COUNCIL *on*
FOREIGN
RELATIONS

Center for Preventive Action

Fragility, Instability, and the Failure of States

Assessing Sources of Systemic Risk

Monty G. Marshall
October 2008

Introduction

A public debate over the threat posed by weak, fragile, failing, and failed states and what can or should be done about them has become increasing visible and vocal since the attacks of September 11, 2001. As President George W. Bush declared in his 2002 National Security Strategy report: "America is now threatened less by conquering states than … by failing ones." This debate has grown particularly acute as the United States' prolonged military response to the war on global terrorism in Afghanistan and Iraq has revealed the difficulties of controlling militancy and extremism by direct military intervention and enforced democratic change.[1] The challenges associated with weak or failing states have garnered increased attention by the policy community, but major differences about how to assess the level of risk in any given case remain.

This study examines the dimensions of state and system failures within the context of development, conflict, and governance. In surveying the risk factors identified through systematic inquiry and research, it seeks to improve the prospects for successful preventive action and conflict management. This treatment diverges somewhat from the conventional approach outlined by John Davies and Ted Robert Gurr, which distinguishes between structural indicators and risk assessment models and dynamic indicators and early warning models.[2] It builds on more recent work that tends to view structure and agency as essential and inseparable factors in complex, adaptive systems analysis.[3] The main focus of this examination, then, is on risk assessment and early warning models for proactive conflict management at the global level of analysis. It discusses a three-tiered structure in the development of global systems research and modeling that includes conditional and causal factor models, predictive models, and general risk and capacity models.[4]

The proposed global systems approach envisions a two-stage process of system-performance monitoring that, in the first stage, tracks spatial variation and temporal change in general systemic strengths and weaknesses for more effective conflict management and, in the second stage, distinguishes higher risk locations for more detailed monitoring and the possible application of crisis management techniques and procedures. This approach is made possible by the recent technical revolutions in information, communication, and computation systems—advances that make it possible to empower an active and informed public at the global level. The optimal scheme for recognizing states at risk integrates both qualitative and quantitative analysis techniques, whereby macrosystemic models gauge general levels of performance and the risks of system failures and thus trigger microsystemic monitoring of events interactions in the higher risk locations.[5]

Strands in the Development of Global Systems Monitoring Capabilities

Early warning systems capable of alerting policymakers to impending state crises are a desirable innovation in the management of international engagement. Political action, however, is not a mechanical system but rather a complex, adaptive system based on conditional, strategic interaction. Early warning systems, in this application, must be designed to assess change in the principal conditions that affect strategic considerations, that is, by measuring the relative risk of state crisis or instability. As of this writing, only one targets instability within individual states. This system was initiated in 1994 and continues to be developed by the U.S. government's Political Instability Task Force (PITF, formerly known as the State Failure Task Force) with the aim of anticipating specific situations of serious political instability two years in advance. Although the PITF issues periodic reports detailing its work and findings, its contributions to policy research and the social sciences are not well publicized. As a result, it is not as well known as other efforts in the field. In the past, the project's low profile has been attributable in large part to its connections with U.S. intelligence: the Central Intelligence Agency (CIA) is the project's managing agency. To date, the PITF has not published its findings in any major professional journal.[6] This paper draws heavily from extensive and intensive PITF research and modeling efforts and from the author's personal observations as a PITF member since 1998.[7] A similar Humanitarian Early Warning System was designed and implemented by the United Nations (UN) in 1995, with a particular emphasis on natural and environmental disasters. As originally envisioned, the UN system would have also provided early warning of man-made disasters, but that aspect of the system has been largely abandoned.

Of course, other efforts to design, operationalize, and implement risk assessment and early warning and monitoring systems continue. Many remain in the design stage, such as the current UN effort, which is now centered in the Department of Political Affairs. A few have been operationalized. Many focus on the more general task of identifying weak, failing, or failed states or monitoring conflict dynamics in specified countries or regional contexts. The global models developed by the PITF and the additional efforts summarized here combine structural and dynamic indicators taken from open source (public) data providers. These models build on and inform a fuller array of models that can be categorized within a three-tiered structure as conditional or causal factor, predictive, or general risk or capacity (the various PITF models are here classified as predictive).

Among the more prominent efforts in developing global risk assessment and early-warning models are those centered at Carleton University (David Carment's Country Indicators for Foreign Policy), the World Bank (Paul Collier and Anke Hoeffler's greed and grievance models), the U.S. Agency for International Development (fragile states initiative), Stanford and Yale Universities (civil war models), Fund for Peace (Failed States Index), U.S. Center for Army Analysis (Analyzing Complex Threats for Operations and Readiness), the University of Maryland and George Mason University consortium (various models by Monty G. Marshall, Marshall and Gurr, and Marshall and Jack A.

Goldstone), and the Brookings Institution (Index of State Weakness). These efforts are discussed in more detail below.[8] The operational indicators used in these systems inform this survey and the list of 102 prospective risk indicators (see appendix).[9] The broadest public lists of global indicators are provided by the PITF (in their public data dictionary) and the Stockholm International Peace Research Institute (SIPRI) Early Warning Indicators Database, both of which list more than 1,200 indicators available from various sources.[10]

Other prominent projects have also informed this paper. These are largely events-driven systems engaged in near-real-time microsystemic monitoring of changes in critical activities and political interactions. Because the end of the Cold War (and its culture of secrecy) and the attendant revolution in information and communication technologies have vastly increased the volume and density of open source information flows, these projects have been forced to develop and use computer-automated processing of daily news wire reports, often augmented by qualitative (expert or field, or both) analysis, to filter and tag important events and data points. Such projects include Swisspeace's Early Analysis of Tensions and Fact-Finding (FAST) system, which incorporates the computer-automated Integrated Data for Event Analysis (IDEA) system developed by Virtual Research Associates and the similar risk analysis system developed by the Forum on Early Warning and Early Response (FEWER).[11] Also prominent in the field of microlevel conflict risk assessment are the Minorities at Risk project at the University of Maryland (MAR; originally designed by Gurr and Marshall) and the International Crisis Group. Both of these projects rely on human data collection and analysis. Individual country and group risk assessments have become routine for many governmental and intergovernmental assistance agencies, such as the U.S. Agency for International Development (USAID), the United Kingdom Department for International Development (DFID), World Bank, and the German consultancy SWG, and for organizations engaged in foreign policy, assistance, and direct investment (e.g., Freedom House, Political Risk Services, and Transparency International). SIPRI also has compiled a list of vendors engaged in country and political risk assessments.[12] Several private risk assessment services have also been established to serve the business and investment communities. These efforts do not directly inform the general suitability of specific indicators largely because their analyses and monitoring systems and risk assessment methodologies are country-specific, proprietary, or not analytically transparent.

Background

Two crucial questions arise when the issue of identifying early warning indicators is posed. The first relates to the specific condition or situation for which we require the indicators and the second to how early we need them. The answers to these questions will determine which indicators we should examine and monitor; how we might leverage the sequential, situational dynamics; and what the prospects for successful leverage might be.

Early warning indicators must be factored with special attention to the role of the state, which is the principal organization among many political and identity groups that, acting together, determine the quality of the societal system, the nature of societal dynamics, and the prospects for managing those dynamics with an aim to sustaining and improving the system. Most measures of societal factors use the state as the unit of interest; few systematically capture regional or group variations within the central state administrative structure.[13] The lack of information on within-country variation is not necessarily a limiting factor because societal conflicts in specific localities should be monitored by local authorities and managed by local agencies.[14] It is only when disturbances span localities and involve coordination between local groups in larger activities that directly challenge central state authorities or the state's conflict management capabilities that the larger, external system should be alerted and be prepared to assist. Intergovernmental early warning systems necessarily focus on macrocomparative indicators for monitoring and raising alerts so as to better filter information and maximize the signal-to-noise ratio in information processing in large and complex systems.

There is no consensus on what constitutes a weak, fragile, failing, or failed state. Because there is not, accounts of the numbers of states that should be considered for special treatment vary. The narrowest definition of state failure would include only those cases in which central state authority has completely collapsed and anarchy ensues—at present, only one country, Somalia. A somewhat less restrictive definition might focus on countries in which the central administration has lost authority over substantial portions of its territory. The Polity IV dataset identified fourteen such countries in early 2008, including Afghanistan, Azerbaijan, Bosnia-Herzegovina, Colombia, Cyprus, Democratic Republic of Congo, Georgia, Iraq, Moldova, Myanmar, Pakistan, Serbia, Somalia, and Sri Lanka.[15] The World Bank identifies about thirty countries as low income countries under stress (LICUS). DFID classifies forty-six countries as fragile. The *Peace and Conflict* series has concluded that all countries directly and recently affected by serious armed conflicts (within the past five years) and those governed by anocratic (mixed democratic and autocratic) or autocratic regimes (totaling eighty-five countries in early 2008) "have been prone to instability and state failure."[16] The 2007 State Fragility Index (SFI) highlighted four categories of fragility across ninety-eight states—twenty-three highly fragile, thirty very fragile, thirty with substantial fragility, and twenty-five with low fragility. The broadest definition is assigned by the Failed States Index (FSI), which lists only thirteen states as sustainable, though it, too, provides an ordinal rating for each country.[17] Despite varying definitions and modeling techniques, agreement among the established risk assessment and early warning systems on ratings for individual countries is high. Elements of interconnectedness among the various symp-

tomatic conditions of potential problem states and universality in our understanding of the core determinants of state capacity appear quite strong.

