THE APPLICATION OF POLITICAL INSTABILITY RESEARCH METHODOLOGIES

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SUMMARY

This short report attempts to do a couple of things. First, it attempts to identify and describe the quantitative and qualitative research in political instability that has been conducted since around 1960. It then attempts to determine just how useful that research is to the intelligence analyst responsible for the production of political instability analyses and estimates.

The identification and description of political instability research is accomplished by classifying the research according to the general methods employed and whether or not the work can be described as descriptive, explanatory, or predictive. Qualitative methods include all those which rely heavily upon the wisdom, judgment, and experience of the intelligence analyst as he or she attempts to discipher reliably and timely information from all kinds of hard and soft data. Quantitative methods rely heavily upon the collection and statistical analysis of empirical data in order to develop generalizations about political instability. Descriptive political instability research attempts to characterize or profile instability; explanatory research seeks to identify "causes" of instability; while predictive research searches for the means by which political instability and revolution can be forecast.

In order to assess how the political instability methodologies can best be applied in intelligence analysis this report looks quickly at the components of useful intelligence analysis and then turns to a method-by-method/findings-by-findings analysis of how the methods and findings can contribute to the production of useful intelligence.

The results of the applications assessment are very clear. Because of enormous methodological and data availability/reliability problems, and because of its concentration on the development of cross-national theory, nearly all quantitative-statistical research is of limited use to the intelligence analyst who is by nature country specific, atheoretical, and pragmatic. Qualitative methods and findings, on the other hand, can contribute to intelligence analysis by reducing bias and assuring deductive and inductive logic. Of particular applied use are the qualitative predictive methodologies which rely upon the structured judgment and experience of the intelligence analyst. Fortunately, the qualitative methods are generally easier to implement than their quantitative counterparts.

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INTRODUCTION

In virtually every part of the world we can find regimes that are far from stable. Unfortunately, many are geographically close to the United States or closely tied to economic, military, or political U.S. national interests. Yet while they may share these similarities they are analytically distinct; as a matter of fact, one can argue that each potential regime change or collapse presents a set of unique analytical problems.

Given the pervasiveness and importance of political instability and the uniqueness of each "case," the need for systematic analysis has never been greater. But how can we ensure the production of the best possible analyses and estimates? We can see at least three steps. The first requires the identification and description of the many methods and techniques available to the political instability analyst as well as the findings that have been generated via the use of these methods and techniques. The second step involves the development of a profile of possible analytical requirements, while the third involves assessing how useful the methods, techniques, and findings can be in the various analytical contexts.

This short report attempts to take these three steps. Based upon our much larger report, An Assessment of Political Instability Research Methodologies [redacted] STAT, which should be regarded as the companion to this one, what follows will hopefully help analysts select the methods and findings most likely to contribute to the description, explanation, and prediction of political instability. But beyond the matching of methods and findings to analytical situations we will try to develop rationale about the costs and benefits of each method, technique, and finding. This report may thus be regarded as a mini-handbook

while our larger report should be regarded as a sourcebook. Both documents are concerned with how we can improve our analyses and estimates of the likelihood of political instability, crisis, and revolution.

POLITICAL INSTABILITY RESEARCH METHODS AND FINDINGS

It is possible to categorize political instability methodologies according to the way they use data or information and according to three analytical goals. We may categorize the methods as qualitative or quantitative, and useful for the production of descriptive, explanatory, and predictive intelligence. Descriptive research includes that which focuses on the intranational and international factors that contribute to political instability. Explanatory research includes those studies and analyses that attempt to explain why political instability occurs generally and in specific geographical regions and countries. Predictive research attempts to correlate factors like economic scarcity, political repression, and ethnic conflict with the likelihood of future political instability.

Qualitative research usually involves the use of methods and approaches which rely principally upon the wisdom, experience, and judgment of the analyst. Qualitative researchers frequently adopt historical, institutional, and sociological approaches within single and comparative case study analyses. Contrary to some views of methodology, qualitative researchers frequently use quantitative concepts and data. But they do not use them in the same way as quantitative researchers, who use "hard" data to test hypotheses about political instability. For example, concepts like political repression would be converted by the quantitative researcher into data (representing, perhaps, the number of government crackdowns or number of government censors) and then used to test a specific hypothesis about political

instability, such as one which states that as the level of political repression rises over time so does the likelihood of instability (which would also have to be defined precisely).

QUALITATIVE DESCRIPTIVE METHODS AND FINDINGS

Qualitative descriptive political instability research has focused on case studies of political instability and revolutions; definitions of political instability usually grounded in definitions of collective action; classifications of political instability; typologies of political instability and revolutions; and stages through which revolutions can be expected to pass.

Case Studies

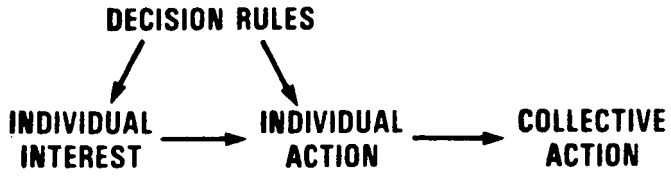
Case studies rely upon "illustrative cases" rather than systematic evidence, analysis, and comparison. Researchers often "ransack" history for supporting cases and ignore or explain away cases that contradict, qualify, or negate their arguments. The emphasis is on minute description, leading to the application of the label of "natural history" as a catch-all term for the entire analytical genre. Countless case studies have been conducted over the last twenty years and no doubt countless more will be undertaken in the future.

