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Users' Guide on MEASURING FRAGILITY

**German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE)
United Nation Development Programme (UNDP)**

Users' Guide on **MEASURING FRAGILITY**

AUTHORS

Javier Fabra Mata, UNDP
Sebastian Ziaja, DIE

EDITORS

Jörg Faust, DIE
Joachim Nahem, UNDP

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For further information please contact:

**German Development Institute/
Deutsches Institut für Entwicklungspolitik**
Tulpenfeld 6
53113 Bonn, Germany

Tel: +49 (0)228 94927-0
Fax: +49 (0)228 94927-130
www.die-gdi.de

United Nations Development Programme
Bureau for Development Policy
Democratic Governance Group
Oslo Governance Centre
Inkognitogata 37, 0256 Oslo, Norway

Tel: +47 23 06 08 20
Fax: +47 23 06 08 21
www.undp.org/oslocentre

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LIST OF ABBREVIATIONS*

BTI	Bertelsmann Transformation Index
BTI-SW	Bertelsmann Transformation Index – State Weakness Index
CAST	Conflict Assessment System Tool
CIFP	Country Indicators for Foreign Policy
CIFP-FI	Country Indicators for Foreign Policy - Fragility Index
CPIA	Country Policy and Institutional Assessment
CSP	Center for Systemic Peace
DAC	Development Assistance Committee, OECD
DFID	Department for International Development, UK
DIE	German Development Institute / Deutsches Institut für Entwicklungspolitik
EIU	Economist Intelligence Unit
FAO	United Nations Food and Agriculture Organization
FSI	Failed States Index
GPI	Global Peace Index
IAG	Index of African Governance
IDA	International Development Association
IRAI	IDA Resource Allocation Index
ISW	Index of State Weakness in the Developing World
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
PCIL	Peace and Conflict Instability Ledger
PII	Political Instability Index
PITF	Political Instability Task Force
SFI	State Fragility Index
UCDP	Uppsala Conflict Data Program
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNHCR	Office of the United Nations High Commissioner for Refugees
UNIFEM	United Nations Development Fund for Women
USAID	United States Agency for International Development
WGI	World Governance Indicators
WGI-PS	World Governance Indicators - Political Stability and Absence of Violence
WHO	United Nations World Health Organization

*Abbreviations used in the annexes are not listed.

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FOREWORD

There is growing recognition and understanding of the close and manifold linkages between governance and fragility. At the same time, violent conflicts are frequently seen as causes, consequences or symptoms of poor, illegitimate and corrupt governance structures and processes.

Over the past years we have witnessed a marked increase in the attention being paid to situations of fragility – their causes, impact and potential remedies. As a response to this widespread interest amongst development and security actors, researchers and policy makers, there has also been a sharp increase in the production of various indices which rank countries according to levels of fragility. The indices reflect a broad range of interests, understanding and aspirations including the larger aid effectiveness agenda.

Despite the proliferation and growing reference to these indices, no systematic analysis of such indices has been produced so far. The *Users' Guide on Measuring Fragility* attempts to fill this gap by providing a comparative analysis of eleven widely quoted and used fragility indices. This Guide unpacks the concepts and methods that lie behind the fragility rankings.

This publication is a new addition to a series of users' guides published by the UNDP Oslo Governance Centre (OGC) since 2003. As part of the Centre's flagship programme on national governance assessment, these guides provide a systematic yet easy-to-grasp scrutiny of existing indices and indicators through the lens of their potential and current users.

I hope that this *Users' Guide on Measuring Fragility* serves to provide the reader with guidance on 'where to find' and 'how to use' fragility indices, while also stimulating a critical discussion on fragility and governance and how to move forward towards the development of country-led analyses.



Bjørn Førde, Director

UNDP Oslo Governance Centre
Democratic Governance Group
Bureau for Development Policy

FOREWORD

State fragility has become a buzzword in international development policy. The re-emergence of “the state” as a central actor in developing countries has several causes: state fragility is closely linked with security issues at the top of the foreign policy agendas of donor countries; the current international financial crisis has made it clear that economic development and efforts to strengthen markets need effective states; and, last but not least, there is a growing recognition that accelerating climate change may translate into a proliferation of state fragility in vulnerable developing regions. While both research and policy are progressing towards a better understanding of fragility, many issues remain unresolved. One such is the question of how to measure fragility. Valid and reliable indicators are indispensable for improving research on state fragility, for rethinking political strategies to ameliorate state performance, and for enhancing the evaluation of international cooperation with and in fragile states.

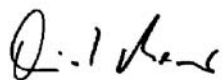
Even though scholars have sought to achieve a better understanding of the causes and consequences of state fragility for some time now, cross-national evidence remains sparse. How ‘fragile’ would a state have to be in order to prevent successful democratization? At what level of state fragility is the probability of an outbreak of violent conflict significantly increased? Through which channels might environmental stress, driven by climate change and the erosion of ecosystems, cause insecurity and conflicts?

Measurement is a necessary prerequisite for the large-scale evaluation and monitoring of interventions related to fragility. Does state building work? Did (possibly successful) peacebuilding delay or impede the establishment of self-supporting state structures? The concepts of results-oriented development policy and of aid effectiveness do not make any sense without reliable indicators and data.

The areas of research mentioned above are core topics covered by the German Development Institute. Thus, the institute embarked on this joint project with the UNDP Oslo Governance Centre to study indicators of fragility. The Federal Ministry for Economic Cooperation and Development (BMZ), whose position on fragility is laid down in its strategy on “Development-oriented transformation in conditions of fragile statehood and poor government performance”, kindly provided the necessary funds.

The publication at hand is a timely undertaking that will hopefully make political fragility indices more accessible to development and security experts who are not necessarily experts in statistics. It provides a comprehensive overview of existing cross-country indices measuring fragility and demonstrates how to use them.

This guide is not a final but a first step in understanding and measuring the dynamics of state fragility. While it enables users to better employ what is already there, the quest for better data in development studies has just begun.



Dirk Messner, Director

German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE)

INTRODUCTION: ABOUT THIS GUIDE

This Users' Guide on Measuring Fragility presents a comparative analysis of cross-country fragility indices. It assesses their conceptual premises, methodological approach and possible uses.

The interest in understanding and predicting situations of fragility has grown exponentially amongst research and policy communities in the last years, in parallel to debates around poor governance performance, development challenges and aid effectiveness. As a response to this interest, various fragility indices are periodically published, reflecting a diverse range of interests, purposes and aspirations. Despite the proliferation and ever-increasing use of and reference to these indices, to date no systematic, comprehensive study of such indices has been produced.

This Users' Guide provides readers with a rigorous, comprehensible and user-friendly examination of country-level indices measuring facets of fragility. Although there is no common, undisputed definition of fragility, a country could be said to be fragile when it suffers from a weakness or a failure in one or several central attributes of the state such as its effectiveness in providing services to citizens, its authority (including a legitimate monopoly on the use of violence) and legitimacy. Fragility often also relates to one or more specific sectors, i.e. security, economic, political or social/cultural, environmental. The 'fragility indices' in the Guide directly address many of these aspects. It is aimed at empowering the user with greater knowledge and critical understanding of the subject matter, addressing key questions such as:

- What fragility indices are there?
- What concepts do they intend to measure?
- How well do they measure these concepts?
- How should fragility indices be applied?

The intended audience of the Users' Guide is current or potential users of fragility indices, especially researchers and policy-makers working in the area of fragility, governance and conflict. Whereas the former may find the guide helpful when considering fragility indices to inform their studies, the latter may discover a tool of relevance for cross-national assessments and impact analysis. In addition, other audiences such as development practitioners or humanitarian NGO workers may find some of the debates and findings from the Users' Guide (e.g. on measurement types and data sources) useful in their professional practice.

The Guide includes a selection of 11 fragility and conflict indices based on the following criteria:¹

- (1) **Relevancy:** The index has an evident focus on measuring fragility at the country level.
- (2) **Quantification:** The index provides numerical scores on states and is thus potentially suited for cross-country comparisons.
- (3) **Accessibility:** The index is available free of charge on the internet in English.²
- (4) **Transparency:** The index provides information about its methodology.
- (5) **Multi-country coverage:** The index provides data for at least 75 countries, or for most countries in a specific region.
- (6) **Updated information:** The source is updated periodically, with the latest scores published within the last two years.

Table 1 below provides an overview of the indices.

Table 1: Cross-country fragility indices covered in the Users' Guide

Index	Producer	Authoring institution
Bertelsmann Transformation Index State Weakness Index	Bertelsmann Stiftung	Bertelsmann Stiftung / Center for Applied Policy Research (Munich University)
Country Indicators for Foreign Policy Fragility Index	Carleton University	Norman Paterson School of International Affairs (Carleton University)
Country Policy and Institutional Assessment (CPIA) / International Development Association (IDA) Resource Allocation Index (IRAI)	The World Bank	The World Bank
Failed States Index	Fund for Peace	Fund for Peace ³
Global Peace Index	Institute for Economics and Peace	Economist Intelligence Unit, with guidance from an international panel of experts
Harvard Kennedy School Index of African Governance ⁴	Harvard University	Kennedy School of Government (Harvard University)
Index of State Weakness in the Developing World	Brookings Institution	Brookings Institution / Center for Global Development
Peace and Conflict Instability Ledger	University of Maryland	Center for International Development and Conflict Management (University of Maryland)
Political Instability Index	The Economist Group	Economist Intelligence Unit
State Fragility Index	George Mason University	Center for Global Policy (George Mason University)
World Governance Indicators, Political Stability and Absence of Violence	The World Bank	The World Bank Institute

This Guide is informed by a desk review of state-of-the-art research and policy debate and tools on measuring situations of fragility by quantitative means. In addition, the mapping, selection and analysis of fragility indices were supplemented by in-person, phone and email interviews with the producers of such indices.⁵

The Users' Guide is organized in the following manner:

Part I serves as an introduction to measuring fragility. It is divided into four chapters. The first chapter covers characterizations of fragility; the relevance of fragility to, and linkages with, violent conflict; and applications of quantitative fragility analyses. The second chapter explores how to build quantitative, cross-country measures of fragility, uncovering the main features, challenges and pitfalls present in each of its five main stages (i.e. the background concept, the systematized concept, the selection and measurement of indicators, the calculation of index scores, and the presentation of results). The third chapter provides a comparative analysis of fragility indices, examining each stage in the building of these indices. Finally, the fourth chapter gives the reader guidance on how to select and apply fragility indices.

Part II presents a catalogue of fragility indices, providing publication details and in-depth information on the properties of each index. The analysis leads to an outline of the index's strengths and weaknesses as well as its recommended use.

Annex I lists the indicators and data sources used by producers in constructing fragility indices. Annex II gives an overview of aggregation methods used in fragility indices. Annex III lists quantitative fragility sources not included in the Users' Guide and the main reason for their exclusion. Annex IV provides a catalogue of qualitative assessment tools, which constitute an alternative information source on fragility. Annex V provides the scores of the BTI State Weakness Index, since these scores are not reported by Bertelsmann. Annex VI is a technical glossary explaining important terms.

Part I

ASSESSING FRAGILITY INDICES

I. POSING THE PROBLEM OF FRAGILITY

I.1. DEFINITIONS OF FRAGILITY

'Fragility' is a complex and multifaceted concept. There is not as yet an internationally accepted definition of fragility and researchers, practitioners and policy makers alike conceptualize it in different ways. There is, however, some consensus within the policy and donor communities around the OECD definition of fragile states expressed in the Principles for Good International Engagement in Fragile States and Situations:

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.⁶

The *Oxford English Dictionary* defines 'fragile' as 'easily broken or damaged' or 'delicate and vulnerable'. Thus, when encountering the term fragility, the first question that arises is: fragility of what? In the realm of development policy, two different entities are referred to as fragile: states and their institutions on the one hand, and societies as a whole on the other.

When fragility refers to the state, fragility is in fact a property of the political system. A '*fragile state*' is incapable of fulfilling its responsibility as a provider of basic services and public goods, which in turn undermines its legitimacy. This has consequences for society as a whole, threatening livelihoods, increasing economic downturn and other crises which affect human security and the likelihood of armed conflict. In this sense, such phenomena constitute *consequences of fragility*.

When fragility refers to society as a whole, violent conflict and other human-made crises constitute *fragility itself*. In this sense, fragility is a property of society and thus, being defined much more broadly, includes any kind of political, social or economic instability. This understanding of fragility is termed a '*fragile social situation*'.

In this discussion it is crucial to remember that fragility is not tackled in binary terms ("all or nothing") but rather as a continuum, that is, a quality that can be present to a greater or lesser degree (i.e. from high resilience to extreme failure). In this regard, nationally led state-building processes of moving towards resilience are the core of the current international agenda, which emphasizes that the state-society relations are the centre of gravity of a resilient state⁷. Furthermore, as we will see, fragility is composed of several dimensions, some of which may be more critical than others. In this sense, fragility is not an exclusive property of developing countries but can also be found in many forms and degrees in developed countries. The recognition of this gradation allows for the creation of indices of fragility, assigning comparable scores to several countries.