In the most general terms, the earlier a warning occurs in an interactive sequence between societal or systemic actors, the broader the options for applying leverage and the greater the opportunities for meaningful engagement. When dealing with specific situations, local access and local knowledge are critical to effectively managing conflict. The optimal situation would be defined by continual engagement and communication, cooperatively monitored and regulated terms of interaction, and maximized productive outcomes. It would then be characterized by integration, coordination, regulation, and reiteration—a mature, consolidated, and societal system. In advanced societal systems, problematic situations that occur during reiterative sequences tend to be recognized early and corrected by cooperative engagement among the primary stakeholders. Advanced societal systems are largely self-actuating, self-regulating, and self-correcting; they are also responsive and conducive to system innovation (self-organizing and adaptive). Leadership plays a crucial, entrepreneurial role in the management of societal system dynamics. In less-developed systems, the presence and capabilities of local agencies may be severely limited, particularly in remote or marginalized areas. Local problems are not engaged by local authorities and often go unmonitored and unreported, thus allowing local problems to increase to unmanageable scope and size before the state becomes directly involved. Lacking local access, knowledge, and leverage, state authorities may, despite intentions, overreact and exacerbate problems rather than defuse them. Identifying weak localities and assisting in building local capacity for conflict management is, in general, much more effective in preventing conflict (i.e., managing and containing local problems) than direct interventions by more distant, albeit higher capacity, authorities.

Problems that arise in societal system dynamics can stem from any of three fundamental aspects of the dynamic societal system: conflict, governance, and development. The quality of each affects the potential of the others (see figure 1). Thus the qualities of governance and development must be taken into account when analyzing or leveraging conflict. Likewise, the qualities of conflict and governance must be included when examining the qualities of and potential for development and the qualities of conflict and development similarly affect nature of governance. At the most basic level, an effective early warning system must be able to establish valid baseline measures of the core attributes of each, distinctive societal system on each of the three fundamental aspects: governance, development, and conflict, and it must monitor changes in the key qualities of those three aspects so as to alert designated agencies and policymakers to problematic conditions or situations that could lead to serious, systemic disruptions.

Figure 1: Fundamental Aspects of Societal Systems
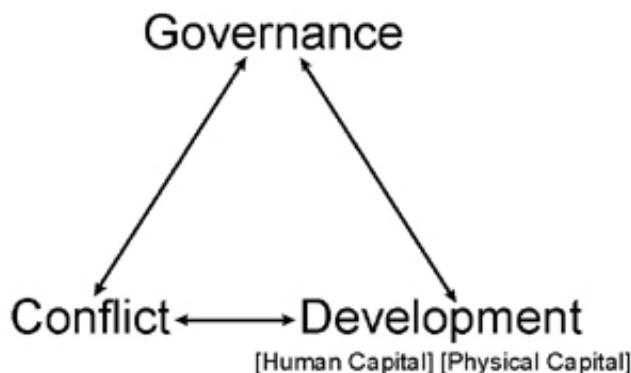
Research on political conflict has traditionally been concerned with identifying the causes of distinct forms of political conflict. The forms have been categorized variously as conventional or unconventional; internal (intrastate or civil) or external (interstate or international); communal, ethnic, or revolutionary; terrorism, repression, or genocide-politicide, and so on. The causes have often been distinguished according to their temporal relationship to the defining quality, or qualities, of political conflict (i.e., conflict processes). They have been variously categorized as root or structural causes, proximate or dynamic causes, and immediate causes (e.g., triggers, accelerators-decelerators, and the like).

A second perspective argues that, though social conflict itself may be viewed as being caused, the expressions, tactics, and strategies used to settle disputes are conditional or contingent on such things as attitudinal predispositions, emotional impulses, available technologies, policy alternatives, rational calculations of interests and goals, structures of incentives, and opportunities for effective political action. Additionally, some forms of political conflict are positive (and should be tolerated or promoted) and some are negative (and should be neutralized or controlled). Pure causal relationships are largely deterministic; observed variations are due to errors in measurement and misperceptions. Pure conditional relationships are largely probabilistic; observed variations are due to rational, or irrational, decisions or imperfect information available to conflict actors. In practice, it is reasonable to assume that there are no purely causal or conditional relationships and that all indicators can be associated with a higher or lower risk factor. Political conflict, by its nature, involves collectivities that span multiple interests and goals and, so, combine risk factors in complex, and often unique, ways. Given these and other considerations and complexities, the choice of indicators and methodologies must be informed, first, by their availability, second, by their effectiveness and usefulness, and, third, by their sustainability and adaptability.

One basic truth of societal systems is that lower system development is most often associated with poorer or limited governance and more pervasive or violent conflict. A second is that systems are characterized by sectoral and locational differences in the situational qualities of the three fundamental aspects. Some sectors or locations will enjoy relatively better qualities of conflict, development, and governance than the others. The key for improvement of the system as a whole is to ensure that the higher quality subsystems take a leading, collective role in guiding integration, coordination, regulation, and reiteration. If the leading sectors are overtaken by the dynamics of the lower quality sectors, if they become disconnected from the other sectors, if they fail to take the lead, or if they attempt

to manipulate situations to their particular advantage, the system will be more likely to falter or fail. External factors or actors may also interfere, whether intentionally or inadvertently, with normal societal subsystem dynamics and contribute to system falter or failure.

Early Warning Indicators Matrix

The appendix presents a matrix of commonly used early warning indicators that can help inform our understanding of macrosystemic analysis of state and societal capacity deficits.[18] The matrix is informed by twenty-two risk assessment and early warning models organized in columns according to the three categories identified earlier: conditional or causal factor (five), predictive (ten), and general risk or capacity (seven). Each model incorporates varying numbers of open source or expert assessment indicators. The indicators comprise the full list of 102 quantitative variables used in systemic risk assessment and early warning models (rows) that are organized into five categories: security, political, trade, economic, and social-demographic indicators. A mark is placed in the indicator row or the model column for each indicator used in that particular model.[19] As noted, the indicators are measured in various ways in the various models and similar measures are often provided by different data vendors, and thus may actually refer to as many as three hundred distinct indicators.

What makes this matrix particularly coherent and informative is that, despite the differences in the target condition (or dependent variable), the models cover generally similar combinations of covarying indicators. Some models define the target condition as general weakness, poor performance, low capacity, or fragility of the state; others target more or less specific forms of political violence, such as civil war, ethnic war, terrorism, or genocide and politicide; others focus on changes in the form of governance (regime transition models); and still others target more complex forms of political instability that combine one or more instances of various forms of major political violence, communal violence, abrupt changes in forms of governance, collapse of central authority, and coups into periods of general political instability or state failure.[20] Many of the models include comprehensive coverage of states in the global system, whereas others examine geographic or topical subsets of countries.

The PITF approach diverges from conventional approaches that have dominated political science research in that it equates adverse regime change with the onset of civil or revolutionary war as a symptom of political instability. One model focuses almost exclusively on the state's capacity to manage a market-oriented economic (fiscal and monetary) system.[21] One study, by this author, even goes so far as to claim no substantial difference in the fundamental risk factors associated with any of the various forms of political violence and instability; indeed, the study identified seventy indicators that correlated with all four of its variously formulated dependent variables at a significance level of 0.01 or better (the study listed thirty-eight of these indicators drawn from six categories in its appendix C).[22] The various PITF reports have noted that many indicators covary and are thus largely interchangeable, and that various combinations of representative indicators drawn from baskets of fundamentally related indicators produce similar results in modeling the onset of political instability.[23] The PITF reports choose specific indicators from the baskets of related indicators based on indicator reliability, model performance, and theoretical practicality (i.e., the theoretical validity, credibility, and relative ease by which model results can be interpreted and explained to policy audiences). This point will be discussed in more detail.

The main point here is that answering the critical question—early warning of what—may not be as significant to selecting indicators as the more practical concerns of using the risk assessment and

maintaining the early warning system. The fundamental implication helps explain why the several models that have been developed, though using different designs, methodologies, indicators, and specifications, have reached a near consensus on the measurement of state performance and the specification of levels of risk for the many states that populate the global system.[24] In downgrading the importance of the "what" question, the "how early" question gains in conceptual prominence. Shifting the emphasis of risk assessment and early warning monitoring procedures forward from the current focus on crisis management toward the broader issues of conflict management expands the range of policy options, points of access and leverage, and the window of opportunity for system transformations (it also better allows for multiple, and the possibility of mistaken, initiatives). It may also be that preventing the onset of system crises is a less favorable strategy (or even counterproductive, in that such prevention may thwart necessary systemic change) than enhancing local capacity to more effectively manage the consequences of systemic change in accordance with local circumstances and local interests.

CONDITIONAL AND CAUSAL FACTOR MODELS

Since the advent of the behavioral revolution in the social sciences in the 1960s, conventional and applied academic research into the causes or drivers of civil war events has produced a vast array of quantitative models. These identify leading indicators or conditions associated with the onset of problem events (e.g., political violence or regime instability). They are designed to test theoretical propositions operationalized according to specified hypotheses concerning relationships between independent and dependent variables; causality is inferred by specifying a time lag between (leading) independent and (lagged) dependent variables. Conventional academic research and modeling is informed purely by theoretical considerations; applied research adds consideration of policy implications in the specification or analysis of the models. Academic models are intended to establish evidence of temporal association and are not designed to predict onsets of violent conflict or identify countries with risks of such onsets. They are important, however, in establishing the validity of indicators and, because the various models inform subsequent research and the general accumulation of knowledge, they provide for the progressive development of models and thus help establish the veracity of applied models.

The almost infinite variation in model specifications possible in the study of complex societal systems, especially at the global level, allows for an indefinite number of alternative propositions that are as likely to be contrasting or, even, contradicting as they are to be confirming.[25] Academic research in the causes of warfare and other forms of political instability has been largely inconclusive and difficult to use for informing applied research or prioritizing policy options. Academic models have often relied on structural variables that change very slowly and, though they may help explain the onset of civil warfare or political instability, cannot be used to forecast outcomes or guide specific policy prescriptions. In addition, they have rarely taken into account specific policy inputs that could inform a best practices output analysis, though this approach is gaining some currency in applied research. Conspicuously missing from most academic research is any consideration of external influence or interference in the onset of political instability.[26]

A comprehensive survey of all the variables tested in academic research is far beyond the scope of this treatment. The five models listed here and included in the appendix (the greed and grievance and ethnic and revolutionary civil war models each consist of two separate models, for a total of five) are

both prominent in the current academic debate and representative in conventional and applied (quantitative) academic research.

