SOCIO-ECONOMIC MEASURES (1966)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Energy Production 98	Telephones 92	Legislative Selection 92	Government Expenditure -96	Defense Expenditure 90
Cities 93	Newspapers 90	Legislative Effectiveness 90	Adjustments Exports -92	
Mail Flown 97	Enrollment 83	Executive Selection -81	Domestic Imports -67	
Labor 96	Physicians 81	Railroads Secondary 60	Party Strength -35	
Votes 95	Literate 72	Enrollment Party Strength 49		
Passenger km Flown 95	Domestic Product 63	Adjustment -46		
Domestic km Flown 94	Hospital Beds -51			
Vehicles 93	Regime 38			
Radios 91	Secondary 38			
Imports 85	Enrollment 37			
Exports 67	Constitution 34			
Railroads 65				
Regime 55				
Adjustment 46				
Total Variance: 31.2%	15.1%	11.2%	8.4%	5.1%
FACTOR VI	FACTOR VII	FACTOR VIII	FACTOR IX	FACTOR X
Adjustment 61	Free Newspapers 87	Hospital Beds -67	Constitution 82	Independence 89
Party Strength -34	Regime 49	Parties -67	Party Strength -36	Parties 46
	Party Strength 35	Secondary Enrollment -55		
	Adjustment 33	Literate -51		
	Primary Enrollment -32	Executive Selection 45		
		Party Strength -35		
Total Variance: 4.6%	3.4%	3.2%	2.6%	2.0%

^a Loadings rounded off and multiplied by 100. Only loadings ≥ 30 reported.

measures loading upon it. Findings reinforced evidence uncovered earlier: legislatures are not independent of the executive branch of government in Latin America.

FACTOR IV: National Finances. This factor was called National Finances because measures loading on it were almost identical to measures loading on the political dimension of National Finances. However, it must be noted that measures of education loaded on this factor in 1960 and 1963. Loadings on this factor indicates that national financial, trade, and education characteristics may be independent variables affecting and promoting forms of development.

FACTOR V: Defense Expenditures. A fifth political/socio-economic dimension known as Defense Expenditures emerged in the period 1960-1966. This factor was so named because the measure of defense expenditures consistently loaded higher than .81.

FACTORS VI - X. Five additional minor factors were found among the political and socio-economic measures: Modified Socio-Political Differentiation Measures, Supportative Institutionalization, Education, Party Strength/Socio-Political Measures, and Institutionalization, respectively.

Dimensions of Political Development
and Domestic Political Instability

Factor analysis upon the merged political and instability measures yielded five factors accounting for approximately 60% of the total variance (Tables XXXIV-XXXVI).

FACTOR I: Integration and Instability. Examination of the elements composing FACTOR I suggested that this factor be recognized as the dimension of Integration and Instability. Variables loading on this factor supported the image correlations found among the political and instability measures. For example, the political measures of Integration and Social Mobilization-Participation and tumultuous forms of citizen participation such as demonstrations or strikes consistently loaded on FACTOR I.

FACTOR II: Supportative Literacy Factor. The Supportative Literacy Factor was so named because of the moderate loadings of the literacy measures through time. Noticeable is that the 1960 FACTOR I showed instability measures loading upon it; thus, substantiating Huntington's contention that literacy is associated with political instability.¹¹

FACTOR III: Theoretical Differentiation and Instability. Measures loading on FACTOR III obviously portrayed characteristics

¹¹Huntington, "Political Development and Political Decay," p. 390.

TABLE XXXIV

IMAGE DIMENSIONS OF POLITICAL AND DOMESTIC INSTABILITY MEASURES (1960)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Radios 95	Literate 66	Legislative	Riots 94	Defense
Votes 95	Strikes 55	Selection -92	Government	Expenditures 86
Passenger	Crises 35	Executive	Expenditure 91	Party Strength 30
km Flown 94	Party	Selection 90	Exports 77	
Domestic	Strength -32	Armed Attacks 65	Crises 66	
km Flown 93		Purges 61	Purges 63	
Mail Flown 89		Legislative	Government	
Imports 88		Effectiveness 60	Revenue 63	
Labor 86		Independence -48	Assassinations 59	
Exports 56		Adjustment 48	Demonstrations 39	
Demonstrations 45		Constitution -43	Revolutions 38	
Legislative			Imports 34	
Effectiveness -34				
Total Variance: 25.1%	14.2%	9.2%	12.9%	3.3%

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE XXXV
IMAGE DIMENSIONS OF POLITICAL AND DOMESTIC INSTABILITY MEASURES (1963)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Votes 95	Literate 57	Executive 92	Government 95	Literate -66
Radios 94	Labor 48	Selection 92	Revenue 94	Riots 56
Domestic 93	Constitution 31	Legislative -89	Armed Attacks 89	
km Flown		Selection 84	Government 76	
Passenger 92		Coups 80	Expenditures 70	
km Flown 92		Legislative 78	Exports 60	
Mail Flown 90		Effectiveness 68	Riots	
Imports 79		Regime	Guerilla War	
Labor 68		Revolution		
Adjustment 58				
Exports 48				
Crises 46				
Strikes 46				
Parties 46				
Total Variance: 25.5%	11.9%	10.6%	11.3%	6.9%

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE XXXVI

IMAGE DIMENSIONS OF POLITICAL AND DOMESTIC INSTABILITY MEASURES (1966)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Mail Flown 97	Literate 70	Legislative Effectiveness -89	Government Revenue -96	Riots 90
Votes 95	Constitution 36	Legislative Selection -86	Government Expenditure -94	Adjustment 77
Passenger km Flown 93	Regime 34	Executive Selection 82	Exports -38	Demonstrations 75
Domestic km Flown 93		Party Strength -42	Revolutions -37	Government Revenue 74
Radios 92		Regime 34	Imports -37	Regime 42
Imports 86		Parties -33	Party Strength 30	Armed Attacks 40
Radios 79				
Labor 68				
Exports 55				
Regime 44				
Adjustment 35				
Riots 35				
Total Variance: 25.6	12.3%	9.4%	9.1%	8.3%

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

of legislative and executive differentiation and instability. This factor was labeled Theoretical Differentiation and Instability because the political loading with the instability measures were of a theoretical nature. Findings indicated that coups, armed attacks, and revolutions were associated with Theoretical Differentiation and Instability.

FACTOR IV: National Finances and Instability. The factor of National Finances and Instability showed that national financial and trade measures are related to such forms of violence as riots, revolutions, assassinations, purges, or demonstrations. These findings substantiated the political-instability correlation coefficients.

FACTOR V: Miscellaneous Political-Instability Factor. The final dimension of political development and instability was labeled the Miscellaneous Political-Instability Factor. This minor factor accounted for an average of 6% of the total variance.

Dimensions of Socio-Economic Development and Domestic Political Instability

An examination of the merged socio-economic and instability variables produced ten dimensions of socio-economic development and domestic political instability (Tables XXXVII-XXXIX).

TABLE XXXVII

IMAGE DIMENSIONS OF SOCIO-ECONOMIC AND DOMESTIC
INSTABILITY MEASURES (1960)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Newspapers 94	Revolution 90	Energy Production -98	Guerilla War 92	Primary Enrollment 91
Telephones 91	Crises 88	Cities -96	Armed Attacks 62	
University Enrollment 87	Assassinations 64	Vehicles -92		
Physicians 84	Domestic Product 62	Railroads -85		
Guerilla War 58	Riots 47	Demonstrations -45		
Secondary Enrollment 57	University Enrollment 34			
Hospital Beds -48	Purges 31			
Railroads 34				
Crises 31				
Total Variance: 22.3%	15.2%	18.7%	7.5%	5.7%
FACTOR VI	FACTOR VII	FACTOR VIII	FACTOR IX	FACTOR X
Purges 89	Hospital Beds 83	Demonstrations 73	Riots 79	Secondary Enrollment 34
Armed Attacks 73	Secondary Enrollment -43		Domestic Product 44	
Total Variance: 6.5%	5.9%	4.2%	5.5%	3.9%

^a Loadings rounded off and multiplied by 100. Only loadings ≥ 30 reported.

TABLE XXXVII

IMAGE DIMENSIONS OF SOCIO-ECONOMIC AND DOMESTIC
INSTABILITY MEASURES (1963)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Telephones 95	Energy	Armed Attacks 97	Coups 88	Primary
Physicians 93	Production 98	Guerilla War 84	Revolutions 77	Enrollment 92
Newspapers 87	Cities 98	Riots 84		Hospital Beds 48
University	Vehicles 95	Domestic		Domestic
Enrollment 86	Railroads 66	Product 38		Product 41
Domestic	Crises 44			Guerilla War -34
Product 68	Strikes 43			
Hospital Beds -41				
Secondary				
Enrollment 36				
Total Variance: 21.0%	18.6%	13.1%	7.5%	6.5%
FACTOR VI	FACTOR VII	FACTOR VIII	FACTOR IX	FACTOR X
Strikes 86	Hospital	Crises -69	Demonstrations 96	Newspapers 33
Revolution 37	Beds -72	Purges -60	Purges 47	Purges -31
		Railroads -34		
Total Variance: 6.5%	4.0%	4.0%	3.9%	3.1%

^a Loadings rounded off and multiplied by 100. Only loadings ≥ 30 reported

TABLE XXXIX

IMAGE DIMENSIONS OF SOCIO-ECONOMIC AND DOMESTIC
INSTABILITY MEASURES (1966)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Telephones 93	Energy 98	Riots 89	Guerilla War 96	Primary Enrollment 93
Physicians 88	Production 98	Revolutions 86	Armed Attacks 88	Hospital Beds -65
University 83	Cities 98	Demonstrations 73		Secondary Enrollment 43
Enrollment 80	Vehicles 95	Armed Attacks 38		Domestic Product 39
Newspapers 80	Railroads 70			
Domestic Product 80	Riots 38			
Hospital Beds -44				
Railroads 36				
Total Variance: 22.1%	19.3%	12.8%	9.9%	9.3%
FACTOR VI	FACTOR VII	FACTOR VIII	FACTOR IX	FACTOR X
Coups 99	Hospital Beds 47	Demonstrations 34	Purges 41	Secondary Enrollment -82
Demonstrations 35	Railroads -30			Newspapers 49
Total Variance: 6.3%	6.3%	6.4%	2.7%	1.9%

^a Loadings rounded and multiplied by 100. Only loadings ≥ 30 reported.