The development and research communities have proposed a multitude of definitions of a 'fragile state' that further blur the definitional consensus. Moreover, most publications use the term 'fragile state' even when referring to a broader 'fragile social situation'. Some illustrative examples of definitions of fragility are as follows:

DFID's working definition of fragile states covers those where the government cannot or will not deliver core functions to the majority of its people, including the poor. [...] DFID does not limit its definition of fragile states to those affected by conflict. (DFID 2005: 7)

USAID uses the term fragile states to refer generally to a broad range of failing, failed, and recovering states. [...] the strategy distinguishes between fragile states that are vulnerable from those that are already in crisis. (USAID 2005:1)

A fragile state [is] unable to meet its population's expectations or manage changes in expectations and capacity through the political process [...]. Questions of legitimacy, in embedded or historical forms, will influence these expectations, while performance against expectations and the quality of participation/the political process will also produce (or reduce) legitimacy. (OECD 2008a: 16)

Fragile states [are] states that are failing, or at risk of failing, with respect to authority, comprehensive service entitlements or legitimacy. (Stewart and Brown 2009:3)

Fragile states lack the functional authority to provide basic security within their borders, the institutional capacity to provide basic social needs for their populations, and/or the political legitimacy to effectively represent their citizens at home and abroad. (Country Indicators for Foreign Policy website, FAQ)

Most of these characterizations implicitly understand fragility as a continuum. Moreover, what these definitions have in common is that they include one or more central attributes of the state such as:

- *Effectiveness* (how well state functions are performed)
- *Authority* (understood as the enforcement of a monopoly on the legitimate use of force)
- *Legitimacy* (public, non-coercive acceptance of the state)⁸

Such general attributes are difficult to measure directly. It is therefore necessary to enter into a second level of measurement, focusing on indicators of fragility of some or all of these three dimensions. For example, undernourishment of the population or national literacy may provide information on the effectiveness of a state, while levels of criminality or state control over its territory refer to authority. Similarly, the existence or absence of free, fair and regular electoral processes or revolutions may be indicators of legitimacy.

I.2. FRAGILITY AS A GLOBAL THREAT

The term 'fragile state' coexists with conceptually similar notions like 'weak state', 'failing state', 'failed state' or 'collapsed state', all of which may be defined as different stages along the fragility spectrum.⁹ This proliferation of adjectives during the last decade runs in parallel with renewed and reinforced development and security agendas. Regarding the latter, 'saving failed states'¹⁰ like Haiti and Somalia in the early 1990s was a rather new issue on the post-Cold War agenda, even though research had already dealt with implications of weak statehood before.¹¹ It was not until the terrorist attacks of September 11, 2001, however, that failed states became a top priority in world politics.¹² As for the development agenda, the realization of the specific challenges arising in fragile states and their impact on human development and poverty eradication efforts led to context-specific strategies and policies among donors – such as the above-mentioned OECD principles for good international engagement in fragile states and situations. The need for context-tailored development assistance becomes evident when analysing progress made towards reaching the Millennium Development Goals, with fragile states falling behind other developing countries.¹³

Today, fragile states are seen as the core of many internal and regional development problems as well as security threats to other states and the stability of the international order.¹⁴ Although the understanding of the security threats posed by fragile states is still highly hypothetical and merits further investigation, it is often voiced that fragile states are an ideal breeding ground for national and international terrorism, organized crime (e.g. human and drugs trafficking) and armed conflict. All of these fall within the category of asymmetric violent conflict that has been termed 'new wars',¹⁶ related somehow to state fragility.

I.3 VIOLENT CONFLICT: CAUSE, SYMPTOM OR CONSEQUENCE OF FRAGILITY?

Violent conflict may be conceptualized as a *cause, a symptom or a consequence* of fragility, which explains why it is a dimension of most indices of fragile situations. State failure may lead to civil unrest, communal violence and armed conflict. When the state does not deliver the basic services it is supposed to, when its authority is limited or arbitrarily exercised, or its legitimacy systematically questioned, the social contract and public trust weaken to the point where public dissatisfaction easily transforms into violent contestation by sectors of society. In an attempt to regain order, the state often responds with violence to the violence caused by its own failures.

Violent conflict and fragility fuel each other. State effectiveness, authority and legitimacy are weakened by the highly damaging effects of violent conflict and in extreme situations fragility will manifest itself in, or contribute to, violent conflict.

Violent conflict tends to bring about more violent conflict, that is, the likelihood of armed conflict is higher when previous armed conflicts have occurred.¹⁷ There is little doubt that armed conflict has a strong destabilizing effect on states, creating situations of fragility.

Quantitative fragility measures often use armed conflict databases that have been produced in recent decades to assess the existence and intensity of interstate and intrastate armed conflicts. The definition of armed conflict will, of course, determine whether an event is included in the database or not, and therefore the subsequent impact on a given fragility index. Probably the most used operational definition of an armed conflict is the one provided by the Uppsala Conflict Data Program (UCDP):

*Armed conflict is a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths in one calendar year.*¹⁸

The intensity of an armed conflict defined as battle-related deaths will determine categorizations of the conflict extending to situations of high intensity armed conflict amounting to war. The threshold to draw a line between low or medium intensity armed conflicts and wars will also depend on the data collector: for the UCDP, for example, at least 25 but less than 1,000 battle-related deaths in a year are considered a minor armed conflict, while at least 1,000 battle-related deaths in a year are necessary to be considered a war.¹⁹

The analysed indices of fragility not only consider the intensity of an armed conflict but also a range of other security indicators such as the existence of refugees and internally displaced people, the level of militarization or the illicit trade and availability of small arms and light weapons. The combination of various security indicators strengthens the robustness of a fragility index.

I.4. WHY MEASURE FRAGILITY?

The increased importance of the fragile states agenda has demanded indices and other tools to help identify and monitor situations of fragility and hence make context-specific responses possible. In order to understand the application of a given index, however, it is important to make a distinction between intended and real usage; whereas producers may envision a particular usage for an index, users may utilize an index for a different purpose. Whether each of those uses is valid must be based on the particular circumstances.

Producers of fragility indices have diverse target audiences, ranging from governments, civil society, multilateral and bilateral donors, international lending agencies and the private sector, to the academic and research community and the media (see Box 1).

Box 1: Users of the Country Policy and Institutional Assessment (CPIA) / IDA Resource Allocation Index (IRAI)

Despite being produced by the World Bank for corporate purposes, the CPIA is also used externally (for example, by the European Commission (2008) in the EU Donor Atlas 2008 to benchmark EU aid to situations of fragility²⁰). Some participants at the meeting *Dialogue on the CPIA and Aid Allocation* hosted by the Initiative for Policy Dialogue in April 2007 “were surprised to learn that bilateral aid from Scandinavian countries, the United Kingdom, Canada, and the Special Partnership for Africa all draw on the CPIA ratings in allocating aid. Certain components of the CPIA feed into the OECD-DAC Aid Effectiveness rating system as well. Even where not used explicitly, CPIA rankings serve to signal ‘good performers’ to other aid agencies. These external uses seem to amplify the impact of the CPIA in international development, making careful consideration of the exercise even more important.”²¹

Similarly, producers tend to present a range of possible uses for fragility indices, mainly revolving around:

- Early warning and early action information
- Evaluation of interventions
- Policy guidance
- Public awareness
- Research
- Risk analysis

It is crucial to note, however, that a given index may not live up to the producer’s expectations; any potential application has particular quality requirements that may not be met by the index. As will become clear in the remainder of the guide, all indices have to be used with caution. Any application – especially those with direct repercussions on people (e.g. resource allocation) – will have to be preceded by a profound analysis of the suitability of a particular index.

Box 2: OECD 2008 Annual Report on Resource Flows to Fragile and Conflict-Affected States

The list of fragile and conflict-affected countries used for the OECD *2008 Annual Report on Resource Flows to Fragile and Conflict-Affected States* was drawn up using three fragility indices in combination: the Country Policy and Institutional Assessment (CPIA), the Index of State Weakness in the Developing World and the Country Indicators for Foreign Policy. This marked a change compared to previous reports, where the list was drawn from the CPIA only. According to the authors of the report, “the use of two additional indexes that reflect the DAC [OECD Development Assistance Committee] definition of fragility and conflict (consideration of both the capacity and legitimacy of the state, and inclusion of the security dimension) aims to make the list more robust and consistent with the DAC’s policy focus. Those two additional indexes add 10 countries to the 38 countries that are identified solely on the basis of the CPIA.”²²

The index's objectives influence its content, and some purposes are unquestionably harder to achieve than others. For example, an index aimed at predicting destabilization in a way that is meaningful for policy makers requires the measurement to be sufficiently sensitive to register small but significant changes in a timely manner. In the same way, statistical models intended to provide valuable fragility and conflict early warning will be unable to do so unless they are produced on a regular basis and adjust to an appropriate timeline – long-term forecasting models have the advantage of adapting to the contextual changes that may occur in the course of time, but are of limited use when it comes to timely warning and the triggering of early action. Similarly, periodical updates are also critical for the purpose of evaluating interventions. Only repeated measurements allow for the establishment of a baseline and an analysis of trends. Finally, fragility indices are limited to countries as their fixed unit of analysis; they cannot 'zoom in' (i.e. display any changes beneath the national level) to monitor specific interventions.

Chapter Summary

- 'Fragility' is a property that may refer to a variety of objects. In development policy and social sciences, fragility usually refers to states or societies. Although there is no common, undisputed definition of fragility, the main characterizations include one or several central attributes of the state (i.e. effectiveness, authority, legitimacy).
- Situations of fragility pose a threat to local, regional and global stability.
- Violent conflict may be seen as a cause, a symptom and a consequence of fragility.
- Fragility indices are used by donors, development practitioners and government officials to guide future action and evaluate past engagements; by researchers to investigate causes and consequences of state fragility; and by media and the public to keep track of risks to human wellbeing. All these proposed usages have to be scrutinized before implementation.

2. PRODUCING CROSS-COUNTRY FRAGILITY INDICES

This chapter explains how fragility is represented in numerical values and how to assess the quality of these numbers. Five steps in the production of an index are considered (see Figure 1):

- (1) Articulate the background concept
- (2) Systematize the background concept
- (3) Select and measure the indicators
- (4) Calculate index scores (including aggregation and weighting methods)
- (5) Present the results

The **process** of producing indices is crucial in that knowledge about all these steps is necessary to judge the quality of an index. The quality of fragility indices, as for any measurement, is described by two criteria: *validity and reliability*.

- **Validity** refers to the capacity of an index (or indicator) to adequately represent a concept.
- **Reliability** refers to the capacity of an index (or indicator) to return the same results in repeated measurements.

While sufficiently high validity and reliability are easy to achieve in everyday physical measurement (e.g. size of a person, weight of a product), highly abstract concepts like fragility are hard to measure properly. Depending on the intended area of application of a fragility index, it is debatable whether it is at all possible to obtain a result of sufficient quality. In this sense, creating an index to select country cases for further in-depth study is an easier aim than quantifying fragility to the degrees of precision necessary for quantitative research.

The difficulty in measuring abstract concepts that cannot be directly observed is manifest in, for example, attempts to achieve a valid measurement of 'the state's monopoly on the legitimate use of violence'. While it is possible to observe certain traits that constitute the concept such as 'the geographical reach of police forces' or 'trust of the population in government', they do not cover the whole concept. This is why most attempts to measure fragility combine several indicators into one index score. Since there is no consensus on which observable traits to combine when measuring the concept, there can be no solution that is universally acknowledged as correct. Therefore, some fragility indexes are based on a reductionist/minimalist concept while others are more comprehensive.

What happens when a measurement is not perfectly valid or reliable?²⁴ This insufficiency is termed '**measurement error**', which is the deviation from the assumed but unobservable true values. The cause of this deviation can be random or systematic. **Random errors** occur in any measurement, since it is impossible to control for all variables possibly influencing a measurement process. Thus, random error can be interpreted as the inverse concept of reliability. When, for example, in an opinion poll, the wrong box in the questionnaire is ticked accidentally, the resulting error can be considered random; it is unpredictable and will affect the results in both directions in the long run.

Systematic errors are non-random: Their deviation from the true values correlates with a factor that can be determined and which does not level out over time. This means that in the case of systematic error, the measurement does not represent the concept it is supposed to do, but a different one. Thus, systematic error can be interpreted as the inverse concept of validity. For example, the attempt to measure state capacity to provide welfare by the percentage of households with improved water supply may be systematically biased if there are countries in which other actors had considerable influence on the expansion of this service.

