[PEACEW⊙RKS]

VULNERABILITY TO INTRASTATE CONFLICT

EVALUATING QUANTITATIVE MEASURES

Barry B. Hughes
Jonathan D. Moyer
Timothy D. Sisk

UNITED STATES
INSTITUTE OF PEACE

[PEACEW✺RKS]

ABOUT THE AUTHORS

Barry B. Hughes is Johns Evans Professor at the Josef Korbel School of International Studies at the University of Denver and director of the Frederick S. Pardee Center for International Futures. Jonathan Moyer is a dissertation level PhD candidate at the Josef Korbel School of International Studies at the University of Denver, whose research focus is on the future of international conflict, both domestic and interstate. Timothy D. Sisk is professor of international and comparative politics at the Josef Korbel School of International Studies, University of Denver.

CONTENTS

[How do the principal quantitative measures of conflict vulnerability compare to one another?]

Summary

- Efforts by researchers to quantitatively measure vulnerabilities of countries to conflict tend to focus on four major categories: social, economic, governance, and security. Specific variables drawn on in each category vary widely.

- Six leading studies evaluated in this report see vulnerability to conflict as a spectrum from failed or failing states to consolidated ones.

- Four measures—emanating from the Brookings Institution, Carleton University, the Fund for Peace, and the Center for Global Policy at George Mason University—have the most similar conceptual frameworks and measurement approaches, and these studies routinely measure countries similarly. Even these four, however, differ in the variables they emphasize and the identification and ranking of states.

- Two other measures, emanating from the Center for International Development and Conflict Management at the University of Maryland and from the Economist Intelligence Unit, differ more from the first four and each other in what conceptually constitutes vulnerability, in their variables, correlations, and assessments. They focus more heavily on states most likely to fail.

- It is not possible to argue that any one research effort or any combination is clearly superior in predicting vulnerability to conflict. These measures have not been systematically compared to actual outbreaks of violence, and many failed to indicate that seemingly stable authoritarian countries such as Libya were particularly vulnerable. Whether there is a relationship between rankings of states and actual subsequent conflict onsets remains to be analyzed.

Introduction

Surveys and indices suggest that as many as 20 to 30 percent of states today are deeply vulnerable to armed domestic conflict.[1] Such countries are a constant threat to international peace and security—a reality recognized in the top-level priorities at the United Nations, by the National Security Strategy of the United States, and around the world.[2]

Responsive to this threat,[3] the number and quality of broadly comparative, quantitative approaches to understanding—and possibly anticipating—such conflict have expanded. Quantitative approaches have been used to track the frequency of armed conflict, its intensity, patterns of termination, and consequences. With respect to anticipating conflict, quantitative research that compares countries globally or regionally on a dizzying array of hypothesized conflict-related variables allows us to evaluate the association of possible underlying vulnerabilities to violence. This research has been particularly important in understanding that conflict propensity is deeply and directly associated with state fragility and that weak states are promising settings for insurgent and nonstate militias to emerge.[4]

Uncertainty about future conflict remains high. Studies show that the overall frequency of armed conflict is down since 1992, following an initial spike at the end of the Cold War. Paradoxically, however, the underlying vulnerabilities may be worsening globally, particularly in the context of repeated economic shocks and climate change.[5] The past thus may not predict the future in terms of trends in armed conflict.

This paper provides a bird's eye view—a meta-analysis—that compares various quantitative measures of vulnerability to conflict. We seek to answer a question that has not been well addressed in this field: How do the principal quantitative measures of conflict vulnerability compare to one another? Other, related questions follow:

- How do these projects suggest that their indices are similar to or different from others?
- How do the measures actually correlate with each other?
- What countries do the measures evaluate differently and why?
- To what degree do the indices provide the same information as would one or a small set of key variables?

Comparing Approaches to Conflict Vulnerability

We are not the first to undertake such comparison. In a conceptually groundbreaking review for the Council on Foreign Relations, Monty Marshall found that models for anticipating conflict generally fall into three categories.[6] First, the academic community has since the 1960s developed *conditional and causal factor models,* looking theoretically or with qualitative analysis to a focused driver or a small set of drivers and attentive to civil war (often associated with poverty and inequality), greed and grievance models of rebellion, and ethnonational and revolutionary civil war. Second are *predictive models,* in which theoretical foundation and significant empirical research is directed at developing parsimonious explanatory systems. The work of the Political Instability Task Force (PITF) is prominent here. Finally, *general risk and capacity models* look to drivers that indicate ability to manage conflict over a relatively long period, and seek to identify the likelihood that a state will experience conflict, rather than to predict when instability might appear.

Marshall identified four measures in particular in this third category: the Failed and Fragile States Index of the Country Indicators for Foreign Policy (CIPF) system at Carleton University, the Failed States Index (FSI) developed by Pauline Baker and used by the Fund

for Peace, the State Fragility Index (SFI) originally developed by the IRIS Center at the University of Maryland and carried by Marshall to George Mason, and the Index of State Weakness (ISW) project by Susan Rice and Stewart Patrick for the Brookings Institution.[7] Marshall found high correlations across these measures, suggesting that analysts mostly agree about what they are measuring and how to measure it.

In a report for the German Development Institute and the United Nations Development Program, Javier Mata and Sebastian Ziaja conducted an extensive and more technical analysis of eleven measures of fragility.[8] These included the four measures that Marshall identified as general risk and capacity models, and that are central also to our analysis in this report. Of their remaining seven measures, we also look here at two: the University of Maryland's Peace and Conflict Instability Ledger (CIL) and the Economist Intelligence Unit's Political Instability Index.

We considered three others Mata and Ziaja examined, but do not include them here because they focus on either issue or geography: the World Bank's International Development Association Resource Allocation Index (IRAI), the Global Peace Index, and the World Peace Foundation Index of African Governance, which was initially sponsored by the Ibrahim Foundation. Mata and Ziaja also reviewed the Bertelsmann Transformation Index of State Weakness Index and the World Bank's World Governance Indicator measure of political stability and the absence of violence.

The Mata and Ziaja analysis provides a useful review of the features of each measure. It also covers a great deal of ground: a set of standard descriptions (relevancy, quantification, accessibility, transparency, multicountry coverage, and information updating); validity and reliability issues; source of data (including the degree to which projects use standard quantitative measures or expert assessments and the extent of data overlap across projects); the institutional home (academic, think tank, media); the variable and mixed use of index values, rankings, and categorizations; and approaches to visualization. The report looked at the intercorrelations of measures as well as at the degree of similarity in the ranking of the ten most fragile states. As our analysis does, it noted that most indices look at fragility in four dimensions: social, political, economic, and security.[9]

In a volume devoted primarily to considerations of their own CIPF measure, David Carment, Stewart Prest, and Yiagadeesen Samy reviewed the relationships between it and the George Mason State Fragility Index, the Fund for Peace's Failed State Index, the Brookings Index of State Weakness, and the World Bank's low-income country under stress (LICUS) analysis measure—the Country Policy and International Assessment (CPIA) index.[10] The review also found high correlations across the measures[11] and close relationships between them and several measures of development, including the log of GDP per capita and an inverted-U relationship with democracy level. The volume includes a useful literature review situating the study of fragility within a variety of social-science traditions.

The IFs System

Building on these earlier efforts, the International Futures (IFs) modeling system provides a unique platform for extending such comparison.[12] The IFs project provides the capability to collect, scale, and compare multiple quantitative studies on various dimensions of international peace and conflict and to analyze their similarities and differences statistically. We undertake the analysis, which focuses on vulnerability to conflict, in two steps, qualitative and

quantitative. First, we consider the various series and indicators available on their own terms. Second, we explore the relationships among the various series and indicators.

We situate our study in the context of the literature on drivers of conflict and theoretical approaches to vulnerability. This gives us a typology of vulnerable states to help guide subsequent analysis and interpret the results in relation to other findings. We then compare measures, using qualitative analysis, regression analysis, radial diagram presentation, and more general analysis to show how well, or how differently, some of the larger quantitative research projects compare.

Overall, our hope is that this meta-analysis approach will help those in scholarly and policy environments understand and evaluate more fully the various quantitative series on conflict vulnerabilities. We view this project as an important step toward the IFs project's goal of better forecasting the potential for conflict, thereby ameliorating or even avoiding it.

Conceptual Orientations and Approach

Before comparing measures of vulnerability to conflict, it is critical to define key terms and ideas.

What Is Vulnerability?

The CIFP project focuses on *failed and fragile states,* presenting a fragility index. The Fund for Peace measures *state failure.* The Brookings Institution project looks at *state weakness.* In our view, a concept that links each of these studies, and lends them to comparative analysis, is *vulnerability to conflict.* This in turn relates to broader approaches to understanding causal drivers, risk, crisis, and the outbreak of armed conflict or other consequences of failure, fragility, or weakness.[13]

Alternative theoretical orientations derived from the causes of conflict literature directly inform the content and measures of conflict vulnerability frameworks. The literature on underlying causes of conflict typically explores two central questions: What are the underlying causes of conflict in a society? What are the dynamics, and therefore also the agency, that precipitate or accelerate the escalation of violence? Such causal analysis is an essential first step in preventing conflict, for example, as the backdrop to the more contingent stories about why and how a conflict escalates in any particular setting.[14]

The focus on the first question is critical. Most conflict assessment models first posit background conditions (drivers) of internal conflict as a set of preconditions that fuel escalation when a moment of crisis occurs.[15] In our analysis here, we are interested in evaluating the research on conflict vulnerability in terms of leading theoretical orientations in the field of causes-of-conflict analysis. William Zartman, for example, argues that any single factor or exclusive theory of internal conflict, such as isolating greed (economics) or grievance (social psychological) determinants is "profoundly uninteresting"; instead, the intersection of need, creed, and greed offers the best hope for uncovering causal relationships.[16] We need, in fact, to look still more broadly and to the interactions among putative root causes.

Vulnerability as a Spectrum

Conceptualizations of vulnerability may directly affect how the research projects we are comparing see any given country.[17] Vulnerability to conflict is a spectrum, from fully collapsed or mostly failed states to stable ones.[18] India, for example, does not routinely appear on the global lists of fragile states, and certainly not on those of failed states, but certain regions of India—

such as Kashmir and some northeastern areas—do experience insurgencies, displacement, and high levels of militarization. Thus, it does appear in common measures of "conflict-affected states," for example in the work of the Uppsala Conflict Data Program.[19]

Three states appear routinely at the top of fragility lists: Afghanistan, Democratic Republic of Congo (DRC), and Somalia. These countries are characterized by chronic, decades-long conflict during which the state has either collapsed or failed and the international community's state-building efforts have yielded little return. They typify conflict-induced humanitarian emergency. Although all have a putative central government (even Somalia), most do not demonstrate enough authority, capacity, or legitimacy to minimally control their own territory or to provide basic services.

> *Three states appear routinely at the top of fragility lists. . . . In a second tier are the commonly listed fragile or conflict-affected states, but identifying and ranking them along the spectrum gives rise to considerable dissonance.*

In a second tier are the commonly listed fragile or conflict-affected states, but identifying and ranking them along the spectrum gives rise to considerable dissonance among analysts and observers.[20] For example, a theoretical perspective that emphasizes regime repression may rank a country like North Korea as particularly vulnerable to violence, whereas one that emphasizes ethnic differences may see it as less so. Likewise, Colombia sometimes makes this list because of the degree of recent and ongoing conflict in that country, whereas measures that rely on either deep-driver socioeconomic indicators, such as GDP per capita, or proneness to state failure may exclude it. In our analysis, it does not make the list (see appendix 3). Because of both their high vulnerability and the differences in their treatment by various measures, countries on this range of the spectrum animate our analysis.

A typology of countries with red-level vulnerability may help delineate subcategories. For instance, within the annual World Bank list of fragile states, four categories of vulnerability to conflict are distinguishable:[21]

- autocratic regimes characterized by repression and misrule—for example, North Korea, Myanmar, or Zimbabwe
- weak states unable to address widespread or acute poverty, suffering, or social grievances—for example, Haiti or Chad
- states with deep internal ethnic and sectarian differences—for example, Bosnia-Herzegovina or Iraq
- states still in transition from previous conflicts or peacebuilding efforts—for example, Angola, Bosnia-Herzegovina, Liberia, Rwanda, or Sierra Leone[22]

In our assessment of how projects differ in the treatment of outlier countries (those for which vulnerability assessments differ), such a typology, might be useful. Other categories, however, would bring particular theoretical orientations—such as anocracies (mixed regimes) or recently changed governmental systems within a perspective focusing on regime type—to our attention. Like unhappy families for Tolstoy, fragile states tend to be fragile in unique ways,[23] and typologies of subcategories can quickly become overwhelming.

The picture does not necessarily clarify when one considers the next tier, approximately seventy countries that show some but more limited vulnerability to conflict. These include, as mentioned, India and Colombia—middle-income countries that are generally higher-capacity states but have acute subregional or protracted, localized conflicts. Additional examples include regions of China, Indonesia, Russia, and the Philippines, in which conflict is for the most part geographically isolated, and does not affect central state power or overall stability. Another example is Lebanon, where overall levels of economic development are middle income, with pockets of high levels of both wealth and poverty, and where internal dynamics remain tense and an escalation of violence is an ever-present possibility.

Also included in this category are other subcategories: states with problematic societal conditions (such as ethnic fragmentation, as in Ghana or Mexico, which often interacts with other drivers of conflict vulnerability such as competition for scarce productive land and pockets of extreme poverty); countries that may appear to have strong state capacity, but in which certain elements of vulnerability are significant (such as extreme income inequality in oil-exporting states); and autocratic regimes that may be vulnerable during moments of inevitable regime change (as in Belarus or—to take a recent example—Egypt). The imbroglio in Libya underscores that even these middle tier vulnerable countries are potentially vulnerable to state failure, given the right mix of external and internal precipitating conditions including factors such as primary commodity dependency.

Last is a group of about sixty countries—mostly the higher-income OECD states—in which vulnerability to internal armed conflict seems minimal. Even these states can be vulnerable to episodes of social violence, however, such as riots or violent protest or even moments of subnational state failure (as some have suggested occurred following Hurricane Katrina in the United States). And these countries may not be considered very peaceful when measured against a criterion such as participation in wars abroad.[24] However, high levels of socioeconomic development, paired with significant state authority, capacity, and legitimacy, suggest that these countries are not at significant risk of internal armed conflict.

We are, of course, not the first to suggest a spectrum of classifications.[25] In fact, the Brookings analysis similarly identifies the bottom three countries, labeling them *failed states;* it refers to the bottom quintile as *critically weak states* and to the second quintile as *weak states.* The Bertelsmann project names *failed states, very fragile states, fragile states,* and *remaining countries not classified.* Although the Fund for Peace uses quartiles, Foreign Policy assigns names to its ranking: *critical* (1–20); *in danger* (21–40), and *borderline* (41–60). As Mata and Ziaja point out, such fixed category borders can be problematic in longitudinal analysis: for example, a country can move across category boundaries without a change in its index value, simply because of changes in other countries. For this reason we prefer the notion of a spectrum.[26]

Drivers of Vulnerability

Research on the underlying vulnerabilities tends to isolate the central factors of social, economic, political, and security conditions that are common in countries affected by armed conflict and armed violence.[27] Although attention to multiple and interactive effects makes much sense in the analysis of conflict, some literature has tended to try to identify leading or most salient variables. For instance, the work of Collier and his colleagues has emphasized economic variables, particularly the importance of natural resources that allow access to "lootable goods."[28] Issues of natural resource management, especially of high-value commodities such as oil, access to employment, scarcity of water, food insecurity, lack of affordable and decent housing, or systematic economic discrimination—have all been seen as strong underlying drivers that have over time erupted into violent conflict.[29]

The social dimensions of vulnerability reflect a concern with the structure of society and the ways in which imbalances, discrimination, and the relationship between groups, economic opportunity, and the states interact.[30] Leading theories today identify the overlap between social class deprivation and identity (particularly of marginalized minorities) as a critical and enduring cause of conflict. The state often exacerbates economic and social divisions, yielding political economy relationships of what are called horizontal inequalities. Thus ethnic fragmentation alone does not suggest vulnerability to conflict. Rather, such vulnerability normally

Leading theories today identify the overlap between social class deprivation and identity (particularly of marginalized minorities) as a critical and enduring cause of conflict.

reflects a history of ethnic enmity, transboundary ethnic ties, and ethnic discrimination or marginalization.

Several studies have evaluated the importance of demographic factors on conflict vulnerability,[31] as has research that looks at migration as both a cause and consequence of conflict. Some social instability may also arise from rapid urbanization, in which deprivation in and around burgeoning developing world cities can create conditions of human insecurity.[32]

Denial of essential human needs is a critical, micro-level category of vulnerability. Countries at the bottom of the global rankings on human development also tend to be susceptible to conflict; thus a vicious cycle between underdevelopment and conflict is hypothesized. For example, today's most severe food security crises are in conflict-affected countries.[33] Typically, measures of essential human needs and human development, such as the UNDP Human Development Index, indicate vulnerability to conflict, particularly components of these indices that most clearly suggest serious human suffering, such as infant or child mortality.

Governance matters for conflict vulnerability in two ways: state strength and regime type (or the character of governance). Indeed, it is the axis around which the vulnerabilities to conflict interact with the official and unofficial institutions and processes through which social conflict is to be managed. The type of regime is seen as a critical factor—the more repressive a regime, such as in authoritarian settings, the greater the likelihood that it will engage in conflict internally (for purposes of repression) or with other democratic states.[34] Thus measures of vulnerability to conflict should incorporate variables such as the level of militarization and repression by a state. Critical in this regard is the analysis of the human rights performance of a state, in particular human rights violations: some indices, for example, include levels of extrajudicial killings as an indicator.

The relationships between governance, especially regime type, and vulnerability to conflict are not, however, monotonic. That is, mixed regimes or partial democracies tend to be more vulnerable than either democracies or autocracies.[35] One of the weaknesses of most of the measures that we review in the next section is that they tend to build in variables as if their contributions to vulnerability are always consistently increasing or decreasing.