Definitions of Political Instability

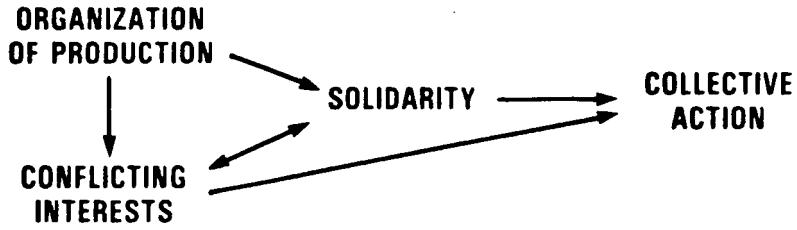
Tilly's (1974, 1978) work on collective action provides an example of attempts to define political instability. His theory of collective action is based on Marx-plus. Marx highlighted the key role of major classes and their interests--which emerge from organization or production--whereas Tilly expands this notion to include generally shared interests. He also adds Max Weber and especially John Stuart Mill to the

picture, all as suggested below.

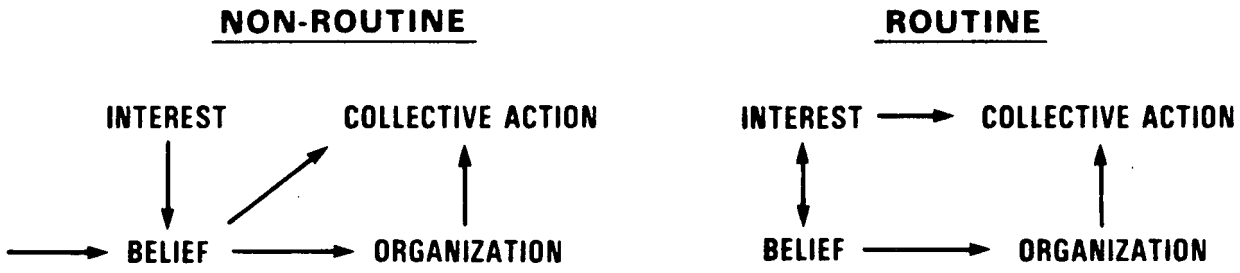
Mill's Model



Marx's Model



Weber's Models



(From Tilly, 1978)

Classifications of Political Instability

Qualitative descriptive research has also included classifications of political instability. Tilly (1975, 1978), for example, distinguishes between communal and associational types

of collective action, thereby excluding random or spontaneous activity. Another classification of revolution belongs to Chalmers Johnson (1964). He uses four criteria--targets, perpetrators, goals, and initiation--to develop six kinds of revolutions.

Revolutionary "Stages"

Another major output of the natural history school is the identification of sets of stages through which revolutions are supposed to pass. David Schwartz (1968, 1972) provides a good example of this research. He suggests a sequence from allegiance to ambivalence, passive alienation, and then active alienation.

QUALITATIVE EXPLANATORY METHODS AND FINDINGS

Qualitative explanatory political instability research focuses on explanations attributable to the position and behavior of the agrarian, peasant, or otherwise disenfranchised classes in society; explanations attributable to the activity of the elites in society; explanations grounded in surveys of civilizations and broad social change; and explanations grounded in research on social movements, ethnicity, and terrorism.

Peasants and Revolution

On a lower level of analysis, what do we know about peasants and revolution? Unfortunately, the research leads to confusion rather than clarity. Wolf (1969) attempts to generalize on the basis of six twentieth century cases. Migdal (1974) develops a theory of how imperialistic, modernizing forces impinge on peasant villages. Wolf (1969) sees middle peasants as the most likely participants in revolutionary movements, and Paige (1975) develops explanations on the basis of the structure of peasant/landlord

relations, especially whether or not peasants and landlords get their income from land ownership, wages and capital, or some combination of the two. Migdal (1974) assigns primary responsibility for revolution to political organizations.

Elites and Revolution

Trimberger (1978) focuses on elite-based revolutions and attempts to explain four cases of such instability (Turkey in 1923, the Mejii Restoration in Japan in 1868, and coups in Egypt in 1952 and Peru in 1968). In all four instances, traditional rulers were ousted and extensive programs of modernization were launched.

Broad Social Change and Revolution

Eisenstadt (1978, 1980) adopts the comparative case method to demonstrate the applicability of a single theory. He offers a wide-ranging and ambitious qualitative theory of revolution in his comparative survey of civilizations and social change. His theory is unique in the emphasis given to cultural orientations.