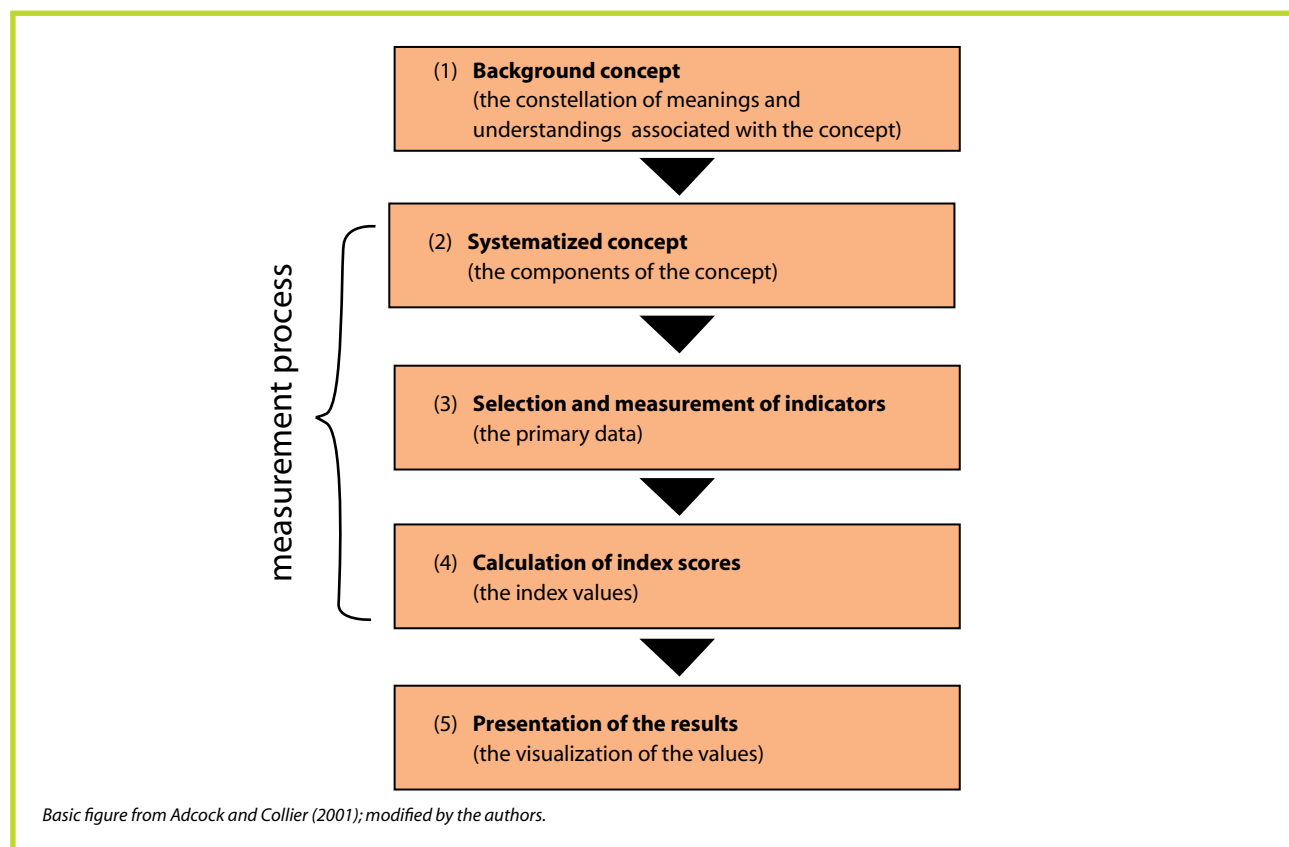
If one or both types of error become too large, the quality of an index will not be sufficient to justifiably derive knowledge or operational guidelines. The acceptable limit of measurement error is, however, much more easily reached than assumed even by articles in leading economic and political science journals.²⁵

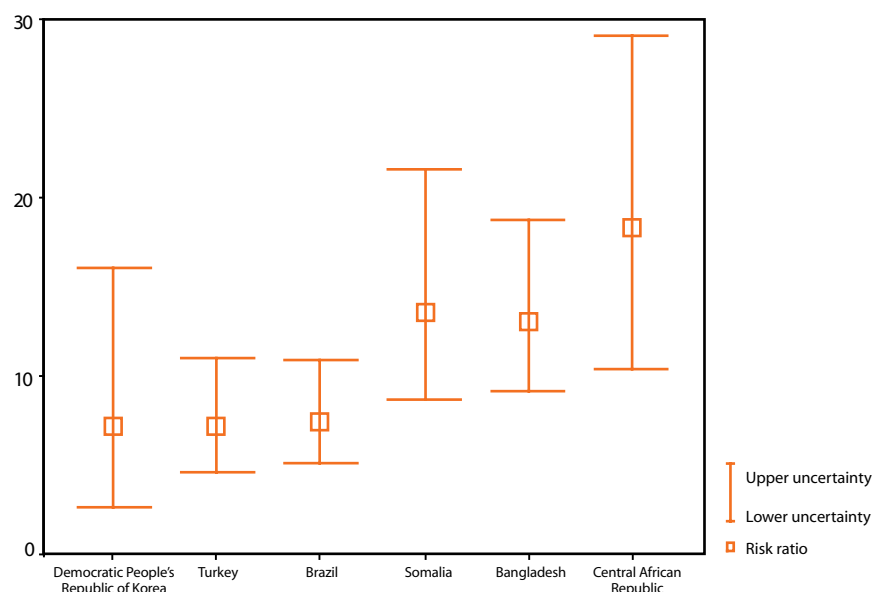
There are no clear rules on how to assess reliability and validity for fragility indices or social science data in general. Thus, a user needs to judge the applicability of an index with regard to its intended application. Two different but complementary approaches to assess the quality of an index exist:

- (1) Assessing the internal logic of a measurement process (i.e. concept, derived indicators and methods of aggregation) and
- (2) Assessing the scores produced by a measurement process with statistical means.

Chapter 3 applies both approaches to existing fragility indices, using the five-step framework presented in the remainder of this chapter.

Figure 1: Stages of constructing fragility indices



Box 3: Implications of measurement error: the Peace and Conflict Instability Ledger

Uncertainty is inherent in all measurements. Only when quantified, however, can the measurement error be visualized. The Peace and Conflict Instability Ledger (PCIL), for example, indicates the measurement error of its scores. As the graph shows, lower and upper uncertainty boundaries stretch quite far. The scores produced by PCIL are 'risk ratios,' indicating the probability of state failure compared to the OECD average. Considering this degree of measurement error one cannot say for sure whether Brazil is less conflict-prone than Somalia, Bangladesh or Central African Republic. The large measurement error of the Democratic People's Republic of Korea illustrates the difficulty in assessing closed countries; its risk ratio ranges from a quite stable 2.6 up to a highly fragile 16.0.

2.1. BACKGROUND CONCEPTS: RECOGNIZING A BASIC UNDERSTANDING

The first step in assessing an index is to identify the *background concept*, which in this case is the basic understanding of fragility. To correctly interpret an index, it is of the utmost importance to know what background concept the producers are supposing. This may be quite a challenge, since labels and even descriptions of indices do not always state whether the index refers to fragile state institutions or fragile societies.

While all steps in constructing fragility indices may be a source of measurement error, an insufficiently articulated background concept is the most difficult to correct and often the most problematic because of the difficulty in reaching shared meanings. For example, two individuals may be quite clear about what they mean by a certain term and assume that the other has the same understanding, while this is actually not the case. This scenario is more likely when the concept is new. Divergent assumptions on the background concept between the producer and the user of an index can result in a systematically biased application.

What are the most common differences that may be encountered when interpreting background concepts of fragility? As noted above, fragility refers mostly to the state. Thus, the understanding of the state underlying an index is crucial for its interpretation. It is generally agreed that the monopoly on the legitimate use of violence is a core function of the state. Beyond that, opinions diverge. As a consequence, one may encounter problems with interpreting measurements because their background concepts are too broad or too narrow for a certain application. Maximalist definitions

include ideas of good governance, democratic rule and extensive public service provision. While these ideals are certainly desirable from a policy perspective, they complicate considerably the measurement of the phenomenon – the more the state functions considered, the greater the variables and interdependencies to be controlled. Minimalist measurements, on the contrary, may easily oversimplify the phenomenon and end up excluding elements that are crucial for validly representing a phenomenon.

2.2. SYSTEMATIZED CONCEPTS: DEFINING RELEVANT ATTRIBUTES

To move from an abstract background concept towards an operational one requires identifying the concept's core attributes. These attributes define the elements that constitute the state. The resulting definition is termed *systematized concept*. Most indices in this guide adopt maximalist definitions and include sectors that matter to state fragility: security, politics, economy, social welfare and, in some cases, the environment. This approach is founded in the assumption of what services a state should provide for its citizens beyond the maintenance of a monopoly on violence. It is supposed to adhere to the rules of good governance, stimulate growth, provide public services and sustainably manage natural resources. Such a systematized concept with a considerable number of sectors and sub-sectors increases the measurement challenges exponentially.

Another obstacle to defining the systematized concept is the specification of particular attributes. If an attribute is defined as having specific institutional arrangements providing a certain service, it is not valid for countries in which that same service is provided by other institutional arrangements. A solution to avoid this problem is to put emphasis on the function of the object of interest and not on its peculiar form in a certain setting. However, state functions are much harder to measure than institutions since they cannot be directly observed. Many fragility indices try to circumvent this problem by relying on outcome indicators, which will be explained in the following sub-chapter.

2.3. SELECTION AND MEASUREMENT OF INDICATORS: OBTAINING DATA

After having selected the theoretical attributes, indicators that represent these attributes are then required. Producers are faced with the choice to either select existing data and indicators, or to collect new data and transform it into indicators. In both cases, one needs to be aware of the properties of these indicators to assess their validity and reliability. The quality of indicators is fundamental to the quality of an index. Biased data sources produce biased indices. Even when data sources are of high quality, the selection of those indicators that fit best is not a trivial task. Box 4 provides an example of how choices may differ. Four crucial questions have to be considered when selecting existing indicators or producing new ones:

- (1) What exactly does the indicator refer to?
- (2) How has the indicator been generated?
- (3) What countries and years does the indicator cover?
- (4) How big is the time lag of the indicator?

Box 4: Different operationalizations of the same concept

The choice of indicators for an index may vary greatly even if the indicators measure the same dimension. For example, the Index of State Weakness and the State Fragility Index operationalize the economic dimension differently. Whereas the former chooses five indicators for its 'economic basket', including gross national income per capita, gross domestic product growth, income inequality, inflation and regulatory quality (from the Worldwide Governance Indicators) as economic indicators, the latter opts for only three indicators including gross domestic product per capita, gross domestic product growth and share of export trade in manufactured goods that constitute 'economic effectiveness' and 'economic legitimacy'.

Indicators used in fragility indices may refer to three different phases:

(1) *Input indicators* (also known as structural/rights/commitment/*de jure* indicators) refer to the existence and quality of enabling structural conditions. Input indicators focus primarily on the legal framework, institutions and procedures in place in a given country. The questions posed by these indicators commonly require 'yes or no' answers. Indicators of this include:

- Is there a division of powers (executive, legislative, the judiciary) that guarantees the independence of the different branches of the state?
- Ratification of Core International Human Rights Conventions
- Existence of regulations and public institutions overseeing public expenditure
- Country membership of regional and international organizations

(2) *Process indicators* (also known as responsibility/*de facto* indicators) measure efforts made to achieve certain outputs or outcomes. Indicators of this type include:

- Health expenditure as a percentage of GDP
- Military expenditure as percentage of GDP
- International transfers of major conventional weapons
- Pupil-teacher ratio in primary schools
- Number of ex-combatants receiving professional training

(3) *Output indicators* (also known as outcome/performance/*de facto* indicators) measure results of actions. Indicators of this type include:

- Number of conflict-related deaths per year
- Unemployment
- Violent demonstrations and social unrest
- Trade balance – percentage of GDP
- Incidents of victimization that have been reported to the authorities in any given country

Regarding the generation of data, we distinguish four types relevant for measuring fragility: public statistics, expert data, opinion polls and content analysis.

Public statistics collected by governments, international organizations and non-government organizations. At first sight, they may appear to be the most 'objective' type of data generation. They are, however, like any kind of data, affected by random and systematic error. An example is the tax ratio reported by the International Monetary Fund. In view of the statistical capacity in many developing countries, it is highly improbable that tax data reported by fragile states satisfies data quality requirements.

The generation of **expert data** relies on the assumption that people who are actively in certain processes are capable of giving exact judgments on these processes (see Box 5). A drawback of this kind of data generation is that most experts are international specialists with similar academic backgrounds and professional experience. This inclination is likely to bring about systematic deviations termed "expert bias".

In contrast, **opinion polls** obtain answers from a representative sample of the population. One such example is the *World Values Survey* used in the Political Instability Index.

A fourth kind of data generation is by automatically analysing *text corpora*. This technique, called **content analysis**, has been introduced into the domain of fragility indices by the Failed States Index. Using Boolean operations, it extracts key phrases from tens of thousands of articles available on the internet.²⁶

All types of data suffer from a common problem of comparability. While sociology has achieved a high degree of professionalism in surveying Western industrialized societies, there are severe obstacles to cross-cultural comparisons on the macro-level. In fragile states, the challenge of identifying and reaching a representative sample of the population adds to the problem. Collecting reliable primary data is especially demanding in fragile settings, where factors such as widespread social mistrust, hidden dynamics and agendas, regime secrecy and lack of infrastructure and capacity seriously hamper any attempt to gather reliable and representative information. When these constraints are not sufficiently addressed, the overall quality of the source will be put into question, limiting the ability to draw inferences from the data itself.