Looking more broadly at the security environment, criminality, lawlessness, and threats of armed violence are also closely related to conflict vulnerability. Indeed, interest in evaluating the interaction among social violence, vulnerability to armed conflict, and actual occurrence of armed violence is increasing.[36] For example, some researchers emphasize analysis of violence against women as an overall indicator of the state's propensity for involvement in violent conflict.[37]

Vulnerability to conflict can also arise from regional effects, such as tangible spillovers including rebel incursions, transborder migration, external minorities, or a phalange of conditions summarized as "regional conflict complexes."

Vulnerability to conflict can also arise from regional effects, such as tangible spillovers including rebel incursions, transborder migration, external minorities, or a phalange of conditions summarized as "regional conflict complexes."[38] Transborder flows of resources, recruits, and small arms are also factors in regional vulnerabilities. Likewise, cross-border support for rebel forces by hostile neighboring governments has also been seen as a component of regional instabilities that affect vulnerability to violence, especially in southwestern Asia and in several subregions in Africa. One can divide the security-condition variables into human security from regime repression, security-related vulnerabilities from intrastate conditions, and regional and global security effects.

Many vulnerable countries are conflict recidivists. The risk of new conflict is very much a function of experience of internal conflict or civil war.[39] These fragile and conflict affected

Table 1. Measures of Vulnerability to Domestic Conflict: Origins and Basic Information

Measure	Institution	Project Leader	Coverage
Index of State Weakness in the Developing World	Brookings	Susan Rice and Stewart Patrick	2008
Conflict Indicators for Foreign Policy Fragile States Index	Carleton	David B. Carment	2007
Political Instability Index	EIU		2007, 2010
Failed States Index	Fund for Peace	Pauline Baker	2005–10
State Fragility Index	George Mason	Monty Marshall	1995, 2001, 2007, 2008, 2009
Conflict Instability Ledger	Maryland	Joseph Hewitt, Jonathan Wilkenfeld, Ted Gurr	2008, 2010

Source: Authors' compilation

states appear chronically (at least for some) stuck in a vicious cycle of governance failures, development catastrophes, and self-perpetuating conflict dynamics.

Given this richness of potential causality concerning vulnerability to conflict, it is not surprising that measures will vary in the assessment of countries. We turn now to an analysis of that variation.

Measuring Vulnerability

This project is interested in quantitative, macro-level indexes that explore state vulnerability to domestic conflict. Regardless of the specific terminology of the measure, we have chosen indices to compare that meet the criteria that the measures clearly focus on vulnerability in a broad sense and are publicly available, current, and global in scope. Those criteria generated six indices. Table 1 lists the names of the measures along with their institutional affiliation, associated scholars, and dates of publications.

A variety of sources describe each of these projects, the most useful generally being their websites. The following publications directly address the indices:

- Pauline Baker, Failed States Index (Washington, DC: Fund for Peace, 2009), www.fundforpeace.org

- David Carment, "Country Ranking Table 2007," *Country Indicators for Foreign Policy,* www.careleton.ca/cifp/app/ffs_ranking.php

- Joseph Hewitt, Jonathan Wilkenfeld, and Ted Robert Gurr, *Peace and Conflict 2010* (College Park: Center for International Development and Conflict Management, University of Maryland)

- Monty G. Marshall and Benjamin R. Cole, *Global Report 2009: Conflict, Governance, and State Fragility* (Vienna, VA: Center for Systemic Peace, George Mason University), www.systemicpeace.org/Global%20Report%202009%20Executive%20Summary.pdf

- Susan Rice and Stewart Patrick, *Index of State Weakness in the Developing World* (Washington, DC: Brookings Institution, 2008), www.brookings.edu/reports/2008/02_weak_states_index.aspx

- Economist Intelligence Unit, "Political Instability Index," *ViewsWire,* http://viewswire.eiu.com/site_info.asp?info_name=social_unrest_table&page=noads&rf=0

Most of the indices we considered but did not include had distinctly different conceptualizations of state vulnerability to conflict. For example, we omitted the Global Peace Index because it measured the presence or absence of domestic and international conflict associated with one country. Although external conflict sometimes does have a strong association with state weakness and failure, it is a different phenomenon. Because their focus is narrower, we did not include other measures, including some more closely related to governance quality; examples include the IDA Resource Allocation Index, the Freedom House Countries at the Crossroads measure, and the Bertelsmann Transformation Index. We also omitted the World Governance Indicator on Political Stability and the Absence of Violence, which reflects the level of instability more than the vulnerability to it. Finally, the Ibrahim Index of governance, which we also looked at in preliminary analysis, is both more specialized in issue focus and its geographic focus on Africa. In preliminary analysis, we explored correlations of such measures with each other and with the six measures examined here, finding that each evaluates or ranks countries quite differently from the ones that we chose and from each other.

We have chosen to compare six measures with four general methodological approaches. Our first approach is to look at them qualitatively. We begin the qualitative consideration by asking how the projects themselves define what they are measuring, their objectives, and their basic approach. We continue by identifying in four standard categories (social, economic, political, and security) the key variables, or at least groupings of them, that the measures tap. This should tell us much about what the projects believe they do similarly and differently.

Our second approach involves quantitative comparison of the measures across all 183 countries of the IFs system that provide values or ranks (using values whenever possible). That comparison has two elements. The first is simply intercorrelation of all measures with one another. The second is more sophisticated: we rescale all the measures to a common range and valence—higher positive values then indicating more vulnerability—and compare the generated values in both graphical and tabular forms. This approach provides considerable initial insight into how comparable the measures are. In this process, we also compare the measures to the average value across the indices for each of the 183 countries, fully understanding, of course, that the average is not necessarily better than any or all of the individual measures. The computation of that average, however, also allows us to say something about the spectrum of vulnerability to conflict we discussed earlier. We use the average evaluations to divide countries into four categories of vulnerability more systematically than the common arbitrary divisions by percentiles or even-numbered sets (such as the top twenty or top forty).

We identify countries about which the measures most agree and, especially, disagree.

The third approach turns to specific countries. We identify countries about which the measures most agree and, especially, disagree. We use radial diagram presentation to help us explore the differences across measures for these countries. Although it is an interesting digression rather than a continued comparison across measures, in the subsection on specific countries we also look at the way in which the values defined by the spectrum analysis (associated with approach 2) compares to a series of important development indicators, including GDP per capita and the human development index (HDI). We also add a temporal element to that analysis, looking at how the evolution of those key variables relates to the contemporary categories of the spectrum.

The fourth approach turns back to correlation analysis across all countries, but moves to an exploration of the relationship between the indices and discrete development variables. Specifically, we take advantage of the very large database in IFs to correlate each of the

measures with multiple variables in the social, economic, political, and security categories. Identifying the highest relationships for each measure helps us identify the relative emphases of the projects.

Collectively, these four approaches allow us to better understand (considerably) the similarities and differences between the measures.

Approach 1: Qualitative Consideration

We first look at the measures on their own terms, and then consider the variables they tap.

Self-Description

How do the measures identify and define the variable of interest to them, what are the objectives of the projects, and what is the core of their methodology? Again, we invite the reader to consider the review of these and other measures by Mata and Ziaja, who consider these issues at greater length than we can here.[40] Table 2 summarizes that information for the six indices.

We do not devote particular attention to their use of terminology because it is not at all consistent across analyses. For instance, the Failed States Index of the Fund for Peace (also published in summary by *Foreign Policy*) is clearly not a measurement of failed states against any common definition of that term. It is instead a broader measure of vulnerability to conflict. The attention of other projects to fragile states (Carleton and George Mason), state weakness (Brookings), and political instability (the EIU) convey more clearly a focus on vulnerability to conflict.

Yet the terminology of Maryland, conflict instability, begins to suggest a sharper focus on anticipating the escalation of conflict, not just on assessing the relative probability of it, as might be implicit in measuring the extent of state fragility and therefore of a country's ability to avoid it. Mata and Ziaja point out also how Maryland's focus shapes the distribution of their characterization of states, with a relatively few countries given high values and most assigned low values, a skewed distribution of values relative to the more normal distributions assigned by other projects.[41]

One might therefore conclude, and the definition of project purpose to some degree suggests, that the focus is to a greater degree on prediction, not predilection.[42] Yet this is fuzzy territory across the various projects, because all certainly recognize that the escalation of conflict in any period is probabilistic and that point predictions (conflict or the lack of it) are not meaningful. And that is borne out again by the Fund for Peace, which, though it identifies early warning of state failure as a project objective, highly correlates with the measures of fragility in projects that talk less about forecasting. A third project that explicitly addresses predicting conflict is the Economist Intelligence Unit's. The EIU measure, however, has many hybrid characteristics that partly link it to the Maryland measure, but also tie it fairly closely to the measures that explicitly target fragility (and risk) and more often forgo language around prediction.

In turning to the methodology of the projects, we see three key distinctions emerge rather quickly. First, most measures explicitly aggregate many variables or measurements across the four issue areas—social, economic, political, and security. The major exception is again the Maryland CIL measure. It builds explicitly on the analysis of the Political Instability Task Force, earlier the State Failure Task Force. It defines its dependent variable in terms of that project's notion of state failure, namely Gurr's conceptualization and data

Table 2. Measures of Vulnerability to Domestic Conflict: Definition, Objectives, and Method

Sponsor	Fragility Index	Definition	Objectives	Method
Carleton	Conflict Indicators for Foreign Policy Fragile States Index	"State fragility is defined as the extent to which a state can or cannot provide the basic functions of governance to its population."[1]	To create a Canadian-based measure of state fragility similar to the PITF. Has constructed a measure that takes structural data and "reprocesses" it into an authority, legitimacy, and capacity framework.	Constructed from more than seventy indicators chosen by their "relevance and coverage." Each composite variable of each subdimension placed on a 9-point scale.[2]
Fund for Peace	Failed States Index	Focuses on sustainable security, defined as "capacity of a society to solve its own problems peacefully without an external administrative or military presence."[3]	To provide an early warning model for state failure.	Conflict Assessment System Tool used to create forecasts by doing two things: aggregating content analysis from news feeds and analyzing structural data. Does so for twelve subindices organized by social, economic, and political characteristics.
George Mason	State Fragility Index	Explains fragility in terms of legitimacy and effectiveness with respect to four dimensions: security, governance, economic development, and social development.	To create a new index of state vulnerability that incorporates explicit measures of legitimacy and effectiveness.	Gleans macro-level data in four dimensions: security, governance, economic development, and social development. Each then broken down into effectiveness or legitimacy.
Brookings	Index of State Weakness in the Developing World	Defines weak states as follows: "countries that lack the essential capacity and/or will to fulfill four sets of critical government responsibilities: fostering an environment conducive to sustainable and equitable economic growth; establishing and maintaining legitimate, transparent, and accountable political institutions; securing their populations from violent conflict and controlling their territory; and meeting the basic human needs of their population."[4]	Concerned with correcting perceived weaknesses in other indices. Wanted to avoid a measure of state weakness that didn't consider historic trends and developments. Strived to be transparent in its construction. Concerned with measuring the full range of instability and not just focusing on state collapse	Macro-level quantitative ranking that uses four subareas (economic, political, security, and social welfare) and ranks twenty variables.

Maryland	Conflict Instability Ledger	Mostly concerned with forecasting in the medium term (three years) the likelihood of the onset of domestic conflict.	Measures future risk of state instability.[5] Based on the PITF work. Definition of instability focuses on the onset of state fragility in terms of the traditional definition of revolutions, ethnic conflict, abrupt regime change and politicides/genocides. Dependent variable may be more diverse than other measures of instability that focus solely on the onset of armed civil conflict or political instability.[6]	Uses a statistical model fit to data for the last sixty years of domestic conflict. Relies on key variables PITF found to be related to state failure.
Economist Intelligence Unit	Political Instability Index	An attempt to quantify and predict political instability.	Vulnerability to social and political unrest.	Uses insights taken from the PITF to create an index based on two subindices: underlying vulnerability to instability and economic distress. Uses fifteen indicators, and pays attention to social, economic, and political factors and traits.

Source: Authors' compilation

Notes:

1. David Carment, Souleima El-Achkar, Yiagadeesen Samy, and Stewart Prest, "The 2006 Country Indicators for Foreign Policy: Opportunities and Challenges for Canada," *Canadian Foreign Policy* 13, no. 1 (2006): 5.
2. Ibid.
3. Pauline H. Baker, *The Conflict Assessment System Tool (CAST): An Analytical Model for Early Warning and Risk Assessment of Weak and Failing States* (Washington, DC: The Fund for Peace, 2006), 4, http://www.fundforpeace.org/cast/pdf_downloads/castmanual2007.pdf.
4. Susan Rice and Stewart Patrick, *Index of State Weakness in the Developing World* (Washington, DC: Brookings Institution, 2008), 3, http://www.brookings.edu/reports/2008/02_weak_states_index.aspx.
5. Ibid, 5.
6. Joseph Hewitt, Jonathan Wilkenfeld, and Ted Robert Gurr, *Peace and Conflict 2008* (Boulder, CO: Paradigm, 2007), 8.

of revolutionary wars, ethnic wars, adverse regime changes, and genocides or politicides. Using a range of traditional and innovative statistical methods, the task force found the strongest predictive model to include infant mortality, trade openness, regime consistency, and neighborhood effects.[43] In rather sharp contrast to other projects, the CIL measure largely restricts itself to this rather parsimonious set of variables, along with militarization. We shall see how this orientation and approach also leads to a relatively lower correlation between the CIL measure and other measures. The EIU project indicates its attention to the PITF findings and approach, but in reality draws on a much wider set of variables across the four categories and is therefore a kind of hybrid approach.

A second key methodological difference is the degree to which data sources are standard, widely available, and transparent. Although we indicated earlier that we tried to select methods for review that drew on available data sources, the Fund for Peace uses a proprietary content-analysis system called Conflict Assessment System Tool (CAST) that is not available to and therefore replicable by others. With respect to Carleton University's CIFP, the structural components of the index are fully transparent and created from a comprehensive list of variables available on their website and in other documentation. However, taking these structural indicators of stability and translating them into the Authority-Legitimacy-Capacity framework—the underlying components of the broader index—is not made fully transparent.

A third distinction across the six indices is their treatment of issues of governance. State fragility and failure is ultimately a condition that arises from inadequate governance. Some indicators reduce governance to a series of descriptive variables, such as the Brookings measure, which uses World Bank, Transparency International, and Freedom House measures. Two indicators stand out, however, in their more explicit and extensive treatment of the issue of governance across subindices. First is the work of George Mason University, which separates the four categories for indicators into two subcategories: effectiveness and legitimacy. The work of Carleton University takes this further, and reprocesses the subindices into three governance characteristics: authority, legitimacy, and capacity.

The many other methodological differences we leave for others to discuss.[44]

Issue Coverage

As discussed earlier, the components of the measures of state fragility typically fall in the following categories: social, political, economic, or security. Table 3 highlights the treatment of the six indices of variables within each category. We do not include an environmental variables category and, in general, the indices do not build on them; the CIPF Fragile States Index of Carleton is an exception.

What conclusions emerge from a cursory review? All projects use variables in each of the categories to some degree. Based solely on the extent of the listings in each category, it might appear that Carleton's index coverage is among the most exhaustive with respect to variables in each category, perhaps especially with respect to human development. We need to recognize, of course, that extensive coverage of all the categories might not lead to significantly different results than moderate or even fairly light coverage, given the tendency for variables within categories to cluster and for original data sources to be similar.

The University of Maryland's Conflict Instability Ledger is at the opposite extreme, with only one or two variables in each category. Whereas a subindex with three to four variables in a category might well correlate fairly highly with one based on ten variables, it is less likely that a single variable will correlate as strongly with that same subindex based on ten. This is one of

The components of the measures of state fragility typically fall in the following categories: social, political, economic, or security.

Table 3. Measures of Vulnerability to Domestic Conflict: Subcategories and Variables

Sponsor	Fragility Index	Social Variables	Economic Variables	Political Variables	Security Variables
Carleton	Conflict Indicators for Foreign Policy Fragile States Index	Human Development category: many indicators; Demography category: many indicators; Gender	Economics category: many indicators	Governance category: many indicators	Security and Crime category: many indicators
Fund for Peace	Failed States Index	Demographic Pressures; IDP; Group Grievance; Human Flight	Uneven Economic Development along Group Lines; Sharp Economic Decline	Criminalization of the State; Deterioration of Public Services; Suspension of Rule of Law	Security operates as state within a state (no civilian control)
George Mason	State Fragility Index	Effectiveness: HDI; Legitimacy: human capital care comparing GNP per capita and HDI	Effectiveness: GDP per capita $2,000 over 5-year average and most recent value; Legitimacy: share of export trade in manufactured goods over 12 years	Effectiveness: Regime Stability from Polity IV; Legitimacy: Polity IV and MAR	Effectiveness: MEPV; Legitimacy: Political Terror Scales
Brookings	Index of State Weakness in the Developing World	Child Mortality; Primary School Completion; Undernourishment; Percent with Improved Water and Sanitation; Life Expectancy	GNI per capita; GDP growth 2002–2006; Income Inequality 2006; Inflation 2002–2006; Regulatory Quality (World Bank) 2006	Government Effectiveness; Rule of Law; Voice and Accountability; Corruption; Freedom	Conflict Intensity 1992–2006; Political Stability (Gov Matters); Coups 1992–2006 (EIU); Human Rights Abuses (Political Terror Scale); Territory Affected by Conflict 1991–2005 (PITF)
Maryland	Conflict Instability Ledger	Infant Mortality	Openness	Regime Consistency	Militarization; Neighborhood War
Economist Intelligence Unit	Political Instability Index	Inequality; Ethnic Fragmentation; Trust in Institutions; Status of Minorities; Proclivity to Labor Unrest; Level of Social Provision	Growth in Income; Unemployment; Income per Capita	State History; Corruption; Regime Type; Factionalism	History of Political Instability Neighborhood

Source: Authors' compilation

the reasons we see a result in using quantitative comparisons of measures (approach 2)—most indices do correlate highly with each other, even though the extent and specifics of variable treatment within categories differs significantly. But the CIL measure, with its parsimony, tends to be an outlier.