FACTOR I: Economic Development and Instability. The factor of Economic Development and Instability showed that instability was weakly associated with forms of socio-economic development. Only the 1960 FACTOR I recorded measures of instability with loadings greater than .30: Crises (.31) and Guerilla War (.58).

FACTOR II: Economic Infrastructure and Instability. Measures loading on the second factor of Economic Infrastructure and Instability illustrated that instability is associated with basic forms of socio-economic development. Energy production, gross domestic product, cities, vehicles, and instability measures loaded high on FACTOR II.

FACTOR III: Miscellaneous Socio-Economic and Instability Measures. A Third factor was known as Miscellaneous Socio-Economic and Instability Measures. Measures loading on this factor varied over time. For example, loadings on the 1960 FACTOR III were primarily characterized by socio-economic measures. Measures loading on the 1963 and 1966 FACTOR III were predominantly indicators of instability.

FACTORS IV - X. Seven remaining minor factors were labeled respectively as Instability I, Primary Enrollment, Instability II, Medical Facilities, Instability III, Instability IV, and Literacy Measures.

Summary

This chapter reported the major dimensions of development and instability in Latin America. Factor loadings generally supported evidence established by the product-moment correlations. For example, the political measures of Social Mobilization-Participation and Integration consistently loaded high on the dimensions of political development. Other findings noted were:

- (1) Image dimensions of political and socio-economic measures showed that the political measures of Social Mobilization-Participation and Integration and economic measures grouped together.
- (2) Image dimensions of political and domestic political instability measures showed that theoretical differentiation indicators like legislative effectiveness or executive selection were associated with tumultuous forms of citizen participation such as demonstrations, strikes, or riots.
- (3) Image dimensions of socio-economic and domestic political instability measures showed that gross domestic product clustered with anomic forms of citizen participation. Noticeable was that economic "infrastructure" measures like energy production, cities, or vehicles clustered with measures of instability.

CHAPTER V

MULTIPLE REGRESSION ANALYSES

Introduction

In order to more precisely investigate relationships between political development, socio-economic development, and domestic political instability measures, multiple regression analyses were performed. The purpose of this chapter then is to report predictions of political development and instability ascertained through the multiple regression.

Multiple Regression Equation

For the purposes of this thesis, the following multiple regression equation was employed:

$$Y = a + B_1X_1 + B_2X_2 + B_3X_3 + \dots + B_nX_n, \text{ where } a = 0$$

Beta Weights are reported rather than partial correlation coefficients because Beta Weights are scaled in terms of the original data. This allows the results to be directly interpretable.

Dependent and Independent Variables

Political, socio-economic, and instability factors emerging from principal component analyses were the dependent and independent

variables in the multiple regression analyses.¹ Factors derived from the principal component analyses were utilized in the multiple regression because they contain both common and unique variation.

Dependent variables in this study were the political dimensions of Integration-Participation, Legislative Differentiation, and National Finances and the instability dimensions of Turmoil, Internal War, and Subversion.² Independent variables were dimensions of political development, socio-economic development, and domestic political instability measures. Thus, political development was predicted by dimensions of socio-economic development and instability. Dimensions of political and socio-economic development predicted domestic political instability.

Predictions of Political Development Measures

Examination of the multiple regression analyses showed that the socio-economic variables were stronger predictors of

¹Component dimensions of political, socio-economic, and instability measures are reported in Appendix III. Factors emerging from the principal component analyses are similar to those ascertained through the image analyses. Therefore, identification of the component dimensions will correspond to those given the image dimensions (refer to Chapter IV). However, one change must be noted: FACTOR I of the component dimension of socio-economic and instability measures was relabeled Social-Economic Development.

²These political dimensions were used as the dependent variables because they were the three common factors accounting for a minimum of 53% of the total variance.

political development than domestic political instability (Tables XL-XLV). For example, the political dimension of Integration-Participation was predicted with a high degree of accuracy by Economic-Industrial Infrastructure. Economic-Industrial Infrastructure recorded the strongest Beta Weight (.97) over the other socio-economic variables. The coefficient of determination (R^2) showed that an average of .94 of the variation in Integration-Participation was attributed to variation in Economic-Industrial Infrastructure. The remaining socio-economic variables accounted for less than .01 of the variance. Similar results were found between National Finances and Socio-Economic Development: National Finances was predicted with at least .93 accuracy by Socio-Economic Development. Only a minute variation in National Finances was accredited to variation in the remaining variables of Economic-Industrial Infrastructure, Medical Facilities, Domestic Wealth, and Health and Supportative Education.

The only political variable not accurately predicted by dimensions of socio-economic development variables was Legislative Differentiation: socio-economic measures accounted for very little of the variance R and R^2 . For example, the 1963 R^2 showed that only .01 of the variation in Legislative Differentiation was attributed to variation in Socio-Economic Development.

Multiple regression of the domestic political instability dimensions on each of the political dimensions led to the conclusion

TABLE XL

DIMENSIONS OF POLITICAL DEVELOPMENT
PREDICTED BY DIMENSIONS OF SOCIO-
ECONOMIC DEVELOPMENT (1960)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Integration- Participation	+ (.97)	Economic-Industrial Infrastructure	.97	.94
	+ (.12)	Socio- Economic Development	.98	.95
	+ (.10)	Medical Facilities	.98	.96
	+ (.05)	Domestic Wealth	.98	.96
	+ (.05)	Health- Supportative Education	.98	.96
Legislative Differentiation	+ (2.53)	Socio- Economic Development	.12	.02
	- (2.46)	Economic-Industrial Infrastructure	.49	.24
	- (.25)	Medical Facilities	.54	.29
	- (.12)	Domestic Wealth	.55	.30
	- (.12)	Health- Supportative Education	.56	.31
National Finances	+ (.99)	Socio- Economic Development	.97	.94
	- (.13)	Economic-Industrial Infrastructure	.98	.96
	- (.10)	Medical Facilities	.98	.96
	- (.05)	Domestic Wealth	.98	.96
	- (.05)	Health- Supportative Education	.98	.96

TABLE XLI

DIMENSIONS OF POLITICAL DEVELOPMENT
PREDICTED BY DIMENSIONS OF SOCIO-
ECONOMIC DEVELOPMENT (1963)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Integration-Participation				
	+ (.97)	Economic-Industrial Infrastructure	.97	.93
	- (.10)	Literacy	.97	.94
	+ (.10)	Socio-Economic Development	.98	.95
	+ (.07)	Health-Supportative Education	.98	.96
	+ (.03)	Domestic Wealth	.98	.96
	+ (.02)	Medical Facilities	.98	.96
Legislative Differentiation				
	+ (1.94)	Socio-Economic Development	.10	.01
	- (1.87)	Economic-Industrial Infrastructure	.38	.15
	+ (.20)	Literacy	.42	.17
	- (.13)	Health-Supportative Education	.43	.19
	- (.07)	Domestic Wealth	.44	.19
	- (.04)	Medical Facilities	.44	.19
National Finances				
	+ (.99)	Socio-Economic Development	.97	.93
	+ (.10)	Literacy	.97	.94
	- (.10)	Economic-Industrial Infrastructure	.98	.95
	- (.07)	Health-Supportative Education	.98	.96
	- (.03)	Domestic Wealth	.98	.96
	- (.02)	Medical Facilities	.98	.96

TABLE XLII
 DIMENSIONS OF POLITICAL DEVELOPMENT
 PREDICTED BY DIMENSIONS OF SOCIO-
 ECONOMIC DEVELOPMENT (1966)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Integration-Participation				
	+ (.97)	Economic-Industrial Infrastructure	.97	.95
	+ (.10)	Domestic Wealth	.98	.96
	+ (.07)	Literacy	.98	.96
	+ (.02)	Health-Supportative Education	.98	.96
	+ (.02)	Domestic Wealth	.98	.96
	- (.02)	Socio-Economic Development	.98	.96
	- (.01)	Medical Facilities	.98	.96
Legislative Differentiation				
Predictions below tolerance level of computer program				
National Finances				
	+ (.99)	Socio-Economic Development	.97	.95
	- (.10)	Domestic Wealth	.98	.96
	- (.07)	Literacy	.98	.96
	- (.02)	Health-Supportative Education	.98	.96
	+ (.02)	Economic-Industrial Infrastructure	.98	.96
	+ (.01)	Medical Facilities	.98	.96

TABLE XLIII
 DIMENSIONS OF POLITICAL DEVELOPMENT
 PREDICTED BY DIMENSIONS OF DOMESTIC
 POLITICAL INSTABILITY (1960)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Integration- Participation	+ (.23)	Turmoil	.23	.05
	- (.23)	Subversion	.32	.10
	- (.10)	Internal War	.34	.11
Legislative Differentiation	+ (.24)	Turmoil	.23	.05
	+ (.06)	Subversion	.24	.06
	+ (.03)	Internal War	.24	.06
National Finances	- (.12)	Turmoil	.10	.01
	+ (.03)	Internal War	.11	.01
	- (.03)	Subversion	.11	.01