Difficulties in data generation affect not only the validity and reliability of indicators, but also their *coverage*. Any fragility index will most probably be confronted with missing data in one or more of these indicators. To maintain a sufficiently large sample, indices either impute missing data, that is, estimate missing observations with available ones through statistical models or expert judgments, or they delete missing observations case-wise, i.e. they calculate overall scores even for countries with one or more missing indicators. The former approach is adopted by the *Global Peace Index* (through the Economist Intelligence Unit), the latter is the most common procedure adopted by the *Index of State Weakness*, the *State Fragility Index* and others. If missing data is imputed, the reliability of an index suffers, as values for certain countries rely on guessing. If missing data is deleted case-wise, the validity of an index suffers, as certain attributes considered relevant are not included in the overall scoring of some countries.

Box 5: Validity and reliability problems in expert surveys

An example of an attempt to directly measure fragility (drawn from the Bertelsmann Transformation Index) is the following question to an expert with possible answers:

To what extent does the state's monopoly on the use of force cover the entire territory?

[...]

- *The state's monopoly on the use of force is established nationwide in principle, but it is threatened (or challenged) by organizations in territorial enclaves (guerrillas, mafias, clans).*
- *The state's monopoly on the use of force is established in key parts of the country, but there are organizations (guerrillas, paramilitaries, clans) able to usurp the state's monopoly on the use of force in large areas of territory. (BTI 2008: 16)*

Asked to assign a score – with the overall score ranging from one to ten – the expert may encounter several obstacles, for example: How to define 'key parts of the country'? Do organizations 'able to usurp the state's monopoly on the use of force' need to possess just the physical means to control the territory, or is a certain degree of legitimacy required (as is usually associated with that concept)? And again, what are 'large areas of the territory' the insurgents are active in? A force with little support in society, controlling five percent of the country and three medium sized cities could receive any rating between four and seven when asking ten experts. What if a state is not confronted by serious competitors, but cannot, at the same time, deploy its police force to most of the country for infrastructural and financial reasons? Even an enquiry to hundreds of experts could not exclude the possibility that the average score would be biased substantially.

It is not sufficient, however, to ask *if* data is available. It is as crucial to ask *when* data is available. The information on how long it takes providers of data to supply indicators is termed time lag. While all indices necessarily draw on data from the past, there may be great differences in terms of how far back in the past the data was collected. Infant mortality rates, for example, are collected much less frequently than financial data. This is again mostly due to problems in data generation. Infant mortality rates are based on household surveys and thus much more resource intensive than collecting data that is constantly mapped, as is financial data.

As indices use different types of indicators, the time lag inside one index may vary. Different practices of indices to mark time lags aggravate these disturbances: while the 2006 score of the *Index of African Governance* published in 2008 is based largely on data from 2006, the *Failed States Index 2006* is based on data from 2005. Implications of time lags differ. Time lags of socio-economic data do not matter much when they affect phenomena that change slowly, such as life expectancy, whereas the measurement of phenomena that may change quickly, like school enrolment, suffers more from time lag.

2.4. CALCULATION OF INDEX SCORES: QUANTIFYING THE CONCEPT

After obtaining data in the form of separate indicators, producers need to determine the rules for combining this data into a single index score. For that purpose, indicators need to be brought to a certain range of values (standardization), combined by mathematical operators (aggregation) and given a particular impact on the final score (weighting).

Standardization is the rescaling of indicators so that differences in original scales (like percentages or currencies) do not have unwanted weighting effects. Scaling indicators means that their values are transformed to a fixed range of numbers, mostly according to the scale of the final index. This step is decisive for comparability over time. If possible minima and maxima are determined on the basis of data from the current year, they may be different in the following year. Accordingly, all values in between these extremes change, and hence may not be compared with values from a different year. Time invariant standardizations require constant minima and maxima for standardization. These considerations assume, however, that indicators themselves are comparable over time. If this is not the case, an index constructed to be time invariant is de facto time variant.

The process of **aggregation** is defined as the combination of individual indicators through mathematical operations. Aggregation is necessary in measuring fragility as there is no single indicator yet that could be used to approximate state fragility. In other words, there is no valid single proxy for state fragility (see Box 6). As a remedy, producers use various indicators representing attributes of state fragility and combine them into an index, or a latent variable. Two types of indices exist:

- (1) **Composite indices** draw on variables which represent different attributes (multi-dimensional). Most fragility measures produce composite indices, such as the *Index of State Weakness* and the *State Fragility Index*. They include, among other variables, the gross domestic product per capita and infant mortality rates.
- (2) **Aggregate indices** draw on variables which represent only one attribute (one-dimensional). The *WGI Political Stability and Absence of Violence* measure is an aggregate index. It uses, inter alia, “violent social conflicts” from the *Institutional Profiles Database* and the *Political Terror Scale*. Both indicators refer to the same dimension: security.

Box 6: Tax ratio: a proxy for state fragility?

The most widely acknowledged single proxy for measuring state capacity is the tax ratio.²⁷ Thus, the tax ratio could be considered an interesting proxy indicator for the state capacity dimension of state fragility. Twelve fragile and conflict-affected states collect less than 15 percent of their GDP in tax – with Afghanistan and Zimbabwe collecting less than seven percent – approximately twenty points less than the average for OECD countries (36.2). On the other hand, resource-rich fragile states such as Iraq, Angola and Equatorial Guinea collect approximately 35 percent.²⁸ When measuring state fragility by the tax ratio, it is important to consider that there is seldom reliable data on taxation in those states that are most fragile.

Choices of **standardization** can affect how indicators may or may not be aggregated, since different levels of scales allow different mathematical operations. Ordinal scales, for example, cannot be used to calculate averages as the distances between ordinal points are not necessarily equal (which is a prerequisite for calculating arithmetical averages). Theoretically derived limitations to be considered include the necessity of certain attributes. If one attribute is considered to be a necessary condition for a state not to be termed fragile, the lack of that attribute should not be compensable by other attributes.²⁹ For example, a concept based on the assumption that a state is always fragile when security is lacking defines security as a necessary condition. Selecting as mean of aggregation the addition of security, economy, politics and social welfare would not be valid, since the other dimensions could partly compensate for a lack of security and lift the country over the threshold of fragility. A more valid **method of aggregation** would be to multiply the other dimensions with security. The score will then always be zero when security is zero and thus satisfy the conceptual assumption as a necessary condition.

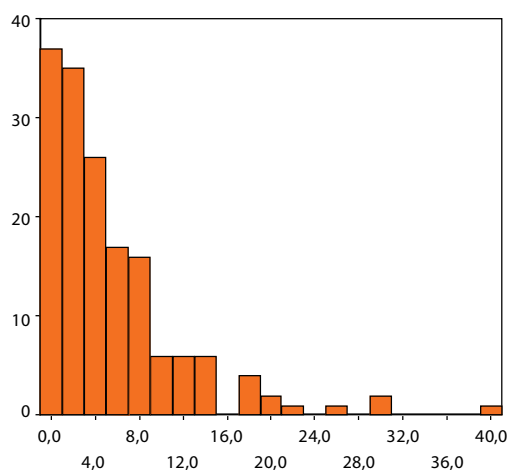
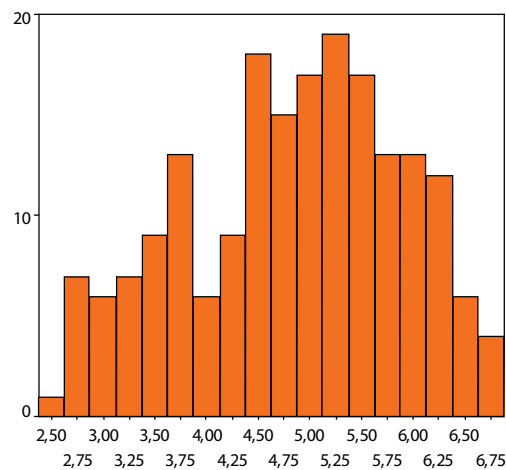
Box 7: The pretence of precision: reporting too many digits

What users may encounter when dealing with fragility indices are scores specifying four or more digits. The problem is that the more digits are specified, the more precision is implied. A score of 2.857, as given to the Central African Republic by the *Global Peace Index*, implies that one can distinguish the level of peace of another country at 2.850, which is the Democratic People's Republic of North Korea in this case. This is a difference of about 0.25 percent – an indefensible statement regarding the data quality of indicators used. One solution to this dilemma is to scale values to a precision that may seem less pretentious, as does the *State Fragility Index* by reporting only values between 0 and 24 with no digits attached. Best practice regarding measurement precision is to report the level of measurement error which qualifies the impression of precision. This is done by the *WGI Political Stability and Absence of Violence* and the *Peace and Conflict Instability Ledger*.

In the aggregation process, some indicators may have more of an impact on the final scores than others. The determination of the relative impact of indicators on the index score is termed **weighting**. There are two possibilities to determine weights: by theory or by statistical analysis.

- *Theoretically based weighting* derives the importance of indicators from the underlying concepts of fragility. Indicators that are deemed more important than others will be assigned greater weights by the producer.
- *Statistical analysis* lets the data determine the weight. Methods like factor analysis and principal components extract the importance of individual indicators on an unobservable dimension of interest from a joint dataset. These methods, however, are also based on assumptions and they are more difficult to control for non-experts.

The aggregation process produces both usable results and 'waste', including standard errors of statistical approaches, calibration of expert data and other kinds of aggregate uncertainties that affect the quality of the scores. Producers should provide these measures of uncertainty for users to judge how reliable the index is. A common deceptive practice is to use a large number of decimals in reporting results which implies a precision that cannot be achieved by an index (see Box 7). Indeed, many decimals are only justified if confidence intervals that represent the involved amount of uncertainty are reported. There are several tests that can be used to assess the quality of index scores,³⁰ such as controlling the density of the resulting score distribution for truncation (see Box 8).

Box 8: Truncated score distributions**Peace and Conflict Instability Ledger****CIFP Fragility Index**

Sometimes, measurements produce results that place most observations on one side of the scale. This is a sign that the index is not capable of representing the concept adequately, since the “crowded” side of the scale cannot distinguish sufficiently among cases. In the case of the Peace and Conflict Instability Ledger (PCIL), where the frequency distribution of scores is truncated at the lower end (see above, left figure), the skewed distribution is due to the rare occurrence of political instability. As for the remaining indices, while not all of them reach a near normal distribution like the CIFP Fragility Index (see above, right figure), none yields severely skewed results.

2.5. PRESENTATION OF RESULTS: VISUALIZING THE NUMBERS

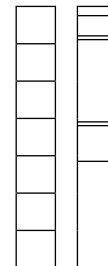
A final and often neglected step in producing an index is the presentation of the resulting scores. After calculating index scores, any way of visualizing these numbers can alter the impression on the reader. Means of visualization include tables, rankings, categorizations, charts and maps. It is easily ignored that all these elements constitute an interpretation of the scores rather than an objective display of results. Presentation bias does not need to be intentional, however: it can be easily introduced by accident. Even a simple table can deceive the viewer (see Box 9).

At first glance, a table gives the impression of equidistance between ranks: a country appearing in the middle of the table appears to be half way between the first and the last country. Even when knowing that difference in fragility can, if at all, only be expressed in the difference of scores, a viewer can hardly escape this subconscious effect. Rankings bolster this impression, since they explicitly standardize the distance of adjoining countries to one in rank no matter what the real distance is in score.

Categorizations divide contingent scores into separate sections. For this purpose, thresholds need to be found that constitute the boundaries of these sections. This is done mostly by dividing either the range of ranks or the ranks of scores into equal parts, usually four equal parts (quartiles) or five equal parts (quintiles). Setting thresholds by rank fixes the number of countries that fall into each category: the number of fragile states remains the same over the years, independent of the development of scores. Conversely, the score values of thresholds move. Using fixed fractions with rank thresholds enables an assessment of relative fragility and whether an index belongs to, for example, the lowest 20 percent (See Box 10). Statements on absolute trends are not possible, however, with rank thresholds.

Box 9: The impression of equidistance in simple result tables

41	Eritrea	46.5
42	Côte d'Ivoire	45.5
43	Central African Republic	43.6
44	Angola	43.3
45	Sudan	34.2
46	Chad	33.9
47	Congo, Democratic Republic	29.8
48	Somalia	18.9



The *Index of African Governance* (IAG) presents, as most indices do, a list of countries sorted by index score. At first, this seems unproblematic. Any ordinary listing, however, gives the impression of equidistance, as depicted in the bar on the left. The bar on the right depicts how the real values are distributed, showing that Somalia (18.9) is far worse off – by more than 10 points – than the Democratic Republic of Congo (29.8) directly adjacent in the table and that neither Chad (33.9) and Sudan (34.2) nor Angola (43.3) and the Central African Republic (43.6) are nearly as far apart from each other – 0.3 points each pair – as most other countries are. All these observations could in theory be made by observing the scores given, but in practice, most humans are not able to grasp all these differences in a table comprising 48 items at once.