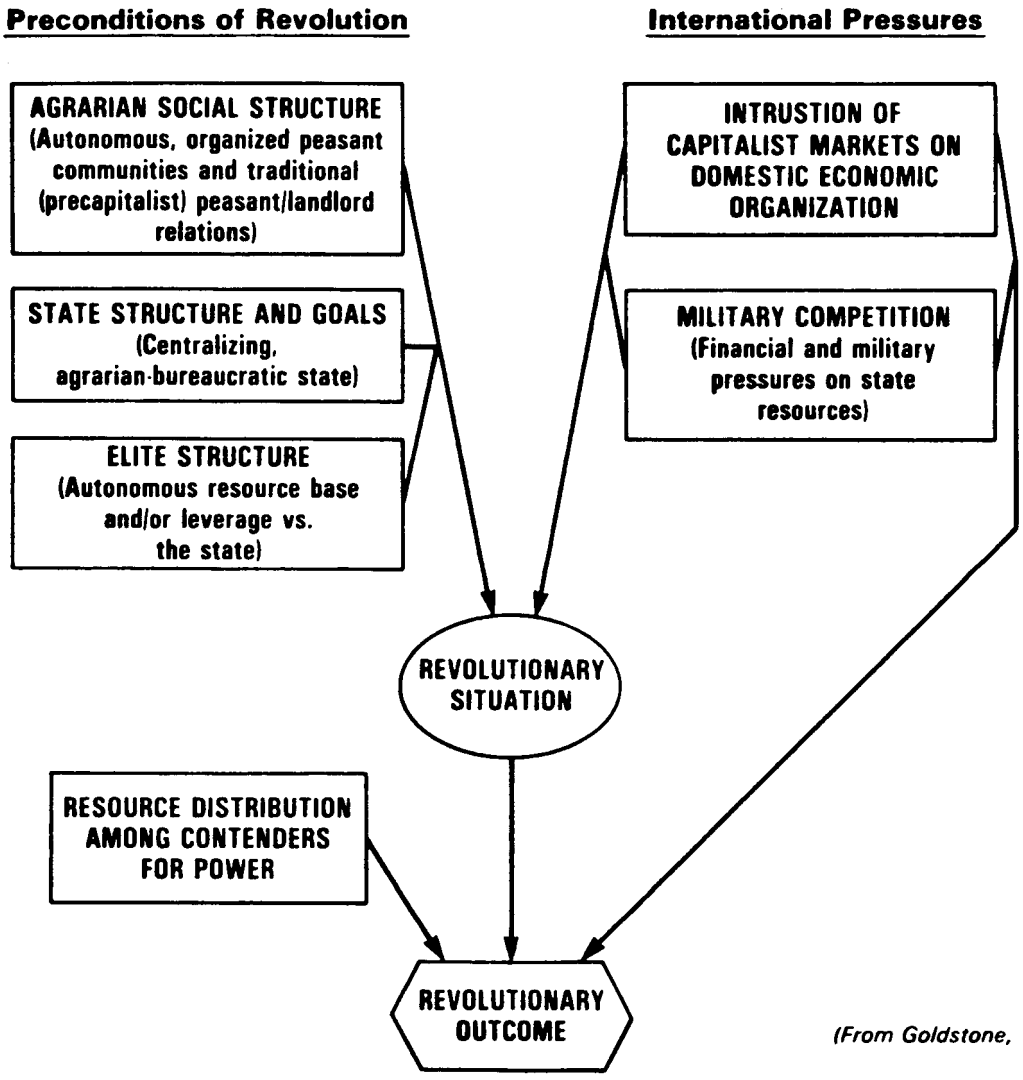
Theda Skocpol (1979) offers a theory of revolution which is less grandiose than Eisenstadt's and much better grounded in the processes of historical change. The figure below displays Skocpol's analytical scheme, which she applied to the revolutions in France, Russia, and China.

Social Movements, Ethnicity, and Terrorism

Research on social movements, ethnicity, and terrorism can be used to illustrate some "comparative case studies." For example, Maatsch, et al. (1980) categorize the research into the sources, processes, characteristics, and consequences of social movements

and attempt to synthesize the existing literature into theories and categories of movements.

Skocpol's Analysis of Revolutions



(From Goldstone, 1980)

Ethnicity is an inescapable facet of politics within as well as between countries; internal conflict and instability and external conflict and war often flow from ethnic tensions and processes of mobilization.

The largest portion of the qualitative terrorist literature features case studies of particular countries, regions, movements, and even individual terrorists. The research is almost completely atheoretical.

QUALITATIVE PREDICTIVE METHODS AND FINDINGS

Qualitative predictive research in political instability focuses upon political risk assessment; intuition and judgment; delphi forecasting; cross-impact forecasting; and Bayesian forecasting.

Intuitive qualitative forecasting is central to intelligence analysis. An individual immersed in the history, culture, and politics of a country or area generates estimates and projections on a continuing basis. There is no real substitute for such wisdom, insight, and intuition. There is, however, a stockpile of systematic analytical techniques that are useful for processing, refining, and structuring human judgments. Such techniques, if used properly, can be very useful to the individual country or area analyst.

Political Risk Analysis

Political risk analysis for the corporate sector usually tasks experts (often overseas managers) to conduct "case studies," using a very intuitive strategy for scanning the political environment and generating forecasts (Haendel, 1981). This is not at all unlike the process of traditional instability analysis. Unfortunately, the record of these risk assessors is far from impressive.