TABLE XLIV
 DIMENSIONS OF POLITICAL DEVELOPMENT
 PREDICTED BY DIMENSIONS OF DOMESTIC
 POLITICAL INSTABILITY (1963)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Integration- Participation	+ (.61)	Subversion	.61	.37
	+ (.17)	Internal War	.63	.40
Legislative Differentiation	Predictions below tolerance level of computer program			
National Finances	+ (.12)	Turmoil	.17	.03
	- (.17)	Subversion	.22	.05

TABLE XLV

DIMENSIONS OF POLITICAL DEVELOPMENT
PREDICTED BY DIMENSIONS OF DOMESTIC
POLITICAL INSTABILITY (1966)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Integration- Participation	+ (.20)	Turmoil	.20	.04
	+ (.19)	Subversion	.28	.08
	- (.12)	Internal War	.30	.09
Legislative Differentiation	+ (.21)	Turmoil	.20	.04
	- (.04)	Subversion	.21	.04
	+ (.03)	Internal War	.21	.04
National Finances	+ (.12)	Turmoil	.12	.01
	+ (.03)	Internal War	.12	.01

that domestic instability cannot predict political development. For instance, the 1960 R^2 indicated that .05 of the variation in Integration-Participation was credited to Turmoil and Subversion. Internal War attributed only .01 of the variation in Integration-Participation. Over time, the R^2 showed that approximately .04 variation in Legislative Differentiation and .01 variation in National Finances were ascribed to the instability dimensions.

However, it must be noted that the 1963 dimensions of Subversion did moderately predict Integration-Participation. Subversion recorded a moderate Beta Weight (.61). A similar correlation was also detected between Subversion and Integration-Participation: $R = .61$. The R^2 indicated that a moderate .37 of the variation in Integration-Participation was accredited to variation in Subversion.

The regression of the merged dimensions of socio-economic development and instability measures generally substantiated the above findings (Tables XLVI-XLVIII). Socio-economic and instability dimensions represented poor predictors of Legislative Differentiation: dimensions of socio-economic development and instability measures attributed approximately .20 of the variation in Legislative Differentiation. Second, measures exemplifying socio-economic development accurately forecasted National Finances in 1963 and 1966. The R^2 indicated that an average .94 of the variation in National Finances may be ascribed to variation in Social-Economic Development.³ A

³Refer to Tables LII-LIV in Appendix III for measures loading on these particular dimensions.

TABLE XLVI

DIMENSIONS OF POLITICAL DEVELOPMENT
PREDICTED BY DIMENSIONS OF SOCIO-
ECONOMIC DEVELOPMENT AND
POLITICAL INSTABILITY (1960)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Integration-Participation				
	+ (.97)	Instability I	.97	.94
	+ (.12)	Instability IV	.98	.95
	+ (.11)	Medical Facilities	.98	.96
	+ (.10)	Socio-Economic Development	.99	.97
	+ (.03)	Instability III	.99	.97
	+ (.03)	Instability II	.99	.97
	- (.02)	Literacy Measures	.99	.98
	+ (.01)	Miscellaneous Socio-Economic-Instability	.99	.98
	+ (.01)	Economic Infrastructure-Instability	.99	.98
	- (.01)	Primary Enrollment	.99	.98
Legislative Differentiation				
	+ (3.18)	Social-Economic Development	.10	.01
	+ (3.09)	Economic Infrastructure-Instability	.43	.18
	- (.38)	Instability IV	.48	.23
	- (.34)	Medical Facilities	.55	.30
	- (.11)	Instability III	.56	.31
	+ (.10)	Instability II	.57	.32
	+ (.09)	Literacy Measures	.57	.33
	- (.05)	Instability I	.57	.33
	- (.04)	Miscellaneous Socio-Economic-Instability	.58	.33
	+ (.03)	Primary Enrollment	.58	.33
National Finances				
Predictions below tolerance level of computer program.				

TABLE XLVII

DIMENSIONS OF POLITICAL DEVELOPMENT
PREDICTED BY DIMENSIONS OF SOCIO-
ECONOMIC DEVELOPMENT AND
POLITICAL INSTABILITY (1963)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Integration-Participation	+ (.96)	Instability IV	.96	.93
	- (.10)	Medical Facilities	.97	.94
	+ (.10)	Instability I	.97	.95
	+ (.09)	Social-Economic Development	.98	.96
	- (.08)	Primary Enrollment	.98	.96
	- (.08)	Literacy Measures	.98	.97
	- (.03)	Miscellaneous Socio-Economic Instability	.98	.97
	+ (.03)	Instability II	.99	.97
	- (.02)	Economic Infrastructure-Instability	.99	.97
	+ (.01)	Instability III	.99	.97
Legislative Differentiation	+ (2.25)	Social-Economic Development	.09	.01
	- (2.48)	Economic Infrastructure-Instability	.35	.12
	+ (.27)	Instability III	.38	.15
	- (.25)	Instability I	.42	.17
	+ (.21)	Primary Enrollment	.48	.20
	+ (.19)	Literacy Measures	.49	.23
	+ (.09)	Instability IV	.49	.24
	- (.05)	Instability II		
	+ (.05)	Miscellaneous Socio-Economic-Instability	.49	.24
National Finances	+ (1.00)	Social-Economic Development	.96	.93
	+ (.10)	Instability III	.97	.94
	- (.10)	Instability I	.97	.95
	- (.10)	Economic Infrastructure-Instability	.98	.96
	+ (.08)	Primary Enrollment	.98	.96
	+ (.08)	Literacy Measures	.98	.97
	+ (.03)	Medical Facilities	.98	.97
	- (.03)	Instability III	.99	.97
	+ (.02)	Miscellaneous Socio-Economic Instability	.99	.97
	- (.01)	Instability IV	.99	.97

TABLE XLVIII

DIMENSIONS OF POLITICAL DEVELOPMENT
PREDICTED BY DIMENSIONS OF SOCIO-
ECONOMIC DEVELOPMENT AND
POLITICAL INSTABILITY (1966)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Integration-Participation				
	+ (.97)	Economic Infrastruc- ture-Instability	.98	.95
	+ (.12)	Miscellaneous Socio- Economic-Insta- bility	.98	.97
	+ (.08)	Medical Facilities	.99	.97
	- (.06)	Instability II	.99	.98
	+ (.06)	Literacy Measures	.99	.98
	+ (.04)	Primary Education	.99	.98
	- (.03)	Instability III	.99	.98
	- (.02)	Instability II	.99	.98
	+ (.01)	Instability IV	.99	.98
	- (.01)	Socio-Economic Development	.99	.98
Legislative Differentiation				
Predictions below tolerance level of computer program				
National Finances				
	+ (1.00)	Socio-Economic Development	.98	.95
	- (.12)	Miscellaneous Socio- Economic Insta- bility	.98	.96
	- (.08)	Medical Facilities	.98	.96
	+ (.06)	Instability II	.98	.97
	- (.06)	Literacy Measures	.98	.98
	- (.04)	Primary Education	.98	.98
	+ (.03)	Instability III	.98	.98
	+ (.02)	Instability I	.98	.98
	- (.01)	Instability I	.99	.98
	+ (.01)	Economic Infrastruc- ture-Instability	.99	.98

slightly higher average correlation between the dimensions was noted:

$R = .97$.

Dimensions of socio-economic development and instability measures also predicted Integration-Participation with a high degree of precision. Noticeable, however, was that the 1960 and 1963 Integration-Participation was predicted by dimensions that were characterized primarily by instability measures: Instability I (guerilla war and armed attacks) and Instability IV (demonstrations and purges), respectively. The 1960 data revealed that .94 of the variation in Integration-Participation may be attributed to Instability I. An even higher correlation and Beta Weight emerged: .97. Similarly, the 1963 findings indicated that .93 of the variation in Integration-Participation may be attributed to Instability IV. Equally noticeable was the strong Beta Weight and correlation .96. Thus, these findings established that there is a strong relationship between Integration-Participation and the instability measures of guerilla war, armed attacks, purges, and demonstrations.

Finally, the multiple regression showed that Integration-Participation may be forecasted from the dimension of Economic Infrastructure-Instability.⁴ The R^2 disclosed that .95 of the variance in Integration-Participation was ascribed to Economic Infrastructure-Instability. Other dimensions accounted for less than .03 of the

⁴Refer to Tables XL-XLII and LII-LIV in Appendix III for measures loading on these particular dimensions.

variance in Integration-Participation. This was reinforced by the high correlation (.98) and the Beta Weight (.97).

Predictions of Domestic Political Instability Measures

Multiple regressions of the political variables and socio-economic variables upon measures of domestic political instability yielded a number of findings (Tables XLIX-LIV). A few of the most outstanding will be reported. First, despite the fact that the relationship weakened over time, the political measure of National Finances moderately forecasted Turmoil in 1960 and 1963. For example, the 1960 R^2 indicated that .60 of the variation in Turmoil may be accredited to change in National Finances. The Beta Weight and correlation results reinforced this finding: .77. This evidence substantiated findings established by the image correlation and factor analyses: a positive relationship exists between instability and the measures exemplifying the financial well-being of a polity. Second, Huntington's proposition that forms of integration and participation will produce instability was not supported by the multiple regression:⁵ Integration-Participation represented a weak predictor of Internal War and Subversion. For example, Integration-Participation accounted for an average of .04 (R^2) variation in

⁵ Huntington, "Political Development and Political Decay," pp. 395-403 and Political Order in a Changing Society.