- *Civil war model.* The authors briefly describe this model in the abstract of their article on the subject: "We argue for understanding civil war [during the contemporary] period in terms of insurgency or rural guerrilla warfare, a particular form of military practice that can be harnessed to diverse political agendas. The factors that explain which countries have been at risk for civil war are not their ethnic or religious characteristics but rather the conditions that favor insurgency. These include poverty—which marks financially and bureaucratically weak states and also favors rebel recruitment—political instability, rough terrain, and large populations."[27]
- *Greed and grievance models [of rebellion].* The greed and grievance perspective emerged from research originally conducted by the Development Economics Research Group at the World Bank. The abstract for this study provides a basic description of the competing greed and grievance models: "Rebellion may be explained by atypically severe grievances, such as high inequality, a lack of political rights, or ethnic and religious divisions in society. Alternatively, it might be explained by atypical opportunities for building a rebel organization. While it is difficult to find proxies for grievances and opportunities, we find that political and social variables that are most obviously related to grievances have little explanatory power. By contrast, economic variables, which could proxy some grievances but are perhaps more obviously related to the viability of rebellion, provide considerably more explanatory power." In brief, grievances cannot, by themselves, explain the onset of rebellion although they may contribute to the determination of, or changes in, the underlying incentive structure. Opportunities, incentives, and other strategic considerations are more important in the timing of the onset of rebellion.[28]
- *Ethnic and revolutionary civil war models.* Nicholas Sambanis is interested in examining whether "identity (ethnic/religious) civil wars have different causes than nonidentity wars." Among his findings are that the initial onset of an identity war is difficult to predict but that subsequent outbreaks involving the same group are not. He also finds that ethnic heterogeneity, political grievance, and bad neighborhood have greater influence on ethnic (identity) wars, and that economic underdevelopment is the only robust factor in the onset of revolutionary (nonidentity) wars.[29]

PREDICTIVE MODELS

Although critically informed by the development of theory in the social sciences and a selective synthesis of the accumulated evidence derived from conventional and applied academic research, predictive early warning models are designed to identify target outcomes (effectiveness) and to be compatible with the prevailing political culture of intelligence and policy in applied settings (usefulness). As a result, predictive models generally include only indicators that carry explanatory weight, that is, are considered based on their theoretical validity and then selected based on the strength of their contribution to the predictive accuracy of the model with serious consideration to their practicality, relevance, and narrative coherence in applied (policy) settings.[30] This emphasis on explanatory weight favors parsimony, generally resulting in specifying models with fewer explanatory variables. In this modeling framework, the model's predictive accuracy thus informs a more general understanding of the relationship or relationships between the model's risk indicators and the targeted outcomes. This

understanding in turn informs further refining of the research and modeling effort and the better-informed consideration of policy prescriptions.

Predictive or forecasting models necessarily include a specified time lag between risk factors (conditional variables) and problem onset (targeted outcomes). Because of the prevalence of annual, time-series data, this lag may range from one to five years. Generally speaking, the longer the lag, the weaker the predictive accuracy. These models may also be used to rank order countries according to their probability, or relative risk, of imminent problem onset. Because of the relatively short fore-warning of the models, they are considered best as a tool for identifying imminent risk or crisis for, so, as an instrument focusing on crisis management. Perhaps ironically, predictive models are based on the assessment of risk which presumes probabilistic, rather than causal, relationships between leading indicators and target outcomes. As such, they identify the most likely locations for the target outcomes in the specified time frame; they do not purport to predict the time and place of problem onset.

To gauge the imminence of risk, the models include one or more dynamic indicators, which change fairly quickly or abruptly, as well as the more static structural indicators, which change slowly if at all. The emphasis on the predictive accuracy of the model tends to give greater explanatory weight to the more dynamic indicators, which, in turn, places more pressure on collecting information and measuring the dynamic indicator or indicators. Including dynamic indicators links the model outputs with monitoring or general surveillance support activities (i.e., real-time or near real-time information gathering and analysis). For example, refining the PITF models (below) led to identifying the condition of polar factionalism as having the greatest explanatory weight in assessing the risks of the onset of political instability; this finding in turn increased the pressure to better refine both identifying (measuring) the polar factionalism condition over the entire time-frame of the model (1955 to present) and specifying the condition in current monitoring (real-time and near real-time) efforts.[31] Additionally, although many key indicators in predictive models are common across the full array of targeted problems, the exact specification of the target condition is closely linked to the precise specification of key indicators.

When models are based on only a few indicators, great care must be taken in interpreting the findings because the relationships between the indicators can be quite complex. For example, the PITF global model seems to indicate that well-institutionalized autocratic regimes are at somewhat less risk of instability than consolidated democracies. This finding seems to indicate that autocratic regimes are as good, if not better, at managing conflict and avoiding instability than democracies. However, the global model also includes infant mortality as a key indicator, and that variable is very strongly associated with the more autocratic regimes. Combining these indicators means that only the wealthier autocracies enjoy the lowest risk of instability (a condition associated with oil-producers and often referred to as the resource curse); it also is consistent with the historical observation that poor countries tend to be autocratic. Also, each indicator must be examined for accuracy and trajectory as its inclusion or exclusion as a determining factor in the model is crucial to the model output (i.e., the prediction for a particular country). The model itself is mechanical, once the model parameters have been set, but the inputs must be scrutinized and validated (borderline values suggest alternative model outputs depending on whether the indicator value is measured as an included risk factor or excluded risk factor) and the output must be analyzed in accordance with possible mitigating factors. Possible mitigating factors include strategic considerations, adaptive capacities, management capabilities, and external influences.

– *Political Instability Task Force (PITF) global model.*[32] Sponsored by the CIA, the PITF was organized in 1994 in response to a "request from senior policymakers to design and carry out a study of the correlates of state failure. The ultimate goal was to develop a methodology that would identify key factors and critical thresholds signaling a high risk of crisis in countries some two years in advance."[33] Over the span of twelve years and five phases of research, the PITF has continued to collect (and, in some cases, to create) open source information, refine its methodologies and models of general political instability, and drill down to increase model specificity by focusing on distinct subsets of its target condition (e.g., ethnic wars, adverse regime changes, genocides and politicides) or its analytic universe (e.g., sub-Saharan Africa, Muslim countries). Its original models hovered around 65 percent predictive accuracy. The most recent have gained to about 80 to 90 percent. These levels have been corroborated by split-sample (out-of-sample) testing. Although it has investigated and applied a vast array of highly sophisticated statistical techniques to identify key risk factors over the course of the study, the PITF has discovered a relatively simple technique to facilitate its research and dissemination of its findings to policymakers and to maximize its effectiveness: the case-control selection method analyzed by conditional logistic regression. The standard target condition that defines the PITF models is the political instability event; political instability is a general condition that may be defined by a single onset or a combination of onsets from four categories of instability events: ethnic war, revolutionary war, genocide or politicide, and adverse regime change.[34] "We originally expected that, because the onset of instability is a complex, many-sided process, no simple model would have much success in identifying the factors associated with instability onsets….To our considerable surprise, these expectations proved wrong. The PITF's analysis has identified some differences across regions and types of instability (ten), but these have generally been fairly minor." In previous iterations, trade openness has been a key indicator in the global model; currently, the four key indicators are regime type, infant mortality, armed conflict in neighboring countries, and state-led, political discrimination. The operant dynamic indicator is regime type and, more specifically, the condition of polar factionalism (or simply factionalism).[35] Factionalism is especially strongly associated with adverse regime changes (forceful repression of opposition groups by a dominant or military group seizing state power).

– *PITF sub-Saharan Africa model.* The sub-Saharan model uses the same target condition and techniques as the other PITF models and shares the key variables on regime type and state-led group discrimination; it also emphasizes trade openness, an indicator used in earlier PITF global models (an earlier version of the Africa model also used armed conflict in neighboring countries). The newest version (Phase V) of the sub-Saharan Africa model also emphasizes key indicators specific to the African context: colonial history, leader's tenure in office, and large majority of population (greater than 65 percent) from a single religious group (a surrogate indicator for Muslim-majority countries). The factionalism condition (regime type) looms as an especially important risk factor in the Africa model. Another important risk factor in African countries lies in the first four years of a new leader's rule and as a result of increasing tensions and competition during the later years of a long-standing leader's rule (fifteen years or more).[36]

– *African instability model.*[37] This model's special premise derives from the fact that the vast majority of African countries are newly established, beginning in the 1950s. (Only three countries predate the decolonization period in Africa: Ethiopia, Liberia, and South Africa.) Central authority in newly established states is necessarily underinstitutionized (largely because the institutions established by colonial authority have been rejected) and must compete for loyalty and support with re-

surgent traditional sources of authority. The state is thus especially weak and can be expected to have higher risks of instability until central authority is reasonably well established and institutionalized. The newness of African states means that the analysis of instability should be divided temporally according to whether the country is attempting to establish and consolidate central authority institutions (the state formation phase) or has already established a reasonably effective central authority system (the postformation phase). This model also differs from the PITF model in that, because it is examining a single world region with a consistently high rate of instability across time, the case-control or conditional logistic method used by PITF is replaced by a full sample or unconditional logistic method. The definition of political instability is also expanded to include successful and unsuccessful coup events, which have been quite common in Africa but are not captured as adverse regime changes by the Polity IV dataset. Periods of instability in African countries are almost always characterized by complex combinations and sequences of instability events. This methodology results in two distinct treatments: state formation instability and postformation instability models. The state formation model emphasizes two risk indicators: political (elite) factionalism and, and capture of the state by a distinct ethnic group (societal complexity and manageability issues were found to be important contributing factors).[38] The postformation model includes six key factors: economic dependency, political group polarization, unmanageability (for large and diverse countries), leadership succession; neighborhood effects, and Islamic countries. Non-Islamic countries were especially prone to instability during state formation (64 percent), whereas Islamic countries were found to be highly prone to instability (70 percent) during the postformation phase.