The other outlier in terms of correlations is the EIU's Political Instability Index. Table 3 suggests that one reason lies in the specifics of the variables it taps. It draws on many other indices, rather than tapping standard discrete variables, as other indices tend to do. It also directs more attention, within the human development category, to variables and indices that reflect dimensions of social inequality and division than to those that reflect average deprivation, though it does pick up infant mortality.

More generally, the full specification of the variables (the table sample is not exhaustive), the relationships among them (including the extent of intercorrelation across variables), and the explicit weighting systems of the projects all affect the degree to which indices represent variable groupings differentially. Approach 4, examining the actual correlations between the indices and key underlying variables, returns our attention to this topic.

Approach 2: Quantitative Analysis

We now build on our first approach to comparison, which was entirely qualitative and descriptive, and explore the intercorrelation among the measures. First, we look at the strength of linear relationships between measures by studying the R-squared values among the six indices. We then take each index, standardize it, compute an average across all indices, and compare the indices visually and numerically with each other and the average. We conclude that the indices fall clearly into three categories. Four of the indices most clearly focus on state fragility and relate highly to each other: the Brookings, Carleton University, Fund for Peace, and George Mason University measures. The University of Maryland measure and the Economist Intelligence Unit indices stand somewhat apart from the other four and do not appear to be measuring the same things, hence three categories rather than two.

Intercorrelation

Table 4 displays the covariation between each of the six indicators, as measured by the square of the Pearson product-moment correlation—without transformation of the indices, thereby picking up the linear relationship. As indicated, four of these measures correlate quite highly with each other, most near or above R-squared values of 0.8.[45] The one that fits least well in that group of four is the Failed States Index of the Fund for Peace. Nonetheless, its R-squared relationships with the other three in the cluster are just below 0.8 and the measure clearly is more one of fragility than, say the Maryland measure, which more self-consciously provides alerts of possible failure.

Overlap between the enterprises of searching for high probabilities of state failure or conflict onset and mapping levels of fragility would appear to be considerable.

The R-squared values linking both the Conflict Instability Ledger of the University of Maryland and the Political Instability Index of the Economist Intelligence Unit with the four fragility measures are still almost all at or above 0.4. This remains a decidedly high relationship, a covariation of 40 percent or more. Thus overlap between the enterprises of searching for high probabilities of state failure or conflict onset and mapping levels of fragility would appear to be considerable. The lowest relationship is that between the EIU and Brookings indices (0.27). Whereas the EIU looks to social divisions and poor governance, Brookings is more attuned to human development.

Table 4. Correlation Matrix of Measures of Vulnerability to Domestic Conflict

	George Mason: State Fragility	*Brookings:* State Weakness in Developing World	*Fund for Peace:* Failed States	*Carleton:* Foreign Policy Fragile States	*EIU:* Political Instability	*Maryland:* Conflict Instability
George Mason: State Fragility	—	0.82	0.78	0.85	0.43	.055
Brookings: State Weakness in Developing World	—	—	0.77	0.84	0.27	.042
Fund for Peace: Failed States	—	—	—	0.89	0.57	0.37
Carleton: Foreign Policy Fragile States	—	—	—	—	0.52	0.46
EIU: Political Instability	—	—	—	—	—	0.3
Maryland: Conflict Instability	—	—	—	—	—	—

Source: Authors' compilation

The two outliers, the Maryland and Economist indices, link with a relatively modest R-squared (0.3). The Maryland index is, as it claims to be, a scion of the Political Instability Task Force model for forecasting episodes of state failure, paying much less attention to differentiating the level of fragility among countries not most subject to such failure. Predicting state failure requires a model to be tied to the historic onset of failed states. The gold standard for such a model is that of the Political Instability Task Force. The only index that rigorously adheres to the findings of the PITF is the Conflict Instability Ledger. We should therefore not be surprised that the CIL produces results different than shown by measures of state weakness.

The Political Instability Index of the Economist Intelligence Unit is considerably different in devoting much attention to social divisiveness and weakness in governance. Although the EIU methodology claims to adhere to the PITF model, its selection of variables is notably different from that of the CIL. A thread of work in the PITF focuses on fractionalization,[46] and though the Maryland measure does not pick that up, the Economist measure does. The Economist measure blends that emphasis, however, with variables that owe more to the governance emphasis of work in the World Bank. Moreover, it also gives attention to past instability, which the CIL and, somewhat surprisingly, the PITF model itself does not. We see the Political Instability Index as a hybrid in a class of its own.

Index Values and Distribution

Although the correlations tell us much about the relationships of the indices, they cannot help us determine the similarities and differences, especially with respect to the distributional characteristics across the vulnerability spectrum. To help with that, the first step required was to rescale the measures for comparability, because they tend to have different numerical systems and even valences, whether higher is better or worse.

We adjusted the valences so that on each adjusted index higher positive numbers convey more fragility. We then computed the mean and standard deviation of each measure across all countries for which the projects provide assessments, using most recent evaluations in each

case—and fully recognizing that the distributions are not always normal, in fact wanting to see the character of distributions. We then computed derivative indices that recoded each country-index value by the number of standard deviations above or below the index mean.

Although it would be possible to compare these rescaled indices directly, we took an additional step to create a common basis for comparison of the indices. We computed a simple average of the six indices and rank ordered all countries from highest to lowest average values. This has the added value of giving us a sense of how the indices collectively see fragility or state failure potential across countries. Figure 1 shows the average (the orange line) which is the collective judgment of the six index projects on country rankings. The Y-axis indicates the number of standard deviations above or below the mean of all countries and the countries are arrayed (but not named) in descending order of likelihood of fragility or state failure. Interestingly, the three countries at the high end of the average are Afghanistan (2.23 above the mean), Somalia (2.15), and the Democratic Republic of the Congo (2.08). There is a gap between these three, arguably the most nearly failed or failing states in the system, and Burundi (1.62). Appendix 1 lists all countries in the descending order and provides the standard deviations on each index.

In addition to the ranked averages across indices, figure 1 also includes the recoded values for each country in the most recent year from the six indices. Thus, for instance, the value in the extreme upper left is the value of the Conflict Instability Ledger score for Somalia, 4.0 standard deviations above the average value assigned to countries by the CIL.

Remarkably, all six indices show a rather tight distribution around the average. Despite using different input variables and combinatorial methods for exploring the issue of state fragility or failure, and using data from somewhat different years, these approaches have come to something of a consensus on the states that are failed or especially fragile and those that are not. This could indicate a kind of group think, whereby assessments of vulnerability don't actually measure but instead simply reflect the generally accepted paradigm, or it could be a remarkable convergence of insight on what constitutes vulnerability.

The patterns for the indices relative to each other and to the average values are important. For instance, the Maryland CIL and the Economist's Political Instability Index appear to provide the greatest spread around the average, which is consistent with their lower correlations with other measures and with direct analysis of variation around the average we provide.

But there is more. The Maryland measure has an interesting pattern in which a small number of states appear well above the average values (in the upper left of the figure) but the larger number appears below the average (except for the far right of the figure, where the measure does not distinguish among the least vulnerable states). This pattern is consistent with a measure trying to identify countries most at risk of failure and less interested in distinguishing them. What are the countries it so identifies? Those placed two or more standard deviations above the average are Afghanistan (4.00), Niger (3.27), Burundi (2.92), the DRC (2.77), Djibouti (2.66), Ethiopia (2.49), Mali (2.37), Nigeria (2.34), Tanzania (2.30),[47] Zambia (2.16) and Sierra Leone (2.05). Interestingly, the CIL places Somalia considerably lower (1.25). One might disagree with this set, but the measure clearly differentiates its assessments of states at the very most vulnerable end of the spectrum from the rest.

Interestingly, with respect to its self-definition, the other index aimed at so distinguishing those most likely to experience conflict—the EIU measure—demonstrates a different pattern. It ranks only two countries even 1.5 standard deviations above its mean value, namely Chad (1.84) and the DRC (1.62). The next highest is Cambodia (1.48). It places Afghanistan lower (1.34) and does not assign a value to Somalia, perhaps because many of its series are not

Figure 1. Conflict around Adjusted Average

Standard Deviations for Means of Individual Indices

Countries by Descending Average of Standard Deviations Across Indices

- ◆ State Fragility Index, George Mason University
- ■ Index of State Weakness in the Developing World, Brookings
- ▲ Failed States Index, Fund for Peace
- ▲ Conflict Indicators for Foreign Policy Fragile States Index, Carleton University
- ✳ Political Instability Index, Economist Intelligence Unit
- ✳ Conflict Instability Ledger, University of Maryland
- ● Average

Source: Authors' calculation

Table 5. Sum of Squared Errors around Adjusted Mean: Domestic Vulnerability to Conflict

Index	SSE
Conflict Indicators for Foreign Policy Fragile States Index, *Carleton*	15.5
State Fragility Index, *George Mason*	15.8
Failed States Index, *Fund for Peace*	21.8
Index of State Weakness in the Developing World, *Brookings*	29.3
Political Instability Index, *EIU*	59.1
Conflict Instability Ledger, *Maryland*	60.9

Source: Authors' compilation

available for that country. More generally, the visual image of the EIU's valuations for countries is of a considerable scatter well above and below the average valuations, with relatively high values (0.5 to 1.0 standard deviations) assigned to a substantial number of countries that others consider not to be very fragile. It could be that focus on social fragmentation and socioeconomic inequality contributes significantly to this pattern.

The Brookings Index of State Weakness provides another pattern. Almost in the character of a measure of state failure, it places three countries much higher than all others: Somalia (3.41), Afghanistan (2.73), and the DRC (2.72). No other country has a transformed value on the index of more than 2.0 standard deviations. At the same time, however, and unlike the Maryland index, it quite clearly distinguishes among remaining countries, and its ranking is quite similar to that of the average across indices. Otherwise, it and the other three measures are hard visually to break out of the overall pattern. We will focus on these four most similar measures shortly, looking at them by themselves to see their patterns more clearly.

Supplementing the earlier correlation analysis, table 5 shows the variation of the six indices relative to the average values across indices. The statistical measure in the table is the sum of squared errors, which does not mean that larger values are inherently in error, only that the sum of squared values relative to the average line is larger. Not surprisingly, we once again clearly see that the two outlier indices remain as such. The other four measures fall into a relatively narrow band, but the Carleton and George Mason measures are closest to the overall average.

This clustering of the four measures that appear most sharply focused on state fragility suggests the value of looking at them separately from the other two. Figure 2 does this. We recompute the average values (the orange line again) only from the four measures, rerank all countries, and display the average value with the specific ones for the fragility indices. Appendix 2 includes the four measures and the new average computation.

A much tighter fit around the average is clear in figure 2. Two indices stand out somewhat in terms of relatively higher discrimination. As discussed earlier, the Brookings measure sharply differentiates Somalia, Afghanistan, and the Democratic Republic of the Congo from other countries. Less sharply, but fairly clearly, George Mason's State Fragility Index also distinguishes a small set of countries from the others, namely Somalia (2.48), the DRC (2.17), Sudan (also 2.17), and Afghanistan (2.04). After that the values fall to Chad and Myanmar (both at 1.86).

Somewhat surprisingly, given its self-defined emphasis on state failure, the Fund for Peace assessments are considerably flatter across the entire range of countries. Still, the top

Figure 2. Domestic Conflict around Adjusted Mean

Standard Deviations for Means of Individual Indices

Countries by Descending Average of Standard Deviations Across Indices

Source: Authors' calculation

◆ State Fragility Index,
George Mason University

■ Index of State Weakness
in the Developing World,
Brookings

▲ Failed States Index,
Fund for Peace

▲ Conflict Indicators for
Foreign Policy Fragile
States Index,
Carleton University

● Average

end shows discrimination. The index places Somalia at the top (1.81), followed by Chad (1.77), Sudan (1.71), Zimbabwe (1.64), the DRC (1.63), Afghanistan (1.60), and Iraq (1.51). The Carleton rankings are similarly flatter than those of Brookings or George Mason. Its ranking is Sudan (1.83), Somalia (1.81), Afghanistan (1.73), Iraq (1.59), the DRC (1.55) and Yemen (1.51).

Using Average Values

Earlier we laid out the concept of a spectrum of countries across different levels of vulnerability to conflict. We identified four categories: failing or failed states, fragile or conflict-affected states, states with more limited vulnerability to conflict, and states with no significant vulnerability. We can use the average values across the transformed indices to help define and refine such a spectrum. The average standard deviations of countries above and below the means of their respective indices are a useful set of cut-offs. With either six indices (appendix 1) or four indices (appendix 2), only three countries are more than 2.0 standard deviations above the means; with four indices (the benchmark we will use here), their ordering is Somalia, Afghanistan, and the Democratic Republic of the Congo. Below them, the average value drops to 1.86 for Sudan and 1.63 for Iraq.

Between 0.5 and 2.0 standard deviations are forty-eight states we can call fragile. The break between those states and the next tier is admittedly arbitrary. Gambia, Sri Lanka, and Algeria close out the listing of fragile states and Mali, Papua New Guinea, and Lesotho begin the ranking of another seventy-two in the category of more limited vulnerability to conflict. Although the borderline is fuzzy, most of the states in the two categories are more clearly distinct. In this third category, states are likely to have one or more elements of weakness in the social, economic, political, or security categories, but generally considered by consensus to be stable.

The remaining fifty-nine countries (more than 0.5 standard deviations on average below their index means) are primarily OECD and upper middle-income countries and for the most part have very limited vulnerability to conflict. Again, the border is fuzzy and therefore somewhat arbitrary. The states at the bottom of the third tier are Albania, Qatar, and Mexico, and those at the top of the fourth are Botswana, Samoa, and Bahrain. Members of this fourth tier generally enjoy high income, human development, and stable governance.

Although somewhat arbitrary, the approach 3 analysis shows that there are clear and important divisions across these spectrum categories. The measures, individually and collectively, identify significant differences across them.

Approach 3: Country-Specific Analysis

The third approach in comparing the indices is to explore more deeply the way in which they treat individual countries. We first consider those the indices treat most similarly and most differently, with particular attention to the latter. We find that discerning any clear patterns in the differential representation of countries is difficult.

We also look across individual countries with respect to the spectrum of vulnerability to conflict discussed throughout this paper. We find that the failing and fragile countries, those in which we are inherently most interested, have some important special characteristics.

Here we also present what was earlier called a digression. We look at how the spectrum frames not only the current position of countries on a number of important variables, but also over time. Although a digression, this discussion does reinforce the utility of looking at each

category of countries individually, and thus reinforces our decision with approach 4 to focus on the countries in the fragile category.

Interrelationships

Figure 3 presents a radial diagram of the transformed (and therefore comparable) evaluations by the six indices of the ten countries they treat most similarly. Values near the rim of the diagram indicate greater fragility and those near the center indicate less (or more stability). It is interesting that these ten countries range from high (Iraq) to low (Brazil) fragility and, although African countries predominate, they are scattered across the world. There is no obvious pattern.

It is, of course, the countries with the most difference across indices that particularly interest us and also where we might expect to find patterns. Figure 4 shows the ten states with the least overall agreement, as measured by the standard deviation of the six standardized measures. Only countries with measurements from all six indices were used for this analysis. We have countries that are previously failed (Afghanistan), fragile (Burundi, also previously failed), and not as vulnerable (Argentina and Latvia). Again, geographic variation is considerable and patterns are difficult to discern.

The two outlier indices do, however, once again stand out somewhat. The Conflict Instability Ledger, as we have seen, generates relatively higher values for a select few countries that it identifies as particularly prone to internal conflict or state failure, specifically, Afghanistan, Niger, Burundi, Mali, and Tanzania. In contrast, we have seen that the CIL tends to provide lower values, relative to its own mean, than other indices for more stable countries such as Argentina do. Somewhat surprisingly, however, it provides a lower value for the Sudan, probably because the index includes no variable explicitly representing recent conflict such as that in Darfur; this is a somewhat curious element of its formulation given the degree to which past conflict is a strong predictor of future conflict, and reflects its deep roots in PITF work, which similarly does not connect prediction of conflict to past levels.

Interestingly, the EIU Political Instability value for Argentina exceeds that of Ethiopia, and the value for Latvia exceeds that of either Tanzania or Rwanda. Most indices rank these in the other order. This reversal suggests that somehow—and this was not so clear from our earlier self-characterizations-based discussion of variables tapped—the measure may be weighting economic fragility (vulnerability to economic shocks and contagions) rather higher than political fragility.

We can reinforce this comparison of the two outlier measures with the four relatively more similar fragility measures by doing so more directly. Figures 5 and 6 compare both measures separately with the other four in combination. Figure 5 looks at the ten countries for which the valuation by the Conflict Instability Ledger most exceeds the average value of the four fragility measures. These states appear to include some of the worst performers in terms of development indicators—with the obvious exception of Finland and the surprising inclusion of Botswana, one of the best performing countries of Africa. Overall, the diagram shows again the influence of both the measure's PITF roots, including the power of infant mortality, and the degree to which the measure purposefully emphasizes the least stable countries. The measure also identifies both Tanzania and Botswana as more vulnerable to conflict than the average of other measures does, which is somewhat surprising; because AIDS prevalence increases infant mortality, it is quite possible that the high CIL weight on that measure explains the result.