TABLE XLIX

DIMENSIONS OF DOMESTIC POLITICAL INSTABILITY
PREDICTED BY DIMENSIONS OF POLITICAL
DEVELOPMENT (1960)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Turmoil	+ (.77)	National Finances	.77	.60
	+ (.27)	Modified Institutional- ization	.82	.67
	+ (.23)	Integration-Partici- pation	.85	.72
	+ (.13)	Defense Spending	.86	.74
	+ (.10)	Legislative Dif- ferentiation	.87	.75
	- (.03)	Literacy	.87	.75
Internal War	+ (.76)	Integration- Participation	.23	.13
	- (.59)	National Finances	.36	.13
	- (.21)	Modified Institu- tionalization	.40	.16
	- (.11)	Defense Spending	.41	.17
	- (.17)	Legislative Dif- ferentiation	.42	.18
Subversion	+ (.38)	Integration- Participation	.10	.01
	- (.29)	National Finances	.15	.02
	- (.10)	Modified Institu- tionalization	.18	.03
	- (.05)	Defense Spending	.19	.04

TABLE L

DIMENSIONS OF DOMESTIC POLITICAL INSTABILITY
PREDICTED BY DIMENSIONS OF POLITICAL
DEVELOPMENT (1963)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Turmoil	+ (.67)	National Finances	.67	.46
	- (.30)	Literacy	.74	.55
	+ (.19)	Legislative Dif- ferentiation	.76	.58
	+ (.12)	Modified Institu- tionalization	.77	.60
	+ (.11)	Defense Spending	.78	.61
	Predictions below tolerance level of computer program			
Subversion	+ (.14)	Integration- Participation	.19	.04
	- (.30)	National Finances	.26	.07
	+ (.14)	Literacy	.29	.08
	- (.05)	Modified Institu- tionalization	.29	.09
	- (.05)	Defense Spending	.30	.09

TABLE LI

DIMENSIONS OF DOMESTIC POLITICAL INSTABILITY
PREDICTED BY DIMENSIONS OF POLITICAL
DEVELOPMENT (1966)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Turmoil	- (.04)	Legislative Differentiation	.40	.16
	+ (.22)	Modified Institutionalization	.45	.20
	+ (.20)	Integration-Participation	.50	.25
	+ (.19)	National Finances	.53	.28
	- (.10)	Literacy	.54	.29
	+ (.07)	Defense Spending	.54	.29
Internal War	+ (.27)	Integration-Participation	.20	.04
	+ (.11)	Legislative Differentiation	.22	.05
	- (.06)	Modified Institutionalization	.23	.05
	- (.05)	National Finances	.23	.05
	+ (.03)	Literacy	.23	.06
Subversion	- (.46)	Integration-Participation	.40	.16
	+ (.10)	Modified Institutionalization	.41	.17
	+ (.01)	Legislative Differentiation	.42	.17
	+ (.09)	National Finances	.42	.18
	- (.05)	Literacy	.43	.18
	+ (.03)	Defense Spending	.43	.18

TABLE LII

DIMENSIONS OF DOMESTIC POLITICAL INSTABILITY
PREDICTED BY DIMENSIONS OF SOCIO-
ECONOMIC DEVELOPMENT (1960)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Turmoil	+ (.73)	Domestic Wealth	.73	.54
	+ (.38)	Socio-Economic De- velopment	.82	.68
	+ (.27)	Literacy	.87	.76
	+ (.25)	Medical Facilities	.90	.82
	+ (.15)	Economic-Industrial Infrastructure	.92	.83
	- (.08)	Health-Supportative Education	.92	.84
Internal War	+ (1.27)	Socio-Economic Development	.38	.14
	- (.93)	Domestic Wealth	.55	.31
	- (.35)	Literacy	.61	.37
	- (.31)	Medical Facilities	.66	.44
	- (.19)	Economic-Industrial Infrastructure	.68	.47
	+ (.10)	Health-Supportative Education	.69	.48
Subversion				
Predictions below tolerance level of computer program				

TABLE LIII

DIMENSIONS OF DOMESTIC POLITICAL INSTABILITY
PREDICTED BY DIMENSIONS OF SOCIO-
ECONOMIC DEVELOPMENT (1963)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Turmoil	+ (.36)	Domestic Wealth	.37	.14
	- (.29)	Health-Supportative Education	.51	.26
	+ (.09)	Economic-Industrial Infrastructure	.53	.28
	+ (.09)	Literacy	.53	.29
Internal War				
Predictions below tolerance level of computer program				
Subversion	+ (.84)	Socio-Economic Development	.15	.02
	- (.62)	Medical Facilities	.22	.05
	- (.32)	Economic-Industrial Infrastructure	.26	.07
	- (.23)	Literacy	.30	.09
	- (.21)	Domestic Wealth	.35	.12
	+ (.07)	Health-Supportative Education	.35	.13

TABLE LIV

DIMENSIONS OF DOMESTIC POLITICAL INSTABILITY
PREDICTED BY DIMENSIONS OF SOCIO-
ECONOMIC DEVELOPMENT (1966)

Dependent Variable	Beta Weights	Independent Variable	R	R ²
Turmoil	+ (.31)	Economic-Industrial Infrastructure	.31	.09
	- (.24)	Domestic Wealth	.39	.15
	+ (.24)	Socio-Economic Development	.46	.21
	- (.21)	Literacy	.50	.25
	+ (.15)	Health-Supportative Education	.53	.28
	- (.14)	Medical Facilities	.54	.30
Internal War	+ (.31)	Socio-Economic Development	.24	.06
	- (.10)	Economic-Industrial Infrastructure	.25	.06
	+ (.08)	Domestic Wealth	.26	.07
	- (.05)	Health-Supportative Education	.27	.07
	+ (.04)	Medical Facilities	.27	.08
Subversion	+ (.38)	Socio-Economic Development	.31	.09
	+ (.09)	Domestic Wealth	.32	.10
	- (.09)	Economic-Industrial Infrastructure	.32	.11
	+ (.08)	Literacy	.33	.11
	- (.06)	Health-Supportative Education	.34	.11
	+ (.05)	Medical Facilities	.34	.12

Subversion over time. Other political variables accounted for only slight variation.

Domestic Wealth proved to be the best socio-economic indicator of domestic political instability. The Beta Weights and R results established that a moderate relationship between Domestic Wealth and Turmoil in 1960 (.77). This was reinforced when the R^2 indicated that .54 variation in Turmoil may be attributed to change in Domestic Wealth. This finding supports literature which associates instability with forms of domestic wealth.⁶ The remaining socio-economic variables were exceptionally weak predictors of domestic political instability. For example, the R^2 indicated that an average of .13 of the variation in Subversion may be attributed to measures of socio-economic development over time.

An examination of the regression analyses of dimensions of political and socio-economic development measures upon dimensions of domestic political instability measures produced two major findings (Tables LV-LVII). First, Turmoil was moderately predicted by the merged political and socio-economic measures. The 1960 and 1963 data indicated that National Finances was an accurate predictor of Turmoil. The R^2 showed that an average of .49 variation in Turmoil may be ascribed to change in National Finances.

⁶ Bwy, "Political Instability in Latin America," pp. 230-246.

TABLE LV

DIMENSIONS OF DOMESTIC POLITICAL INSTABILITY
PREDICTED BY DIMENSIONS OF POLITICAL AND
SOCIO-ECONOMIC DEVELOPMENT (1960)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Turmoil	+ (.71)	National Finances	.71	.51
	+ (.30)	Political-Social Institutions	.77	.60
	- (.23)	Modified Socio-Political Differentiation Measures	.81	.65
	- (.22)	Institutionalization	.83	.70
	+ (.20)	Defense Expenditures	.86	.74
	+ (.19)	Integration	.88	.77
	+ (.18)	Party Strength-Socio Political Measures	.90	.81
	- (.15)	Education	.91	.83
	+ (.14)	Legislative Differentiation	.92	.85
	+ (.06)	Supportative Institutionalization	.92	.85
Internal War	+ (.10)	Integration	.19	.03
	- (.72)	National Finances	.27	.07
	- (.30)	Political-Social Institutions	.29	.09
	+ (.23)	Modified Socio-Political	.31	.10
	+ (.22)	Supportative Institutionalization	.34	.11
	- (.20)	Defense Expenditures	.36	.13
	- (.18)	Party Strength/Socio-Political Measures	.39	.15
	+ (.15)	Education	.41	.17
	- (.15)	Legislative Differentiation	.43	.18
	- (.06)	Institutionalization	.43	.19
Subversion	+ (.24)	Integration	.30	.09
	- (.88)	National Finances	.42	.18
	+ (.29)	Modified Socio-Political	.45	.20
	+ (.27)	Supportative Institutionalization	.47	.22
	- (.25)	Defense Expenditures	.50	.25
	- (.23)	Political-Social Institutions	.53	.28
	- (.22)	Party Strength/Socio-Political Measures	.56	.31
	+ (.18)	Education	.58	.33
	- (.17)	Legislative Differentiation	.60	.36
	- (.08)	Institutionalization	.61	.37

TABLE LVI
 DIMENSIONS OF DOMESTIC POLITICAL INSTABILITY
 PREDICTED BY DIMENSIONS OF POLITICAL AND
 SOCIO-ECONOMIC DEVELOPMENT (1963)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Turmoil	+ (.69)	National Finances	.69	.47
	- (.31)	Literacy	.75	.57
	+ (.28)	Modified Socio-		
		Political Differentia-		
		tion Measures	.80	.64
	- (.20)	Political Differentia-		
		tion	.83	.69
	+ (.19)	Institutionalization	.85	.72
	- (.09)	Political-Social		
Internal War		Institutions	.86	.73
	+ (.03)	Defense Expenditures	.86	.73
	- (.02)	Integration	.86	.73
	- (.02)	Integration	.02	.01
	- (.33)	Integration	.10	.01
	+ (.22)	National Finances	.13	.02
	- (.10)	Literacy	.14	.02
Turmoil	+ (.09)	Modified Socio-		
		Political Differentia-		
		tion Measures	.16	.02
	- (.07)	Political Dif-		
		ferentiation	.16	.03
	+ (.06)	Institutionalization	.18	.03