– *PITF Muslim countries model.* The PITF Muslim countries model was developed to identify risk factors associated with the onset of political instability in countries where Muslims comprise at least 40 percent of the total population. Statistics show that Muslim countries were in crisis for roughly one of every four years between 1955 and 2003. This prevalence is substantially higher than the approximately one in seven years for the non-Muslim world. The Muslim countries model shares several key indicators with other PITF models: regime type, neighboring countries with armed conflicts, and infant mortality with the global model and leader's tenure in office with the sub-Saharan Africa model. The one additional indicator, unique to this model, is rule by a minority (ethnic or religious identity) group. Also unique is the relative absence of open, democratic regimes and, so, the apparent weakness of the factionalism condition (factionalism is most salient in democratic regimes).[39]

– *PITF ethnic war model.* The reason for a special ethnic war model is explained by the PITF: "In the 1990s, new ethnic wars outnumbered new revolutionary wars nearly three to one. The incidence of ethnic wars had been building since the 1980s…. The crest of the wave came in 1991 when 21 percent of the 157 countries in the PITF study had ethnic wars underway. We also observe that ethnic conflict has often precipitated a series of subsequent crises: ethnic wars were the leading event (seventeen) or one of the leading events (fourteen) in seventy-one complex crises. Some ethnic wars set off additional ethnic conflicts; others lead to abrupt regime transitions; and still others prompt [conflict actors] to respond with ethnic cleansing, genocide, and mass political killings, as has happened in Rwanda in 1994 and recently in Sudan's Darfur region. Ethnic wars (one to two) also have become a major source of regional insecurity as ideas, activists, arms, and refugees spill over into neighboring countries." Ethnic wars are particularly unique given the importance of the ethnic identity factor in the mobilization, coordination, coherence, and persistence of

group organizations: ethnic, and religious, identity groups that engage in violent conflict are more likely to persist as distinct, separate, and territorially based social groups. As such, there is a greater likelihood of recurring episodes of political violence involving these groups than with the more ad hoc organization of ideological groups. The PITF ethnic war model shares several key indicators with the PITF global model: state-led discrimination, regime type (factionalism), and bordering states with major armed conflicts. It is unique among the several PITF models in that it includes an indicator of conflict recurrence (ethnic war or genocide) and an indicator of system manageability (population size and ethnic diversity). The ethnic war model also includes an indicator of youth bulge but its effect in the model is very weak.[40]

– *Ethnic rebellion model.* The Minorities at Risk (MAR) project provides a unique collection of information regarding the status, attributes, and behavior of politically active minority groups in all countries of the world. This data offers a unique opportunity to examine within country variation in group attributes and political behavior. As part of the macrocomparative analysis of ethnic minorities documented in Gurr's book, *Peoples versus States,* a model was developed to investigate ways to assess the risks of future ethnic wars using the MAR group-level data. The three most important factors that emerged from the investigation were that group rebellion depends on group territorial concentration and capabilities to engage in open rebellion (organization), that the onset of ethnic rebellion was almost invariably presaged by five or more years of persistent conventional political protest activities, and that the strategic decision to initiate open rebellion was more likely when support was available from a foreign government. Government repression (incentives) and regime instability (opportunities) were also key factors in the model. Other factors included concessions gained through conventional protests (decreased risk), transnational support from kindred groups (increased risk), armed conflicts in neighboring countries (increased risk), and engagement by regional or international organizations (decreased risk).[41]

– *PITF genocide-politicide model.* Genocide and politicide are the most extreme forms of state repression of ethnic and political opposition groups. Under Barbara Harff's direction, what the PITF found to be especially unique about this type of political violence is that it always occurs during an ongoing period of political instability, that is, it seems to be triggered or enabled by a transformative change in the political system or it represents an extreme escalation in an ongoing ethnic or revolutionary war. As such, the genocide–politicide model is a nested one: it assesses the risks of the onset of extreme violence once political instability has already set in. The model has three key factors organizing six indicators: violent conflict history (episodes of genocide or politicide and magnitude of political upheaval during the previous fifteen years), exclusionary regimes (autocratic regime, ethnic or ideological character of the ruling elite), and lack of systemic integration (limited trade openness).[42]

– *PITF autocratic and democratic transitions models.* These models identify a number of factors statistically associated with differences in the likelihood of movement across the threshold of electoral democracy in all countries of the world over the contemporary period (since 1955). Although the models were developed primarily for use as forecasting tools, the sponsors of this work are also interested in what the policy community might describe as the drivers and triggers of democratic transitions and backsliding. There are separate models for transitions from autocracy to democracy (democratic transition) and transitions from democracy to autocracy (autocratic transition). Democratic transition provides for a decidedly more complicated model than backsliding does. The democratic transition model includes thirteen indicators (including two interaction terms):

regime duration, post–Cold War period, monarchy, any prior democracy, infant mortality, resource rents (primary commodities), civil liberties, nonviolent collective action, new chief executive, GDP growth, infant mortality with prior democracy, and resource rents with prior democracy. The autocratic transition model includes five indicators: duration of democracy, Cold War period, factionalism, (high) infant mortality, and (lack of GDP) growth.[43]

– *Analyzing complex threats for operations and readiness (ACTOR)*. The abstract of the paper detailing the ACTOR model describes the model in these terms: "One way to demonstrate progress in a field of scientific inquiry is to show that factors believed to explain some phenomenon can also be used effectively to predict both its occurrence and its nonoccurrence. This study draws on the state strength literature to identify relevant country macro-structural factors that can contribute to different kinds and levels of intensity of conflict and country instabilities. A pattern classification algorithm, fuzzy analysis of statistical evidence (FASE), is used to analyze the relationships between country macrostructural factors and historical instances of country instability. A split-sample validation design is used to evaluate the ability of FASE to generate competent predictions, using the standard forecasting performance metrics overall accuracy, recall, and precision. The results demonstrate the potential for FASE to accurately forecast not just the occurrence but also the level of intensity of country-specific instabilities out five years with about 80 percent overall accuracy." (Model accuracy deteriorates rapidly past five years.) As mentioned, the ACTOR model focuses mainly on system continuity (stability or instability) rather than the relatively rare system disruption event (i.e., the onset of instability from stability). Also, unlike the other prediction models that focus on instability, or problem onset, ACTOR attempts to forecast the magnitude of political conflict in a particular country. The indicators used in the ACTOR model include caloric intake, infant mortality, life expectancy, youth bulge, political rights, civil liberties, GDP per capita, size of largest religious group, size of largest ethnic group, regime type, trade openness, and prior conflict.[44]

GENERAL RISK AND CAPACITY MODELS

Developments in conditional and causal and in predictive research and modeling efforts have informed new thinking about general risk and capacity models. Where predictive models focus on crisis management, general risk and capacity models focus more on conflict management over relatively longer periods. These third-tier models avoid the technical difficulties associated with specifying complex and interactive risk factors in early warning models. They do so by emphasizing the strong relationship (established through academic and applied research) between general societal system weakness or underdevelopment and both a lower capacity of the state to manage conflict positively and higher risks of negative conflict outcomes (i.e., low development = high risk of negative or violent conflict, and low conflict management capacity = high risk of instability onset). General risk and capacity models can be used to rank countries from weak to strong, building on the general association between weakness, social problems, political conflict, and poor state performance. As such, these models are good at identifying states most likely to experience political violence and instability; they are not, however, intended to predict when a weak, or fragile, state will experience an actual instability onset.

These models provide a fairly comprehensive array of indicators and attempt to evaluate the system and highlight specific areas of weakness or vulnerability. Early warning in this class of models

focuses on infrastructure and capacity building and improving conflict management. Dynamic indicators measuring changes in key factors or tracking of changes in indicators from year to year provides additional information on trajectory, that is, whether conditions are improving, stagnating, or deteriorating. They can include both negative and positive indicators to provide greater detail and guidance for policy intervention or assistance and establish ordinal distinctions to categorize countries generally among weak, fragile, failing, and failed conditions. However, there is as yet little or no understanding of specific patterns or syndromes of differential development. That is, they can identify relative weaknesses but not their relative importance or strength of effect. This is not necessarily a shortcoming because building system resiliency and flexibility through comprehensive assistance strategies reinforces capacity.

A major shortcoming in this approach relates to the newness of it: this is truly a twenty-first century approach and, as such, there is little temporal depth in the general risk and capacity model ratings. Only one of the models covered in this study has been applied in a way to yield enough time coverage to allow for meaningful analysis of its validity and usefulness: the SFI has been calculated annually for the period 1995 to 2007.[45] That model is also pegged to a baseline year (2004) so that changes in index and indicator values can be tracked over time.[46] An assessment of the relationship between the SFI and the onset of PITF problem events (ethnic wars, revolutionary wars, genocides and politicides, and adverse regime changes) provides some validation of the explanatory, and possibly leading, quality of that index. Extreme fragility (SFI values 20–24) is associated with a 0.0884 probability of problem onset (meaning that such states experienced a problem onset once every 11.3 years on average); high fragility (SFI 16–19) with 0.0680 probability (14.7 years); serious fragility (SFI 12–15) with 0.0481 probability (20.8 years); moderate fragility (SFI 8–11) with 0.0204 probability (49 years); low fragility (SFI 4–7) with 0.0120 probability (83.3 years); and little or no fragility (SFI 0–3) with zero probability of problem onset.

A second weakness of the general risk and capacity models stems from peculiarities in their methodologies and particularly from the accuracy, validity, and reliability of their data sources. Some of the models rely more on expert assessments, which tend to be biased toward conservative and reactive risk and capacity ratings. Some of the models remain opaque, meaning that they do not fully disclose their methodologies or their information sources; this opaqueness limits their usefulness in informing policy applications and tracking changes in indicator or index values across time. Another limitation relates to whether the index is component or aggregate. Component indices combine information on variables or indicators that have a high degree of covariance; the several variables are different measures of the same general quality. Aggregate indices combine information from variables or indicators that vary independently but have similar effects on the general quality being measured by the index; the several variables make different contributions to the same general quality. For policy purposes, aggregate indices provide more specific information on more distinct conditions that can be monitored or leveraged (changed) by policy applications.