Setting thresholds by scores fixes their score values. Such a categorization allows for varying numbers of fragile states. It presupposes, however, that the index is time invariant; otherwise, seemingly fixed score thresholds could not be considered constant. Constant score thresholds allow for detecting absolute changes. They suffer, however, from lacking justification of why thresholds should be valid just for being equal fractions of a scale, e.g., 2.5, 5.0 and 7.5. Empirically relevant differences could in fact lie at the values 3.1, 4.5 and 8.0. In general, score thresholds should be theoretically or empirically grounded.

Charts may include colour coding based on categories. Furthermore, one can manipulate the statement of an index greatly by changing the scaling of the axis or selecting only a certain time span in a chart, for example.

Box 10: Pitfalls of categorization

18	95.7	Lebanon
18	95.7	Nigeria
20	95.6	Sri Lanka
21	95.4	Yemen
22	94.5	Niger
23	94.2	Nepal

Source: *Foreign Policy* (2008: 67)

18	95.3	Ethiopia
19	95.2	Burundi
20	94.9	Timor-Leste
21	93.6	Nepal
22	93.5	Uzbekistan
23	93.4	Sierra Leone

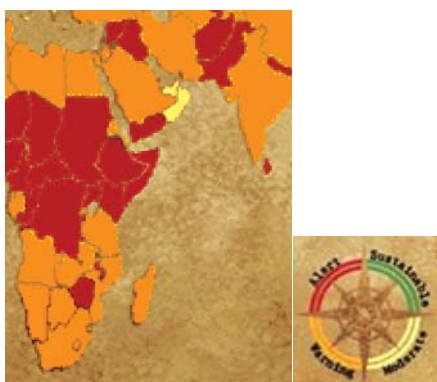
Source: *Foreign Policy* (2007: 57)

The *Failed States Index* (FSI) is an example of how arbitrary categorization can mislead users. In its presentation in the *Foreign Policy* magazine, the FSI categorizes countries into 'critical', 'in danger', 'borderline', 'stable', and 'most stable'. A table shows the top sixty countries with the highest risk. The top twenty countries are critical, the following twenty in danger, no matter what the scores are. This procedure is misleading in at least two ways: first, the overall risk of the international system appears to be constant, as there are always twenty critical states listed. Second, a country with a certain score in one year (Yemen, 95.4 in 2008) may be termed 'in danger' while a country with a lower score in a previous year had been termed 'critical' (Timor-Leste, 94.9 in 2007), even though scores are intended to be time invariant and thus allow comparison over time.

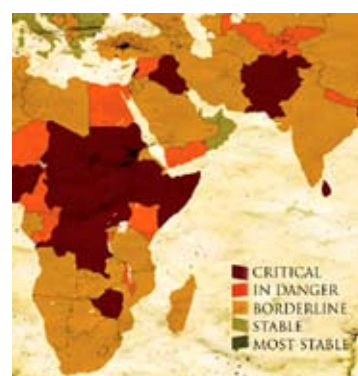
Geographical *maps* often require the categorization of data and therefore suffer the same drawbacks (see Box 11). They bring about additional problems, however, because the geographical size of countries differs significantly. Thus if several countries large in area but low in population receive bad scores ('red') and several countries small in area but large in population receive good scores ('green'), the resulting map provides a negative impression with large red and small green areas although the large majority of people could actually be living in countries with low fragility.

Box 11: Mapping fragility: Two visualisations of the Failed States Index

Africa proves to be the continent with most 'failed states' as measured by the Failed States Index 2008. Depending on the method of categorization, however, the overall impression may change: in the left map, Egypt is in 'warning' while Kenya is in 'alert' stage; in the right map, both are 'in danger'.



The map on the website³¹



The map in the Foreign Policy article³²

Chapter Summary

- There are five steps in the production of a fragility index: articulation of the background concept, systematization of the concept, selection and measurement of indicators, calculation of index scores and presentation of the results.
- Background concepts underlie each measurement. They need to be clearly articulated to prevent misinterpretation.
- Systematized concepts define the relevant attributes that need to be measured. These attributes must be derived from the underlying background concepts and connect these validly with the indicators.
- Indicator selection is crucial for both validity and reliability. The quality of indices and indicators is directly affected by the quality of data they rely on. Social phenomena may be better understood when different types of indicators (e.g. input, process and output indicators) are used. No method of data generation is immune to random or systematic error. Data gathering in fragile contexts is subject to multiple and severe challenges.
- Calculating indices requires the standardization of indicators, choosing a method of aggregation and determining the weights of indicators. Standardization determines whether an index is time variant or invariant. Both aggregation and weighting methods need to be founded in theory. Fragility is a highly abstract concept, prone to error; if information on error levels is missing, it is prudent to assume high error levels.
- The presentation of results may lead to misinterpretations. Even simple means of visualization like tables and maps may distort index results.
- The quality of any measurement procedure depends on its validity (i.e. its capacity to adequately represent the concept it purports to measure) and reliability (i.e. its capacity to return the same results in repeated measurements). Only when all steps in the production of an index are checked can the quality of an index be estimated.

3. COMPARING EXISTING CROSS-COUNTRY FRAGILITY INDICES

How does a given fragility index perform with regard to other fragility indices? To assess fragility indices appropriately, it is necessary to examine each step in the production of each index. This section focuses on 11 fragility and conflict indices (see Tables 2 & 3) and explores special challenges for measuring fragility. Each assessment of index quality is a relative judgment, however. It cannot provide information about the absolute quality of an index. An absolute judgment is not possible since the quality criterion – validity – depends on the purpose of application: a measurement that is valid in one context may not be in another. Thus, this chapter provides only exemplary results of an analysis of core aspects and detailed prescriptions of implementation have to be derived separately in each case. Users may draw their own conclusions on the quality of an index for a particular application from information provided in the catalogue of fragility indices (Part II of this guide), while the concluding Chapter 4 will give a rough overview for orientation on the relative performance of indices.

3.1. BACKGROUND CONCEPTS: WHAT ROLE FOR PRODUCERS' INTERESTS?

A first and fundamental obstacle for obtaining a valid measurement of fragility is achieving clarity about the underlying background concept. As noted above, the abstract nature of the term fragility is already a source of ambiguity, not to mention that some sources may measure fragility without calling it such. Consequently, the background concepts of existing fragility indices vary. Is democracy crucial for long-term stability? Does service delivery belong to the core tasks of the state, and if yes, which sectors are decisive? In fragility indices, there are quite a few opinions on these and related questions, although a rather broad definition derived from the Western welfare state prevails (see Part II for quotes from the indices).

Why are producers interested in measuring fragility and what are the 'politics of fragility indices'?³³ No matter what the claimed purpose is, the practice of measurement will always contain a normative dimension, and this foundation of values often stems from the producers' interests. There is a fine line between explicit value-based indices and implicit or covertly biased indices. While it is legitimate to transparently define values and assess their occurrence in practice, it is not so when this intent is concealed. Indices purporting to measure a seemingly universal phenomenon which might in fact be a specific expression of social and historical developments have the potential to mislead their users and in some situations may be interpreted as an attempt to impose the demand for a specific institutional setup through the backdoor; it defines a country as an underperformer if it does not adhere to the rules that are promoted as optimal. It is therefore important to know who produces the index and to examine the index's underlying assumptions.

Who is responsible for producing indices of fragility? Generally speaking, there are four kinds of actors producing fragility indices (see Table 1):

- (1) Universities
- (2) Think tanks
- (3) Media corporations
- (4) International organizations

Four indices are produced by universities: Carleton University, Harvard University, University of Maryland and George Mason University.³⁴ Three indices are produced by think tanks: the Fund for Peace, the Institute for Economics and Peace, and the Brookings Institution. Two indices are produced by media corporations: Bertelsmann and the Economist Group. Two indices are produced by the World Bank. Governments do conduct fragility or instability assessments, but they naturally refrain from publishing lists ranking their fellow states – or even themselves. Still, some fragility indices have been directly or indirectly supported by governments.³⁵ Geographically, all indices are produced by institutions from OECD countries: most are US-based; other indices have their roots in Australia, Canada, Germany and the United Kingdom.

In some instances, funding for the indices does not originate exclusively from the producer. The university-led *State Fragility Index* has recently received support from private foundations. The *Index of African Governance* was originally sponsored by the Mo Ibrahim Foundation. The Global Peace Index is sponsored by an individual (Australian businessman Steve Killelea). The *Country Indicators for Foreign Policy* Project produces its *Fragility Index* with funds from various sources, including the European Commission, Petro Canada and the Canadian Government. In the remaining cases, funder and producer coincide.

Table 2: Producers of fragility indices

Index	Producer	Funding source	Authoring institution
Bertelsmann Transformation Index – State Weakness Index	Bertelsmann Stiftung	Bertelsmann Stiftung	Bertelsmann Stiftung / Center for Applied Policy Research (Ludwig-Maximilians-Universität München)
Country Indicators for Foreign Policy Fragility Index	Carleton University	Canadian Government, European Commission, Petro Canada et al.	Norman Paterson School of International Affairs (Carleton University)
Country Policy and Institutional Assessment (CPIA) / International Development Association (IDA) Resource Allocation Index (IRAI)	The World Bank	The World Bank	The World Bank
Failed States Index	Fund for Peace	Ploughshares / others	Fund for Peace and Foreign Policy (responsible for the article, not the index)
Global Peace Index	Institute for Economics and Peace	Steve Killelea	The Economist Intelligence Unit, with guidance from the GPI International Panel of Experts
Harvard Kennedy School Index of African Governance	Harvard University	World Peace Foundation (formerly Mo Ibrahim Foundation)	Kennedy School of Government (Harvard University)
Index of State Weakness in the Developing World	Brookings Institution	Brookings Institution	Brookings Institution and the Center for Global Development
Peace and Conflict Instability Ledger	University of Maryland	University of Maryland	Center for International Development and Conflict Management (University of Maryland)
Political Instability Index	The Economist Group	Economist Intelligence Unit	Economist Intelligence Unit
State Fragility Index	George Mason University	George Mason University / foundations	Center for Global Policy (George Mason University)
Worldwide Governance Indicators: Political Stability and Absence of Violence	The World Bank	The World Bank	The World Bank Institute, World Bank

The authors designing the indices may also have affiliations different from the producers. All university products rely upon their own staff. Bertelsmann taps this potential by entrusting Munich University with the production of their index,³⁶ while the *Global Peace Index* relies upon academics from various countries as an advisory board. The data used in that index is calculated and collected by the Economist Intelligence Unit which also produces its own index, the *Political Instability Index*. The *Failed States Index* is produced by Fund for Peace's own staff, as is the *Index of State Weakness* by authors from Brookings Institution and the Center for Global Development. The *Worldwide Governance Indicators* are authored at the World Bank Institute while the Country Policy and Institutional Assessment (CPIA) / IDA Resource Allocation Index (IRAI) is developed by the World Bank personnel from the countries, regions and headquarters.

Table 3: Conceptual dimensions covered by fragility indices

	Security	Political	Economic	Social	Environmental
CIFP Fragility Index	x	x	x	x	x
Index of African Governance	x	x	x	x	
Index of State Weakness	x	x	x	x	
Peace and Conflict Instability Ledger	x	x	x	x	
Failed States Index	x	x	x	x	
State Fragility Index	x	x	x	x	
Country Policy and Institutional Assessment / IRAI		x	x	x	
Political Instability Index		x	x	x	
BTI State Weakness Index	x	x			
Global Peace Index	x				
WGI Political Stability and Absence of Violence	x				

The normative orientation of the producer of an index may have an influence on the construction of the index (especially on the background concept and how the concept is systematized), and thus affect the countries' scores. The *Bertelsmann Transformation Index Status Index*, for example, of which the fragility indicators form a sub-component, measures 'constitutional democracy and socially responsible market economy'. Since this goal is made explicit, though, one can make adjustments for possible bias towards certain forms of government and economy.

To proof any suspicion that an index might be promoting a hidden agenda, one needs to carefully review the whole methodology of that index. Sporadic hints do not suffice to prove its inapplicability. It is the producers' responsibility, however, to ensure sufficient transparency for users to judge whether an index may be deemed impartial for a certain application.