TABLE LVII

DIMENSIONS OF DOMESTIC POLITICAL INSTABILITY
PREDICTED BY DIMENSIONS OF POLITICAL AND
SOCIO-ECONOMIC DEVELOPMENT (1966)

Dependent Variable	Beta Weight	Independent Variable	R	R ²
Turmoil	+ (.52)	Modified Socio-Political Differentiation Measures	.52	.47
	- (.38)	Political Differentiation	.65	.42
	+ (.36)	Supportative Institutionalization	.74	.55
	+ (.26)	Integration	.79	.62
	+ (.19)	Defense Expenditures	.81	.65
	- (.16)	Education	.83	.68
	+ (.13)	Political-Social Institutions	.84	.70
	- (.11)	Party Strength/Socio-Political Measures	.43	.19
Internal War	+ (.73)	Integration	.26	.07
	- (.38)	Modified Socio-Political Differentiation Measures	.30	.09
	+ (.28)	Political Differentiation	.34	.12
	- (.27)	Supportative Institutionalization	.39	.15
	- (.14)	Defense Expenditures	.40	.16
	+ (.12)	Education	.42	.17
	- (.09)	Political-Social Institution	.43	.18
	+ (.08)	Party Strength/Socio-Political Measures	.43	.19
Subversion	+ (.42)	Integration	.12	.02
	- (.22)	Modified Socio-Political Differentiation Measures	.15	.02
	- (.16)	Supportative Institutionalization	.16	.03
	- (.11)	Political Differentiation	.19	.04
	- (.08)	Defense Expenditures	.21	.04
	+ (.07)	Education	.22	.05
	+ (.05)	Party Strength/Socio-Political Measures	.23	.05

Moderate Beta Weights and R results supported this evidence. This prediction was similar to the results of the regression of the political development measures upon the domestic political instability measures. The 1966 data revealed that .71 of the variance in Turmoil may be accredited to variation in the socio-economic measures. Furthermore, the R^2 established that .47 of the variance in Turmoil may be attributed to Modified-Socio-Political Differentiation Measures. The correlation ($R = .52$) reinforced the conclusion that Modified Socio-Economic Differentiation Measures was a moderate predictor of Turmoil. Second, measures of Internal War and Subversion were not accurately forecasted from dimensions of political and socio-economic measures. For example, the 1963 R^2 showed that no association existed between Internal War and political--socio-economic measures.

Summary

This chapter reported relationships between political development, socio-economic development, and domestic political instability determined through multiple regression analyses of which the following are the most important:

- (1) Predictions of political development by socio-economic variables reinforced findings established by the image correlations and image factor analyses. First, a strong relationship exists between National Finances and the measure of Socio-Economic Development and between Integration-Participation and Economic-Industrial Infrastructure.

Second, the regression supported earlier findings which established that a weak relationship existed between socio-economic variables and Legislative Differentiation.

- (2) Overall, regression analyses indicated that political development was not strongly predicted by domestic political instability. However, it was ascertained that instability measures from dimensions of socio-economic development and instability measures accurately predicted Integration-Participation.
- (3) Predictions of domestic political instability by measures of political development and socio-economic development indicated that instability occurrences were moderately related to National Finances.

CHAPTER VI

CONCLUSIONS

Research Findings

The central purpose of this research was to determine whether a relationship existed between political development, socio-economic development and domestic political instability in Latin America in the period 1960-1966. To achieve this purpose, this study tested three major hypotheses that link aspects of political and social development. Analysis indicated that specific relationships did in fact exist between political development, socio-economic development, and domestic political instability in Latin America. The nature of these relationships will be discussed in terms of the hypotheses tested in this study.

Hypothesis One. There is no relationship between political development and socio-economic development in Latin America in the period 1960-1966.

The results of this study failed to support this null hypothesis and indicated that a unique relationship between political and socio-economic development prevailed in Latin America. Socio-economic measures were highly related to the most basic forms of

political development, such as voter participation, national finances, and integration. For example, correlation and factor analyses showed that political measures from the domains of Social Mobilization-Participation and Integration correlated strongly with socio-economic measures. This relationship was further demonstrated by the multiple regressions which indicated that the socio-economic dimensions were accurate indicators of the integration-participation and national finance dimensions.

Not all political indicators, however, showed such strong patterns of association. On the basis of the Cutright and Olsen studies, for example, strong relationships were expected between the socio-economic measures and the theoretical political measures, which may not be considered salient by the population.¹ These include results which consistently showed that the theoretical measures were only weakly related to socio-economic development. The reason for this unexpected finding is not clear, and its exploration would seem a useful area for further research.

Hypothesis Two. There is no relationship between political development and domestic political instability in Latin America in the period 1960-1966.

¹Cutright, "National Political Development," pp. 253-264, and Olsen, "Multivariate Analysis of National Political Development," pp. 700-712.

Several writers have suggested that political development may lead to instability.² This study lends some support to these findings in that it found a positive relationship between certain forms of political development and certain forms of domestic political instability. However, not all measures of political development were related to instability, and the relationships which did exist were not as strong as expected. Measures of political phenomena tangible and internal to the populous and supportive of institutional structures were weak to moderately related to tumultuous forms of citizen participation. For example, correlation and factor analyses showed that such political measures as regime, executive selection, and integration and participation related positively to domestic political instability. Multiple regression analyses strengthened this result by pointing out that the political dimension of National Finances was a moderate predictor of the Turmoil dimension.

The research, on the other hand, found that the theoretical political measures, which could be considered external to the citizenry, were only weakly related to instability. For example, correlation coefficients between differentiation measures and instability were consistently low. Furthermore, the multiple regression analyses revealed that the theoretical dimensions were poor predictors

² See, for example, Eisenstadt, "Breakdowns of Modernization," pp. 345-367, and Huntington, "Political Development and Political Decay," pp. 386-428.

of instability and that dimensions of instability were poor predictors of the theoretical dimensions. The only exception to this pattern was recorded by the image factor analyses: the 1960 and 1963 factors of Theoretical Differentiation and Instability of the Political Development and Instability measures showed that differentiation measures clustered with forms of internal-governmental political instability such as coups and purges. Thus, these results indicate that the theoretical political measures may not be related to mass citizenry instability, such as riots or demonstrations, but are related to internal-governmental forms of political instability, such as coups.

Finally, the data suggested that measures of institutionalization (Modified Institutionalization) were not accurate indicators of instability. This supports the Eisenstadt and Huntington contentions that processes of institutionalization lessen the occurrence of instability.³

Hypothesis Three. There is no relationship between socio-economic development and domestic political instability in Latin America in the period 1960-1966.

In contrast to the conclusions of Needler and Bwy, the present study found that there was not a strong relationship between

³ Eisenstadt, "Breakdowns of Modernization," pp. 345-367, and Huntington, "Political Development and Political Decay," pp. 386-428.

socio-economic development and domestic political instability in Latin America.⁴ Correlation and factor analyses showed that only a weak relationship existed between instability and such socio-economic measures as gross national product and energy production, thereby substantiating the Schneider argument that economic development is a rather poor indicator of instability.⁵

Conclusions

From the evidence outlined above, it is apparent that the relationship among political development, socio-economic development, and domestic political instability in Latin America in the sixties must be stated in specific, rather than general, terms. And, this is possible because this effort goes beyond most of the earlier studies of Latin American development, such as those by Bwy and Needler. Needler's study is deficient because of limited variable selection and methodology. Hence, his finding that voter participation and constitutional government associated with life expectancy was an insufficient statement of the relationship between political and economic development in Latin America.⁶ Similarly, this study

⁴Bwy, "Political Instability in Latin America," pp. 230-246, and Needler, "Political Development and Socio-Economic Development," pp. 889-897.

⁵Schneider, "Social Mobilization, Political Institutions, and Political Violence," pp. 68-90.

⁶Needler, "Political Development and Socio-Economic Development," pp. 889-897.

advanced beyond comparatively more sophisticated analysis by Wolf, which determined that the Fitzgibbon scale of political development was highly associated with the economic measures of gross national product per capita and gross national investment per capita.⁷ In contrast, this study, which took a multidimensional and more comprehensive approach, found that measures of political development--especially measures indicative of integration, participation, and national financial development--related with not one, but with a variety of socio-economic indicators. Thus, the research allowed a more precise statement of the nature of these relationships.

Another major finding of this work was that political development measures tangible or internal to the populous, such as voter participation, integration, and national finances, proved to be the best indicators of political development in Latin America. Theoretical measures external and unrelated to citizen awareness appeared to be poor indicators of political development. This research also found that measures of socio-economic development were highly related to the tangible measures of political development and not to the theoretical measures. Thus, it appears that in the Latin America of the sixties, political development was dependent upon awareness of the citizenry. One may hypothesize that indicators basic to

⁷Wolf, "The Political Effects of Economic Programs," pp. 1-20.

political development and salient to the populous may--indirectly through awareness on behalf of the citizenry--produce strengthened theoretical forms of political development (e.g., voting participation may strengthen party structure, and this could develop stronger institutions and increased citizen awareness toward those institutions).