In general, however, the general risk and capacity models, despite their differences, reach a fairly high level of agreement in the comparative measurement of states. Of the models surveyed in this study, four provide comparable measures of general risk and capacity for the 162 macrostates that currently comprise the global system (i.e., independent states with total population greater than 500,000 in 2007): Failed and Fragile States Index, FSI, SFI, and Index of State Weakness (ISW). A fifth model, the World Bank's Worldwide Governance Indicators (WGI), is included in a general comparison of the third-tier measures, though it is based solely on a composite of expert assessments of qualities of governance.[47] All five measures correlate strongly with measures of GDP per capita

(0.611–0.792) and fairly strongly with a summed measure of prior civil warfare (0.366–0.447).[48] The five measures of the most recent year (2006 to2007) correlate very strongly with each other; bivariate correlations range from 0.835 (SFI and WGI) and 0.934 (FSI and WGI). A comparison of categorizations of states by quintiles shows that the five measures agree completely on quintile categorizations for nearly 30 percent of the states and nearly completely for 50 percent (no more than one quintile difference in categorization). There is substantial disagreement on only 20 percent of the countries (with at least one index categorizing a country with two quintiles difference). The disagreements may be explained by reference to three general factors: socialist and former socialist countries,[49] obscure countries,[50] complex circumstances,[51] or some combination of those factors. Only the last factor involves countries of particular strategic importance in global politics; state fragility or weakness could affect stability both internally and externally (with other states) for these countries. Disagreement among the models simply indicates that these countries require greater scrutiny, consideration, and caution.

– *Peace-building capacity.* The peace and conflict ledger combines seven indicators of general performance: four discrete indicators (self-determination, discrimination, regime type, and regime durability) with three composite indicators (human security, societal capacity, and neighborhood effects) into a single, additive measure of peace-building capacity. It was originally designed as a complement to predictive political risk models with the understanding that actual conflict outcomes are determined jointly by political risk factors and conflict management capabilities. The ledger includes a separate indicator denoting whether the country is currently experiencing, or recently ended, a serious armed conflict event. This measure has been abandoned in favor of the SFI (below).[52]
– *Global terrorism.* In 2002, the United Nations Department of Economic and Social Affairs (UN-DESA) commissioned a study to identify the social roots of global terrorism. Terrorism was defined in the study simply as political violence targeting civilian populations. Countries were organized into three categories of macroterrorism to identify indicators correlated with each: states experiencing collective political violence with excessive targeting of civilians, states experiencing political violence without excessive targeting of civilians, and states without collective political violence. In addition, a measure of microterrorism was constructed to identify indicators associated with various degrees of extremist attacks on unarmed civilian and nonsecurity political targets. This study found that the indicators associated with various macro and micro forms of terrorism were largely the same as those associated with other forms of political violence and poor state performance and system underdevelopment.[53]
– *Country indicators for foreign policy, failed, and fragile states.*[54] The Country Indicators for Foreign Policy (CIFP) system began with a model of state failure and was further developed in 2008 to assess both failed and fragile states. The CIFP is designed to provide a comprehensive evaluation based on a broad array of indicators and is associated with FEWER. The CIFP failed and fragile states risk assessment product incorporates eighty-three indicators organized into ten issue areas: authority, legitimacy, capacity, governance, economics, security and crime, human development, demography, environment, and gender.[55] Each of the issue area indicators is indexed on a nine-point scale and all ten issue indicators are used to compute the combined fragility index. The CIFP index is unusual in that it incorporates one issue indicator (environment) that correlates negatively with most of the (nine) others, from 0.043 to –0.486. Its correlation with the combined fragility

index is –0.267. The correlations among the other nine range from 0.357 to 0.942 (0.686 average), and those of the individual issue indicators with the fragility index from 0.679 to 0.906 (0.844 average). The CIFP index also incorporates several indices produced by other research and modeling efforts, including all six of the WGI.[56]

– *Failed states index.* The FSI is compiled using the Conflict Assessment System Tool (CAST) methodology developed under the direction of Pauline Baker. It organizes risk indicators into twelve general assessments: demographic pressures, complex humanitarian crisis, group grievances, human flight, uneven development, economic growth and decline, state legitimacy, public services, rule of law and human rights, security sector, factionalized elites, and external intervention. The actual scoring system is not transparent and no set indicators populate the twelve categories. A score from zero (low intensity) to ten (high intensity) are assigned for each of the categories and these scores are added to produce a total, composite score for the country. In addition, basic evaluations of capacity (poor, weak, moderate, or good) are provided for each of five core state institutions: leadership, military, police, judiciary, and civil service. The correlations among the twelve indicators range from 0.583 to 0.918 (0.752 average), and those of the individual indicators with the combined failed states index from 0.774 to 0.936 (0.879 average).[57]

– *Fragile states indicators.* "The fragile states indicators are intended to supplement the country analytic template … for evaluating economic growth performance in particular countries. … In addition, indicators can provide … guidance for an evidence-based assessment of state vulnerability.… The selection of fragile state indicators is based on research findings in the literature on state failure and conflict." It draws special distinction to the causes of conflict and civil war because these conditions are not equivalent to failure and thus emphasizes state capacity to manage economic performance and facilitate economic development.[58]

– *State fragility index.* The SFI is based on the PESS-EL framework originally developed by the IRIS Center at the University of Maryland for USAID. The PESS-EL framework organizes indicators into a 4 x 2 matrix: political, economic, social-demographic, and security factors each measured separately according to qualities of effectiveness and legitimacy. Each of the eight indicators is scaled zero (no fragility) to three (high fragility) and these scores are added across indicators to sum a fragility index ranging from zero to twenty-four. The indicators were selected, first, according to their reliability and robustness in risk assessment modeling; second, according to their accessibility and responsiveness to policy remedies; third, according to their appropriateness in capturing the specified qualities comprising the index; and, fourth, according to expectations that the indicators will be updated regularly. The formula was revised slightly in 2008 from a relative to an absolute assessment of state fragility with development category parameters based on 2004 quintile cut-points as the referent values. This was done to standardize rankings so that performance can be measured over time. The SFI and matrix has been measured annually, beginning with 1995 through 2007.[59] The correlations among the eight matrix indicators range from 0.162 to 0.843 (0.449 average), and those of the individual matrix indicators with the state fragility index from 0.475 to 0.867 (0.719 average).

– *Index of state weakness.* The authors point out that they "treat state 'weakness' as synonymous with 'fragility.'" They rank "all 141 developing countries according to their relative performance in four critical spheres: economic, political, security, and social welfare [and] define weak states as countries that lack the essential capacity and/or will to fulfill [the] four sets of critical government responsibilities." Their measure differs from the conventional usage in that they do not necessarily

equate state strength with regime stability because this tends to elevate authoritarian and semi-authoritarian regimes that are able to impose and maintain central authority through cohesive, coercive institutions rather than legitimate, responsive, and accountable public policy and due process. The ISW combines the values of four basket indices—economic, political, security, and social welfare—each of which is derived from five indicators (for twenty total). The correlations among the four range from 0.407 to 0.625 (0.519 average), and those of the individual indices with the ISW from 0.751 to 0.839 (0.795 average). The ISW also incorporates all six of the WGI, four of which are used in determining the political basket.[60]

Conclusion: Incentive Structures and Sequential Dynamics in Societal Systems

All ecosystems are exposed to gradual changes…. Nature is usually assumed to respond to gradual change in a smooth way. However… smooth change can be interrupted by sudden drastic switches to a contrasting state. Although diverse events can trigger such shifts, recent studies show that a loss of resilience usually paves the way for a switch to an alternative state. This suggests that strategies for sustainable management of such ecosystems should focus on [building and] maintaining resilience…. Stability domains typically depend on slowly changing variables….These factors may be predicted, monitored, and modified. In contrast, stochastic events that trigger state shifts are usually difficult to predict or control. [61]

Perhaps the most important policy-relevant finding is the proposition that the more problematic outcomes of political instability and state breakdown are preceded by periods of less problematic, but no less distinct, periods of contentious politics or political crisis.[62] This is the finding refined over the several years of work by the PITF: the qualities of governance and, specifically, the interaction of autocracy (instrumental authority) and factionalism (societal contention) are the main explanatory variables in the onset of political instability, at least historically.[63] These distinct, processual qualities define the nexus between structure and agency in societal-systems at any level of development. When new states are established, factionalism and the exigencies of establishing and maintaining social order clash fundamentally and tend to drive the state toward an autocratic solution. Once established, states only fall apart over time and that they do fall apart is, in all cases, a consequence of perfidy or negligence. A standard processual sequence emerges that involve, using Albert Hirschman's terms, a crisis of loyalty followed by a politicizing and mobilizing voice and, then, if the crisis remains salient, by exit.[64] Of course, this pattern holds mainly for stakeholders in the system. The principal position for excluded and marginalized players is to reject or challenge authority and disrupt or replace the system. In cases of identity group competition, the process may be accelerated as the impediments of collective action are overcome by identity-based counterinstitutions.

The notion that serious political crisis requires a period of buildup during which contentious actors organize and prepare themselves to engage in and sustain greater political action is neither a novel nor a radical claim. Such periods are, at once, logistically essential for local groups preparing for the coming instability and a window of opportunity for early response to leverage a more favorable outcome before the conflict actors have invested too much energy and have aroused too much emotion to be swayed from acting out their tensions and hostility toward the opposing group or state authorities. These are the principle components of both the broader concept of conflict management and the more narrow and focused concept of crisis management. This sequencing and foreshadowing of crisis and system breakdown are crucial contributions to effective public policy.

Factionalism is the proverbial squeaky wheel in system breakdown; ignoring its warning signs comes with great peril. Quieting the situation with repression may restore political order in the short

term but does not calm social tensions or ameliorate the material sources of contention. Targeted research indicates that political polarization can come to define both state and society and that social tensions can smolder for years until an opportune moment or a new spark triggers a resurgence of open contestation. Under these circumstances, it should not be surprising that both fragility and failure tend to persist, or that the onset of instability increases the opportunity structures for further challenges so that events tend to cluster or even cascade. Nor should it be surprising that the opportunities created breed and feed opportunism. Nor should it be considered controversial that contentious politics and civil wars are costly for both authorities and challengers and therefore that resources are essential and support is critical to both the decision to transform protest to war and the ability to sustain it.