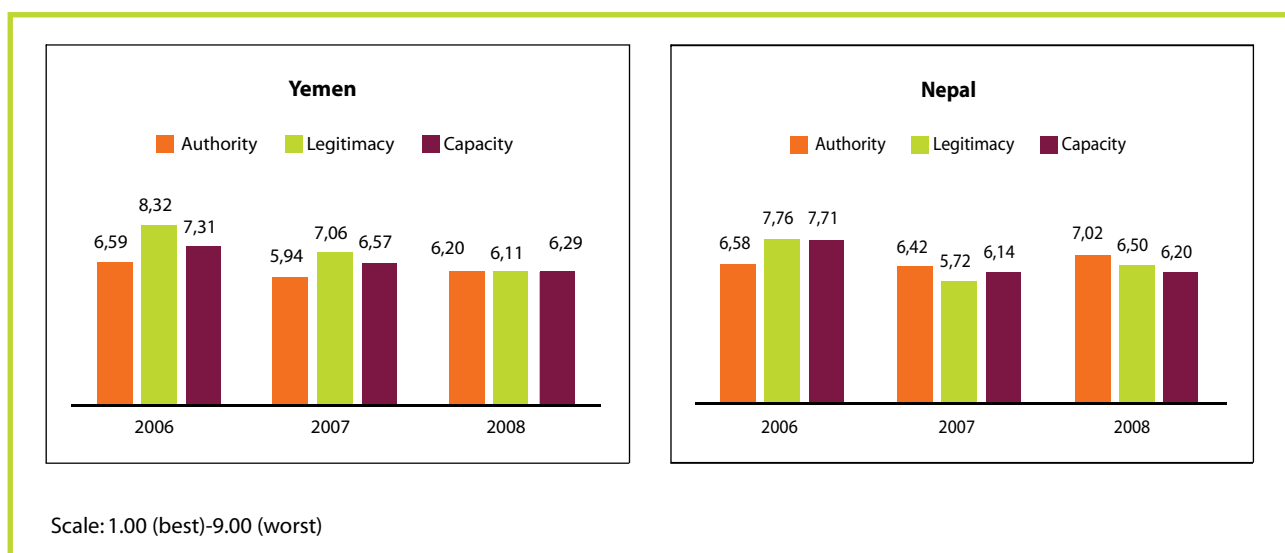
3.2. SYSTEMATIZED CONCEPTS: WHAT DIMENSIONS ARE INCLUDED?

Most of the indices in this guide measure fragility along four dimensions that are differentiated by sectors: security, political, economic and social dimensions (see Table 3). Only the *Country Indicators for Foreign Policy (CIFP) Fragility Index* includes environment as a distinct sector. Other indices include environmental problems only at the level of sub-categories (*Failed States Index*, *Index of African Governance* and *Country Policy and Institutional Assessment*). *WGI Political Stability and Absence of Violence* and the *Global Peace Index* focus only on the security sector whereas the *Political Instability Index* excludes security and focuses on political, economic and social factors.

These dimensions refer to the background concept of the Western welfare state, which, over the centuries, came to provide services in all these sectors, with environmental protection being the most recent addition as a response to new societal demands. This approach could be seen as problematic by some since it does not allow for alternative views on what a state should provide for (e.g. religious and spiritual needs).

Concepts not only can be disaggregated by service delivery in certain sectors but also by attributes of government. The *CIFP Fragility Index* proposes a framework using state authority, state legitimacy and state capacity as relevant attributes of a state (see example in Figure 2). Other indices include these functions as well, but they subsume them under one of the sectors described above. Unfortunately, the measurement of such highly abstract and not directly observable ('latent') concepts as authority, legitimacy and capacity is much more difficult than measuring service provision. This is why the *CIFP Fragility Index* has to revert to traditionally available indicators like the quality of democracy as measured by the Polity-Index – and these indicators can often be culturally biased.

Figure 2: CIFP Fragility Index authority, legitimacy and capacity scores for Yemen and Nepal



3.3. SELECTION AND MEASUREMENT OF INDICATORS: WHICH DATA SOURCES?

Which indicators do fragility indices use to quantify their systematized concepts? Unfortunately, the choice of indicators is determined not only by theoretical considerations but also by limitations of data availability. Gathering cross-national data that can be confidently compared is an enormous task. Most available data is produced by international organizations such as the OECD, the World Bank, the International Monetary Fund, and the United Nations. Given the small data pool, one may assume that indices do not differ substantially regarding the narrow data base they rely on. Figure 3 provides an overview of the data sources showing the overlapping dependence on sources.

Figure 3 shows that World Bank sources are very popular (blue circle in the graph).³⁷ The biggest share of these is accounted for by the easy-to-use World Development Indicators. The *CIFP Fragility Index* and the *Index of State Weakness* rely heavily on this source. Overall, World Bank and United Nations (UN) sources take on central positions, providing the bulk of public statistics for fragility indices. The *Economist Intelligence Unit* constitutes the largest *for profit* hub in the network, authoring both the Political Instability Index and – as contractor – the *Global Peace Index*. It provides mostly expert data. In the academic realm, the *Center for Systemic Peace* takes a central role: it authors the *State Fragility Index* and provides Polity IV and other expert-coded datasets. Many academic sources cluster around George Mason University and the University of Maryland, including the *Center for Systemic Peace*, the *Political Instability Task Force* and the *Minorities at Risk Project*. In contrast to other indices, the *Worldwide Governance Indicators* refrain from using 'hard data' from public statistics. They draw exclusively on expert and survey data. Overall, the data base of fragility indices is quite homogeneous, with few or no alternative sources for specific indicators.

Three initiatives stand out either for relying (almost) exclusively on their own data: the *BTI Fragility Index*, the *CPIA / IDA Resource Allocation Index* and the *Failed States Index*. The latter uses content analysis to create new data and calibrates these results by public statistics and expert judgment. As the collection of data is a great challenge, these three initiatives are highly valuable contributions to the research on fragility. Their value depends, however, not least on the ability of the user to understand and use the disaggregate components of the indices, i.e. it depends on their transparency.

Figure 3 has an important limitation in that it only shows the immediate data source used by an index and not the primary source that originally produced the data. Primary data comes mostly from national governments and is channelled through UN agencies and the World Bank. The fact that most 'hard data' originates from governments does not increase its credibility. Intentional systematic errors can be introduced into the data as governments may report worse numbers to be eligible for aid or better numbers to gain prestige. Governments may also invent numbers without any empirical basis because of external reporting pressures.

Beyond government sources, many academic data providers use non-government sources as well. The Political Terror Scale, for example, draws on both U.S. State Department and Amnesty International reports. A catalogue of indicators and data sources is provided in Annex I.

3.4. CALCULATION OF INDEX SCORES: DO THE RESULTS DIFFER?

Most fragility indices aggregate their indices according to simple, more or less theoretically driven rules (see Annex II). Only the *Peace and Conflict Instability Ledger* and *WGI Political Stability and Absence of Violence* use model-driven approaches in which weights are extracted from the data by mathematical algorithms. The remaining indices all use additive aggregation methods, mostly in the form of the arithmetic mean (which is equivalent to an addition and the subsequent rescaling to the range of values that the contributing indicators had been adjusted to before that operation). As a consequence, all indices allow their conceptual components to partially compensate for each other. Assuming an index of two equally weighted dimensions (e.g. security and political), absolute failure in the first dimension would still allow a country to reach 50 percent on the overall score if it performs optimally in the second dimension. In other words, no index assumes any function of the state to be a necessary condition – considering the strong theoretical focus on the monopoly of violence, this finding is rather surprising.

The impact of a single indicator on the overall index score may be as high as 50 percent in the *BTI State Weakness Index* and as low as 0.6 percent in the *Index of African Governance*. This divergence is closely connected to, but not perfectly convergent with, the total number of indicators used, ranging from two (*BTI State Weakness Index*) to 83 (*CIFP Fragility Index*). Most indices assign equal weights to all indicators. Since some indices use several aggregation levels, however,

indicators from categories with different numbers of indicators have a different impact on the total score. Only the *BTI State Weakness Index*, the *Index of State Weakness* and the *Failed States Index* have *de facto* fixed weights for all indicators. Due to limited information, the impact of individual indicators cannot be correctly calculated for the *Global Peace Index*. It reports weights of individual indicators and both sub-categories (internal and external peace), but it does not define clearly which indicators belong to which sub-category. Thus, sub-category weights cannot be considered when calculating the range of weights that the index assigns to individual indicators.

Most indices do not address the issue of measurement quality in a detailed manner. Only the *Peace and Conflict Instability Ledger* and *WGI Political Instability and Absence of Violence* do so by specifying confidence intervals that depict the level of uncertainty associated with each score. Some other indices do discuss the overall quality of their measurements, but they do not provide uncertainty information for individual country scores.

How do the results of the fragility indices differ? As most indices rely on similar data sources and apply mostly additive aggregation methods (of similar conceptual attributes), one may ask whether the resulting index scores resemble each other as well. *Bivariate correlations* are used to determine how similar two indices' scores are (see Table 4). A correlation coefficient of 0 signifies that there is no similarity; a correlation of 1 signifies that two indices vary in exactly the same manner. The resulting coefficients between indices imply a large degree of similarity: for the most part, they range between 0.7 and 0.9. This is not unusual, however, for macro-social indicators. There are two possible reasons why the scores of fragility indices are highly similar. First, it is possible that indices actually measure their respective concepts with a high degree of accuracy. High correlations would show that the real-world phenomena that are being measured often occur jointly. Second, it is possible that the indices do not measure the concepts accurately. Then, high correlations could be caused by the fact that most indices use highly similar data sources. Box 12³⁸ presents an example of convergence between indices, in this case the *State Fragility Index* and the *Index of State Weakness*.

Table 4: How similar are index results? Bivariate correlations

	BTI-SW*	CIFP 2007	CPIA*	FSI	GPI	IAG 2006*	ISW*	PCIL	PII 2009	SFI	WGI-PV 2007*
BTI-SW*	1.00										
CIFP 2007	0.81	1.00									
CPIA*	0.61	0.56	1.00								
FSI	0.82	0.93	0.59	1.00							
GPI	0.79	0.78	0.66	0.82	1.00						
IAG 2006*	0.84	0.89	0.62	0.84	0.83	1.00					
ISW*	0.82	0.92	0.69	0.85	0.75	0.94	1.00				
PCIL	0.58	0.63	0.10	0.55	0.57	0.22	0.57	1.00			
PII 2009	0.64	0.72	0.48	0.74	0.70	0.69	0.52	0.49	1.00		
SFI	0.81	0.92	0.57	0.86	0.76	0.81	0.89	0.66	0.66	1.00	
WGI-PV 2007*	0.82	0.79	0.43	0.80	0.89	0.85	0.72	0.52	0.72	0.78	1.00

Pearson's R; pairwise deletion, n between 37 and 192; >0.8 in bold type, <0.6 in italics; all correlations significant at 0.01 level; data from 2008 if not noted otherwise; *) scores inverted to 'best (low values) to worst (high values)'

BTI-SW: Bertelsmann Transformation Index – State Weakness Index; CIFP-FI: Country Indicators for Foreign Policy – Fragility Index; CPIA: Country Policy and Institutional Assessment / IRAI; FSI: Failed States Index; GPI: Global Peace Index; IAG: Index of African Governance; ISW: Index of State Weakness in the Developing World; PCIL: Peace and Conflict Instability Ledger; PII: Political Instability Index; SFI: State Fragility Index; WGI-PV: World Governance Indicators – Political Stability and Absence of Violence

Box 12: Comparing scores – the case of Bolivia

"[In 2007] there were high levels of political tension and social polarisation throughout the year in Bolivia, caused principally by the approval of a new Constitution and confrontations between the departments in the east of the country and central government, though there were repeated demonstrations by some groups of workers (miners, police, teachers and health workers, peasants and traders) and regional protests (Tarija and Beni), which led to road-blocks and outbreaks of fighting." (School for a Culture of Peace, 2008, p. 56)

In their 2008 editions, the *State Fragility Index* (SFI) and the *Index of State Weakness in the Developing World* (ISW) gave Bolivia very similar scores [ten-point scale, 0 (worst) to 10 (best) – SFI scores have been adapted]. While the divergence is very low in the security, political and economic baskets, it is very large for the social welfare dimension.

	SECURITY	POLITICS	ECONOMY	SOCIAL WELFARE
State Fragility Index	8.3	5.0	5.0	3.3
Index of State Weakness	7.8	5.0	4.6	7.3
Divergence	0.6	0.0	0.4	4.0

At the general level, convergence can be explained by conceptual similarities (fragility/state weakness). Looking at the categories, convergence may be attributable to building categories along similar indicators, in some cases even using the same data source. In the case of social welfare, however, the divergence could be explained by a different choice of indicators: whereas the SFI uses infant mortality and human capital development, the ISW uses data on child mortality, primary school completion, undernourishment, access to water and sanitation and life expectancy.

The *Political Instability Index* and the *Peace and Conflict Instability Ledger* correlate at a relatively low 0.50. This may be explained by the fact that the former aims at measuring the 'level of threat posed to governments by social protest' (risk of government failure), while the latter tries to predict the 'risk of future civil conflict and instability' (violent conflict). It is surprising, however, that both indices claim to derive the composition of their concepts from the same model produced by the Political Instability Task Force.