Figure 3. Ten Countries, Measures of Vulnerability to Domestic Conflict Most Similar
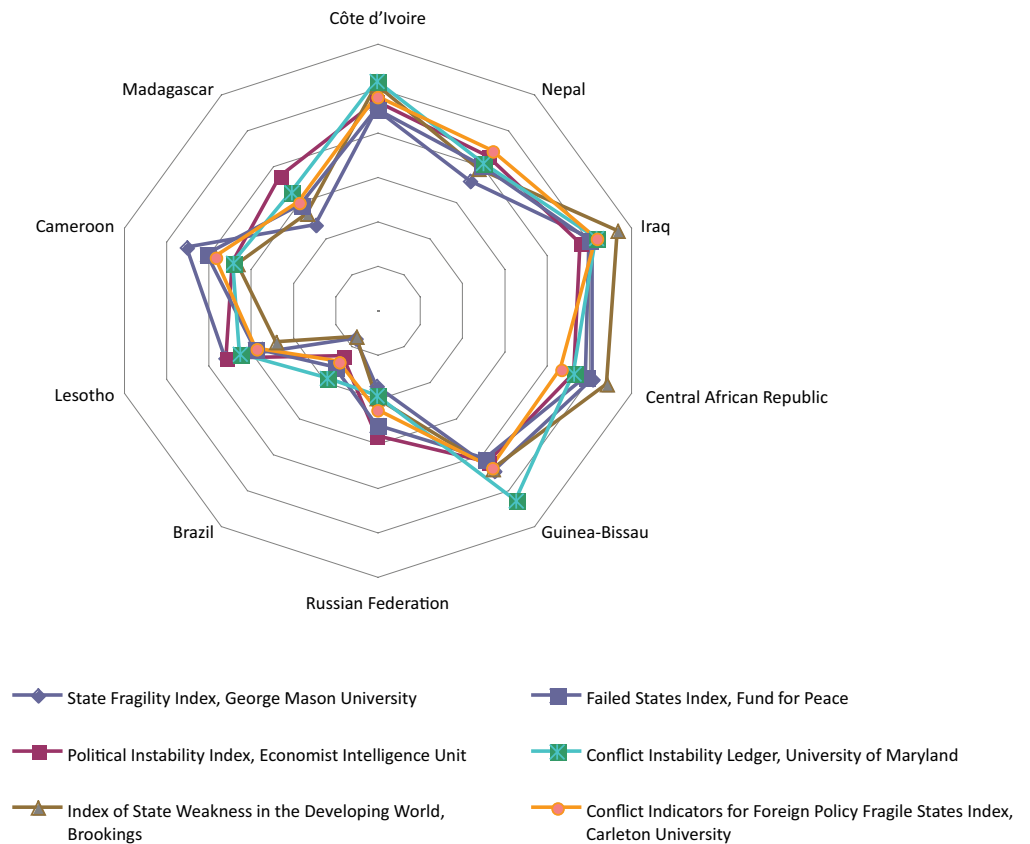
Source: Authors' calculation

The countries the EIU measure ranks most vulnerable relative to the four most similar fragility indicators (see figure 6) are a very different set. Note the inclusion of all three Baltic republics, as well as other states greatly affected by the global financial crisis, such as Greece and Iceland. We might almost expect to see Spain, Portugal, and Ireland here—countries that would round out the list of the so-called PIGS (Portugal, Ireland, Greece, and Spain). Clearly, this measure is more responsive to economic risk than one might expect from a measure called a political instability index.

Based on our approach 1 analysis, we labeled the EIU measure something of a hybrid for two reasons. First is its seeming attention in part (at least in its self-definition) to the approach of the PITF in combination with the selection of variables across social, economic, political and security categories more like the fragility measures. Second is its seemingly high attention to governance variables like those of the World Bank. Those characterizations may be true, but this more empirical analysis does suggest a different kind of hybrid character, perhaps more deeply rooted in the institutional home of the index, namely, a blending of political and economic risk.

Table 6 provides another and quite useful way of considering the groupings of states to which indices draw differential attention, and therefore helps identify the differences inher-

Figure 4. Ten Countries, Measures of Vulnerability to Domestic Conflict, Most Different

Source: Authors' calculation

ent in conceptualizations of vulnerability. Note, for instance, that the Fund for Peace index places Israel, Cuba, and Belarus relatively higher than other indices do; these three states have strong (some might say repressive) governments with respect to at least some of their population.[48] Although the list of countries is quite different, several in the George Mason set (save Norway)[49] are similarly repressive, but more often with some overt violence in recent history. We can see, in contrast, the EIU attentiveness to states that may be experiencing immediate economic weakness, such as slow growth or unemployment. The Maryland measure appears once again to emphasize states in the most fragile category, especially in human development. Even more, Brookings gives especially high values to the failing or failed states.

On the whole, it is difficult to see clear patterns in the differences among these indices. The measures are all quite rich in variables and quite different in their selections of concepts and indicators. If vulnerability truly is a multifaceted phenomenon, with vulnerable states being often nearly unique in the patterns of variables that underlie their particular vulnerability, this should perhaps not surprise us.

Figure 5. Ten Countries, Values on Conflict Instability Ledger

Source: Authors' calculation

Note: Most exceed average score

Spectrum Analysis

Grouping all countries in the international system into a single analysis lumps together societies with very different characteristics and levels of development. Comparing index treatment of Sweden and Somalia may not be theoretically sound. We therefore want to focus on the nearly fifty states of the system most vulnerable to conflict. Approach 4 does this. Before turning to that discussion, however, some analysis of the spectrum of vulnerability is merited—not on an index-specific basis to help us differentiate indices, but simply to understand the spectrum itself more fully.

Earlier in this analysis, we divided countries into four categories: states widely acknowledged to be somewhere in the process of failure; forty-eight fragile states; seventy-two states with some but limited vulnerability to conflict; and a remaining category of fifty-nine fundamentally stable countries (see appendix 3 for the full lists).

Figures 7 and 8 help us understand better the countries in the four categories of the spectrum. They each spread the countries across GDP per capita (at purchasing power parity) and

Figure 6. Ten Countries, Political Instability Index
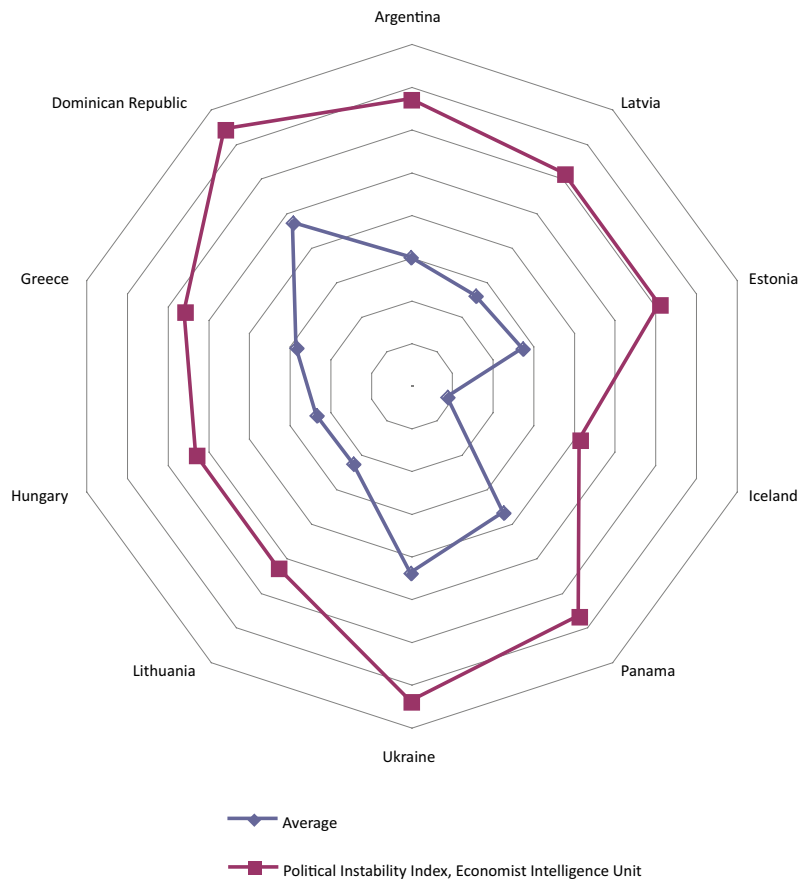
Source: Authors' calculation

Note: Most exceed average score

show the countries, by category, against two other key development variables, life expectancy (figure 7) and fertility rate (figure 8).

Both figures offer useful insights. First is the fairly clear separation of countries with respect to GDP per capita. Almost all of the most fundamentally conflict-free countries have GDP per capita of $10,000 or above.[50] The figure for Brazil is now about $8,000, sometimes said to be the lower boundary of middle-class income. Few countries in the least vulnerable category have incomes either at or even just below that level. Almost all of the countries in the other three categories do, however. Further, another obvious division is around $2,500 (about $7 per day). Above that level, most countries are in the limited vulnerability category (green dots) and, below it, most are in the fragile or failing state categories (yellow or red dots): in fact, all three of the failing states are just above or below $1,000 (Afghanistan). Clearly, income matters in shaping these categories of vulnerability.[51] This finding is not, of course, greatly surprising. Almost all the indices include GDP per capita or highly related variables.

A second insight is that both life expectancy and fertility rates vary widely across both limited vulnerability states (although these are clustered at the more developed ends) and fragile

Almost all of the most fundamentally conflict-free countries have GDP per capita of $10,000 or above. Both life expectancy and fertility rates vary widely across both limited vulnerability states and fragile states.

Table 6. Top Five Countries Ranked More Unstable than Average

	State Fragility, *George Mason*	Political Instability, *EIU*	State Weakness, *Brookings*	Failed States, *Fund for Peace*	Conflict Instability, *Maryland*	Conflict Indicators, *Carleton*
1	Rwanda	Argentina	Somalia	Israel	Niger	Swaziland
2	Norway	Latvia	DRC	Cuba	Afghanistan	São Tomé and Príncipe
3	Myanmar	Estonia	Eritrea	Belarus	Tanzania	Equatorial Guinea
4	Sudan	Panama	North Korea	Bhutan	Djibouti	Togo
5	Algeria	Ukraine	Afghanistan	Cyprus	Mali	Yemen

Source: Authors' compilation

states (less clustered). That is, on these two variables the fragile states, though consistently low on income, are all over the map. This is more surprising than the relationships with GDP per capita, especially perhaps with respect to life expectancy, because most of the indices also include human development variables. Although countries with incomes above $10,000 per capita never appear in the fragile category and seldom in the somewhat vulnerable one, a number of states with life expectancies above 60 years or fertility rates below three (relatively high levels of human development) do appear in the fragile categories. In fact, many countries in the somewhat vulnerable category have life expectancies of above 70, and most such countries have fertility rates below three. This suggests, perhaps, that changes in non-income components of human development may often precede reduction in vulnerability to conflict, at least insofar as the measures tend to capture it.

We explore the fragile state category in approach 4.

Spectrum Analysis across Time

The longitudinal graphs in figure 9 compare the four groups further. Although they again do not help us compare the indices, they do help us understand better the differences across the countries that the indices collectively capture.[52] In fact, this kind of analysis, pursued more extensively, could support theoretical considerations of the drivers of conflict vulnerability.

Figure 9 measures the Human Development Index across time for the four categories of the spectrum. The Stable 59 has enjoyed historically high levels of HDI, but the other three groups have experienced much lower overall levels. The Vulnerable 72 has seen a fairly rapid increase in HDI across time, though it has still not reached levels that the Stable 59 achieved in 1975. The Fragile 48 is just now reaching HDI levels commensurate with those the Vulnerable 72 achieved in 1975. Members of our final group, the Failing 3, have seen their HDI levels decrease over time, which could obviously either be a cause, a result, or potentially independent of the failure.

Not all trends, though, are entirely negative, even for the Failing 3. Declining GDP per capita is what has, for the most part, held HDI down for each. For example, infant mortality rates declined for all four groups from 1960 to 2011, and the Failing 3 saw a reduction of about fifty deaths per thousand, from more than 200 in 1960 to around 150 today. (In comparison, the Stable 59 has an infant mortality rate of less than six per thousand in 2005.)

Differences in economic structure are notable across groups. For example, consistent with the analysis of Paul Collier and his colleagues, analysis with IFs found that members of the

Fragile 48 are considerably more dependent on energy exports than even the Vulnerable 72 (where Saudi Arabia, Kuwait, and a number of other major exporters fall).[53] Dependence of these countries on energy and other raw material exports has presumably increased instability for many reasons, including the corruption it can engender, the pain associated with the Dutch disease, and the disruptions associated with price volatility (dependence on other raw materials would have similar effects, of course).

Political structures are also different. Figure 10 shows the Polity measure of executive constraint, one significant regime-type indicator. The stable group has exhibited relatively high levels of executive constraint since the end of World War II. The fragile and vulnerable groups have notably different trajectories. The Fragile group emerged from World War II with comparable and for a time even higher levels of constraint than did the Vulnerable group. That changed rather rapidly, though, as the fragile group began to experience more authoritarian governments (many of the fragile group members are the African states that moved rather quickly away from democracy after independence).[54] The vulnerable group did not experience the dip, and constraint grew steadily through the 1980s and thereafter.

Approach 4: Exploring Connections

This country-specific analysis and the enterprise of understanding vulnerability to conflict both suggest that we should devote more direct attention to the forty-eight fragile states. It is variability in vulnerability to conflict of those states that we most want to understand. How do the different indices perceive that vulnerability? That is, with what variables do they associate it?

Here we compare the six indices for the Fragile 48 to standard global measures of development in the four categories that so regularly characterize the study of vulnerability to conflict: social, economic, political, and security. Table 7 shows the results of this comparison. It includes the R-squared in the correlation of each index with each individual variable as well as the simple average of R-squared values for each index across the variables of each category.[55] For the correlations, we used (unless otherwise noted) the most recent data available for all variables and the most recent assessments available for all indices (a cross-sectional analysis). All shaded measures have a relationship stronger than 0.15, an arbitrary threshold. The reason for looking at these correlations is that they tell us immediately the degree to which indices reflect the content of important individual variables; in a sense we are with this analysis decomposing the indices into their driving variables.

Three of the indices have fairly strong relationships with variables in the social category. Most notably, the Maryland Conflict Instability Ledger produces a 0.396 value with the Human Development Index, presumably related to its emphasis on infant mortality. Interestingly, this analysis pairs the Conflict Instability Ledger with the George Mason State Fragility Index and the Brookings Index of Weakness in the Developing World. It is not surprising that relationships of the EIU's Political Instability Index with social variables are quite weak, but it is surprising that neither the Fund for Peace nor the Carleton University measures relate strongly to these variables. In brief, social variables differentiate two of our four more generally correlated state fragility measures from the two others and associate them instead with what we characterized as an indicator more sharply focused on state failure.

Within the social category, we also see that the George Mason measure correlates quite highly with a measure of Ethno Linguistic Fractionalization (0.211), something that none of the other measures do, as we might have expected for the EIU measure. All three of the measures quite strongly link, however, to the portion of population living on less than $1 per day. In

Figure 7. Spectrum Analysis, GDP per capita at Purchasing Power Parity and Life Expectancy
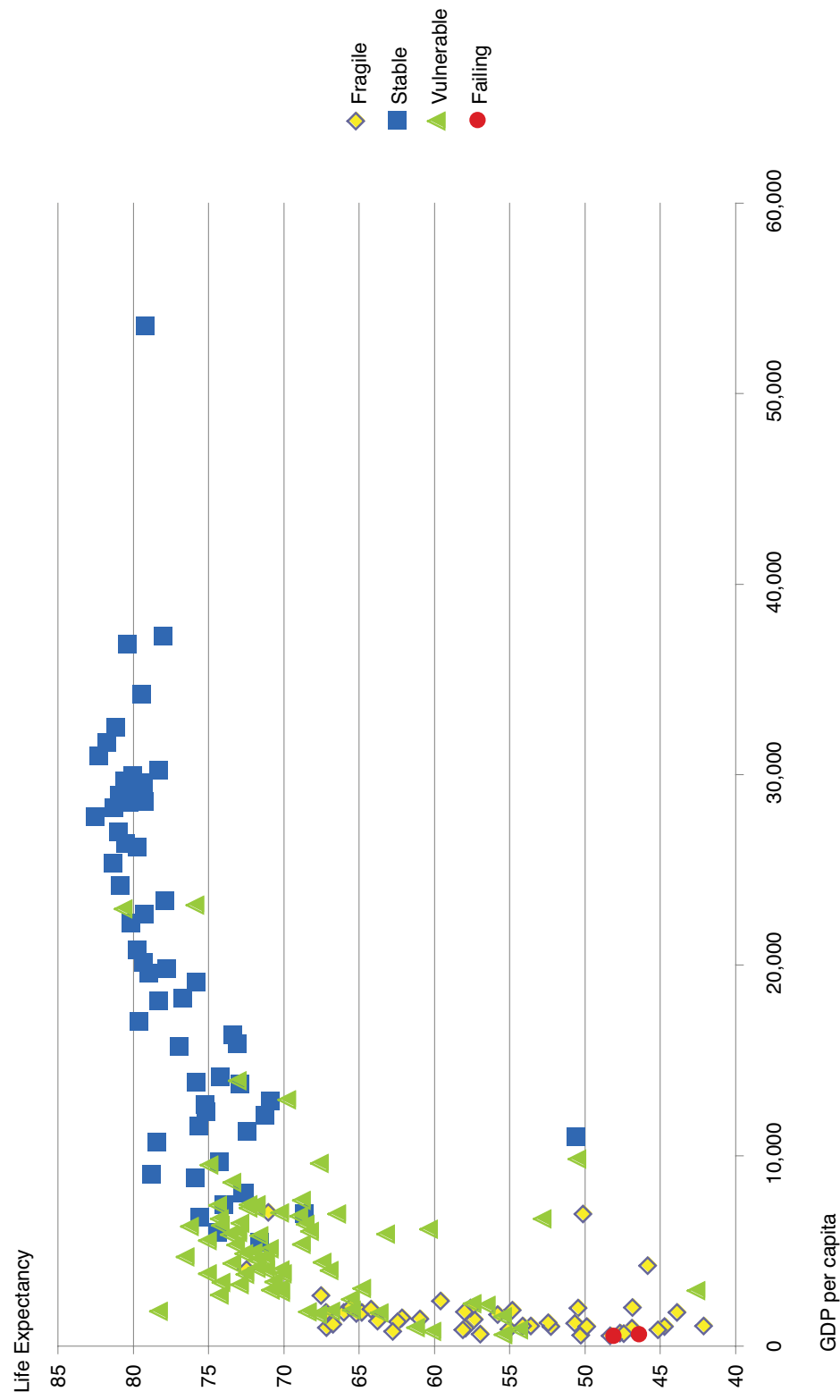
Source: IFs version 6.39

Figure 8. Spectrum Analysis, GDP per Capita at Purchasing Power Parity and Total Fertility Rate