The behavioral revolution in the social sciences and its attendant focus on quantitative analysis has existed for about fifty years now. It has produced thousands of discrete models of political behavior, but only limited coherency in our understanding of the phenomenology of political conflict, governance, and societal development. For the most part, it has complicated, confounded, and compartmentalized rather than integrated and facilitated theory development. This is an academic indulgence that paralyzes public policy. Much of the confusion stems from the academy's preoccupation with causal analysis and its reliance on behavioral data that is intrinsically fuzzy (rather than precise), interconnected (rather than independent), interchangeable or substitutable (rather than discrete), and based on behavioral responses that are adaptive and strategic (rather than definitive and determinate). Measurement error and factor endogeneity inherent in the attributes of complex, adaptive systems defined by strategic action relegate regression techniques to the diagnostic tool box. On the other hand, the evolution of empirical research brought about by the behavioral revolution has stimulated the collection and dissemination of information and expanded the range of applied and synthetic methodologies.

Perhaps the most important, and the most controversial, contributions of policy-oriented research in conflict prevention are, first, the conceptualization of political instability as both multifaceted and epiphenomenal (following upon fragility and contention); second, that by widening and intensifying the scope of inquiry in the problem of state breakdown leads inexorably to a theoretical convergence on societal-system failure, daring us to consider the prospect of mid-level and, even, unified theory; and, third, that the ethical drivers of research in conflict prevention and early warning may themselves be misguided. Early warning and risk assessment may be better used to condition expectations of the source and nature of problems that occasionally or even periodically attend societal and systemic development processes than to be used to rationalize policy interventions to prevent conflicts or drive a do-anything mentality among the relatively more developed societies comprising the global system.

Gaining a more succinct understanding of the sequential problems of state fragility, political instability, and system failure will enable policymakers and scholars to design better policies of conflict and crisis management so that we can, collectively and effectively, engage in war by other means. In doing so, this better understanding of the global system, its complexities, and its conflict processes will also help in distinguishing between political violence and war (driven by grievance)and organized crime and political predation (driven by greed).

Endnotes

1. See, for example, Susan E. Rice, "The New National Security Strategy: Focus on Failed States," *Brookings Policy Brief* no. 116 (Washington, DC: The Brookings Institution, 2003); Chester A. Crocker, "Engaging Failed States," *Foreign Affairs* 82, no. 5 (2003): 32–44; Stephen D. Krasner and Carlos Pascual "Addressing State Failure," *Foreign Affairs* 84, no.4 (2005), pp.153–163; Justin Logan and Christopher Preble, "Failed States and Flawed Logic: The Case against a Standing Nation-Building Office," *Policy Analysis* no. 560 (Washington, DC: CATO Institute, 2006); Stewart Patrick, "Weak States and Global Threats: Fact or Fiction?" *Washington Quarterly* 29, no. 2 (2006), pp. 27–53.

2. John L. Davies and Ted Robert Gurr, eds., *Preventive Measures: Building Risk Assessment and Crisis Early Warning Systems* (Lanham, MD: Rowman & Littlefield, 1998).

3. Complex adaptive systems analysis remains rare in political science, though it has become more common in mathematical, ecological, biological, psychological, organizational, computation and information, and even public policy research. A search of the phrase in political science abstracts returned only three references in political science: Lars-Erik Cederman, *Emergent Actors in World Politics: How States and Nations Develop and Dissolve* (Princeton University Press, 1997); Elinor Ostrom, "Coping with the Tragedy of the Commons." *Annual Review of Political Science* no. 2 (1999), pp. 493–535; and Thomas B. Pepinsky, "From Agents to Outcomes: Simulation in International Relations," *European Review of International Relations* 11, no. 3 (2005), pp. 367–94. On page 528, Ostrom points out that polycentric systems in political science are akin to complex adaptive systems.

4. This study does not examine computer-simulation models that may be considered a potential fourth tier. For a review and critique of computer-simulation modeling in political science, see Pepinsky, "From Agents to Outcomes."

5. The proposed two-stage process is similar to that discussed by Jack Goldstone except that it includes (quantitative, real-time) microevent risk monitoring in high-risk countries in addition to more general (qualitative) risk assessments by country or area specialists. Goldstone, *Using Quantitative and Qualitative Models to Forecast Instability*, Special Report no. 204 (Washington DC: U.S. Institute of Peace, 2008).

6. The Task Force comprises about twelve top academic researchers who guide the work of professional staff employed by Science Applications International Corporation (SAIC); it is funded by the CIA's Directorate of Intelligence. The Task Force's first four biennial reports were held up in bureaucratic channels for about two years on average before public release and then made available only by request. This policy of maintaining a low profile for the project changed in 2005, when Task Force members presented their Phase V findings at the annual meeting of the American Political Science Association held in Washington, DC. Since then, considerable effort has been made to prepare and submit Task Force research for journal publication. Ironically, it now faces the daunting task of making twelve years of intensive and extensive collaborative research accessible to a professional audience that has remained largely unaware, or ill-informed, of its approach and its evolution. All Task Force reports, along with supporting materials, are available online at the Center for Global Policy, George Mason University, http://globalpolicy.gmu.edu/pitf.

7. The views expressed in this paper are solely those of the author and do not represent the official views of the U.S. government, the intelligence community, the CIA, or the PITF.

8. The several European peace research institutes, such as the Peace Research Institute of Oslo (PRIO) and the aforementioned SIPRI, adopt a largely phenomenological approach to the problem of armed conflict and militarization; their efforts in risk assessment and early warning modeling to date have been quite limited.

9. All of the modeling efforts reviewed here use open source (nonclassified) information. Many of the indicators listed in the appendix have multiple sources or multiple measurements, sometimes both; all have broad coverage of states over time and most are updated on an annual basis. This means that the 102 indicators listed reference about 300 actually used in the various models. In addition, because many measurements, particularly continuous measures, lend themselves to various recalibrations and categorizations, the 102 listed represent an almost infinite number of actual indicators.

10. For the PITF Public Data Dictionary, see http://globalpolicy.gmu.edu/pitf/pdd16v1.pdf; for the SIPRI data list, see http//:www.sipri.org/contents/it/db/db2.

11. Events-driven models are not discussed in this paper. Microcomparative analysis is complicated by high volume and complexity of noise that makes it especially problematic to reliably and consistently identify the critical signal. This difficulty is reduced somewhat when microcomparative techniques are focused on identified high risk or crisis situations and can incorporate and emphasize local knowledge and normative conventions.

12. For the SIPRI database of Indicators for Country and Political Risk, see http//www.sipri.org/contents/it/db/db3.

13. The MAR project was the first to systematically and comprehensively collect data on politically salient, substate identity groups. In recent years, the Centre for the Study of Civil War at PRIO has invested substantial effort in collecting information on within-state variations defining civil conflicts.

14. The assumption of reasonably effective local monitoring and management of local dynamics is especially problematic in poorer and less developed societal systems that either do not offer social and administrative services or have a critical disconnect between local and state authorities, the so-called ungoverned spaces.

15. The Polity IV Project provides annual assessments of the qualities of governance for each of world's countries with current total population greater than 500,000 (162 countries in 2007). Countries that have lost authority over substantial portions of their territory are identified by a score greater than zero on the fragment variable, or a polity score of -77, denoting a collapse of central authority. Comoros regained authority over the island of Anjouan in early 2008. Serbia is so noted for its lack of authority over Kosovo, which has subsequently declared its independence on February 18, 2008; its status remains in dispute as of this writing. The Polity IV dataset is available online. See http://www.systemic peace.org/polity/polity4.htm.

16. Monty G. Marshall and Gurr, *Peace and Conflict: A Global Survey of Armed Conflicts, Self-Determination Movements, and Democracy* (College Park, MD: Center for International Development and Conflict Management, University of Maryland, 2001, 2003, and 2005), http://www. cidcm.umd.edu/publications/papers/peace_and_conflict_2005.pdf.

17. The annual PITF watch list identifies about sixty countries with varying degrees of imminent risk for the onset of political instability.

18. The indicators matrix (see appendix) is modeled on a table originally designed by Michael Hildebrand-Faust of USAID in a May 2004 report to the C/FACTS project.

19. The standard mark in the matrix is an *x*. The peace building capacity model uses composite indicators that combine information from several indicators into a single, composite indicator; the basic indicators that are combined in composite indicators are marked *c*. The Fragility Index includes exogenous indicators that are not factored in the index, marked *i* in the matrix. The PITF models have evolved through several phases; the two most recent phase (four and five) models are reported in the indicators matrix: *x* denotes phase four only, *v* denotes phase five only, and *z* denotes both phases four and five.

20. To my knowledge, there is little or no comparable work on early warning systems for interstate conflicts and warfare; the CIFP model does include some indicators associated with interstate conflict in its risk assessment model, discussed below.

21. Richard Kohl, Matthew Lutkenhouse, and Bruce Bolnick (Nathan Associates Inc.), *Fragile State Indicators: A Supplement to the Country Analytical Template*, report prepared for USAID (May 2006), http://www.nathaninc.com/nathan2/files/ccLibraryFiles/FILENAME/ 000000000097/CAS%20-%20Fragile%20States%20Indicators.pdf.

22. Marshall, "Global Terrorism: An Overview and Analysis," *Center for Systemic Peace* Occasional Paper no. 3 (Severn, MD: Center for Systemic Peace, 2002) http://www.systemicpeace.org/CSPpaper3.pdf.

23. As significance tests do not distinguish among substitutable variables in the PITF models, model variables are selected according to their theoretical justification and their explanatory weight in the model specification. The resulting models contain both structural and dynamic indicators with the dynamic indicators carrying greater explanatory weight. The PITF phase V models identified the political competition condition of factionalism or polarization as having, by far, the greatest explanatory weight in each of its several model designs.