In general, not all dissimilarities can be explained by conceptual differences. One obstacle is the high level of measurement error reported by the *Peace and Conflict Instability Ledger* and the *WGI Political Stability and Absence of Violence Index* which can be assumed to be similarly high for all fragility indices. As Table 5 shows, indices differ little from each other. Combining these two facts, it becomes hard to tell whether the dissimilarities that can be observed are caused by error or by true variation. Since we will never know what the true scores are, we have to base any assessment of similarity or dissimilarity of scores on theoretical considerations about our highly abstract concepts; possibly with the help of directly measurable empirical evidence, but never immediately by 'confirmation'.

Indices may be *interdependent*. One type of interdependence is immediate: some indices use other indices as their data source. The *Index of State Weakness*, for example, draws on the *WGI Political Stability and Absence of Violence* score to quantify its 'security basket'. Another type of interdependence is indirect and cannot be easily detected. For example, expert judgments on fragility issues may be influenced by existing indices. It is interesting that the *BTI State Weakness Index*, a very narrow and expert based measure, and the *WGI Political Stability and Absence of Violence*, the most aggregate and very broadly designed meta-index, correlate highly with each other. It is possible that both measure similar concepts and

that both measure these concepts similarly. It is, however, also possible that – for quantifying the ‘monopoly of violence’ and ‘basic administration’, as asked by the BTI Country Assessment – experts employed by Bertelsmann use the Worldwide Governance Indicators as an aid to orientation.

3.5. PRESENTATION OF RESULTS: HOW ARE THEY VISUALIZED?

How do fragility indices present their results? Most fragility indices transform the scores resulting from their aggregation processes into rankings. Table 5 shows that many indices agree in ranking Somalia as the most fragile country. Iraq is another example that appears in most top ten rankings. However, rankings decrease the information conveyed by indices by levelling out the variance between ranks. Actual score differences may oscillate greatly between different pairs of countries that rank next to each other. While high correlations of scores increase the probability that two indices rank countries in a similar manner, as is the case for the *Index of State Weakness* and the *State Fragility Index*, they can still disagree significantly with regard to particular cases (especially with regard to controversial cases like the Democratic People’s Republic of North Korea and Zimbabwe).

After establishing scores and ranks, some fragility indices derive further categorizations based on those scores. Categories facilitate the quick interpretation of indices. In the tables summarizing index results, countries are often colour-coded according to their respective categories. Categories are also used to draw maps of the geographical distribution of fragility. Both categorizations and maps have a strong impact on the user, however, and introduce the possibility of misinterpretation. Indeed, it does not take much to generate categories that are different from those proposed by the index producers. For example, slightly different choices in the standardization of indicators during the step of aggregation may significantly alter the results of categorization.⁴⁰ Furthermore, if the measurement error built up during the measurement process were made transparent in the assignation of categories, the confidence intervals of many countries would possibly spread over three different categories at once, as visualized by the *Peace and Conflict Instability Ledger*.

As discussed in chapter 2.5, countries may be categorized by their score or by their rank. Respective thresholds may be set at a certain level or they may be determined by splitting the sample into equal parts. When scores are used to determine thresholds, the number of countries inside a category may vary from year to year. When ranks are used to determine thresholds, the scores required to reach a certain category may vary from year to year.⁴¹

Table 5: 2008 worst country rankings

	BTI State Weakness	CIFP Fragility Index	CPIA / IRAI	Failed States Index	Global Peace Index	Index of State Weakness	Peace and Conflict Instability Ledger	State Fragility Index	WGI Political Stability
1	Somalia	Sudan	Zimbabwe	Somalia	Iraq	Somalia	Afghanistan	Somalia	Somalia
2	CAR	Afghanistan	Comoros	Sudan	Somalia	Afghanistan	Iraq	Sudan	Iraq
3	Afghanistan	DRC	Eritrea	Zimbabwe	Sudan	DRC	Niger	Afghanistan	Pakistan
4	Iraq	Somalia	Sudan	Chad	Afghanistan	Iraq	Ethiopia	Myanmar	Afghanistan
5	Chad	Ethiopia	CAR	Iraq	Israel	Burundi	Liberia	Chad	Sudan
6	Côte d’Ivoire	Iraq	Chad	DRC	Chad	Sudan	Sierra Leone	DRC	DRC
7	DRC	Burundi	Guinea-Bissau	Afghanistan	CAR	CAR	Mali	Iraq	Nepal
8	Haiti	Haiti	Afghanistan	Côte d’Ivoire	DPRK	Zimbabwe	Tanzania	Rwanda	Côte d’Ivoire
9	Sudan	Pakistan	Côte d’Ivoire	Pakistan	Lebanon	Liberia	CAR	Burundi	Lebanon
10	Myanmar	Liberia	Togo	CAR	Russia	Côte d’Ivoire	Djibouti	Liberia	Nigeria

CAR: Central African Republic; DRC: Democratic Republic of Congo

Four indices categorize countries by rank, two by scores (see Table 6). The *Failed States Index* uses both methods. It scores quartiles on the webpage, and ranks thresholds in the *Foreign Policy* article in which the index is presented to the public. The method of categorization applied by the *Political Instability Index* is not revealed. Four fragility indices do not categorize.

Table 6: Categorization methods employed by fragility indices

Index	Number of categories	Method	Category denominations
BTI State Weakness Index	4	score threshold	failed states (scores of 1.0-2.5) ; very fragile states (3.0-4.0); fragile states (4.5-5.5); remaining countries not labelled
CIFP Fragility Index	3	score threshold and rank fraction	worst global performers (worst ranking 5%); performing poorly (above 6.50); performing at or around the median (3.50-6.50); performing well relative to others (scores below 3.50)
Country Policy and Institutional Assessment / IRAI	2	score threshold	fragile states (scores of 3.2 and below); remaining countries not labelled
Failed States Index	<i>two different categorizations applied:</i>		
- Fund for Peace website	4	score quartiles	alert (scores of 0-30), warning (30-60), moderate (60-90), sustainable (90-120)
- Foreign Policy article	5	rank thresholds	critical (ranks 1-20), in danger (21-40), borderline (41-60; table shows only 60 countries, remaining boundaries not defined), stable (only present in map), most stable (only present in map)
Global Peace Index	3	rank quintiles	ten least at peace (bottom quintile), ten most at peace (top quintile); remaining countries not labelled
Index of African Governance	<i>no categorization</i>		
Index of State Weakness	5	overall rank quintiles and category rank quintiles	failed states (performing "markedly worse than all others"; ranks 1-3), critically weak states (ranks 4-28), weak states (ranks 29-56), states to watch (that "score notably poorly in at least one of the four core areas of state function")
Peace and Conflict Instability Ledger	3	rank quartiles	high risk (top quartile), moderate risk (second quartile), low risk (third and fourth quartile)
Political Instability Index	4	not defined	very high risk (above 7.4), high risk (5.8-7.4), moderate risk (4.0-5.7), low risk (below 4.0)
State Fragility Index	<i>no categorization</i>		
WGI Political Stability and Absence of Violence	6	rank quartiles and deciles	no names, only colour coded: dark red (bottom decile), red (remaining bottom quartile), orange (3rd quartile), yellow (2nd quartile), green (top quartile excluding top decile), dark green (top decile)

Chapter Summary

- The background concepts of fragility indices may be influenced by the producers' interests and values. Fragility indices are produced by universities, think tanks and media from the United States, Canada, Australia and Western Europe as well as by the World Bank. Several but not all indices are produced, funded and authored by the same institution.
- Most systematized concepts used by fragility indices are strongly oriented towards the model of the Western welfare state.
- Most indicators used by fragility indices are produced by international organizations such as the United Nations and the World Bank. They collect most of their data from governments which have incentives to distort performance indicators (in either direction).
- Aggregation methods used in fragility indices are mostly additive, which allows different dimensions of a concept to partly compensate for each other.
- There is considerable similarity among the ranks and scores of different fragility indices. Considering the high level of measurement error, it is hard to draw conclusions as to whether small dissimilarities between countries are caused by error or true variation. Only large differences can be trusted.
- The presentation of many fragility indices lacks clarity on what implications are made by using particular methods of categorization.

4. SELECTING AND APPLYING CROSS-COUNTRY FRAGILITY INDICES

4.1. USING FRAGILITY INDICES: WHAT IS POSSIBLE?

All fragility indices based on a fairly persistent methodology can be used for detecting large-scale socio-economic change. No matter what the indices measure, when they measure it with the same more or less time invariant approach each year, large changes in scores imply that something is changing. Even indices that are time variant by design are often time invariant in practice. Most macro-economic indicators change slowly, so that major changes in scores still point to events with a certain impact which will be of interest for government officials and other development actors. This warning mechanism works even without knowing the character of these events by its suggestion to look more closely at a country.

Potential uses of fragility indices abound. For research, indices should only be applied in regression analysis if strict criteria of measurement quality are fulfilled. In practice, quantitative social science frequently must resort to using low quality data since no better data are available or even feasible. Currently, most fragility indices barely satisfy scientific standards. Thus, indices need to be carefully reviewed before application and complemented by alternative indicators to test for robustness. Results based on low quality data should not be promoted to inform policy without additional evidence derived from alternative methods.

Fragility indices may support policy guidance by serving as an aid to orientation on how certain states perform, as long as the concept of the index is clearly defined and its measurement sufficiently valid. Still, a certain understanding of the mathematical implications of index use is required. Even simple statistics may betray the user. For example, the statement that one country has improved by 5 points from 2007 to 2008 will sound less promising when – looking at an extended time-frame – it would become clear that the country has actually lost 20 points from 2000 to 2008. This 'low-tech' application may also serve certain evaluation purposes. Simple descriptive statistics may add to a qualitative assessment of fragility. When using advanced statistical models, the same constraints as for research apply.

Stakeholders may demand clarification on the performance of a government when fragility index scores change. It is important, however, to be conscious of what phenomenon is being measured: is it under direct control of the government or are private actors the main drivers (e.g. size of police force versus organized crime)? Can the phenomenon be changed unilaterally or is it an issue in need of international cooperation (e.g. local erosion versus transnational watershed management)?

Fragility indices require significant maturation before they can satisfactorily inform policy.⁴³ Fragility indices are highly aggregate and abstract representations of complex social systems, which makes them both hard to interpret and error prone. Furthermore, the indices measure at the national level while important differences and phenomena are not picked up at the sub-national level. All these characteristics make them highly unspecific. Complexity always needs to be reduced to display state fragility in numbers, but that same complexity has to be reconsidered from various angles to inform real action.

4.2. SELECTING FRAGILITY INDICES: WHAT ARE THEIR RELATIVE STRENGTHS?

How may users select the appropriate indices for a certain application? As mentioned above, any application requires detailed awareness about an index's capability. Table 7 provides an overview of how fragility indices perform relative to each other. No index is perfect, but most perform well in some aspects. The *Index of State Weakness in the Developing World*, for example, fares well in providing a transparent and accessible documentation of their methodology, which is an explicit goal of its approach. Its use is, however, limited by covering only developing countries and thus not allowing comparisons with richer countries. *CIFP Fragility Index* and *WGI Political Stability* provide the most extensive coverage, but they do not provide full access to replication data. The *BTI State Weakness Index* and the *Index of African Governance* are the only indices providing immediate access to their datasets. The former suffers, however, from a very narrow data base, an assessment by a very limited number of experts, causing doubt about its reliability. Regarding validity, the *BTI State Weakness Index* fares best as it measures a narrow concept of state fragility. Most other indices apply very broad concepts and are not capable of measuring any concept more specific than a general situation of fragility in a country. The assessments made in Table 7 are explained in Part II of this guide.

Table 7: The relative performance of fragility indices

	Concept Measured	Purpose		Reliability		Coverage	Replicability	
		Predictive	Descriptive	Transparency on uncertainty	Overall reliability		Data availability	Documentation
BTI State Weakness Index	State weakness		x	o	-	o	+	o
CIFP Fragility Index	State fragility	x	x	o	o	+	-	-
Country Policy and Institutional Assessment / IRAI	State fragility (development orientation)		x	-	o	-	-	o
Failed States Index	State failure	x	x	-	o	o	-	-
Global Peace Index	Negative peace		x	-	o	o	-	-
Index of African Governance	Governance		x	o	o	-	+	+
Index of State Weakness	State weakness		x	-	o	o	-	+
Peace and Conflict Instability Ledger	State instability	x		+	+	o	o	+
Political Instability Index	Social and political unrest	x		-	o	o	-	-
State Fragility Index	State fragility		x	-	o	o	-	+
WGI Political Stability	Political stability and absence of violence		x	+	+	+	-	o

X: Yes;

-: Negative; o: Neutral; +: Positive

4.3. FIVE PRINCIPLES FOR APPLYING FRAGILITY INDICES

1. *Needs determine* the selection. As a starting point, consider what you need the index for and choose accordingly. Keep in mind that the stated purpose and the claimed reach of an index may not match the de facto operationalization, setting limits to what the index can indeed be used for.
2. *No index is perfect*. Probably even more than other socio-political measurements, the degree of uncertainty of fragility indices should not be neglected. Still, this uncertainty does not lead to the conclusion to discard them.
3. *Know the index*. As uncertainty is unavoidable, users should do their best to control it. They should understand the index's methodology and thus be capable of managing its deficiencies.
4. *Plurality works better*. Considering fragility indices' imperfections, and depending on your application needs, you may want to use an index in combination with other measurement tools, either quantitative or qualitative.
5. *Consider the consequences*. Basing policy decisions on index scores is a dangerous practice. Fragility indices should never be used as the sole source of information for guiding policies. Moreover, quantified results and conclusions may be used beyond their original purpose and inadvertently influence policy-making circles.