The Delphi Method

A panel of experts is polled in a series of questionnaires. At the end of each session, feedback is given to the panelists regarding the response distributions and the arguments offered in favor of deviant positions. Average group judgments from the final round usually serve as the final data.

Cross-Impact Analysis

Cross-impact analysis is another subjective forecasting method useful for political instability analysis. The cross-impact method provides a way of determining probabilistically how a change in one event or condition will affect other events and conditions (Andriole, 1982). It allows for a systematic assessment of how "everything affects everything else."

Bayesian Forecasting

In addition to Delphi and cross-impact forecasting, quite a few examples of Bayesian forecasting are available (Andriole, 1981, 1982; Heuer, 1978; Hopple and Kuhlman, 1981). Bayesian inference involves a mathematical procedure for revising probability judgments on the basis of new information. Experts are asked to make conditional probability judgments for each relevant piece of "evidence." The expert is asked: "given the truth of the hypothesis, what is the probability of seeing the evidence?" There are at least three variations on the Bayesian analytical theme. The first involves the application of Bayes' theorem of conditional probabilities for updating estimates in the light of new information. The second involves structuring the forecasting problem into an influence diagram which portrays the forecasting object as "driven" by interrelated sets of variables; while the third is known as hierarchical inference structuring, which enables a forecaster to decompose hierarchically and systematically

aspects of the forecasting object that are interrelated and interdependent.

QUANTITATIVE DESCRIPTIVE METHODS AND FINDINGS

Quantitative approaches to the study of political instability apply one or more statistical techniques to the analytical goals of describing, explaining, or predicting instability, and have generally focused upon the development of definitions of political instability grounded in empirical "counts" of various conflictual events and conditions; event data-based definitions of political instability; the development of quantitative indicators of political instability; and the development of "Internal Situation Profiles" (ISPs) of potential domestic stress.

Empirical Definitions

Rummel (1963) was the first of many to build upon the pioneering work of Raymond Cattell (who searched for general cultural patterns across societies) and try to identify some basic empirical dimensions of domestic and foreign conflict. Rummel used factor analysis, a statistical technique which is designed to reduce many relationships to a few central patterns. For Rummel and others domestic conflict breaks down statistically into two broad types, internal war or rebellion and collective protest.

Event Data-Based Definitions

Some instability research takes an event approach. An event is a specific action defined on the basis of an actor, a target, and a form of behavior. This who-does-what-to-whom format is used to organize activity into many discrete and specific actions. Event data may be taken from any kind of a source which reports

"news." The methodology is the same whether the source is public (for example, a newspaper or news chronology), private, or classified. The domestic event data banks used to study political instability consist mainly of domestic conflict events (number of assassinations, number of general strikes, number of purges, and so forth).

Quantitative Indicators of Instability

Spector, et al. (1975) report on research which develops and tests a set of international, economic, and internal indicators. The event-based domestic indicators were evaluated as predictors of international behavior for Japan.

Internal Situation Profiles (ISPs)

An example of a quantitative descriptive approach not based upon domestic events is the Internal Situation Profile or ISP (Hopple, 1978). What are the specific factors which tap the concept of "potential domestic stress?" This question constituted the basis for a study to develop a set of internal indicators which would function together as an overall "thermometer" for a political system. At the same time, the profiling scheme was designed to avoid the event data approach, which limits indicators to those which can be derived from an actor-event-target scheme. A list of 67 indicators was developed (15 economic, 12 societal, 7 military, 12 governmental, and 21 political). The ISP is designed to monitor three distinct sets of events and situations: preconditions for internal crises; precipitants (immediate determinants) of internal crises; and manifestations of internal crises.

QUANTITATIVE EXPLANATORY METHODS AND FINDINGS

Quantitative explanatory studies of political instability

tend to do one of two things: they either evaluate specific propositions or build and test elaborate "causal models" of instability. The propositional studies often consider only one or a few determinants at a time, while the large models can become so complex that they defy clear interpretation.

Economic Explanations

Economic explanatory research has concentrated on the explanatory impact of short-term economic change, the level of economic development in a country, economic growth rates, and a country's level of socioeconomic inequality. All of this research has merit but a lot of it is also contradictory. Often the "statistically significant" is completely atheoretical.

Societal Explanations

Explanations have also been traced to societal problems such as cleavages, structural imbalances, and modernization. Some very noteworthy analysts--like Huntington--believe that modernization leads to political instability.

Political Explanations

Political development analysts have generally focused upon the level of democratization and durability present in a nation, as well as upon how well or badly the political system performs and how legitimate it is perceived to be. The results here have been contradictory and counterintuitive. For example, nations incapable of satisfying basic demands and held in low esteem by their citizens often persist over time.

Psychological Explanations

The "psychological-aggregate" approach to the study of political instability has stressed the importance of the frustration-aggressiveness hypothesis of human behavior in the context of national political behavior. When citizens feel "deprived" they can be expected to become discontent and sometimes collectively violent, but the evidence for this sequence of behavior is thin.

Elitist Explantions

Some research focuses upon elite-based coups and revolutions and, on the other side of the coin, elite repression. The evidence suggests that protest and rebellion lead to elite behavior that can accelerate or undermine the process of political instability.