24. Although each of the models discussed here have comprehensive coverage, the number of states covered varies somewhat. Nearly all the models cover the 162 countries with total populations greater than five hundred thousand in 2007. Some models include additional but smaller countries. Only data for the 162 larger countries are used in the comparisons. In addition, the Ibrahim Index of African Governance (http://www.moibrahimfoundation.org) was examined but is not included.

25. Much of the inconclusiveness of academic research in political science can be attributed to the relatively large, direct and indirect, measurement errors in model variables. *Direct error* refers here to errors in the measurement of a target attribute; *indirect error* refers to the use of surrogate measures due to the difficulty of measuring target attributes directly. Another major source for inconclusiveness in academic research stems from the differences in and diversity of definitions informing model conceptualizations, operationalizations, and specifications.

26. Gurr and Marshall examine the differential roles of unilateral and multilateral transnational support. Other efforts have examined the role of cross-border support from kindred ethnic groups in ethnic wars. Neighborhood effects are included in analyses by Marshall and Nicholas Sambanis. Trade factors do not appear in any of the five causal models included in the appendix. Gurr and Marshall, "Assessing Risks of Future Ethnic Wars," in Gurr, ed., *Peoples versus States: Minorities at Risk in the New Century*, chapter 7 and appendix B (Washington, DC: United States Institute of Peace Press, 2000); Marshall, *Third World War: System, Process, and Conflict Dynamics,* (Lanham, MD: Rowman & Littlefield, 1999); Sambanis, "Do Ethnic and Nonethnic Civil Wars have the Same Causes?: A Theoretical and Empirical Inquiry (Part 1)," *Journal of Conflict Resolution* 45, no. 3 (2001), pp. 259–82.

27. James D. Fearon and David D. Laitin, "Ethnicity, Insurgency, and Civil War," *American Political Science Review* 97, no.1 (2003), pp. 75–90.

28. Paul Collier and Anke Hoeffler, "Greed and Grievance in Civil War," *Oxford Economic Papers* 56, no.4, pp. 563–95.

29. Sambanis, "Do Ethnic and Nonethnic Civil Wars have the Same Causes? A Theoretical and Empirical Inquiry (Part 1)."

30. Predictive accuracy is insufficient for informing model specification in predictive models. An important finding of the PITF research is that there are many alternative model specifications that have similar levels of predictive accuracy. The preferred model is one for which the selection and combination of explanatory variables in the model allows for the most coherent explanation of the model and its relevance to policy planning.

31. The condition of polar factionalism is identified by a value of 3 on the PARCOMP variable in the Polity IV annual data series by Goldstone and his colleagues. This finding triggered a three-year investigation of that particular condition supported by the PITF. Preliminary results of that extensive investigation were reported in 2006 and 2007; a more comprehensive analysis of the condition will be reported by early 2009. Jack A. Goldstone, Robert H. Bates, Ted Robert Gurr, Michael Lustik, Monty G. Marshall, Jay Ulfelder, and Mark Woodward, "A Global Forecasting Model of Political Instability," *Political Instability Task Force* report (McLean, VA: Science Applications International Corporation, 2005), http://globalpolicy.gmu.edu/pitf/PITFglobal.pdf.

32. Ibid.

33. Papers and supporting documentation detailing the State Failure Task Force (SFTF) and PITF research and models are available online at http://globalpolicy.gmu.edu/pitf.

34. Adverse regime changes include four types of events: major backsliding toward autocratic rule, collapse of central authority (state failure), revolutionary change in regime, and disputed (territorial) dissolution of an established state.

35. Polarization is a dynamic social condition that figures prominently in conflict theory and analysis among European scholars and in social psychology more generally. The term *factionalism* is most commonly associated with splits in political parties or groups in American scholarship, a micro form of the factionalism phenomenon. *Polar factionalism*, then, refers to the macro form wherein a society becomes polarized into two or three groups competing for (exclusive) control of state power.

36. Goldstone et al., "A Global Forecasting Model of Political Instability."

37. Marshall, *Conflict Trends in Africa, 1946–2004: A Macro-Comparative Perspective*, report prepared for the Africa Conflict Prevention Pool, Department for International Development, Government of the United Kingdom, http://www.systemicpeace.org/Conflict Trends in Africa.pdf.

38. A statistical artifact of the Polity data series is that the condition of factionalism, which tends to underlie and undergird autocratic regimes, disappears in the data as it is trumped by the repressive or suppressive tactics of autocratic rule.

39. Gurr, Woodward, and Marshall, "Forecasting Instability: Are Ethnic Wars and Muslim Countries Different?" Political Instability Task Force report (McLean, VA: Science Applications International Corporation, 2005), http://globalpolicy.gmu.edu/pitf/PITFethnicmuslim.pdf.

40. Ibid.

41. Gurr and Marshall, "Assessing Risks of Future Ethnic Wars."

42. Barbara Harff, "No Lessons Learned from the Holocaust? Assessing Risks of Genocide and Political Mass Murder since 1955," *American Political Science Review* 97, no.1, pp. 57–73.

43. Ulfelder and Lustik, "Modeling Transitions To and From Democracy," Political Instability Task Force report (McLean, VA: Science Applications International Corporation, 2005), http://globalpolicy.gmu.edu/pitf/PITFmodeltrans.pdf.

44. Sean P. O'Brien, "Anticipating the Good, the Bad, and the Ugly: An Early Warning Approach to Conflict and Instability Analysis," *Journal of Conflict Resolution* 46, no.6, pp.791–811.

45. Marshall and Benjamin R. Cole, "Global Report on Conflict, Governance, and State Fragility 2008," *Foreign Policy Bulletin* 18, no. 1 (2008), pp. 3–21.

46. Some of the third-tier models rely on expert assessments of current conditions that cannot be produced retroactively, some on data that is not available for earlier years. A second model with temporal depth, the World Bank's Worldwide Governance Indicators (WGI) by Daniel Kaufmann and his colleagues, is not treated in depth in this study because it is based solely on expert opinion polling of general qualities of governance; it has, however, been used in some analytic comparisons. The World Bank model includes biennial coverage from 1996 to 2002 and annual coverage since 2002; the model values are time relative, however, meaning that measured differences among units in a given year are valid but differences in values for a given unit across years are not. The WGI combined score simply sums the values for each of the six quality indicator scores. An analysis of the WGI indicates that it is better as a trailing indicator of problem onset, in that the WGI values decrease as a direct result of problem onset. Kaufmann, Aart Kraay, and Massimo Mastruzzi, "Governance Matters VII: Aggregate and Individual Governance Indicators, 1996–2007," *World Bank Policy Research* Working Paper 4654 (Washington, DC: The World Bank, June 24, 2008).

47. The WGI include six quality indicators: government effectiveness, rule of law, voice and accountability, control of corruption, regulatory quality, and political instability and absence of violence. Two additional measures were also included in the initial comparisons, the Peace and Conflict Instability Ledger risk score and the Global Peace Index. Initial comparisons indicated that these two measures were tapping into quite different or distinct qualities than the five measures listed in the text. The Peace and Conflict score is more similar to the predictive models; the Peace Index emphasizes that condition. Of the two, the Peace Index correlates more strongly with the other five measures (0.705–0.806), and the Peace and Conflict measure relatively weakly (0.518–0.634) and the Global Peace Index (0.570). Joseph J. Hewitt, Jonathan Wilkenfeld, and Ted Robert Gurr, *Peace and Conflict 2008* (Boulder CO: Paradigm Publishers, 2008); Global Peace Index, http://www.visionofhumanity.org/gpi/home.php.

48. The measure of prior civil warfare used here is the summed total of all annual societal (ethnic and civil) violence and warfare magnitude scores over the period 1946–2004. Marshall, "Major Episodes of Political Violence," Center for Systemic Peace, http://www.systemicpeace.org/inscr/inscr.htm.

49. Belarus, Bosnia, Cuba, Kazakhstan, North Korea, Kyrgyzstan, Montenegro, Serbia, and Turkmenistan.

50. Benin, Bhutan, Burkina Faso, Dominican Republic, East Timor, Ghana, Lesotho, Madagascar, Malawi, Mauritania, Paraguay, Senegal, and Zambia.

51. Algeria, Argentina, Colombia, India, Iran, Israel, Libya, Saudi Arabia, Sri Lanka, Syria, and Venezuela.

52. Marshall and Gurr, *Peace and Conflict: A Global Survey of Armed Conflicts, Self-Determination Movements, and Democracy*.

53. Marshall, "Global Terrorism: An Overview and Analysis," Center for Systemic Peace Occasional Paper 3, 2002, report commissioned by the United Nations Department of Economic and Social Affairs, contract #7577 UN/DESA/DSPD/SIB, http://www.systemicpeace.org/CSP paper3.pdf.

54. David Carment, "Assessing State Failure: Implications for Theory and Policy," *Third World Quarterly* 24, no. 3 (2003), pp. 407–27.

55. For a detailed description of the CIFP "Failed and Fragile States" model, see http://www.carleton.ca/cifp/ffs.htp.

56. See notes 47 and 48. Correlations among the six WGI range from 0.668 to 0.967 (0.833 average); correlations of the individual indicators with the summed index range from 0/823 to 0.977 (0.928 average).

57. "The Failed States Index 2006," *Fund for Peace*, http://www.fundforpeace.org/web/index.php?option=com_content&task=view&id=104&Itemid=324.

58. Kohl, Lutkenhouse, and Bolnick, *Fragile State Indicators: A Supplement to the Country Analytical Template*.

59. Marshall and Cole document a nearly 18 percent decrease in global state fragility scores (i.e., general improvement in state resilience) between 1995 and 2007. Marshall and Cole, "Global Report on Conflict, Governance, and State Fragility 2008."

60. Susan E. Rice and Stewart Patrick, *Index of State Weakness in the Developing World* (Washington, DC: The Brookings Institution, 2008).

61. Marten Scheffer, Steve Carpenter, Jonathan A. Foley, Carl Folke, and Brian Walker, "Catastrophic Shifts in Ecosystems," *Nature* 413 (October 11, 2001), pp. 591, 596.