Processes of institutionalization are basic to political development. Creation or growth of institutions is attributable to massive awareness of the citizenry, or to what Huntington labels "public interest."⁸ Like Huntington, this writer contends that massive awareness does not develop in the will of the populous or result from the political process alone. Rather, it is something which is generated by governmental institutions in attempts to strengthen themselves. The citizen acts out of self-interest in response to political and social situations. In order to survive and not experience disequilibrium, existing institutions must be flexible or they will be replaced by new institutions capable of giving substance to demands generated by massive awareness.

The issue may be explored further by placing citizen awareness and institutionalization processes in context with the responsive capability of the political system. Almond and Powell contend that

⁸Huntington, "Political Development and Political Decay," pp. 411-413.

political systems will respond to pressures and demands placed upon them. Therefore, a political or social demand stimulated by citizen awareness must be met by existing institutions "in the form of a response which not only provides certain immediate benefits, but institutionalizes the responsiveness of the system in that area."⁹ The accommodative or substitutive responsiveness of existing institutions toward an issue aids in the institutionalization processes of development. Responses to a want or need results in the strengthening or creation of institutions on a continuing basis. Thus, later responses to an issue become automatic and responsiveness becomes institutionalized "so that new demands are not necessary to insure continued output responses to a need."¹⁰

On the other hand, political institutions may strengthen themselves by stimulating massive awareness through their symbolic capabilities. If the political system is unable to accommodate or produce a satisfactory response to a demand, the system may cope with pressures without disequilibrium, and thus, preserve itself if there are strong national symbols to tap popular beliefs and attitudes. Institutions may also be strengthened when the political elite gains support for new policies through the "exploitation of a set of powerful and popular symbols."¹¹

⁹Almond and Powell, Comparative Politics: A Developmental Approach, pp. 202-203.

¹⁰Ibid.

¹¹Ibid., pp. 199-200, 211.

Finally, it may be concluded that the overall processes of development are poor indicators of domestic political instability in Latin America. Theoretical aspects of development are not salient to the citizenry, and therefore are not linked to outbursts of citizen discontent. However, there is indirect evidence to support the contention that a lack of a viable institutional structure will produce instability. Development measures characterizing massive awareness of the citizenry, such as national finances and domestic wealth, were consistently weakly to moderately related to instability. From this, it may be surmised that if citizenry interests are not being met by the existing institutional structures, instability may well result.

Recommendations

This research did not generate a specific theory of Latin American development, although it did move in the direction of improving development theory. The study found, for example, that political development and domestic political instability in Latin America in the period 1960-1966 evolved around citizen awareness. It was suggested that citizen awareness contributed to the political development process by having the indirect potential to create and strengthen political institutions. From this, there arose implications for further consideration and future research.

In order to construct a more meaningful approach to the study of Latin American development, as well as the study of development in general, it is imperative that more studies be undertaken which would ascertain relationships between political and social development processes. Research must be undertaken to examine the effects of citizen awareness upon political development. For example, it should be asked if processes of institutionalization are affected by massive awareness, or if massive awareness of the citizenry affects systems capabilities. Finally, it should be asked whether stronger relationships could in fact exist between massive awareness of the citizenry and domestic political instability. If these investigations are successful, a more viable theory of development will emerge.

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APPENDICES

APPENDIX I

DEFINITIONS AND SOURCES OF VARIABLES

APPENDIX I

DEFINITIONS AND SOURCES OF VARIABLES

Variable 1: Legislative Effectiveness (Cross-Polity Time Series Data)

- (0) None. No legislature exists.
- (1) Ineffective. There are at least three possible bases of this coding: first, legislative activity may be essentially of a "rubber stamp" character; second, domestic turmoil may make the implementation of legislation impossible; third, the effective executive may prevent the legislature from meeting or otherwise substantially impede the exercise of its functions.
- (2) Partially Effective. A situation in which the effective executive's power substantially outweighs but does not completely dominate that of the legislature.
- (3) Effective. The possession of significant governmental autonomy by the legislature, including typically substantial authority with regard to taxation and disbursement and the power to override executive vetoes of legislation.

Variable 2: Type of Regime (Cross-Polity Time Series Data)

- (1) Civilian. Any government controlled by a nonmilitary component of the nation's population.
- (2) Military-Civilian. Outwardly civilian government effectively controlled by a military elite. Civilians hold only those posts (up to and including that of Chief of State) for which their services are deemed necessary for successful conduct of governmental operations.
- (3) Military. Direct rule by the military, usually (but not necessarily following a military coup d'etat. The governing structure may vary from utilization of the military chain of command under conditions of martial law to the institution of an ad hoc administrative hierarchy with at least an upper echelon staffed by military personnel.
- (4) Other. All regimes not falling into one or another of the foregoing categories, including instances in which a country, save for reasons of exogenous influence, lacks an effective national government.

Variable 3: Parliamentary Responsibility (Cross-Polity Time Series Data)

Refers to the degree to which a premier must depend on the support of a majority in the lower house of the legislature in order to remain in office.

- (0) Irrelevant. Office of premier does not exist.
- (1) Absent. Office of premier exists, but there is no parliamentary responsibility.
- (2) Incomplete. The premier is, at least to some extent, constitutionally responsible to the legislature. Effective responsibility is, however, limited.
- (3) Complete. The premier is constitutionally and effectively dependent upon a legislative majority for continuance in office.

Variable 4: Legislative Selection (Cross-Polity Time Series Data)

- (0) None. No legislature exists.
- (1) Nonelective. Examples would be the selection of legislators by the effective executive or on basis of heredity or ascription.
- (2) Elective. Legislators (or at least members of the lower house in a bicameral system) are selected by means of either direct or indirect election.

Variable 5: Radios per Thousand (Cross-Polity Time Series Data)

The variable of radios per thousand represent the number of radio receivers in a nation.

Variable 6: Per Cent Literate (Cross-Polity Time Series Data)

This variable refers to the per cent of a nation's population that is literate.

Variable 7: Voting in Presidential Elections (Statistical Abstract of Latin America: 1968)

This variable refers to the number of actual votes recorded in Latin American nations during three presidential elections that were held approximately in 1960, 1963, 1966.

Variable 8: Effective Executive Selection (Cross-Polity Time Series Data)

- (1) Direct Election. Election of the effective executive by popular vote or the election of committed delegates for the purpose of executive selection.
- (2) Indirect Election. Selection of the effective executive by an elected assembly or by an elected but uncommitted electoral college.
- (3) Nonelective. Any means of executive selection not involving a direct or indirect mandate from an electorate.

Variable 9: Ratio of Defense Expenditure to other Expenditures¹
(Cross-Polity Time Series Data)

This variable refers to the ratio of defense expenditures to other governmental expenditures.

Variables 10-11: Government Revenue and Expenditure (Cross-Polity Time Series Data)

These variables refer to government revenue and expenditure per capita and are expressed in US dollar equivalents. (It must be noted that GOVREV and GOVEXP were obtained from different sources for Cuba and Uruguay. The information for Cuba was found in Cuba 1968: Supplement to Statistical Abstract of Latin America. The information for Uruguay was found in Table 3. A. 1 of Cuentas Nacionales and Anuario Estadística Anos 1964-65-66.)

Variable 12: Executive Adjustment (World Handbook of Political and Social Indicators)

Executive adjustment is an event modifying the membership of a national executive body that does not signify a transfer of formal power from one leader or ruling group to another. Executive adjustments always involve the movement of men into or out of the executive; they do not include acts such as the redistribution

¹ The ratio of defense expenditure have been calculated for Bolivia, Nicaragua, and Paraguay. This was done by taking the per cent of government expenditures (World Handbook of Political and Social Indicators, 1972) and comparing it with government expenditure as recorded in Cross-Polity Time Series Data.

of ministerial portfolios within an executive body. This variable refers to the number of executive adjustments that occurred in a single year.

Variables 13-14: Years of Constitutional Government and Years of Independence (World Handbook of Political and Social Indicators)

These variables refer to the number of years a nation has had a constitutional government and been independent from foreign rule.

Variable 15: Per Cent of Free Newspapers (Political Handbook and Atlas of the World)

This variable refers to the ratio of newspapers that are published free from political, governmental, or religious influence.

Variable 16: Number of Major Political Parties (Political Handbook and Atlas of the World)

This variable refers to the number of major political parties that participated in presidential and general elections in the approximate years of 1960, 1963, and 1966.

Variable 17: Number of People in Organized Labor (Latin American Statistical Abstract: 1970)

This variable refers to the number of persons belonging to organized labor unions. Data for 1966 was not available for this variable, so NOORGL for the year 1966 was estimated according to comparison of the 1960 and 1963 data.

Variables 18-20: Domestic, Passenger, and Mail Ton Kilometers Flown (United Nations Statistical Yearbook: 1967)

These variables refer to the domestic, passenger and mail ton kilometers flown in a given year.

Variables 21-22: Imports and Exports (United Nations Statistical Yearbook: 1967)

Imports refers to the value of goods and products (US dollar equivalents) brought into a nation from another for the purposes of profit. Exports refers to the value of goods and products (US dollar equivalents) transported from one nation to another for the purposes of profit.

Variable 23: Strength of Leading Party (Statistical Abstract of Latin America)

This variable refers to the political party that obtained the greatest per cent of electoral support in presidential elections.

Variable 24: Gross Domestic Product (Cross-Polity Time Series Data)

Total market value of all final goods and services produced in the economy in one year. This measure is expressed in per capita units in US dollar equivalents.

Variable 25: Physicians per Capita (Cross-Polity Time Series Data)

This variable refers to the number of physicians per capita in a nation.

Variable 26: Number of persons per Hospital Bed (World Health Statistics Annual and United Nations Statistical Yearbook: 1968)

This variable is expressed in ratio form. It refers to the number of persons per hospital bed in a given year.