External Explanations

External determinants of political instability include economic and political penetration, war, and the contagious effects of conflict. While a lot of wars and conflict tend to occur non-randomly throughout history it would be unwise to overemphasize the "contagion effect" of intranational and international conflict. The relationship between intranational and international conflict has also been studied extensively with little or no verifiable results.

Causal Model-Based Explanations

Causal models of instability have been used to explain intranational conflict with only limited success, largely because they are methodologically and statistically cumbersome.

QUANTITATIVE PREDICTIVE METHODS AND FINDINGS

The analyst who wishes to quantitatively forecast political instability has a lengthy menu of forecasting techniques available. The techniques range from simple extrapolation, which project the present into the future on the basis of assumed current trends, to a series of increasingly complex statistical methods. Discussed briefly below are foreign domestic event data-based computerized systems for forecasting political instability; a leading indicators approach to prediction; the use of causal models; and the use of simulation for predicting domestic instability.

Event Data-Based Prediction

A project on Africa uses domestic event data from two "prestige" newspapers (New York Times and Manchester Guardian), FBIS (Foreign Broadcast Information Service) Daily Reports, and cable traffic. The driving assumption is that event-based "early warning systems" will predict the immediate future from the recent past. Unfortunately, the African system was never evaluated as a forecasting tool.

Leading Indicators

Abolfathi, et al. (1980) provide an example of an approach based upon leading or anticipatory indicators as the source for early warning signals about potential instability. They consider three types of leading indicators--stock markets, the weighted average of interest rates on loans to Third World countries (or the "spread" over the London Interbank Offer Rate or LIBOR), and international credit ratings of borrowing countries. But how did the indicators approach fare? Both stock market activities and international credit ratings work pretty well for Egypt and the Philippines. Stock market indicators correctly foresaw the upsurge of instability in the early 1970s in the Philippines (as

did private construction activities). In Egypt, stock market patterns generally predicted several periods of political instability and government policy change. Trends through the end of the 1970s suggested increasing instability in the Philippines and uncertainty in Egypt.

Causal Model-Based Predictions

Gurr and Lichbach (1979) use their basic causal model for forecasting to measure the intensity of protest and rebellion in the 1971-1975 period. Rebellion is forecast better than protest, intensity better than extent, and cases close to the average better than extreme cases. While the model performs adequately as a forecasting tool, quite a few specific countries are not predicted well at all. It is also fair to say that the use of causal modeling to forecast political instability is in its infancy. Factors are almost always left out of models, factors which usually affect some countries more than others.

Simulation and Prediction

Rastogi (1977) uses simulation to generate forecasts of future trends. Among the factors analyzed are public expectations, administrative effectiveness, pressure on the government from several sources, economic trends such as inflation, unemployment, and general growth, population growth, and several additional forces. Rastogi delineates past, present, and future time paths (1960-1980) for four nations--Brazil, India, Nigeria, and the United States--to illustrate how his simulation model operates. He is able to explain patterns retrospectively through 1975 and then offers sets of possible courses for the four societies from 1976 to 1980. But simulation models have not been verified as tools for forecasting political instability. Our balance sheet is therefore premature at best.

POLITICAL ANALYSIS REQUIREMENTS

We are concerned here with how the analytical methods, approaches, and findings discussed above can be productively applied to the analysis of information about political instability and the production of political instability intelligence estimates. But what is it that intelligence analysts actually do? First, we should state that neither of us are formerly or presently intelligence professionals. Our backgrounds are in the analytical methodology and international relations fields of inquiry. We have, however, spent a lot of time trying to bridge the gap between analytical methodology and intelligence analysis and, along the way, have developed a profile of what it is intelligence analysts do.

Above all else intelligence analysts are oriented toward substance. The pursuit of theory, as pointed out by Kringen (1981), Andriole (1979), and Bobrow (1980), among others, is of virtually no interest to the analyst who has little time or incentive to explore every analytical nuance connected with the problem at hand. Intelligence analysts are also, according to Kringen (1981), preoccupied with the reduction of analytical complexity and the development of "key findings" likely to be integrated directly into an analysis or estimate. By way of compounding the analyst's problems, intelligence analyses and estimates are almost always "due yesterday." Organizationally, the intelligence community is by and large geared toward the conduct of country- and issue-specific analyses and estimates.

Against this rather crude backdrop, it is possible to assess the applications potential of the various methods and findings discussed above. The following sections will thus look at just how the methods and findings can best be applied.

QUALITATIVE VERSUS QUANTITATIVE RESEARCH

First, it is important not only to understand the differences between qualitative and quantitative research methodologies and findings but the alternative ways that they can be used in political instability intelligence analysis as well. Generally speaking, and given the structure and organization of the intelligence community, qualitative analyses which concentrate upon individual countries, regions, political parties, religious organizations, and the like, are much more likely to be integrated into the intelligence production process than cross-national aggregate data analyses. In our view, this is likely to be the case regardless of the quality of the qualitative or quantitative analyses in question.