Fertility Rate

GDP per capita
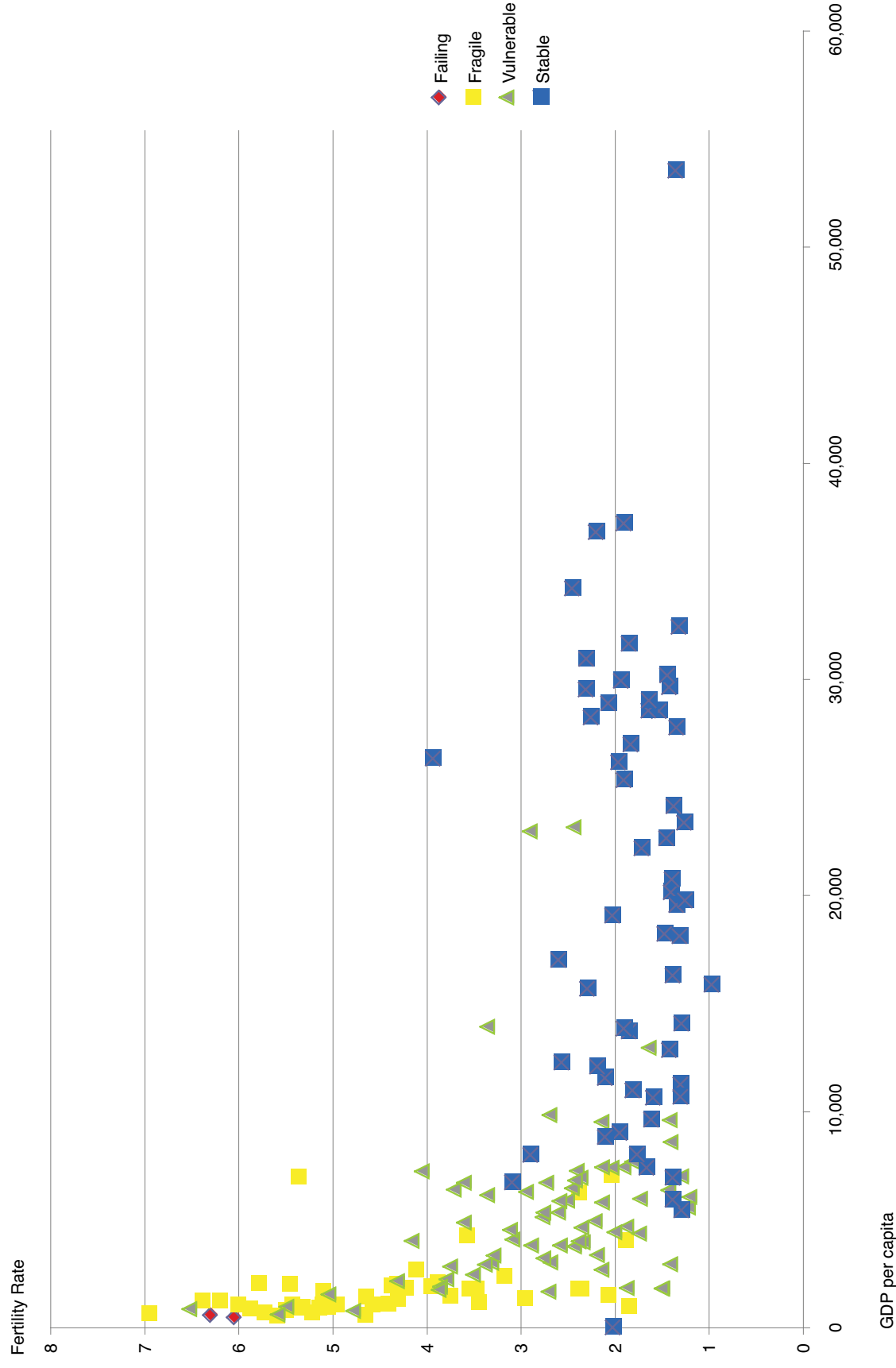
Source: IFs version 6.39

Figure 9. Spectrum Analysis, Human Development Index, 1975–2006
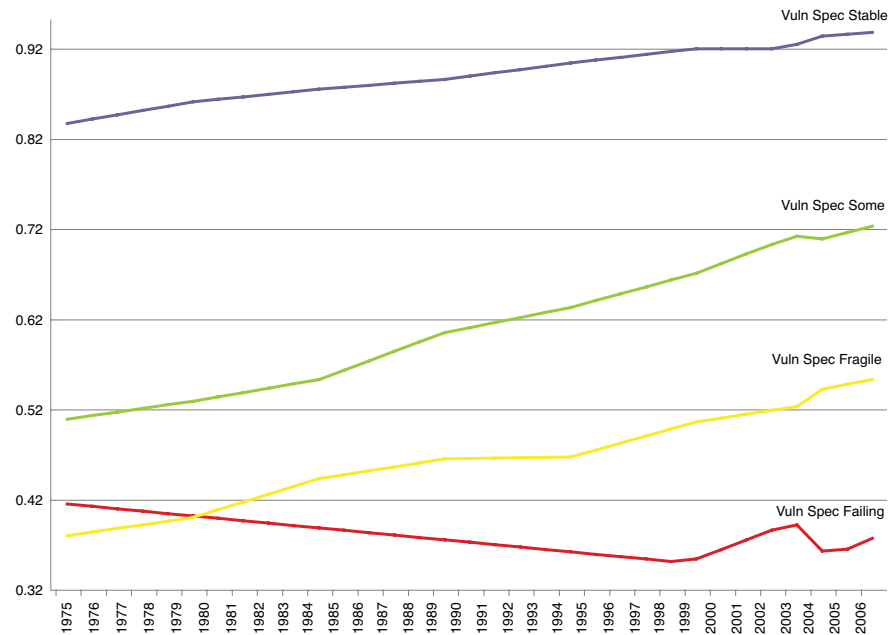
Source: IFs version 6.39

fact, that poverty measure and the HDI seem to best define the social orientation of the three measures most closely linked to social variables.

Somewhat surprisingly, the measures in general do not correlate highly with the economic variables we explored. This may be most surprising with respect to the EIU measure, though it suggests perhaps its attention to immediate economic condition (unemployment and growth) as well as economic development level. The Maryland Conflict Instability Ledger does pick up GDP per capita at a reasonably high level and the Brookings index correlates with income inequality (Gini). The latter is expected, because income inequality is a Brookings economic measure.

Turning to the political category of variables, the indices in general have higher correlations than they do with economic variables; this is true except for the George Mason measure, which has relatively low average correlations with both sets (as does the EIU measure). The political variables tapped most clearly vary across the other four indices. The Maryland measure picks up the Polity Democracy and Autocracy variables, consistent with its focus on regime consistency. The EIU and especially the Fund for Peace measure pick up the Political Terror scale. The 0.41 R-squared relating the Political Terror variable and the Fund for Peace measure is, in fact, quite striking: the Fund for Peace attentiveness to elements of repression helps us understand why it rates Israel, Cuba, and Belarus much higher on vulnerability than other indices do.

In the third category—measures of political development—relationships between the six indices and our development measures are a strange mix. First, two policy measures—democracy and autocracy—have decidedly weak relationships with our four measures of state weakness and the EIU measure, which we consider a hybrid. It strongly correlates with the Conflict Instability Measure, in measures of democracy and autocracy rather than regime type, and this would be expected, because regime consistency is important in their formulation. Similarly, the Brookings Index of State Weakness in the Developing World has a strong relationship

The Fund for Peace attentiveness to elements of repression helps us understand why it rates Israel, Cuba, and Belarus much higher on vulnerability than other indices do.

with the World Bank measure of governance effectiveness, producing a 0.400 R-squared. The Brookings measure was also relatively highly correlated with the World Bank's measure of governance regulatory quality. This is also what we would expect, because the Brookings index considers World Bank measures in creating its index. Three indices show relationships with corruption above our threshold.

In the security category we heavily relied on the data from the multiple Major Episodes of Political Violence (MEPV) series of the George Mason Center for Systemic Peace,[56] supplementing those with the Uppsala measure of internal violence and the Global Peace Index, which picks up both internal and international violence. It may therefore not be surprising that the George Mason State Fragility Index correlates most highly its own measures of violence, but it more generally has high correlations with internal violence, including that indicated by the Uppsala measure. All indices except the Maryland Conflict Instability Ledger, which unsurprisingly does not much connect with anything in this category, correlate quite strongly with the Global Peace Index. In particular, the Fund for Peace's Failed States Index shows an R-squared of 0.594 with that measure. This suggests the importance of attention for many measures to recent or ongoing conflict.

We summarize some of these findings, by index, in the next, and concluding, discussion.

Conclusions

We identified six measures of vulnerability to conflict (self-labeled and targeted in different ways) for detailed examination. These come from the Brookings Institution (Index of State Weakness in the Developing World), Carleton University (the Country Indicators for Foreign Policy Fragile States Index), the Fund for Peace (Failed States Index), the Center for Global Policy at George Mason University (the Goldstone and Marshall State Fragility Index), the Center for International Development and Conflict Management at the University of Maryland (the Conflict Instability Ledger measure), and the Economist Intelligence Unit (the Political Instability Index). As background for the analysis reported here, we also explored several other measures we found to be narrower in focus—not as sharply attentive to the concept of conflict vulnerability, but sometimes looking at governance, repression, violence, or other related or partial measures.[57]

To overcome the proliferation of terminology the measures use, but—more important—to help us understand the underlying concept of vulnerability to conflict and how assorted concepts might relate to it, we mapped out a spectrum of vulnerability. We identified failing or failed states (three in particular), fragile ones (forty-eight in our analysis), those with some vulnerability (another seventy-two), and the residual set of those consistently and widely stable. We used an average analysis of consistently transformed and compared indices to rank all states and specify the spectrum. We also relied on a widely used division of drivers of vulnerability into four categories: social, economic, political, and security.

With such foundational tools, we used four approaches in the effort to understand the similarities and differences of the six indices. First, we looked at them qualitatively and on their own terms. This involved considering their self-definitions and the variables they include, as well as looking at some of the other key methodological approaches and despite being hindered by a considerable lack of transparency in how some indices were prepared. This approach to comparison clearly identified the CIL measure as different from others in terms of its close connection to the model and variables of the Political Instability Task Force, its therefore parsimonious use of input variables, and its leaning towards prediction of failure by a few states

Figure 10. Polity Measure, Executive Constraint, 1946–2008
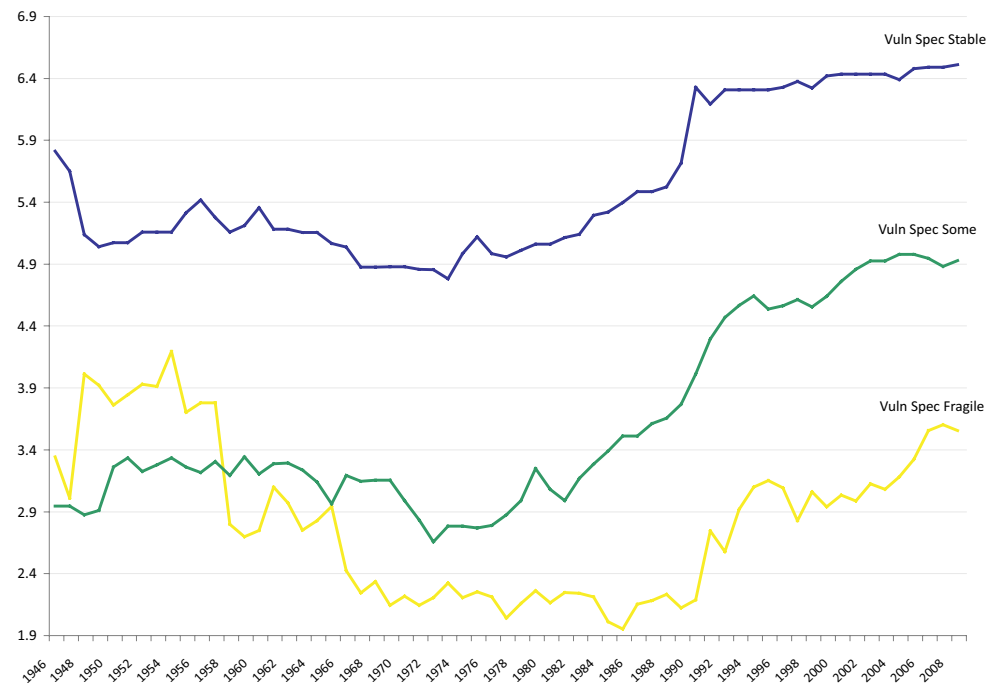
Source: IFs version 6.39

as opposed to assessment of relative fragility across many. We did, however, conclude that this distinction was perhaps not very strong across projects. Similarly, the EIU measure also began to stand out because that project, too, indicates more relative attention to prediction of conflict, but even more clearly because of its somewhat less typical use of variables across the four categories, including more attention to fractionalization and governance variables; its use of other indices and expert judgment analyses in contrast to off-the-shelf data; and its stated connection to the PITF state failure model—despite its obviously more hybrid character.

With approach 2, we compared all measures across all countries they assess. Using correlations of each with all others, as well as the transformation of indices to standardized derivative forms and analysis of each against each other and relative to the average index values, we found that, in fact, the Carleton, George Mason, Fund for Peace, and Brookings measures were most closely related to each other and the average, more or less in that sequence (that is, Carleton and George Mason most characterizing the central tendency), and we characterized these four as most sharply focusing on understanding variations within the fragile-state set. Yet we also found that the Brookings index, to some degree like that of Maryland, more sharply distinguishes a small set of most fragile or failing states from others. The EIU measure, like that of Maryland, sets off a number of countries from the average pattern, but whereas Maryland tends to do so by emphasizing the most fragile or failing, the EIU measure does so for the less fragile, which began to suggest that it is tapping something quite different—something perhaps closer to political risk.

Approach 3 took us to a consideration of how the measures differ with respect to specific countries. Our hope was that we could identify some groupings of countries that specific measures were most likely to assess as being more or less vulnerable than other indices did, but such identification proved at best difficult. There was no difficulty in once again seeing the degree

Table 7. Fragile States and Development Indicators

	State Fragility	State Weakness	Failed States	Conflict Indicators	Political Instability	Conflict Instability
Social						
Education secondary gross enrollment	0.21	0.254	0.04	0.157	0.012	0.303
Infant mortality	0.177	0.125	0.002	0.075	0.002	0.294
Ethno linguistic fractionalization	0.211	0	0	0.007	0.002	0.102
Human development index	0.257	0.264	0.076	0.082	0.031	0.396
Total fertility rate	0.204	0.032	0.006	0.063	0.001	0.293
Percent living on less than US$1/day	0.305	0.36	0.071	0.084	0.126	0.309
Average R-squared	0.227	0.173	0.033	0.078	0.029	0.283
Economic						
GDP per capita at PPP	0.119	0.142	0.058	0.081	0.026	0.218
Energy exports oil	0.1	0.007	0.001	0.028	0.006	0.023
Energy exports as a % GDP	0.004	0.023	0.03	0	0.014	0.024
Gini for income	0.008	0.242	0.018	0.009	0.075	0.032
Average R-squared	0.058	0.104	0.027	0.03	0.03	0.074
Political						
Political terror scale	0.043	0.101	0.41	0.091	0.218	0.002
Governance effectiveness	0.007	0.4	0.147	0.13	0.197	0.001
Governance regulatory quality	0	0.22	0.078	0.033	0.036	0.081
Corruption	0.059	0.176	0.238	0.153	0.168	0.011
Polity democracy	0.005	0	0.003	0.008	0.058	0.302
Polity autocracy	0.075	0.011	0	0.001	0.047	0.286
Regime durability	0.151	0.014	0.01	0.101	0.064	0.146
Average R-squared	0.049	0.132	0.127	0.074	0.113	0.118
Security						
Uppsala intensity of internal conflict, average all years[1]	0.204	0.051	0.093	0.043	0.011	0.001
MEPV ethnic violence magnitude, average all years	0.099	0.071	0.177	0.103	0.04	0.051

Table 7. Fragile States and Development Indicators (continued from page 37)

	State Fragility	State Weakness	Failed States	Conflict Indicators	Political Instability	Conflict Instability
MEPV total neighborhood violence magnitude, average all years	0.003	0.024	0.002	0.001	0.006	0.04
MEPV total neighborhood violence episodes, average all years	0.081	0	0.057	0.008	0.001	0.008
MEPV social violence magnitude (average 1994–2004)	0.18	0.082	0.006	0.048	0.031	0.001
MEPV total violence magnitude (average 1994–2004)	0.198	0.12	0.014	0.082	0.026	0.004
MEPV social violence magnitude	0.165	0.082	0.029	0.065	0.015	0
MEPV total violence magnitude	0.12	0.075	0.03	0.064	0.02	0
Global peace index	0.154	0.359	0.594	0.279	0.298	0.038
Average R-squared	0.134	0.096	0.111	0.077	0.05	0.016

Source: Authors' compilation

[1] The onset of conflict is a discrete event; we averaged this variable across time to produce a longer-term conflict propensity, rather than simply relying on the most recent year. Theoretically, a country could have had conflict for many years excepting the most recent one. In other instances we looked, somewhat arbitrarily, at a block of eleven years (1994–2004).

Note: MEPF security measures are the Major Episodes of Political Violence series of the George Mason Center for Systemic Peace.

Note: Shared entries in the table represent adjusted R-squared values of 0.15 or higher.

to which the Maryland and EIU measures stand out from the other four and each other. The Maryland CIL clearly emphasizes a smaller subset of the very most vulnerable, and the EIU Political Instability Index somewhat surprised us with the extent to which the countries it rates considerably more vulnerable than other indices rate them exhibit economic and especially financial vulnerability—not what we would consider vulnerability to destabilizing conflict. The Fund for Peace measure emerges in this analysis to be more attentive than others to strong and potentially repressive states, or at least to those exhibiting conflict ostensibly by news feed (this measure is the least transparent of all).

We took a bit of a digression with respect to comparison across countries and considered what the spectrum of vulnerability might show us in relationship to other variables and across time. We found a strong, curvilinear relationship with GDP per capita and an interesting connection between dependence on energy exports and membership in the fragile set of the spectrum.