Variable 27: Total Energy Production (Cross-Polity Time Series Data)

This variable included total electrical energy production and is expressed in millions of kilowatt hours.

Variables 28-29: Newspapers and Telephones Per Capita (Cross-Polity Time Series Data)

These measures refer to a nation's newspaper and telephone circulation per capita in a given year.

Variable 30: Railroad Mileage (Cross-Polity Time Series Data)

Total number of railroad miles found in a nation.

Variable 31: Population in Cities Greater than or Equal to 100,000 (Cross-Polity Time Series Data)

This variable refers to the aggregate population figures for cities of 100,000 or over.

Variable 32: Vehicles per Thousand (Cross-Polity Time Series Data)

This variable refers to the total number of vehicles per thousand population.

Variables 33-35: Primary, Secondary, and University Enrollment Per Capita (Cross-Polity Time Series Data)

The total per capita primary, secondary, and university enrollment found in a nation in a given year.

The description of the ten variables representing the domain of domestic political instability come from three main sources. The description of the first eight variables come from the Rummel classification as outlined in Dimensions of Conflict Behavior Within and Between Nations, the ninth variable is described in Cross-Polity Times Series Data, and the final variable is described in the World Handbook of Political and Social Indicators.

Variable 36: Assassinations (Cross-Polity Times Series Data)

The politically motivated murder or attempted murder of a high governmental official or politician. Among high governmental officials are included the governors of states or provinces, the mayors of large cities, members of the cabinet, and members of the national legislature. Among high politicians are included members of the inner core of the ruling party or groups and leaders of the opposition.

Variable 37: General Strikes (Cross-Polity Times Series Data)

Any strike of industrial or service workers which involves more than one employer and that is aimed against national governmental policies or authority. A strike is not considered general unless at least 1,000 workers are involved. General strikes do not include those strikes whose nature is to force the government or private industry to grant wage or working concessions.

Variable 38: Guerilla War (Cross-Polity Time Series Data)

Armed activity on the part of bands of citizens or irregular forces aimed at the overthrow of the existing government. Such activity may take the form of sporadic attacks on police posts, small villages, government patrols, or military barracks. A country is also considered to have guerilla war when sporadic bombing, sabotage, or terrorism occurs.

Variable 39: Government Crises (Cross-Polity Time Series Data)

Any rapidly developing situation which threatens (excluding revolution) to bring the immediate downfall of the present government. Such situations are usually evidenced by the declaration of military law, state of siege, or the suspension or abrogation of the constitution. A vote of no confidence by a parliamentary majority, or the forced resignation or impeachment of top officials are also considered major government crises. A new government crisis is not counted unless at least three months of stability have intervened since the previous crisis.

Variable 40: Purges (Cross-Polity Time Series Data)

The systematic elimination by the political elite either of opposition within their ranks or of opposition within the country by jailing or execution. "Elimination of the opposition" refers to the arrest, jailing, exiling, or execution of the opposition leaders. The arrest or execution of non-leader members of the opposition does not constitute a purge. If the elimination of opposition continues over a period of time without a relaxation of more than three months, then it is a purge. An elimination of opposition incident upon the take-over of the government by a new political elite, regardless of whether a purge had been carried on by the old elite up to the take-over, is to be considered a new purge only if the opposition purge includes elite politically and/or ideologically associated with the previous regime--if the elite taking over continues to eliminate the same leaders without adding a new category of opposition, then it is not a new purge.

Variable 41: Riots (Cross-Polity Time Series Data)

Any violent demonstration or clash of a large group citizens. The term "violence" refers to the use of physical force, and "large" means at least one hundred people involved. The existence of a

riot is generally evidenced by the destruction of property, people being wounded or killed, or the use of the police or riot control equipment.

Variable 42: Revolutions (Cross-Polity Time Series Data)

Any armed successful or unsuccessful attempt on the part of a group of citizenry to form an independent government (not including colonial rebellions), or any illegal or forced change in the top governmental elites or any attempt at such a change.

Variable 43: Anti-Government Demonstrations (Cross-Polity Time Series Data)

Any unorganized peaceful, public gathering of at least one hundred people for the primary purpose of displaying or voicing their opposition to governmental policies or authority. This does not include political party rallies or general strikes. Student strikes aimed at the government are considered anti-government demonstrations. A demonstration that involves the use of force is categorized as a riot.

Variable 44: Coups (World Handbook of Political and Social Indicators)

The forced changes in the top governmental elite and/or its effective control of the nation's power structure.

Variable 45: Armed Attacks (World Handbook of Political and Social Indicators)

The act of violent conflict carried out by (or on behalf of) an organized group with the object of weakening or destroying the power exercised by another organized group.

APPENDIX II
DATA SOURCES

APPENDIX II

DATA SOURCES

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APPENDIX III

COMPONENT DIMENSIONS OF POLITICAL
DEVELOPMENT, SOCIO-ECONOMIC
DEVELOPMENT, AND DOMESTIC
POLITICAL INSTABILITY
MEASURES

TABLE LVIII

COMPONENT DIMENSIONS OF POLITICAL MEASURES (1960)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V	FACTOR VI
Radios 98	Executive	Government	Defense	Newspapers 95	Literate 96
Votes 93	Selection -93	Expenditure 91	Expenditure 94	(Free)	Party
Imports 92	Legislative	Exports 73	Party	Adjustment -34	Strength 33
Labor 90	Selection 86	Government	Strength 74		
Passenger	Legislative	Expenditure 32			
km Flown 90	Effectiveness 57	Adjustment 30			
Mail Flown 89	Adjustment -46	Imports 30			
Domestic	Independence 32				
km Flown 89	Constitution 31				
Exports 60					
Parties 30					
Total					
Variance:	11.5%	9.0%	8.2%	6.0%	6.2%
31.3%					

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE LVIX

COMPONENT DIMENSIONS OF POLITICAL MEASURES (1963)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V	FACTOR VI
Radios 96	Executive	Government	Parliamentary	Literate	Defense
Votes 95	Selection -95	Revenue 98	Responsibility	93	Expenditure 91
Imports 89	Legislative	Government	-95		Adjustment 37
Domestic	Selection 90	Expenditure 96			Legislative
km Flown 89	Legislative	Exports 79			Effectiveness-31
Mail Flown 89	Effectiveness 81	Labor 31			
Passenger	Regime -77				
km Flown 89					
Labor 84					
Adjustment 73					
Exports 58					
Parties 37					
Total					
Variance:	13.9%	12.8%	5.5%	5.1%	5.4%
30.1%					

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE LX

COMPONENT DIMENSIONS OF POLITICAL MEASURES (1966)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V	FACTOR VI
Mail Flow 96	Legislative	Government	Parties	Defense	Constitution -92
Labor 96	Effectiveness 92	Revenue 98	Executive	Expenditure 96	Independence -33
Domestic	Legislative	Government	Selection -44		
km Flow 94	Selection -77	Expenditure 96			
Passenger	Party Strength 43	Exports 65			
km Flow 94	Regime -37	Imports 37			
Votes 93	Adjustment 34	Literate 30			
Radios 90					
Import 86					
Export 69					
Adjustment 40					
Total					
Variance:	14.2%	12.3%	5.6%	5.0%	4.9%
32.3%					

^a Loadings rounded off and multiplied by 100. Only loading \geq to 30 reported.

TABLE LXI

COMPONENT DIMENSIONS OF SOCIO-ECONOMIC MEASURES (1960)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V	FACTOR VI
Physicians 92	Energy	Primary	Secondary	Domestic	Hospital
Telephones 91	Production 98	Enrollment 94	Enrollment -90	Product 75	Beds 84
Newspapers 90	Cities 96	Domestic	Newspapers -47		
University	Vehicles 93	Product			
Enrollment 81	Railroads 85	Hospital			
Domestic		Beds			
Product 55		-30			
Railroads 44					
Hospital					
Beds -34					
Total					
Variance:	31.1%	10.2%	10.6%	5.9%	7.3%
32.3%					

^a Loadings were rounded and multiplied by 100. Only loadings \geq to 30 reported.

TABLE LXII

COMPONENT DIMENSIONS OF SOCIO-ECONOMIC MEASURES (1963)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V	FACTOR VI
Telephones 94	Energy	Primary	Secondary	Hospital	Domestic
Physicians 92	Production 99	Enrollment +92	Enrollment 86	Beds 83	Product -65
University	Cities 99	Hospital	Railroads -54		
Enrollment 87	Vehicles 96	Beds +39	Newspapers 41		
Newspapers 85	Railroads 67	Secondary			
Domestic		Enrollment +34			
Product 64		Domestic			
Railroads 36		Product +33			
Hospital		University			
Beds -32		Enrollment +32			
Secondary					
Enrollment 30					
Total					
Variance: 33.3%	28.7%	11.3%	10.9%	7.6%	4.4%

^a Loadings rounded off and multiplied by 100. Only loadings ≥ 30 reported.

TABLE LXIII

COMPONENT DIMENSIONS OF SOCIO-ECONOMIC MEASURES (1966)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V	FACTOR VI
Telephones 91	Energy	Primary	Secondary	Railroads -44	Hospital
Physicians 89	Production 99	Enrollment 93	Enrollment 86	Domestic	Beds 78
University	Cities 98	Secondary	Literate 59	Product 36	
Enrollment 86	Vehicles 96	Enrollment 40			
Domestic	Railroads 70	Hospital			
Product 83		Beds -39			
Newspapers 73		Domestic			
Railroads 41		Product 33			
Hospital					
Beds -40					
Total					
Variance: 33.3%	28.8%	11.7%	11.3%	3.5%	6.4%

^a Loadings rounded off and multiplied by 100. Only loadings \geq 30 reported.