Qualitative analyses and findings are also more likely to be influencial because they use the methods that are the most widely used and understood in the intelligence community. We would also argue that qualitative political instability research findings and analyses have been more accurate than quantitative ones, so long as "accuracy" is understood as consistency and relative clarity.

The problem with most quantitative analyses as we see them is, first, their lack of substance. Many quantitative descriptive, explanatory, and predictive analyses are not only uninformed by theoretical insight but they are sadly lacking in the "stuff" of the intranational politics they are trying to describe, explain, and predict. Secondly, quantitative analysts have yet to get their methodological house in order. There is still angry debate about even the most basic methodological issues. The sources and reliability of data remain serious problems as does the tendency to generalize on the basis of a large number of disparate "cases" across various points in time. An even more serious methodological problem is the variance

that can be produced in one's quantitative results by varying even the smallest methodological component of one's analysis. A change in data groupings, time periods (for example, yearly versus monthly periods), and data sources can completely alter the results of analyses of the same basic phenomena. Related to this problem is the statistical model that performs perfectly, but because of theoretical and substantive anemia, says very little about instability.

A third general problem revealed in our survey and assessment concerns the partial nature of many quantitative studies and analyses. In his Conduct of Inquiry, Abraham Kaplan (1964) talks about how explanations in behavioral science research are "partial," "conditional," "indeterminant," "inconclusive," "uncertain," "intermediate," and/or "limited." Interestingly, many quantitative political instability analysts are far more ambitious than Kaplan (whose Conduct of Inquiry is generally regarded as a behavioral science research classic). The problem arises when a quantitative analysis is presented as a piece of finished research when in reality it is merely a tiny step in a long, long journey. On the other end of the interpretive continuum is the complex model which defies disentanglement to the point where it is impossible to attribute analytical influence to any of the variables within the model.

Yet another problem with much of the quantitative research can be found in the motivations and goals of the analysts themselves and the analytical requirements of the research "consumers". Traditional analysts have from the beginning attempted to influence analysis and practice while quantitative ones often attempt to develop empirical theory. Traditional analysts seek to change through study, insight, wisdom and intuition; quantitative empiricists try to demonstrate, test, and ultimately "prove" their hypotheses about the way nations act and interact, regardless of possible applied implications. Underlying all of these

activities are sets of reinforcing incentive systems which widen the gap between traditional and quantitative researchers who, in the first instance, reap rewards by publishing articles in Foreign Policy and Foreign Affairs and, in the second, by filling the pages of the International Studies Quarterly, the Journal of Conflict Resolution, and Comparitive Political Studies.

Some more specific methodological problems with quantitative cross-national analysis include--according to Merritt (1971):

- "Functional Equivalence," where one must question whether or not data, concepts, and indicators measure the same things across countries;
- "Inferencial Fallacies," where research is generalized in both directions, that is, inferring from an aggregate analysis to all individual cases, and inferring from an individual case to a group;
- "Universal Fallacies," where the quantitative cross-national political instability analyst rejects an entire aggregate analysis because the statistical relationships are not "significant" but in the process rejects significant sub-group relationships;
- "Selective Fallacies," where the analyst selects the data and information most likely to confirm his or her hypotheses;
- "Historical Fallacies," where analysts incorrectly assume that historical processes will hold when a cross-section of nations at various stages in their development is analyzed at any point in time; and
- "Cross-Sectional Fallacies," where an analysis at a given point in time is expected to hold for all of history.

But perhaps more serious is the possibility that trends and patterns about political instability are undiscoverable because

they do not exist. In other words, if it is the case that the recalcitrance of political instability defies systematic study aimed at developing generalizable propositions and theories then the quantitative analyses of political instability is likely to remain pretty much where it is today. Those who believe that patterns and trends of political instability activity cannot be discovered believe that all cases are unique; those who believe that patterns and trends can be discovered believe that there are similarities across cases. But even if there are, we have already argued that cross-national generalities about political instability are much less useful to intelligence analysts than information about particular countries, groups, and political systems.

This "attack" upon quantitative-empirical cross-national political research is not to suggest that there is nothing useful in the quantitative search for patterns and trends or that qualitative research is in any respect foolproof. Many have warned about the biases inherent in subjective data, about the problems connected with treating subjective information as discrete and (for example, during Bayesian analysis) equally important. Many qualitative analyses are also overtly normative. This is particularly true of the analyses conducted by qualitative philosophers, social engineering theorists, and ideologues of one persuasion or another. Intelligence analysts should thus be careful to distinguish between objective and normative qualitative analyses.

The structured qualitative techniques (Delphi, cross-impact, Bayesian) can help a great deal in lending order and some precision to qualitative analysis but here one must be extremely diligent about the selection of "experts," who under normal conditions will disagree as often as they agree.