The fourth and final approach to comparison moved us into a much more extensive consideration of specific variables related to vulnerability and their correlations with the six indices.

We looked at the variables once again in the four standard categories. This analysis was productive and yielded these findings:

- The George Mason State Fragility Index relates most strongly to social variables, especially poverty and human development, and to internal conflict. It gives some attention to regime durability but in general does not relate strongly to economic or political variables.

- Although the overall highest correlations are with social and mostly human development variables, and not with social divisions, the Brookings Index of State Weakness has probably the most balanced coverage across all categories, consistent with its transparent identification with standard variables in each.

- The Fund for Peace's Failed State Index, the least transparent, clearly taps political terror and the content of the Global Peace Index—domestic and international violence—very strongly. It also picks up corruption fairly strongly. But, contrary to some measures of fragility, it does not relate to social variables. Because it uses news feeds, generally sensitive to events rather than levels of variables, this should perhaps not surprise us. Overall, the measure may be influenced fairly heavily by state delegitimization.

- The Carleton University Fragile States Index is generally balanced, like Brookings, but rather surprisingly its correlations with specific measures are not very strong, the Global Peace Index being an exception.

- The Economist Intelligence Unit's Political Instability Index reflects primarily political variables and the Global Peace Index in the security category. We have not included the immediate economic condition variables, such as unemployment or the most recent year's GDP growth, that might tie it to the economic category; these are important to its structure.

- The University of Maryland's Conflict Instability Ledger is most strongly related to the social variables: its average correlation with the variables in that category is the highest average correlation of all indices across all categories. Secondarily, it relates to the political category, notably to the Polity variables of democracy and autocracy. As noted in other analysis, it does not link directly to security variables, either existing or recent conflict.

One of the somewhat surprising overall conclusions of analysis with this fourth approach is the differentiation between the George Mason and Brookings measures of fragility from those of the Fund for Peace and even the Carleton measure.

Although this analysis can considerably help us in understanding the similarities and differences of conflict vulnerability indices, it cannot and does not attempt to identify the intrinsically or methodologically 'best' measure or measures. It does, however, allow those who use these findings to better understand the ways in which the principal validity constructs of different projects affect the ways in which lists of vulnerable states are generated and how some apparent discrepancies, such as the ranking of Tanzania in the CIL project, might occur.

One might argue that measures producing country-specific assessments and overall rankings closest to the average across multiple measures have an inherent advantage. One foundation for such argument could be that such measures are likely to have more comprehensively included variables across the four categories of analysis. Yet it is also possible, even probable, that some variables and some categories are more important than others, so that universal inclusion (generally with equal weighting) is not necessarily superior to greater

The Brookings Index of State Weakness has probably the most balanced coverage across all categories, consistent with its transparent identification with standard variables in each.

selectivity. Moreover, some variables could find their way into multiple measures simply because of their ready availability, such as life expectancy or current conflict, rather than demonstrated forecasting power.

Another argument for looking at the central tendency of multiple measures could be that such measures may be capturing the collective wisdom of common-thinking analysts. We argue, however, that it would better serve users to be very aware and appreciative of the underlying concepts of vulnerability that these works seek to evaluate. Whether the underlying concern is *state failure, fragility, political risk,* or some other variant makes a very considerable difference in how these projects determine indicators, score cases, and report results. Thus the use of them in practical applications such as in early warning should be closely attentive to the underlying conceptualization.

As a result, this study, like any other that has broken new ground, also sets the stage for future analysis, including exploration of the relationship between vulnerability measures and subsequent materialization or onset of conflict. Such understanding of predictive power would obviously be of great value.

Appendix 1. Country Rankings across All Six Indices

	State Fragility	Political Insta- bility	State Weak- ness	Failed States	Conflict Insta- bility	Conflict Indica- tors	Average
Average	8.89	5.9	3.8	71.98	6.94	4.91	—
SD	6.51	1.42	1.66	23.33	7.99	1.03	—
Afghanistan	2.01	1.34	2.73	1.6	4	1.73	2.24
Somalia	2.48	—	3.41	1.81	1.25	1.81	2.15
Congo	2.17	1.62	2.72	1.63	2.77	1.55	2.08
Burundi	1.55	0.71	1.8	1.06	2.92	1.71	1.62
Iraq	1.55	1.41	1.86	1.51	1.6	1.59	1.59
Chad	1.86	1.84	1.38	1.77	1.21	1.32	1.56
Niger	1.4	1.13	0.96	1.11	3.28	0.98	1.48
Sudan	2.17	1.48	1.75	1.71	-0.29	1.83	1.44
Central Afri- can Republic	1.55	1.34	1.72	1.48	1.33	1.18	1.43
Liberia	1.55	1.06	1.54	0.85	1.97	1.44	1.4
Palestine	—	—	—	—	—	1.4	1.4
Sierra Leone	1.71	0.92	1.46	0.93	2.05	1.3	1.39
Côte d'Ivoire	1.25	1.34	1.52	1.25	1.57	1.4	1.39
Nigeria	1.71	0.78	0.79	1.21	2.34	1.36	1.36
Angola	1.4	1.2	1.49	0.5	1.64	1.4	1.27
Guinea- Bissau	1.25	1.13	1.22	1.08	1.66	1.2	1.26
Zimbabwe	1.09	2.05	1.66	1.64	-0.09	0.98	1.22
Ethiopia	1.55	-0.57	1.04	1.15	2.49	1.43	1.18
Haiti	0.63	1.34	1.46	1.27	0.77	1.5	1.16
Djibouti	0.94		0.53	0.42	2.66	1.09	1.13
Zambia	1.4	1.34	0.58	0.51	2.16	0.65	1.11
Pakistan	1.09	1.34	0.58	1.31	0.96	1.23	1.09
Guinea	1.25	1.13	0.92	1.42	0.37	1.23	1.05
Kenya	0.94	1.13	0.33	1.23	1.38	1.12	1.02
Nepal	0.79	1.13	0.95	1	1.03	1.21	1.02
Mauritania	1.09	0.71	0.54	0.73	1.81	1.2	1.01
Myanmar	1.86	0.85	1.22	1.18	-0.12	0.96	0.99
Uganda	1.4	0.42	0.8	1.09	0.75	1.17	0.94
Cameroon	1.25	0.71	0.65	1	0.7	0.91	0.87
Mali	0.79	0.78	0.21	0.31	2.37	0.68	0.86
Yemen	1.09	0.14	0.61	1.2	0.58	1.51	0.86
North Korea	0.17	1.27	1.4	1.11	0.22	0.94	0.85
Eritrea	0.79	0.56	1.42	0.91	0.03	1.37	0.85
Burkina Faso	1.25	0.71	0.41	0.8	0.9	0.83	0.81

	State Fragility	Political Insta-bility	State Weak-ness	Failed States	Conflict Insta-bility	Conflict Indica-tors	Average
Timor-Leste	0.94	0.99	0.41	1.12	0.92	0.41	0.8
Cambodia	0.63	1.48	0.56	0.72	0.11	0.73	0.7
Congo	1.09	0.28	0.98	0.88	-0.33	1.11	0.67
Tanzania	0.48	0	0.16	0.39	2.2	0.71	0.66
Malawi	0.94	-0.14	0.36	0.93	1.07	0.72	0.65
Tajikistan	0.63	0.85	0.51	0.74	0.17	0.85	0.62
Rwanda	1.71	-0.71	0.91	0.72	0.07	1.01	0.62
Comoros	0.79	—	0.6	0.56	0.12	0.9	0.59
Mozambique	0.94	-0.14	0.53	0.42	1.11	0.5	0.56
Bangladesh	0.48	1.13	0.34	1.03	-0.49	0.86	0.56
Lesotho	0.79	0.78	0.19	0.44	0.62	0.43	0.54
Togo	0.79	-0.43	0.84	0.69	-0.04	1.16	0.5
Equatorial Guinea	0.48	0.14	0.86	0.71	-0.39	1.16	0.49
Bolivia	0.17	1.27	0	0.55	0.73	0.21	0.49
Madagascar	0.17	0.85	0.33	0.45	0.63	0.5	0.49
Sri Lanka	0.48	0.99	0.16	1.02	-0.26	0.37	0.46
Kyrgyzstan	0.48	0.85	-0.12	0.7	0.23	0.5	0.44
Benin	0.63	0	-0.1	0.21	1.13	0.75	0.44
Colombia	0.32	0.78	0.34	0.7	-0.04	0.32	0.4
Senegal	0.17	1.13	-0.05	0.11	0.33	0.67	0.39
Solomon Islands	0.17	—	0.17	0.71	—	0.51	0.39
Gambia	0.94	0.56	0.25	0.35	-0.52	0.75	0.39
Iran	0.94	0.21	-0.03	0.87	-0.61	0.91	0.38
Algeria	1.09	0.49	0.08	0.4	-0.24	0.45	0.38
Uzbekistan	0.63	0.28	0.54	0.79	-0.67	0.66	0.37
Lebanon	0.17	0.78	-0.49	0.81	0.45	0.52	0.37
Papua New Guinea	0.32	0.71	0.53	0.51	-0.57	0.62	0.35
Ecuador	0.32	1.27	-0.35	0.42	0.11	0.26	0.34
Laos	0.79	-0.57	0.4	0.72	-0.33	0.94	0.32
Guatemala	0.48	0.49	0.03	0.39	-0.17	0.67	0.32
Philippines	0.48	0.63	0.07	0.65	-0.33	0.18	0.28
Venezuela	0.02	0.99	-0.08	0.29	0.03	0.21	0.24
Georgia	0.02	0.28	-0.48	0.79	0.26	0.55	0.24
Turkmenistan	0.32	0.21	0.56	0.45	-0.67	0.39	0.21
India	0.48	-0.99	-0.05	0.31	0.63	0.78	0.19
Indonesia	-0.14	0.63	-0.18	0.48	-0.22	0.53	0.19

	State Fragility	Political Insta-bility	State Weak-ness	Failed States	Conflict Insta-bility	Conflict Indica-tors	Average
Honduras	0.02	0.63	-0.08	0.34	-0.34	0.49	0.18
Egypt	0.63	-0.35	-0.18	0.67	-0.12	0.4	0.17
Ghana	0.63	0	-0.31	-0.21	0.42	0.51	0.17
Moldova	0.17	1.13	-0.42	0.51	-0.53	0.15	0.17
Turkey	0.17	0.63	-0.59	0.22	0.17	0.28	0.15
Azerbaijan	0.79	-0.5	-0.21	0.53	-0.38	0.56	0.13
Russian Federation	-0.14	0.42	0	0.3	-0.03	0.13	0.11
Guyana	0.17	0.56	-0.38	0.04	0.09	0.17	0.11
Swaziland	—	-0.85	0.52	0.46	-0.57	0.9	0.09
Nicaragua	0.02	0	-0.1	0.45	-0.36	0.44	0.07
Syria	0.02	-0.07	0.03	0.68	-0.73	0.43	0.06
Dominican Republic	-0.44	1.2	-0.49	0.21	-0.26	0.11	0.05
Saudi Arabia	0.17	0.14	—	0.24	-0.77	0.43	0.04
Peru	-0.14	0.78	-0.49	0.21	-0.13	-0.01	0.04
Bosnia and Herzegovina	-0.6	1.13	-0.86	0.49	-0.34	0.22	0.01
South Africa	0.02	0.78	-0.78	-0.18	0.14	-0.07	-0.01
Ukraine	-0.44	1.2	-0.71	-0.11	-0.14	0.06	-0.02
Bhutan	0.17	-0.43	-0.53	0.66	-0.49	0.4	-0.04
Thailand	-0.29	0.78	-0.18	0.29	-0.67	-0.3	-0.06
Namibia	-0.29	-0.07	-0.28	0.11	0.32	-0.17	-0.06
Armenia	-0.29	-0.07	-0.69	0.09	0.48	0.08	-0.07
Paraguay	-0.14	0.35	-0.15	0	-0.44	-0.09	-0.08
São Tomé and Príncipe	—	-1.13	0.02	0.16	—	0.6	-0.09
Gabon	0.17	-0.57	0.01	0.14	-0.53	0.21	-0.09
Maldives	—	—	-0.63	0.27	—	-0.02	-0.13
Mongolia	-0.14	0.14	0.02	-0.51	-0.54	0.05	-0.16
China	0.02	-0.78	-0.13	0.47	-0.72	0.15	-0.17
Serbia	-0.6	0.35	-0.74	0.25	-0.66	0.38	-0.17
Morocco	-0.44	-0.21	-0.55	0.21	-0.59	0.2	-0.23
Fiji	-0.29		-0.16	0.36	-0.77	-0.31	-0.23
El Salvador	-0.44	-0.5	-0.54	0.26	-0.27	0.01	-0.25
Macedonia	-0.6	0.49	-0.88	0.03	-0.56	-0.07	-0.26
Israel	-0.14	-0.28		0.54	-0.79	-0.64	-0.26
Kazakhstan	0.17	-0.78	-0.43	0.03	-0.67	0.09	-0.27
Belize	—	0.21	-0.91	-0.14	—	-0.24	-0.27

	State Fragility	Political Insta-bility	State Weak-ness	Failed States	Conflict Insta-bility	Conflict Indica-tors	Average
Micronesia	—	—	-0.65	-0.06	—	-0.14	-0.28
Mexico	-0.9	0.14	-0.98	0.18	0.04	-0.22	-0.29
Jordan	-0.44	-0.35	-0.93	0.21	-0.28	-0.05	-0.31
Suriname	-0.14	—	-0.78	0.02	—	-0.44	-0.33
Vanuatu	—	—	-0.9	—	—	0.23	-0.33
Brazil	-0.6	-0.35	-0.61	-0.2	-0.04	-0.27	-0.35
Vietnam	-0.29	-1.13	-0.28	0.2	-0.79	0.19	-0.35
Jamaica	-0.9	0.07	-0.64	-0.2	-0.42	-0.07	-0.36
Botswana	-0.75	-0.85	-0.64	-0.15	0.71	-0.5	-0.36
Albania	-0.6	0.21	-0.84	-0.21	-0.54	-0.2	-0.36
Malaysia	-0.44	0.42	-1.2	-0.12	-0.41	-0.49	-0.37
Montenegro	-0.75	0.35	—	-0.63	-0.51		-0.38
St. Vincent and the Grenadines	—	—	—	—	—	-0.39	-0.39
Tonga	—		-0.67			-0.11	-0.39
Cape Verde	—	-0.28	-1.06	0.22	-0.68	-0.18	-0.4
Panama	-0.6	0.85	-1.05	-0.54	-0.66	-0.43	-0.4
Cuba	-0.6	-1.2	0.02	0.32	-0.81	-0.16	-0.4
Belarus	-0.6	-0.78	-0.26	0.29	-0.76	-0.4	-0.42
Libya	-0.29	-1.13	-0.36	-0.12	-0.72	0.08	-0.42
Romania	-0.6	0.35	-1.03	-0.51	-0.48	-0.39	-0.44
Tunisia	-0.29	-0.92	-0.85	-0.19	-0.47	-0.29	-0.5
Samoa	—	—	-1.21	-0.04	—	-0.33	-0.53
Bahrain	-0.75	-0.28	—	-0.57	-0.79	-0.32	-0.54
Trinidad and Tobago	-0.75	-0.85	—	-0.25	-0.64	-0.33	-0.57
Kuwait	-0.9	-0.28	—	-0.45	-0.78	-0.46	-0.58
Bulgaria	-0.75	0.07	-1.31	-0.46	-0.52	-0.54	-0.58
Argentina	-1.21	0.85	-0.88	-1.12	-0.46	-0.8	-0.6
Estonia	-1.37	0.56	—	-0.91	-0.63	-1.09	-0.69
Qatar	-0.44	-1.27	—	-0.87	-0.79	-0.11	-0.7
Croatia	-0.9	0.14	-1.49	-0.56	-0.73	-0.76	-0.72
Grenada	—	—	-1.37	-0.21	—	-0.58	-0.72
Brunei	—	—	—	—	—	-0.76	-0.76
Greece	-1.21	0.28	—	-1.12	-0.79	-0.95	-0.76
Bahamas	—	—	—	-0.56		-1	-0.78
Latvia	-1.37	0.56	-1.73	-0.71	-0.57	-1.03	-0.81

	State Fragility	Political Insta-bility	State Weak-ness	Failed States	Conflict Insta-bility	Conflict Indica-tors	Average
United Arab Emirates	-0.9	-1.27	—	-0.84	-0.83	-0.28	-0.83
Cyprus	-0.9	-1.27	—	-0.17	-0.79	-1.12	-0.85
Oman	-0.6	-1.41	-1.36	-1	-0.81	-0.33	-0.92
Spain	-1.21	-0.28	—	-1.22	-0.83	-1.21	-0.95
South Korea	-1.37	-0.57	—	-1.32	-0.69	-1.06	-1
Hungary	-1.37	0.14	-1.93	-0.94	-0.82	-1.14	-1.01
Lithuania	-1.21	0.14	-1.85	-1.04	-0.78	-1.33	-1.01
United States	-1.06	-0.43	—	-1.57	-0.76	-1.26	-1.02
Italy	-1.37	-0.64	—	-1.13	-0.82	-1.15	-1.02
Slovakia	-1.21	-0.28	-1.93	-0.99	-0.82	-1.07	-1.05
Malta	—	-0.85	—	-1.02	—	-1.33	-1.07
Uruguay	-1.21	-0.5	-1.54	-1.32	-0.76	-1.21	-1.09
France	-1.37	-0.43	—	-1.59	-0.82	-1.26	-1.09
Taiwan, China	-1.37	-1.13	—	—	-0.78	—	-1.09
Barbados	—	—	—	-0.71	—	-1.52	-1.11
Singapore	-1.21	-0.85	—	-1.59	-0.78	-1.2	-1.13
Poland	-1.37	-0.99	-1.69	-0.99	-0.79	-0.97	-1.13
Chile	-1.06	-0.57	-1.89	-1.46	-0.76	-1.15	-1.15
Portugal	-1.37	-0.78	—	-1.67	-0.83	-1.34	-1.2
Costa Rica	-1.37	-1.7	-1.47	-0.86	-0.78	-1.01	-1.2
United Kingdom	-1.37	-0.92	—	-1.63	-0.82	-1.32	-1.21
Czech Republic	-1.21	-1.56	—	-1.31	-0.78	-1.26	-1.22
St. Lucia	—	—	-1.75	—	—	-0.73	-1.24
Mauritius	-1.21	-1.7	-1.56	-1.18	-0.78	-1.01	-1.24
Belgium	-1.06	-1.34	—	-1.71	-0.77	-1.49	-1.27
Slovenia	-1.37	-1.48	—	-1.54	-0.84	-1.54	-1.35
Germany	-1.37	-1.48	—	-1.57	-0.83	-1.53	-1.36
Netherlands	-1.37	-1.34	—	-1.89	-0.83	-1.46	-1.38
Japan	-1.37	-1.48	—	-1.74	-0.82	-1.52	-1.39
Ireland	-1.37	-0.92	—	-2.13	-0.83	-1.69	-1.39
Australia	-1.06	-1.63	—	-1.92	-0.82	-1.7	-1.42
New Zealand	-1.21	-1.63	—	-2.06	-0.82	-1.79	-1.5
Austria	-1.37	-1.63	—	-1.92	-0.83	-1.77	-1.5
Iceland	—	-0.43	—	-1.81	—	-2.29	-1.51
Switzerland	-1.21	-1.77	—	-2.15	-0.83	-1.83	-1.56