TABLE LXIV
COMPONENT DIMENSIONS OF DOMESTIC
POLITICAL INSTABILITY (1960)^a

FACTOR I		FACTOR II		FACTOR III	
Crises	89	Armed Attacks	96	Purges	93
Assassinations	82	Guerilla War	80		
Revolutions	78	Purges	69		
Riots	78				
Demonstrations	58				
Purges	51				
Total Variance: 36.5%		24.3%		12.1%	

^a Loadings rounded off and multiplied by 100. Only loadings ≥ 30 reported.

TABLE LXV
COMPONENT DIMENSIONS OF DOMESTIC
POLITICAL INSTABILITY (1963)^a

FACTOR I		FACTOR II		FACTOR III	
Armed Attacks	93	Revolutions	78	Strikes	80
Riots	88	Purges	77	Crises	75
Guerilla War	86	Coups	74		
Crises	31	Crises	60		
Total Variance: 29.3%		26.1%		14.0%	

^a Loadings rounded off and multiplied by 100. Only loadings ≥ 30 reported.

TABLE LXVI
 COMPONENT DIMENSIONS OF DOMESTIC
 POLITICAL INSTABILITY (1966)^a

FACTOR I	FACTOR II	FACTOR III
Riots 93	Guerilla War 90	Coups 92
Demonstrations 85	Armed Attacks 89	Demonstrations 38
Revolutions 83	Purges 49	Purges -31
Total Variance: 34.7%	27.2%	16.8%

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE LXVII

COMPONENT DIMENSIONS OF POLITICAL DEVELOPMENT AND SOCIO-
ECONOMIC DEVELOPMENT MEASURES (1960)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Energy Production 98 Cities 96 Radios 94 Passenger km Flown 94 Domestic km Flown 93 Mail Flown 91 Vehicles 91 Imports 88 Labor 86 Railroads 81 Exports 57 Parties 41 Legislative Effectiveness -33	Telephones 93 Physicians 92 University 89 Enrollment 84 Newspapers 68 Literate 57 Hospital Beds -57 Domestic Product 56 Railroads 45 Secondary Enrollment 38 Labor 35 Constitution 33	Executive Selection -93 Legislative Selection 86 Legislative Effectiveness 70 Constitution 50 Adjustment -45 Independence 42	Government Expenditures 90 Government Revenue 78 Exports 76 Domestic Product 65 Adjustment 52 Primary Enrollment 38 Imports 32	Defense Expenditures 89 Party Strength 76 Secondary Enrollment -55 Newspapers -36 Independence 34
Total Variance: 30.6%	16.7%	9.8%	10.2%	6.8%
FACTOR VI	FACTOR VII	FACTOR VIII	FACTOR IX	FACTOR X
Parties 83 Hospital Beds -67 Secondary Enrollment 37	Free Newspapers -86 Adjustment -60	Primary Enrollment 79 Constitution 53 Secondary Enrollment 41 Literacy 34	Party Strength 34 Literacy -42 Government Revenue -41	Independence 78 Legislative 45 Effectiveness
Total Variance: 5.3%	4.5%	4.3%	3.4%	3.5%

^a Loadings rounded off and multiplied by 100. Only loadings ≥ 30 reported.

TABLE LXVIII
COMPONENT DIMENSIONS OF POLITICAL DEVELOPMENT AND SOCIO-
ECONOMIC DEVELOPMENT MEASURES (1963)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Cities Energy Production Votes Vehicles Radios Domestic km Flown Passenger km Flown Mail Flown Imports Adjustment Railroads Exports Parties	99 98 95 95 94 93 93 92 88 71 67 57 45	93 90 84 79 55 54 46 39 -39 36	95 95 95 -86 -81 80 -36	81 45 38
	Telephones Physicians Newspapers University Enrollment Literacy Domestic km Flown Labor Railroads Hospital Beds Constitution	Executive Selection Defense Expenditures Legislative Selection Legislative Effectiveness Regime Secondary Education	Government Revenue Government Expenditures Exports Domestic Product University Enrollment	Defense Expenditures Constitution Parties
Total Variance: 29.8%	13.9%	10.0%	10.5%	8.1%
FACTOR VI	FACTOR VII	FACTOR VIII	FACTOR IX	FACTOR X
Parliamentary Responsibility Parties	82 -42	87 -71 69 63 42	Party Strength Railroads Hospital Beds Secondary Enrollment	89 50
	Free Newspapers	Primary Enrollment Hospital Beds Literacy Secondary Enrollment Parties	-91 -34 33 31	Independence Constitution
Total Variance: 4.4%	4.3%	4.2%	4.2%	4.2%

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE LXIX
COMPONENT DIMENSIONS OF POLITICAL DEVELOPMENT AND SOCIO-
ECONOMIC DEVELOPMENT MEASURES (1966)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Energy Production 98 Cities 98 Mail Flown 97 Labor 96 Votes 95 Passenger km Flown 95 Domestic km Flown 94 Vehicles 93 Radios 91 Imports 85 Exports 66 Regime 54 Adjustment 46	Telephones 92 Newspapers 90 University 83 Enrollment 81 Physicians 72 Literate 63 Domestic km Flown 63 Hospital Beds -51 Regime 38 Secondary 38 Enrollment 37 Constitution 34 Railroads 46	Legislative Selection 92 Legislative Effectiveness 90 Executive Selection -81 Railroads -60 Secondary Education 49 Party Strength 48 Adjustment -46	Government Expenditure -96 Adjustment -92 Exports -67 Domestic Product -67 Imports -37 Party Strength -35	Defense Expenditures 90
Total Variance: 31.2%	15.1%	11.2%	8.4%	5.1%
FACTOR VI	FACTOR VII	FACTOR VIII	FACTOR IX	FACTOR X
Adjustment 61 Party Strength -34	Free Newspapers 87 Regime 49 Party Strength 35 Adjustment 33 Primary Enrollment -32	Hospital Beds -67 Parties -67 Secondary Enrollment -55 Literacy -52 Executive Selection 45 Party Strength -35	Constitution 82 Party Strength -36	Independence 89 Parties 46
Total Variance: 4.6%	3.4%	3.2%	2.6%	2.0%

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE LXX

COMPONENT DIMENSIONS OF SOCIO-ECONOMIC DEVELOPMENT
AND POLITICAL INSTABILITY MEASURES (1960)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Newspapers 94	Revolutions 90	Energy	Guerilla War 92	
Telephones 91	Crises 88	Production	Armed Attacks 62	Primary
University	Assassi-	Cities -98		Enrollment 91
Enrollment 87	nations 64	Vehicles -96		
Physicians 84	Domestic	Railroads -92		
Guerilla War 58	Product 62	Demonstra-		
Secondary	Riots 47	tions -45		
Enrollment 57	University			
Hospital	Enrollment 34			
Beds -48	Purges 31			
Railroads 34				
Crises 31				
Total Variance: 22.3%	15.2%	18.7%	7.5%	5.7%
FACTOR VI	FACTOR VII	FACTOR VIII	FACTOR IX	FACTOR X
Purges 89	Hospital	Demonstra-	Riots 79	Secondary
Armed Attacks 73	Beds 83	tions 73	Primary	Enrollment 34
	Secondary		Enrollment 44	
	Enrollment -43			
Total Variance: 6.5%	5.9%	4.2%	5.5%	3.9%

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE LXXI

COMPONENT DIMENSIONS OF SOCIO-ECONOMIC DEVELOPMENT
AND POLITICAL INSTABILITY MEASURES (1963)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Telephones 95	Energy	Armed Attacks 97	Coups 81	Primary
Physicians 93	Production 98	Guerilla War 83	Revolutions 77	Enrollment 92
Newspapers 87	Cities 98	Riots 84		Hospital
University	Vehicles 95	Domestic		Beds 48
Enrollment 86	Railroads 66	Product 38		Domestic
Domestic	Crises 44			Product 41
Product 68	Strikes 43			Guerilla War - 34
Hospital				
Beds -44				
Secondary				
Enrollment 36				
Total Variance: 21.0%	18.6%	13.1%	7.5%	6.5%
FACTOR VI	FACTOR VII	FACTOR VIII	FACTOR IX	FACTOR X
Strikes 86	Hospital	Crises -69	Demonstra-	Newspapers 33
Revolutions 37	Beds -72	Purges -60	tions 96	Purges -31
		Railroads -34	Purges 47	
Total Variance: 6.5%	4.0%	4.0%	3.9%	3.1%

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

TABLE LXXII

COMPONENT DIMENSIONS OF SOCIO-ECONOMIC DEVELOPMENT
AND POLITICAL INSTABILITY MEASURES (1966)^a

FACTOR I	FACTOR II	FACTOR III	FACTOR IV	FACTOR V
Telephones 93	Energy	Riots 89	Guerilla War 96	Primary
Physicians 88	Production 98	Revolutions 86	Armed Attacks 88	Enrollment 93
University	Cities 98	Demonstrations 73		Hospital Beds -65
Enrollment 83	Vehicles 95	Railroads 38		Secondary
Newspapers 80	Railroads 70			Enrollment 43
Domestic	Riots 38			Domestic
Product 80				Product 38
Hospital Beds -44				
Railroads 36				
Total Variance: 22.1%	19.3%	12.8%	9.9%	9.3%
FACTOR VI	FACTOR VII	FACTOR VIII	FACTOR IX	FACTOR X
Coups 99	Hospital	Demonstrations 34	Purges 41	Secondary
Demonstra-	Beds 47			Enrollment -82
tions 35	Railroads -30			Newspapers 49
Total Variance: 6.3%	19.3%	12.8%	9.9%	9.3%

^a Loadings rounded off and multiplied by 100. Only loadings \geq to 30 reported.

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