The Applied Potential of Quantitative Research

Quantitative research can be used by intelligence analysts in the following ways:

- Cross-national quantitative definitions of political instability can be used to suggest ways to conceptualize specific national and regional definitions and to "check" existing applied definitions;

- Quantitative indicators of political instability can be used to supplement applied indicator lists and suggest how indicators can be integrated into individual country lists or rejected;

- Quantitative Internal Situation Profiles (ISPs), and similar unsophisticated indicator systems can be used to organize and monitor internal political processes especially when integrated with experienced judgments about how to interpret changes in the indicators and larger ISP;

- Quantitative explanatory research can help with the assessment of determinants of political instability that traditional analysts undertake on a routine basis; highly correlated determinants--while almost always non-comprehensive--can be scrutinized a little more carefully than uncorrelated ones;

- Quantitative explanatory research can be used to develop inventories of indicators, determinants, and other factors that have been empirically linked with political instability, inventories that can then be used to develop lists of determinants for individual countries and/or regions. These lists would of course have to be compiled by country analysts; the strength of the empirical relationships--because of countless methodological and other problems--would not alone be enough to "admit" an indicator into an active indicator group;

- The processes of problem structuring which are indigenous to scientific problem-solving can inform some analytical activities; scientific problem-structuring frequently involves concept formation, data collection, hypothesis construction, and modeling. These processes can be of help to those who must formulate the old ones, and avoid at all costs those questions unrelated to the problem at hand; and

- The information, or data, management aspect of quantitative research is also potentially valuable to analysts. Information collection, storage, retrieval, analysis and display are all useful--especially when computer-based in interactive management systems. Since frequently "institutional memory" is confined to but a few individuals, computer-based information management can provide immediate feedback to users who need to retrieve past and analyze current information.

The Applied Potential of Qualitative Research

This assessment of political instability research methodologies favors the use of qualitative methods over purely quantitative ones. But this is not to say that all qualitative methods are useful or that the results of qualitative analyses are always relevant to political instability intelligence analysis and estimating. In fact, a strong case can be made that the qualitative analyses that have been conducted have been largely unsystematic, and that some of the more promising qualitative methods have been underutilized. Nevertheless, the useful methods and findings are as follows:

- Qualitative case studies of specific instances of political instability, revolution, and domestic crises can be useful to an analyst engaged in similar analyses;

- Qualitative high- and low-level generalizations, when verifiable by an analyst's experience, judgment, and wisdom, can be applied to real-world analysis on a country or regional basis, but generalizations that extend beyond countries or regions should be very carefully scrutinized;

- Qualitative definitions and classifications of political instability can be used productively when passed through a set of situational filters;

- Stages of revolution grounded in qualitative analysis are useful--when modified for specific country application--as descriptive or monitoring tools;

- Qualitative normative explanations of political instability should be "objectivized" before use; some normative concepts, notions, and theories can help with the analysis of individual instances of instability as well as interpretations of the motivations of revolutionary leaders;

- Objective qualitative explanatory analyses can be used to develop pre-instability checklists, although such checklists should be regarded as non-comprehensive;

- Delphi, cross-impact and Bayesian predictive methods can lend order and precision to qualitative analyses;

- Bayesian, Delphi, and cross-impact methods exploit the expertise of analysts, the uniqueness of instability events and conditions, and the strength of group forecasting; and

- Hierarchical inference structuring which involves identifying the "preferred options" or undefined expected utility of "perpetrators" can be used to organize and "solve" instability problems; this method is perhpas the strongest one identified in this applied assessment because it permits the focusing of different expertise at a single problem. It also permits the integration of quantitative empirical

research in a way unlike nearly all other hybrid alternatives.

The Implementation of Qualitative and Quantitative Methodologies

It is also important to understand just how difficult or easy it is to implement the various methods and techniques discussed in this report. As a general rule, it takes more time, data, and expertise to implement the quantitative methods than the qualitative ones. Quantitative methods require a good deal of empirical data, computer support, and expertise in the statistical routines which comprise them. Qualitative methods require a good deal of expertise, sometimes computer support, but less frequently large amounts of data.

Both quantitative and qualitative methodologies have been computerized in a number of software systems that greatly accelerate the problem-solving process. Some of these programs are "interactive," that is, respond immediately to user queries, while some others are not nearly as flexible. The Statistical Package for the Social Sciences (SPSS) is a good example of an interactive system for quantitative analysis. Many of the subjective forecasting methodologies have similarly been incarnated in interactive computer programs.

The question of data is more difficult to assess. Quantitative empirical data is often incomplete and unreliable, while qualitative subjective data is just as frequently biased. However, the "biases" often present in qualitative data are precisely those which mirror the wisdom, experience, and judgment of the analyst and therefore contribute to the analysis and estimates process. At the same time, this is not to say that all subjective biases are analytically useful. Sometimes they distort the very process that they seek to accelerate.

Finally, it is important to understand that the quantitative techniques are best suited to problems that are relatively time insensitive because they are less applicable to "on-line" analysis than the qualitative techniques.

CONCLUSION

This short report has attempted to present a broadbrush look at the methods and techniques that have been used to study political instability. It has also attempted to determine which of the methods are best suited to the production of intelligence analyses and estimates about political instability, revolution, and domestic crises of all kinds. As suggested in the Introduction, this report should be read in conjunction with our much larger and thorough An Assessment of Political Instability Research Methodologies [redacted] STAT. Nevertheless, certainly presented here is the flavor of our larger argument; hopefully, it can be applied productively to the study of political instability and revolution.