	State Fragility	Political Insta-bility	State Weak-ness	Failed States	Conflict Insta-bility	Conflict Indica-tors	Average
Canada	-1.37	-2.19	—	-1.89	-0.81	-1.84	-1.62
Sweden	-1.37	-1.91	—	-2.19	-0.84	-2.17	-1.7
Finland	-1.37	-1.91	—	-2.26	-0.82	-2.16	-1.7
Luxembourg	—	-1.63	—	-1.92	—	-1.73	-1.76
Hong Kong	—	-1.34	—	—	—	-2.19	-1.77
Denmark	-1.37	-2.61	—	-2.1	-0.83	-2.04	-1.79
Norway	-1.06	-3.32	—	-2.28	-0.82	-2.22	-1.94
Puerto Rico	—	—	—	—	—	—	—

Source: Authors' compilation

Appendix 2. Country Rankings across Four Indices

	State Fragility	State Weakness	Failed States	Conflict Indicators	Average
Average	8.89	3.80	71.98	4.91	
SD	6.51	1.66	23.33	1.03	
Somalia	2.48	3.41	1.81	1.81	2.38
Afghanistan	2.01	2.73	1.60	1.73	2.02
Congo	2.17	2.72	1.63	1.55	2.01
Sudan	2.17	1.75	1.71	1.83	1.86
Iraq	1.55	1.86	1.51	1.59	1.63
Chad	1.86	1.38	1.77	1.32	1.58
Burundi	1.55	1.80	1.06	1.71	1.53
Central African Republic	1.55	1.72	1.48	1.18	1.48
Palestine	—	—	—	1.40	1.40
Côte d'Ivoire	1.25	1.52	1.25	1.40	1.36
Sierra Leone	1.71	1.46	0.93	1.30	1.35
Liberia	1.55	1.54	0.85	1.44	1.34
Zimbabwe	1.09	1.66	1.64	0.98	1.34
Myanmar	1.86	1.22	1.18	0.96	1.31
Ethiopia	1.55	1.04	1.15	1.43	1.29
Nigeria	1.71	0.79	1.21	1.36	1.27
Haiti	0.63	1.46	1.27	1.50	1.22
Guinea	1.25	0.92	1.42	1.23	1.20
Angola	1.40	1.49	0.50	1.40	1.20
Guinea-Bissau	1.25	1.22	1.08	1.20	1.19
Eritrea	0.79	1.42	0.91	1.37	1.12
Uganda	1.40	0.80	1.09	1.17	1.12
Niger	1.40	0.96	1.11	0.98	1.11
Yemen	1.09	0.61	1.20	1.51	1.10
Rwanda	1.71	0.91	0.72	1.01	1.09
Pakistan	1.09	0.58	1.31	1.23	1.05
Congo	1.09	0.98	0.88	1.11	1.02
Nepal	0.79	0.95	1.00	1.21	0.99
Cameroon	1.25	0.65	1.00	0.91	0.95
North Korea	0.17	1.40	1.11	0.94	0.90
Kenya	0.94	0.33	1.23	1.12	0.90
Mauritania	1.09	0.54	0.73	1.20	0.89
Togo	0.79	0.84	0.69	1.16	0.87
Burkina Faso	1.25	0.41	0.80	0.83	0.82

	State Fragility	State Weakness	Failed States	Conflict Indicators	Average
Equatorial Guinea	0.48	0.86	0.71	1.16	0.80
Zambia	1.40	0.58	0.51	0.65	0.79
Djibouti	0.94	0.53	0.42	1.09	0.75
Malawi	0.94	0.36	0.93	0.72	0.74
Timor-Leste	0.94	0.41	1.12	0.41	0.72
Comoros	0.79	0.60	0.56	0.90	0.71
Laos	0.79	0.40	0.72	0.94	0.71
Tajikistan	0.63	0.51	0.74	0.85	0.68
Bangladesh	0.48	0.34	1.03	0.86	0.68
Iran	0.94	-0.03	0.87	0.91	0.67
Cambodia	0.63	0.56	0.72	0.73	0.66
Uzbekistan	0.63	0.54	0.79	0.66	0.66
Swaziland	—	0.52	0.46	0.90	0.63
Mozambique	0.94	0.53	0.42	0.50	0.59
Gambia	0.94	0.25	0.35	0.75	0.57
Sri Lanka	0.48	0.16	1.02	0.37	0.50
Algeria	1.09	0.08	0.40	0.45	0.50
Mali	0.79	0.21	0.31	0.68	0.50
Papua New Guinea	0.32	0.53	0.51	0.62	0.50
Lesotho	0.79	0.19	0.44	0.43	0.46
Tanzania	0.48	0.16	0.39	0.71	0.43
Turkmenistan	0.32	0.56	0.45	0.39	0.43
Colombia	0.32	0.34	0.70	0.32	0.42
Azerbaijan	0.79	-0.21	0.53	0.56	0.42
Guatemala	0.48	0.03	0.39	0.67	0.39
Kyrgyz Republic	0.48	-0.12	0.70	0.50	0.39
Solomon Islands	0.17	0.17	0.71	0.51	0.39
Egypt	0.63	-0.18	0.67	0.40	0.38
India	0.48	-0.05	0.31	0.78	0.38
Benin	0.63	-0.10	0.21	0.75	0.37
Madagascar	0.17	0.33	0.45	0.50	0.36
Philippines	0.48	0.07	0.65	0.18	0.35
Syria	0.02	0.03	0.68	0.43	0.29
Saudi Arabia	0.17	—	0.24	0.43	0.28
São Tomé and Príncipe	—	0.02	0.16	0.60	0.26
Lebanon	0.17	-0.49	0.81	0.52	0.25
Bolivia	0.17	0.00	0.55	0.21	0.24
Senegal	0.17	-0.05	0.11	0.67	0.23

	State Fragility	State Weakness	Failed States	Conflict Indicators	Average
Georgia	0.02	-0.48	0.79	0.55	0.22
Nicaragua	0.02	-0.10	0.45	0.44	0.20
Honduras	0.02	-0.08	0.34	0.49	0.19
Indonesia	-0.14	-0.18	0.48	0.53	0.17
Bhutan	0.17	-0.53	0.66	0.40	0.17
Ecuador	0.32	-0.35	0.42	0.26	0.16
Ghana	0.63	-0.31	-0.21	0.51	0.16
Gabon	0.17	0.01	0.14	0.21	0.13
China	0.02	-0.13	0.47	0.15	0.13
Venezuela	0.02	-0.08	0.29	0.21	0.11
Moldova	0.17	-0.42	0.51	0.15	0.10
Russian Federation	-0.14	0.00	0.30	0.13	0.07
Turkey	0.17	-0.59	0.22	0.28	0.02
Guyana	0.17	-0.38	0.04	0.17	0.00
Kazakhstan	0.17	-0.43	0.03	0.09	-0.04
Vietnam	-0.29	-0.28	0.20	0.19	-0.04
Israel	-0.14	—	0.54	-0.64	-0.08
Paraguay	-0.14	-0.15	0.00	-0.09	-0.09
Fiji	-0.29	-0.16	0.36	-0.31	-0.10
Cuba	-0.60	0.02	0.32	-0.16	-0.10
Peru	-0.14	-0.49	0.21	-0.01	-0.11
Thailand	-0.29	-0.18	0.29	-0.30	-0.12
Maldives	—	-0.63	0.27	-0.02	-0.13
Morocco	-0.44	-0.55	0.21	0.20	-0.14
Mongolia	-0.14	0.02	-0.51	0.05	-0.14
Dominican Republic	-0.44	-0.49	0.21	0.11	-0.15
Namibia	-0.29	-0.28	0.11	-0.17	-0.16
Libya	-0.29	-0.36	-0.12	0.08	-0.17
Serbia	-0.60	-0.74	0.25	0.38	-0.18
El Salvador	-0.44	-0.54	0.26	0.01	-0.18
Bosnia and Herzegovina	-0.60	-0.86	0.49	0.22	-0.19
Armenia	-0.29	-0.69	0.09	0.08	-0.20
Belarus	-0.60	-0.26	0.29	-0.40	-0.24
South Africa	0.02	-0.78	-0.18	-0.07	-0.25
Micronesia	—	-0.65	-0.06	-0.14	-0.28
Ukraine	-0.44	-0.71	-0.11	0.06	-0.30
Jordan	-0.44	-0.93	0.21	-0.05	-0.30
Suriname	-0.14	-0.78	0.02	-0.44	-0.33

	State Fragility	State Weakness	Failed States	Conflict Indicators	Average
Vanuatu	—	-0.90		0.23	-0.33
Cape Verde	—	-1.06	0.22	-0.18	-0.34
Macedonia	-0.60	-0.88	0.03	-0.07	-0.38
St. Vincent and the Grenadines	—	—	—	-0.39	-0.39
Tonga	—	-0.67	—	-0.11	-0.39
Tunisia	-0.29	-0.85	-0.19	-0.29	-0.41
Brazil	-0.60	-0.61	-0.20	-0.27	-0.42
Belize	—	-0.91	-0.14	-0.24	-0.43
Trinidad and Tobago	-0.75	—	-0.25	-0.33	-0.44
Jamaica	-0.90	-0.64	-0.20	-0.07	-0.45
Albania	-0.60	-0.84	-0.21	-0.20	-0.46
Qatar	-0.44	—	-0.87	-0.11	-0.47
Mexico	-0.90	-0.98	0.18	-0.22	-0.48
Botswana	-0.75	-0.64	-0.15	-0.50	-0.51
Samoa	—	-1.21	-0.04	-0.33	-0.53
Bahrain	-0.75	—	-0.57	-0.32	-0.55
Malaysia	-0.44	-1.20	-0.12	-0.49	-0.56
Kuwait	-0.90	—	-0.45	-0.46	-0.60
Romania	-0.60	-1.03	-0.51	-0.39	-0.63
Panama	-0.60	-1.05	-0.54	-0.43	-0.65
United Arab Emirates	-0.90	—	-0.84	-0.28	-0.68
Montenegro	-0.75	—	-0.63	—	-0.69
Grenada	—	-1.37	-0.21	-0.58	-0.72
Cyprus	-0.90	—	-0.17	-1.12	-0.73
Brunei	—	—	—	-0.76	-0.76
Bulgaria	-0.75	-1.31	-0.46	-0.54	-0.76
Bahamas	—	—	-0.56	-1.00	-0.78
Oman	-0.60	-1.36	-1.00	-0.33	-0.82
Croatia	-0.90	-1.49	-0.56	-0.76	-0.93
Argentina	-1.21	-0.88	-1.12	-0.80	-1.00
Greece	-1.21	—	-1.12	-0.95	-1.09
Barbados	—	—	-0.71	-1.52	-1.11
Estonia	-1.37	—	-0.91	-1.09	-1.12
Malta	—	—	-1.02	-1.33	-1.18
Costa Rica	-1.37	-1.47	-0.86	-1.01	-1.18
Latvia	-1.37	-1.73	-0.71	-1.03	-1.21
Spain	-1.21	—	-1.22	-1.21	-1.21

	State Fragility	State Weakness	Failed States	Conflict Indicators	Average
Italy	-1.37	—	-1.13	-1.15	-1.21
St. Lucia	—	-1.75	—	-0.73	-1.24
Mauritius	-1.21	-1.56	-1.18	-1.01	-1.24
South Korea	-1.37	—	-1.32	-1.06	-1.25
Poland	-1.37	-1.69	-0.99	-0.97	-1.25
Czech Republic	-1.21	—	-1.31	-1.26	-1.26
United States	-1.06	—	-1.57	-1.26	-1.30
Slovak Republic	-1.21	-1.93	-0.99	-1.07	-1.30
Uruguay	-1.21	-1.54	-1.32	-1.21	-1.32
Singapore	-1.21	—	-1.59	-1.20	-1.33
Hungary	-1.37	-1.93	-0.94	-1.14	-1.34
Lithuania	-1.21	-1.85	-1.04	-1.33	-1.36
Taiwan, China	-1.37	—	—	—	-1.37
Chile	-1.06	-1.89	-1.46	-1.15	-1.39
France	-1.37	—	-1.59	-1.26	-1.40
Belgium	-1.06	—	-1.71	-1.49	-1.42
United Kingdom	-1.37	—	-1.63	-1.32	-1.44
Portugal	-1.37	—	-1.67	-1.34	-1.46
Slovenia	-1.37	—	-1.54	-1.54	-1.48
Germany	-1.37	—	-1.57	-1.53	-1.49
Japan	-1.37	—	-1.74	-1.52	-1.54
Australia	-1.06	—	-1.92	-1.70	-1.56
Netherlands	-1.37	—	-1.89	-1.46	-1.57
Austria	-1.37	—	-1.92	-1.77	-1.69
New Zealand	-1.21	—	-2.06	-1.79	-1.69
Canada	-1.37	—	-1.89	-1.84	-1.70
Ireland	-1.37	—	-2.13	-1.69	-1.73
Switzerland	-1.21	—	-2.15	-1.83	-1.73
Luxembourg	—	—	-1.92	-1.73	-1.82
Denmark	-1.37	—	-2.10	-2.04	-1.84
Norway	-1.06	—	-2.28	-2.22	-1.85
Sweden	-1.37	—	-2.19	-2.17	-1.91
Finland	-1.37	—	-2.26	-2.16	-1.93
Iceland	—	—	-1.81	-2.29	-2.05
Hong Kong	—	—	—	-2.19	-2.19
Puerto Rico	—	—	—	—	—

Source: Authors' compilation

Appendix 3. Spectrum Analysis Group Members

Failing 3	Fragile 48	Vulnerable 72	Stable 59
Afghanistan	Algeria	Albania	Argentina
DRC	Angola	Armenia	Australia
Somalia	Bangladesh	Azerbaijan	Austria
	Burkina Faso	Belarus	Bahamas
	Burundi	Belize	Bahrain
	Cambodia	Benin	Barbados
	Cameroon	Bhutan	Belgium
	Central African Republic	Bolivia	Botswana
	Chad	Bosnia and Herzegovina	Brunei
	Comoros	Brazil	Bulgaria
	Congo, Republic	Cape Verde	Canada
	Côte d'Ivoire	China	Chile
	Djibouti	Colombia	Costa Rica
	Equatorial Guinea	Cuba	Croatia
	Eritrea	Dominican Republic	Cyprus
	Ethiopia	Ecuador	Czech Republic
	Gambia	Egypt	Denmark
	Guinea	El Salvador	Estonia
	Guinea-Bissau	Fiji	Finland
	Haiti	Gabon	France
	Iran	Georgia	Germany
	Iraq	Ghana	Greece
	Kenya	Guatemala	Grenada
	North Korea	Guyana	Hong Kong
	Laos	Honduras	Hungary
	Liberia	India	Iceland
	Malawi	Indonesia	Ireland
	Mauritania	Israel	Italy
	Mozambique	Jamaica	Japan
	Myanmar	Jordan	South Korea
	Nepal	Kazakhstan	Kuwait
	Niger	Kyrgyzstan	Latvia
	Nigeria	Lebanon	Lithuania
	Pakistan	Lesotho	Luxembourg
	Palestine	Libya	Malaysia
	Rwanda	Macedonia	Malta
	Sierra Leone	Madagascar	Mauritius

Failing 3	Fragile 48	Vulnerable 72	Stable 59
	Sri Lanka	Maldives	Montenegro
	Sudan	Mali	Netherlands
	Swaziland	Mexico	New Zealand
	Tajikistan	Micronesia	Norway
	Timor-Leste	Moldova	Oman
	Togo	Mongolia	Panama
	Uganda	Morocco	Poland
	Uzbekistan	Namibia	Portugal
	Yemen	Nicaragua	Romania
	Zambia	Papua New Guinea	Samoa
	Zimbabwe	Paraguay	Singapore
		Peru	Slovak Republic
		Philippines	Slovenia
		Qatar	Spain
		Russian Federation	St. Lucia
		São Tomé and Príncipe	Sweden
		Saudi Arabia	Switzerland
		Senegal	Taiwan, China
		Serbia	United Arab Emirates
		Solomon Islands	United Kingdom
		South Africa	United States
		St. Vincent and the Grenadines	Uruguay
		Suriname	
		Syrian Arab Republic	
		Tanzania	
		Thailand	
		Tonga	
		Trinidad and Tobago	
		Tunisia	
		Turkey	
		Turkmenistan	
		Ukraine	
		Vanuatu	
		Venezuela	
		Vietnam	

Source: Authors' compilation

Notes

1. Lists of fragile states vary, but the World Bank's consolidated list of fragile and conflict-affected countries—wracked by repeated cycles of violence with deleterious development consequences—is considered the authoritative guide for international financial institutions and OECD donors. The 2011 list names thirty-two states and territories. World Bank, "Harmonized List of Fragile Situations FY11" (presentation, World Bank, New York, 2010), http://siteresources.worldbank.org/EXTLICUS/Resources/511777-1269623894864/FS_List_FY11_(August_8_2010).pdf. Using a slightly different methodology that draws on a consolidation of three of the projects surveyed in this paper, a 2010 OECD Development Assistance Committee report lists forty-three countries and territories. OECD-DAC, "Resource Flows to Fragile States" (Paris: Organisation for Economic Co-operation and Development, 2010), 156.