62. The PITF Phase V research isolated the factionalism condition in open (democratic) as the strongest, leading explanatory variable in its predictive models on instability onset. Recall that Gurr and Marshall also found that a substantial period of protest almost always preceded ethnic rebellion and Marshall found factionalism and ethnic group (autocratic) capture of the state to be the principal factors defining instability in the emerging states of postcolonial Africa. Gurr and Marshall, "Assessing Risks of Future Ethnic Wars;" Marshall, *Conflict Trends in Africa, 1946–2004: A Macro-Comparative Perspective.*

63. A substantial portion of cases of political instability during the historical Cold War period (1955–1991), a period with many autocratic regimes, were presaged by periods of transitional factionalism in which autocratic regimes instituted reforms that permitted political opposition activities that previous authorities had repressed. The emergence of factionalism in democratic regimes (processual factionalism) proceeds more incrementally and less dramatically; this dynamic factors more prominently in the current global system, which is predominated by democratic regimes.

64. Albert O. Hirschman, *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States* (Cambridge, MA: Harvard University Press, 1970).

About the Author

Monty G. Marshall is a research professor in the George Mason University School of Public Policy and director of research at the Center for Global Policy. He established and directs the Center for Systemic Peace; he also directs the Armed Conflict and Intervention (ACI) and Polity IV data projects, which provide annual assessments of violent conflict and governance in all countries of the world. He has been a senior consultant with the U.S. government's Political Instability Task Force since 1998. Dr. Marshall's publications include the Global Report on Conflict, Governance, and State Fragility series; *Conflict Trends in Africa*; and *Third World War: System, Process, and Conflict Dynamics*.

Table 1: Risk Assessment, Fragility, and Early Warning Indicators Matrix

Quantitative variables used in systemic risk assessment and early warning models

Category	Indicator	Fearon and Laitin - Civil War model	Collier and Hoeffler - Greed Model of Civil War	Collier and Hoeffler - Grievance Model of Civil War	Sambanis - Ethnic Civil War Model	Sambanis - Revolutionary and Other Civil War Model	PITF - Global model (x=4 v=5 z=both)	PITF - Sub-Saharan Africa model	Marshall - African Instability model	PITF - Muslim Countries model	PITF - Ethnic War model	Gurr and Marshall - Ethnic Rebellion	Harff - Genocide/Politicide model	PITF - Autocratic Transition	PITF - Democratic Transition	O'Brien - ACTOR	Marshall and Gurr - Peace-Building Capacity	Marshall - Global Terrorism	Carment - CIFP Failed and Fragile States	Fund for Peace - Failed States Index	Nathan Associates - Fragile States Indicators	Marshall and Goldstone - State Fragility Index	Rice and Patrick - Index of State Weakness
Security	Armed conflict in neighboring countries				x	x	z	x	x	z	z			x			c	x				i	
Security	Governance in neighboring countries				x				x								c	x				i	
Security	Current armed conflict/instability												x				i		x			i	
Security	History of armed conflict	x	x	x	x	x					z		x			x	c	x	x				
Security	Terrorism																		x				
Security	Peace years				x														x				
Security	Prior genocide											v	x										
Security	Human security (up to 25 years)																c	x				c	c
Security	Government repression (up to 15 years)												x								x	x	x
Security	"Ungoverned spaces"																						x
Security	Group support from foreign state												x										
Security	International disputes																	x					
Security	Military personnel																x	x					
Security	Military expenditures																x	x		x			
Security	Arms transfers																	x					
Security	Refugees hosted																c	x	x	x	x		
Security	Refugees produced (external/internal)																c	x	x	x			
Security	Type of terrain	x	x	x					x														
Political	Civil liberties													v		x	x	x	x				c
Political	Political rights																x	x	x				c
Political	Independent media/press freedom																	x	x				
Political	Accountability																						x
Political	Colonial history							z											x				
Political	State formation instability								x										x				
Political	Corruption/rule-of-law																x	x	x	x			x
Political	Diaspora		x																				
Political	Military rule																x						
Political	Leader's tenure						z	x	v						v							x	
Political	Coups																x					x	x
Political	Forced Resignations/Assassinations																					x	
Political	Cold War/Post-Cold War													v	v		x						
Political	Memberships in int'l organizations																x	x					
Political	Non-state group organization											x											
Political	Self-determination																		x				
Political	Regime durability/instability	x	x			x						x		v	v		x	x	x			x	x
Political	Monarchy														v								
Political	Prior democracy														v								
Political	Regime type	x	x	x	x	x	z	z		z	z			x	x	x	x	x	x	x		i	
Political	Group discrimination	x					z	z	x		z			x			x	x			x	x	
Political	Elite political exclusivity								x	x			x				x		x				
Political	Minority rule									z													
Political	Anti-government demonstrations											x		v	v							x	
Political	Factionalism						v	v	x			v										x	
Political	Transitional regime						v																

	Fearon and Laitin - Civil War model	Collier and Hoeffler - Greed Model of Civil War	Collier and Hoeffler - Grievance Model of Civil War	Sambanis - Ethnic Civil War Model	Sambanis - Revolutionary and Other Civil War Model	PITF - Global model (x=4 v=5 z=both)	PITF - Sub-Saharan Africa model	Marshall - African Instability model	PITF - Muslim Countries model	PITF - Ethnic War model	Gurr and Marshall - Ethnic Rebellion	Harff - Genocide/Politicide model	PITF - Autocratic Transition	PITF - Democratic Transition	O'Brien - ACTOR	Marshall and Gurr - Peace-Building Capacity	Marshall - Global Terrorism	Carment. - CIFP Failed and Fragile States	Fund for Peace - Failed States Index	Nathan Associates - Fragile States Indicators	Marshall and Goldstone - State Fragility Index	Rice and Patrick - Index of State Weakness
Trade																						
Trade openness						x	z				x	x			x			x	x		x	
Food dependency/security																		x				
Manufacturing exports																		x			x	
Exports of goods and services																		x				
Trade concentration/diversity																		x				
Trade with neighbor/regional countries																		x			i	
Economic																						
Global/regional Income distribution																					i	
GDP growth rate		x											v	v				x	x	x	x	x
GDP per capita	x	x		x				x							x	c		x	x	x	x	x
Foreign aid (dependency)								x									x	x				
Foreign direct investment																		x		x		
Inequality		x																x	x	x		x
Total debt service																		x				
Government share of GDP																						
Government regulation of business																					x	x
Inflation/exchange rate																		x	x	x		x
Fiscal deficit/account balance																			x			
Foreign Debt Service																		x	x			
Oil exporter	x													x								
Oil surplus (production - consumption)														x							i	
Resource rents (primary commodities)														v				x				
Investment																			x	x		
Infrastructure/communication																		x				
Informal economy/black market																		x				
Pollution																		x				
Unemployment																		x	x	x		
Poverty rate																				x		
Remittances																	x					
Rate of deforestation																		x	x			
Energy consumption per capita				x	x											x		x				

Social/Demographic

	Fearon and Laitin - Civil War model	Collier and Hoeffler - Greed Model of Civil War	Collier and Hoeffler - Grievance Model of Civil War	Sambanis - Ethnic Civil War Model	Sambanis - Revolutionary and Other Civil War Model	PITF - Global model (x=4 v=5 z=both)	PITF - Sub-Saharan Africa model	Marshall - African Instability model	PITF - Muslim Countries model	PITF - Ethnic War model	Gurr and Marshall - Ethnic Rebellion	Harff - Genocide/Politicide model	PITF - Autocratic Transition	PITF - Democratic Transition	O'Brien - ACTOR	Marshall and Gurr - Peace-Building Capacity	Marshall - Global Terrorism	Carment. - CIFP Failed and Fragile States	Fund for Peace - Failed States Index	Nathan Associates - Fragile States Indicators	Marshall and Goldstone - State Fragility Index	Rice and Patrick - Index of State Weakness
Access to water/sanitation																x	x			x		x
Caloric intake/undernourishment															x		x					x
Children in labor force																		x				
HIV/AIDS																	x	x	x			
Infant/child mortality						z			z				v	v	x	x	x			x	x	x
Life expectancy															x	x	x			x	c	x
Health services/expenditures																x	x	x	x			
Maternal mortality																x	x					
School enrollment/completion		x														x	x	x		x	c	x
Literacy/illiteracy																x	x			x	c	
Male-female inequality																x				x		
Ethnic diversity	x		x	x	x						x				x	x	x					
Population size and Ethnic diversity			x								v											
Polarization (ethn., ling., or religion)			x																			
Religious diversity	x		x						x						x		x					
Muslim countries								v	x													
Sectarian Islam									x													
Youth bulge											v					x	x	x	x			
Population		x	x								x						x					
Population density								x									x					
Population distribution/dispersion	x	x	x									x										
Youth bulge															x		x					
Population growth rate																	x	x				
Urban population																	x				x	
Urbanization growth rate																x	x					
Population in agriculture																x		x				
Land area								x														
Arable land																	x	x	x			

Copyright

The Council on Foreign Relations (CFR) is an independent, nonpartisan membership organization, think tank, and publisher dedicated to being a resource for its members, government officials, business executives, journalists, educators and students, civic and religious leaders, and other interested citizens in order to help them better understand the world and the foreign policy choices facing the United States and other countries. Founded in 1921, the Council carries out its mission by maintaining a diverse membership, with special programs to promote interest and develop expertise in the next generation of foreign policy leaders; convening meetings at its headquarters in New York and in Washington, DC, and other cities where senior government officials, members of Congress, global leaders, and prominent thinkers come together with Council members to discuss and debate major international issues; supporting a Studies Program that fosters independent research, enabling Council scholars to produce articles, reports, and books and hold roundtables that analyze foreign policy issues and make concrete policy recommendations; publishing Foreign Affairs, the preeminent journal on international affairs and U.S. foreign policy; sponsoring Independent Task Forces that produce reports with both findings and policy prescriptions on the most important foreign policy topics; and providing up-to-date information and analysis about world events and American foreign policy on its website, CFR.org.