REFERENCES

ABOLFATHI, F., S. BECKER, K. FESTE, J. HUSBANDS, & D. McCORMICK (1980) "Developing Indications of Political Instability in Less Developed Countries: A Feasibility Study." 3 Vols. Arlington, VA: CACI, Inc.

ANDRIOLE, S.J. (1982) Handbook of Problem Solving: An Analytical Methodology. Princeton, NJ: Petrocelli

_____ (1981) "Computer-Based Bayesian Forecasting Methodologies," in G.W. Hopple and J.A. Kuhlman (eds.) Expert-Generated Data: Applications in International Affairs. Boulder, CO: Westview.

_____ (1979) "Another Perspective on Foreign Policy Making and Foreign Policy Research." International Studies Quarterly, Volume 23, Number 1, pp. 155-163.

_____ and G.W. HOPPLE (1982) "An Assessment of Political Instability Research Methodologies," Marshall, VA: International Information Systems, Inc., September.

BOBROW, D.B. (1980) "International Policy Science: A Necessary Pursuit." Paper presented at International Studies Association's Annual Meeting, Los Angeles, California, March 18-22.

EISENSTADT, A. (1978) Revolution and the Transformation of Societies: A Comparative Study of Civilizations. New York: Free Press.

GURR, T.R. and M.I. LICHBACH (1979) "A Forecasting Model for Political Conflict Within Nations," in J.D. Singer and M.D. Wallace (eds.) To Augur Well: Early Warning Indications in World Politics. Beverly Hills, CA: Sage.

HAENDEL, D. (1981) "Corporate Strategic Planning: The Political Dimension." The Washington Papers, 14, 86. Beverly Hills, CA: Sage.

HEUER, R.J. [ed.] (1978) Quantitative Approaches to Political Intelligence: The CIA Experience. Boulder, CO: Westview.

HOPPLE, G.W. (1978) "Final Report of the Cross-National Crisis Indications Project." College Park, MD: University of Maryland.

_____ and J.A KUHLMAN [eds.] (1981) Expert-Generated Data: Applications in International Affairs. Boulder, CO: Westview.

JOHNSON, C. (1964) Revolution & the Social System. Stanford, CA: Stanford University, The Hoover Institution on War, Revolution and Peace.

KAPLAN, A. (1964) The Conduct of Inquiry. Scranton, PA: Chandler Publishing.

KRINGEN, J.A. (1981) "Institutional Constraints on the Transfer of Technology for International Policy Analysis." Paper presented at the International Studies Association's Annual Meeting, Philadelphia, Pennsylvania, March 18-21.

MAATSCH, S.J., E.L. JOHNSON, G.W. HOPPLE, and M.A. DANIELS (1980) "Social Movements: Theories, Typologies, & Case Studies." Technical Report 80-C-3, October. McLean, VA: International Public Policy Research Corporation.

MERRITT, R. (1971) Systematic Approaches to Comparative Politics. Chicago, IL: Rand McNally.

MIGDAL, S.J. (1974) Peasants, Politics, & Revolution: Pressures Toward Political & Social Change in the Third World. Princeton, NJ: Princeton University Press.

PAIGE, J.M. (1975) Agrarian Revolution: Social Movements & Export Agriculture in the Underdeveloped World. New York: Free Press.

RASTOGI, P.N. (1977) "Societal Development as the Quintessence of World Development," pp. 339-377 in K.W. Deutsch, et al., (eds.) Problems of World Modeling: Political & Social Implications. Cambridge, MA: Ballinger.

RUMMEL, R.J (1963) "Dimensions of Conflict Behavior Within & Between Nations." General Systems Yearbook 8: 1-50.

SCHWARTZ, D.C. (1972) "Political Alienation: The Psychology of Revolution's First Stage," in I.K. Feierabend, R. Feierabend, and T.R. Gurr (eds.) Anger, Violence, and Politics: Theories & Research. Englewood Cliffs, NJ: Prentice-Hall.

_____ (1968) "Toward a New Knowledge Base for Military Development Operations During Insurgencies." Orbis 12 (Spring): 73-86.

SKOCPOL, T. (1979) States & Social Revolutions: A Comparative Analysis of France, Russia, & China. Cambridge, MA: Cambridge University Press.

SPECTOR, B.I., J.R. BROWNELL, Jr., M.D. HAYES, G.A. KEYNON, and J.A. MOORE (1975) "Quantitative Indicators for Defense Analysis." Final Report, June. Arlington, VA: CACI, Inc.

TILLY, C. (1978) From Mobilization to Revolution. Reading, MA: Addison-Wesley.

_____ (1975) "Revolutions & Collective Violence," pp. 483-555 in F. Freenstein & N. Polsby (eds.) Handbook of Political Science, III. Reading, MA: Addison-Wesley.

TRIMBERGER, K.E. (1978) Revolution From Above: Military Bureaucrats & Development in Japan, Turkey, Egypt, & Peru. New Brunswick, NJ: Transaction Books.

WOLF, E. (1977) "Why Cultivators Rebel." American Journal of Sociology 83 (November): 742-750.

_____ (1969) Peasant Wars of the Twentieth Century. New York: Harper & Row.