2. See General Assembly Security Council, "Report of the Secretary General on Peacebuilding in the Immediate Aftermath of Conflict," No. A/63/881–S/2009/304 (New York: United Nations, July 2009); The White House, *National Security Strategy of the United States* (Washington, DC: Government Printing Office, May 2010), www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf.

3. See, for example, United Nations, *A More Secure World: Our Shared Responsibility* (New York: United Nations, 2004), http://www.un.org/secure%20world; James Fearon and David Laitin, "Neotrusteeship and the Problem of Weak States," *International Security* 28, no. 4 (2004): 5–23.

4. Frances Stewart and Graham Brown et al., "Fragile States" (working paper 51, Centre for Research on Inequality, Human Security and Ethnicity, Oxford, 2009); see also Fearon and Laitin, "Neotrusteeship and the Problem of Weak States."

5. Halvard Buhaug, Nils Petter Gleditsch, and Ole Magnus Theisen, "Implications of Climate Change for Armed Conflict" (Washington, DC: World Bank Group, 2008); see also United Nations, "Understanding Environment, Conflict and Cooperation" (Nairobi: United Nations Environment Programme, 2004), www.wilsoncenter.org/topics/pubs/unep.pdf.

6. Monty G. Marshall, "Fragility, Instability, and the Failure of States: Assessing Sources of Systemic Risk" (working paper, Center for Preventative Action, Council on Foreign Relations, New York, October 2008), www.cfr.org/conflict-prevention/fragility-instability-failure-states-assessing-sources-systemic-risk/p17638.

7. He also identified the World Bank's World Governance Indicator project measures to be in this category (Marshall, "Fragility, Instability, and the Failure of States," 16). See also Susan Rice and Stewart Patrick, "Index of State Weakness in the Developing World" (Washington, DC: Brookings Institution, 2008), www.brookings.edu/reports/2008/02_weak_states_index.aspx.

8. Javier Fabra Mata and Sebastian Ziaja, *Users' Guide on Measuring Fragility* (Bonn: German Development Institute and the United Nations Development Programme, 2009), www.undp.org/oslocentre/docs09/Fragility_Users_Guide_(web).pdf.

9. Mata and Ziaja, *User's Guide,* 25. A draft chapter from the United States Institute for Peace provided another useful review, surveying a range of measures. It identified four types of analytic models: early warning watchlists (in which category they place the University of Maryland's Peace and Conflict Instability Ledger and the CrisisWatch bulletin), conflict metrics instruments (including the Brookings Institution's Index of State Weakness in the Developing World and the Global Peace Index as well as the World Bank's Country Policy and Institutional Assessment), conflict assessment frameworks (more detailed accounts of particular conflicts), and conflict mapping tools (exploring actor networks).

10. David Carment, Stewart Prest, and Yiagadeesen Samy, *Security, Development and the Fragile State: Bridging the Gap between Theory and Policy* (Hoboken, NJ: Routledge, 2010), see especially chapter 4.

11. Carment, Prest, and Samy, *Security, Development and the Fragile State,* 120.

12. Barry B. Hughes and Evan E. Hillebrand, *Exploring and Shaping International Futures* (Boulder, CO: Paradigm Publishers, 2006); Barry B. Hughes, "Forecasting Long-Term Global Change: Introduction to International Futures (IFs)" (working paper, Frederick S. Pardee Center for International Futures, University of Denver, December 2009).

13. The concept of vulnerability is also used in a variety of other areas of global concern, such as vulnerability to disaster from climate change and its social effects. For an effort to develop a conceptual basis for the vulnerability concept, see Nick Brooks, "Vulnerability, Risk, and Adaptation: A Conceptual Framework" (working paper no. 38, Tyndall Center for Climate Research, University of East Anglia, Norwich, 2003), www.eird.org/cd/on-better-terms/docs/Brooks-N-Vulnerability-risk-and-adaptation-a-conceptual-framework.pdf.

14. Barnett Rubin, *Blood on the Doorstep: The Politics of Preventive Action* (New York: Council on Foreign Relations, 2003).

15. Practitioner toolkits are one place to find theoretical and indicator-related systematic approaches to conflict vulnerability analysis. See, for example, UNDP Oslo Governance Center and German Center for International Development (2009). See also World Bank, "Conflict Analysis Framework" (draft document, Conflict Prevention and Reconstruction Team, Social Development Department, World Bank, April 2005), http://siteresources.worldbank.org/INTCPR/214574-1112883508044/20657757/CAFApril2005.pdf; USAID, "Conflict Vulnerability Assessment: A Framework for Strategy and Program Development"

(Washington, DC: U.S. Agency for International Development, April 2005), www.usaid.gov/our_work/cross-cutting_programs/conflict/publications/docs/CMM_ConflAssessFrmwrk_May_05.pdf.

16. I. William Zartman, "Need, Greed, and Creed in Intrastate Conflicts," in *Rethinking the Economics of War: The Intersection of Need, Creed, and Greed,* edited by Cynthia J. Amson and I. William Zartman (Washington, DC: Woodrow Wilson Center Press, 2005), 275.

17. For an overview of various definitions of fragility and state weakness in development literature and in comparative politics literature, see Claire Mcloughlin, *Topic Guide on Fragile States* (Birmingham, UK: Governance and Social Development Resource Centre, October 2010), www.gsdrc.org/go/fragile-states/chapter-1--understanding-fragile-states/definitions-and-typologies-of-fragile-states#donor.

18. Indeed, it may be appropriate to expand the spectrum metaphor to a kaleidoscope, in that in addition to an overall measure of fragility on a linear scale it may also be useful to consider various facets of fragility emanating from the salience of different drivers in different moments of conflict or in subnational regions. The kaleidoscope approach may be useful in considering detailed conflict vulnerability assessments but is perhaps too complicated a metaphor to be reflected in aggregate quantitative measures such as summary indices.

19. See www.pcr.uu.se/research/UCDP.

20. "States are fragile when state structures lack political will and/or capacity to provide the basic functions needed for poverty reduction, development and to safeguard the security and human rights of their populations." OECD-DAC, *Principles for Good International Engagement with Fragile States* (Paris: Organisation for Economic Development and Co-operation, 2007), 2. Rice and Patrick identify weak or fragile states as those "that lack the essential capacity and/or will to fulfill four sets of critical government responsibilities: fostering an environment conducive to sustainable and equitable economic growth; establishing and maintaining legitimate, transparent, and accountable political institutions; securing their populations from violent conflict and controlling their territory; and meeting the basic human needs of their population" (*Index of State Weakness,* 3).

21. Marshall identified as categories socialist and former socialist countries, obscure ones, and complex circumstances ("Fragility, Instability, and the Failure of States," 17). That set indicates how difficult it is to clearly distinguish countries across measurement projects. We have found it nearly impossible to be systematic in doing so.

22. Among these, one might differentiate between those emerging from conflict as a consequence of negotiated settlement and those for which military victory was unilateral. This distinction may be important for understanding future vulnerability with respect to the debate in the literature over whether negotiated settlements are more vulnerable to conflict recurrence than military victories. For recent work in this genre (in this case, arguing that military victories are less prone to recurrence over time), see Monica Toft, *Securing the Peace: Durable Settlement of Civil Wars* (Princeton, NJ: Princeton University Press, 2009).

23. Carment, Prest, and Samy, *Security, Development and the Fragile State,* 4.

24. For example, in the 2010 rankings of the Global Peace Index, the United States is ranked 85 of 149. See Vision of Humanity, "GPI Map 2010," www.visionofhumanity.org/gpi-data/#/2010/scor.

25. For categorizations used by eleven measures, most of which do not use a spectrum, see Mata and Ziaja, *User's Guide.*

26. Mata and Ziaja, *User's Guide.*

27. Monty G. Marshall and Benjamin R. Cole, *Global Report 2009: Conflict, Governance, and State Fragility* (Vienna, VA: Center for Systemic Peace, George Mason University, 2009), 40, www.systemicpeace.org/Global%20Report%202009.pdf.

28. Paul Collier, V. L. Elliot, Havard Hegre, Anke Hoeffler, Marta Reynal-Querol, and Nicholas Sambanis, *Breaking the Conflict Trap: Civil War and Development Policy* (Washington, DC: World Bank and Oxford University Press, 2003).

29. For an evaluation, see Amnesty International, "Conflict Diamonds," www.amnestyusa.org/diamonds/index.do.

30. "Every state . . . tends to support particular groups, to distribute privileges unequally, and to differentiate among various categories in the population. . . . The state itself is the greatest prize and resource over which groups engage in a continuing struggle in societies that have not developed stable relationships among the main institutions and centrally organized social forces." Paul R. Brass, *Ethnic Groups and the State* (Philadelphia, PA: Taylor and Francis, 1985), 9, 29.

31. Richard P. Cincotta, Robert Engelman, and Daniele Anastasion, *The Security Demographic: Population and Civil Conflict after the Cold War* (Washington, DC: Population Action International, 2003); Richard Cincotta, "The New Fifteen Years, According to Demography" (unpublished working paper, U.S. National Intelligence Council, 2010).

32. See, for example, CCHS, "Human Security in an Urban Century: Local Challenges, Global Perspectives" (Canadian Consortium on Human Security, Ottawa, 2007), www.humansecurity.info.

33. Luca Alinova, Günter Hemrich, and Luca Russo, "Addressing Food Insecurity in Fragile States: Case Studies from the Democratic Republic of the Congo, Somalia and Sudan" (ESA working paper 07-21, Food and Agricultural Organization of the United Nations, Rome, 2007).

34. Margaret Hermann and Charles Kegley, "Democracies and Intervention: Is there a Danger Zone in the Democratic Peace?" *Journal of Peace Research* 38, no. 2 (2001): 237–45.

35. Jack A. Goldstone, Robert H. Bates, David L. Epstein, Ted Robert Gurr, Michael B. Lustik, Monty G. Marshall, Jay Ulfelder, and Mark Woodward, "A Global Model for Forecasting Political Instability," *American Journal of Political Science* 54, no. 1 (January 2010): 195–96.

36. *Armed conflict* involves the state versus one or more organized and politically motivated armed groups where there is direct competition for the state or for territory. *Armed violence* is used to refer to situations of high social violence (such as criminal or gender-based violence). See the Geneva Declaration, *The Global Burden of Armed Violence* (Geneva Declaration Secretariat, 2008), www.genevadeclaration.org/fileadmin/docs/ Global-Burden-of-Armed-Violence-full-report.pdf. See also Charles Tilly, *Securing the Peace: Durable Settlement of Civil Wars* (Princeton, NJ: Princeton University Press, 2002).

37. Valerie M. Hudson, Mary Caprioli, Bonnie Ballif-Spanvill, Rose McDermott, and Chad F. Emmett, "The Heart of the Matter: The Security of Women and the Security of States," *International Security* 3, no. 33 (2008): 7–45.

38. David Lake and Donald Rothchild, eds., *The International Spread of Ethnic Conflict: Fear, Diffusion, and Escalation* (Princeton, NJ: Princeton University Press, 1998).

39. See Astri Suhrke and Ingrid Samset, "What's In a Figure? Estimating the Recurrence of Civil War," *International Peacekeeping* 14, no. 2 (2007): 195–203. Joseph Hewitt, Jonathan Wilkenfeld, and Ted Robert Gurr found that "in the past 10 years, 39 different conflicts that became active. . . . Of these, 31 were conflict recurrences—instances of resurgent, armed violence in societies where conflict had largely been dormant for at least a year. Only eight were entirely new conflicts between new antagonists involving new issues and interests." *Peace and Conflict 2010* (College Park, MD: Center for International Development and Conflict Management, University of Maryland, 2010), 1. See also Lotta Harbom, Stina Högbladh, and Peter Wallensteen, "Armed Conflict and Peace Agreements 1946–2008," *Journal of Peace Research* 46, no. 5 (2009): 577.

40. Mata and Ziaja, *User's Guide.*

41. Ibid., 19.

42. Monty Marshall consciously takes a probabilistic approach, noting that extreme fragility (SFI values of 20–24) suggest an annual probability of 0.0884 for problem onset, compared with a probability of 0.68 for high fragility (SFI values of 16–19), and so on down through serious fragility, low fragility, and little or no fragility. "Fragility, Instability, and the Failure of States," 16.

43. Marshall also notes the task force attention to fractionalization ("Fragility Instability, and the Failure of States").

44. See especially Mata and Ziaja, *User's Guide.*

45. Carment, Prest, and Samy also show the Carleton and Brookings indices correlated at 0.84 but the Fund for Peace and George Mason indices at only 0.64 (compared with our 0.78). They correlated indices only across sixty-one developing countries so we would expect somewhat different values, but they also found most measures correlated at the 0.7 and 0.8 levels or higher. The exception for them was the World Bank low-income country under stress (LICUS) analysis measure called the Country Policy and International Assessment (CIPA) index, which correlated with most measures at about the 0.5 to 0.6 level. They note that the LICUS measure is heavily oriented to economic variables. *Security, Development and the Fragile State,* 120.

46. Marshall, "Fragility, Instability, and the Failure of States."

47. This is an anomaly to which we will return.

48. This could, however, be the wrong interpretation for the measure's attention to these states. It might be simply that, relying on news feeds, these states (and perhaps Bhutan and Cyprus also) happened to generate some particularly unhappy news during the period of the most recent analysis of them.

49. The difference in treatment of Norway in the George Mason measure is simply an artifact of that project's decision not to differentiate among the most stable countries; it should be ignored.

50. Compare the GDP per capita breaks here with the World Bank's classification system: low income is GNI per capita below $975; lower middle is $976 to $3,855; upper middle is $3,856 to $11,905; high income is $11,906 or more. See World Bank, "How We Classify Countries," http://data.worldbank.org/about/country-classifications.

51. In 2005, the Stable 59 averaged over $26,000 (US) per capita at purchasing power parity. The Vulnerable 72 averaged just over $4,000 of the same measure, the Fragile 48 was still well below $2,000, and the Failing 3 averaged $373.

52. Longitudinal analysis of the measures relative to each other and relative to actual conflict levels would be ideal. The IFs project has only been able to obtain significant longitudinal data for the George Mason State

Fragility Index (1995–2008). Carment, Prest, and Samy report on longitudinal analysis (1980–2006) of their Carleton measure but do not make the index available over time to others. "The general trend that can be observed is that the developing world has become more fragile over time. . . . For all developing countries, increasing fragility and ALC [authority-legitimacy-capacity] scores were at their highest point in 1989, coinciding with the end of the Cold War, and after a brief decline in the early 1990s have been on the rise again" (*Security, Development and the Fragile State,* 124). What is curious is that Marshall and Cole report that actual domestic conflict declined quite steadily after 1989 rather than reversing (*Global Report 2009*). Hence this suggests a negative correlation between the Carleton index and the conflict trend. But Carment, Prest, and Samy do not analyze their measure against conflict, but instead against potential drivers of it. Again their conclusion is surprising, because a main driver, GDP per capita, has trended positively.

53. Collier et al., *Breaking the Conflict Trap.*

54. Analysis with the Polity measure of democracy does not, however, show the same crossover of fragile and more limited vulnerability states.

55. The R-squared values in the table explore only linear relationships, and some relationships are almost certainly nonlinear. The focus on only the forty-eight fragile states reduces the impact of that simplification, however, because we have seen that those states cluster into a fairly narrow range of GDP per capita values, a key variable with which many social variables have curvilinear relationship over a wider range. We looked at the possibility that nonlinear (specifically logarithmic) relationships with GDP per capita might generate higher correlations with the various indices and they generally did not.

56. See Integrated Network for Societal Conflict Research (INSCR), "Data Page," www.systemicpeace.org/inscr/inscr.htm.

57. We added these measures to the IFs database and considered them in preliminary analysis but have not discussed our analysis of them here. Institutions and their indices include Freedom House (the Countries at the Crossroads measure), the World Bank (the Country Policy and Institutional Assessment IDA Resource Allocation Index, abbreviated as the IDA-IRAI measure), Vision of Humanity (the Global Peace Index), the University of North Carolina (Political Terror Scale), and the Mo Ibrahim Foundation (African governance measure).

ABOUT THE INSTITUTE

The United States Institute of Peace is an independent, nonpartisan institution established and funded by Congress. Its goals are to help prevent and resolve violent conflicts, promote postconflict peacebuilding, and increase conflict management tools, capacity, and intellectual capital worldwide. The Institute does this by empowering others with knowledge, skills, and resources, as well as by its direct involvement in conflict zones around the globe.

BOARD OF DIRECTORS

As many as one-quarter to one-half of the countries in the world are, to varying extents, vulnerable to armed domestic conflict. This poses, as is widely recognized, an immediate and ongoing threat to international peace and security. Quantitative studies track the frequency of armed conflict, its intensity, patterns of termination, and consequences. The ultimate goal is to better understand—and thus better anticipate or avoid—such conflict. The authors of this report pursue the answer to a question not well addressed in the field: How do the principal quantitative measures of conflict vulner-ability compare to one another?

Related Links

- *Using Quantitative and Qualitative Models to Forecast Instability* by Jack A. Goldstone (Special Report, March 2008)

- *Preventing Violent Conflict: Assessing Progress, Meeting Challenges* by Lawrence Woocher (Special Report, September 2009)

- *Leashing the Dogs of War: Conflict Management in a Divided World* edited by Chester A. Crocker, Fen Osler Hampson, and Pamela Aall (2007)

- *Scenarios for Sudan: Avoiding Political Violence Through 2011* by Alan Schwartz (Special Report, August 2009)

- *The Limits of Institutional Engineering: Lessons from Iraq* by David Waldner (Special Report, May 2009)