Part II

A CATALOGUE OF INDICES ON FRAGILITY

THE STRUCTURE OF THE CATALOGUE

Index	What is the name of the index?
Producer	Who produces the index?
Author(s)	Who are the authors?
Funding source	Who finances the production of the index?
Website	Where is the index to be found on the internet?
Publication	What publication is to be cited when using the index?
Background concept	
Stated Purpose	What purpose does the index claim to serve?
Definition of the concept measured	How does the index define the concept of interest?
Systematized concept	
Dimensions	What dimensions does the index include?
Categories	What categories does the index use to group indicators?
Selection and measurement of indicators	
Number of indicators	How many indicators are used by the index?
Data type	What type of data informs the index?
Data sources	What primary data sources feed the index?
Time lag	What is the distance between the time of data collection and the publication date?
Calculation of index scores	
Standardization	How are indicators transformed?
Index scale	What range and measurement level does the resulting scale have? Is it time variant or invariant?
Aggregation	By what means are the index's components combined?
Weighting	Does the index weigh its components and if yes, how?
Uncertainty information	Does the index provide information about the level of uncertainty inherent in its scores (measurement error, inter-coder reliability, robustness tests)?
Presentation of results	
Coverage	What is the temporal and geographic coverage of the published results?
Periodicity	How often is the index published?
Categorization	Are categories derived from scores and, if so, how?
Application	
Strengths	What are the strengths of the index?
Weaknesses	What are the weaknesses of the index?
Recommended use	What can the index be used for?
Comments	
	Additional remarks not covered elsewhere
Examples of results	
	How does the index score selected countries?

Index: Bertelsmann Transformation Index (BTI) State Weakness Index

Note: The *BTI State Weakness Index* is not published as such by Bertelsmann. It is only mentioned in the methodology of the main publication that presents the *BTI Status Index* and the *BTI Management Index*. The scores of the *BTI State Weakness Index* are not provided by the producers, only the scores of its constituent elements 'monopoly on use of force' and 'basic administration' are provided as part of the *BTI Status Index*; Annex IV of this guide lists these scores as well as the *BTI State Weakness* scores calculated by the authors.

Producer	Bertelsmann Stiftung
Author(s)	Martin Brusic, Olaf Hillenbrand, Peter Thiery (Center for Applied Policy Research, Munich University), and Sabine Donner and Hauke Hartmann (Bertelsmann Foundation), supported by regional coordinators and the BTI Board
Funding Source	Bertelsmann Stiftung
Website	http://www.bertelsmann-transformation-index.de/
Publication	Bertelsmann Stiftung. 2009. <i>Bertelsmann Transformation Index 2008: Political Management in International Comparison</i> . Gütersloh: Bertelsmann Stiftung Verlag.

Background concept

Stated Purpose	"Successful transformation requires that a state have functioning administration structures and that it secure its monopoly on the use of force. Without these two in place, a state cannot guarantee and provide for the rule of law or the security of its population." (BTI 2008: 6) ⁴⁴
Definition of the concept measured	<i>State Weakness</i> "A state is classified as 'failed state' when the arithmetic mean of scores given for monopoly on the use of force (1.1) and basic administration (1.4) is less than three." (BTI 2008: 85).

Systematized concept

Dimensions	Security, political ⁴⁵
Categories	None

Selection and measurement of indicators

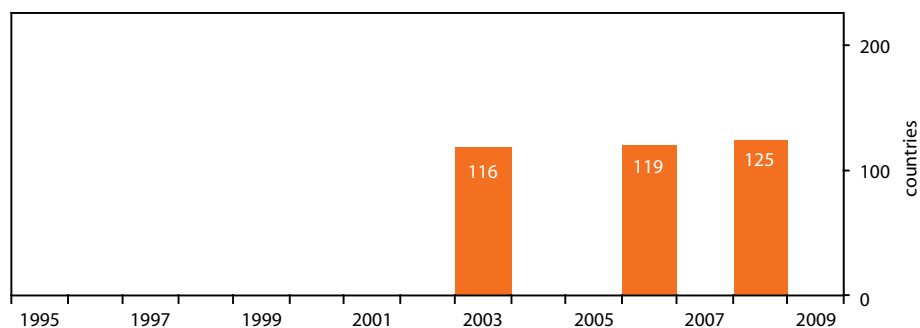
Number of indicators	2
Data type	Expert survey ⁴⁶
Data sources	Uses two out of forty-nine questions from the BTI Country Assessments which employ one primary researcher per country, one peer-reviewer and two calibration rounds by regional and global coordinators. Information on how much calibration has impacted on original expert judgments is not reported. ⁴⁷
Time lag	About nine to ten months from expert assessment to publication on the website according to the producers. The nominal date of index equates to the year of publication.

Calculation of index scores

Standardization	Coding applies a 1-10 (worst to best) score which is not transformed before aggregation.
Index scale	Ratio: 1.0-10.0 (worst to best; due to aggregation method only steps of ± 0.5 possible); time invariant ⁴⁸
Aggregation	One aggregation level; method: arithmetic mean of two indicators ⁴⁹
Weighting	Both indicators are given equal weight ⁵⁰
Uncertainty information	No country-specific uncertainty information provided. Overall reliability checks performed (Cohen's Kappa).

Presentation of results

Coverage	Universe of cases: 'developing and transformation countries' ⁵¹ with two million inhabitants and above ⁵²
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Periodicity	Biannually
Categorization	The BTI (2007: 8) brochure maps 'failed states' (scores of 1.0-2.5), 'very fragile states' (3.0-4.0) and 'fragile states' (4.5-5.5); remaining countries not classified. ⁵³

Application

Strengths	The BTI initiative acts in a transparent manner, publishing results for all their sub-indicators. It intends to measure a number of policy concepts that are difficult to observe or approximate otherwise.
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Comprehensive country reports accompany the numerical scores of the BTI Country Assessments.

The BTI State Weakness Index is the most parsimonious operationalization of state fragility presented in this guide and might therefore be considered valid for quantitative research interested in a narrow concept focused on core state functions.

Weaknesses

The BTI Country Assessments are expert surveys, which makes them naturally vulnerable to expert bias. The risk of bias is increased due to the limited number of experts involved. Reliability is further decreased by the phrasing of the questionnaire which leaves considerable room for interpretation by the coders. The risk of bias increases even more when using only a limited number of indicators from an expert survey since different understandings of specific concepts cannot level out as they might with a large number of indicators. This is the case for the BTI Failed States Index, which relies on only two questions from the survey.⁵⁴ In this aspect, validity and reliability rival each other.

The BTI overall publication assumes that market oriented democracy is the best system to be adopted by all countries. This might influence coders' judgments on those two questions used by the BTI State Weakness Index as well.

The universe of cases is limited to 'developing and transformation countries'. This decreases both credibility ('focus on the others and their problems'⁵⁵) and applicability in research (sample bias).

Recommended use

The BTI State Weakness Index is a valid measure of state fragility in a narrow sense and may thus be used to investigate the relationship with phenomena that other, more broadly designed indices include into their very concepts of fragility (e.g. democratic governance, environmental factors).

As an index that is conceptualized as independent from other socio-political phenomena, the BTI State Weakness Index may, for policy guidance, provide a first impression of a state's fundamental capacity to act in comparison to other states. Provided that the consulted experts remain the same, comparisons over time should be possible as well.

Severe uncertainty remains with regard to the reliability and – to a lesser extent – the validity of the underlying expert survey, which is why any application must be supplemented with alternative sources of information.

Comment

The two questions from the BTI Country Assessment that are used for the BTI State Weakness Index are phrased as follows:

- 'To what extent does the state's monopoly on the use of force cover the entire territory?'
- 'To what extent do basic administrative structures exist?'

Example of results

The tables below compare 'failed states' as defined by the BTI State Weakness Index (scores of less than 3) with those caught in a 'failed or blocked political and economic transformation' (scores of less than 3.5 in the BTI Status Index). Scores range from 0.0 (worst) to 10.0 (best). It shows that all weak states struggle with transformation while some states that struggle with transformation actually fulfill their core functions: Eritrea, the Democratic People's Republic of North Korea and Turkmenistan succeed fairly well in upholding a monopoly of violence and providing basic administration.

'Failed States' - BTI State Weakness Index 2008				
	BTI State Weakness Index		BTI Status Index	
Country	Rank	Score	Rank	Score
Somalia	125	1.0	125	1.36
Central African Republic	124	1.5	100	4.05
Afghanistan	122	2.0	119	3.21
Iraq		2.0	116	3.28
Chad	119	2.5	117	3.24
Côte d'Ivoire		2.5	118	3.22
Democratic Republic of Congo		2.5	120	3.16

'Failed or Blocked Political and Economic Transformation' - BTI Status Index 2008				
	BTI Status Index		BTI State Weakness Index	
Country	Rank	Score	Rank	Score
Somalia	125	1.36	125	1.0
Myanmar	124	1.96	116	3.5
Eritrea	123	2.37	76	6.5
Democratic People's Republic of North Korea	122	2.46	22	9.0
Sudan	121	3.00	117	3.0
Democratic Republic of Congo	120	3.16	119	2.5
Afghanistan	119	3.21	122	2.0
Côte d'Ivoire	118	3.22	119	2.5
Chad	117	3.24	119	2.5
Iraq	116	3.28	122	2.0
Turkmenistan	115	3.34	45	7.5
Zimbabwe	114	3.39	104	5.0

Index: Country Indicators for Foreign Policy (CIFP) Fragility Index

Producer	Carleton University
Author(s)	David Carment et al. (Norman Paterson School of International Affairs, Carleton University)
Funding Source	Government of Canada, European Commission, Petro Canada and others
Website	http://www.carleton.ca/cifp/
Publication	D. Carment, J.J. Gazo, S. Prest and T. Bell. 2006. <i>Failed and Fragile States: A Concept Paper for the Canadian Government</i> . Ottawa, Carleton University

Background concept

Stated Purpose 'The Failed and Fragile States project examines state fragility using a combination of extensive structural data and dynamic events monitoring to provide an overall picture of a country's fragility and trend lines.'⁵⁶

Definition of the concept measured *Fragile state*
 'Fragile states lack the functional authority to provide basic security within their borders, the institutional capacity to provide basic social needs for their populations, and/or the political legitimacy to effectively represent their citizens at home and abroad. [...] Failed States [are] characterized by conflict, humanitarian crises, and economic collapse. Government authority, legitimacy, and capacity no longer extend throughout the state, but instead are limited either to specific regions or groups.'⁵⁶

Systematized concept

Dimensions Security, political, economic, social, environment

Categories By sector: governance, economics, security & crime, human development, demography, environment; by function: authority, legitimacy, capacity; and gender as a cross-cutting category

Selection and measurement of indicators

Number of indicators 83

Data type Expert data / public statistics

Data sources Center for Systemic Peace, Central Intelligence Agency, CIRI Human Rights Data Project, Food and Agriculture Organization of the United Nations, Freedom House, The Fund for Peace, Global Footprint Network, Heritage Foundation, Minorities at Risk, The Office of the United Nations High Commissioner for Refugees, Transparency International, UNDP, Uppsala Conflict Database, US National Counterterrorism Center, World Bank, Worldwide Governance Indicators

Time lag Insufficient information provided to determine time lag.

Calculation of index scores

Standardization Indicators are rescaled to a range of 1-9 (best to worst)

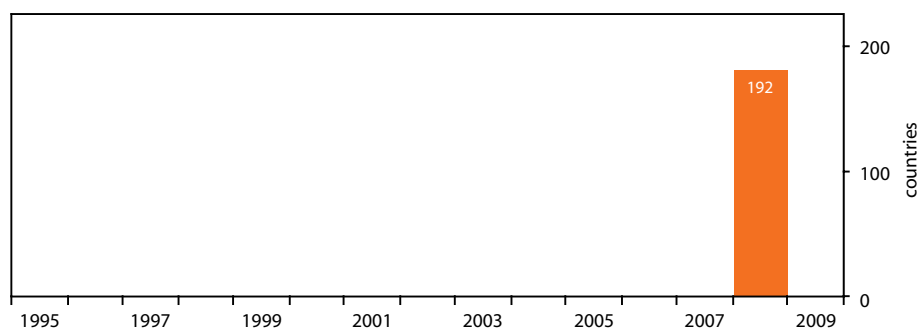
Index scale Interval: 1.00-9.00 (best to worst); time variant

Aggregation	The index is calculated by arithmetic mean from the categories. Categories are calculated by arithmetic mean from indicators.
Weighting	All categories are given equal weights. All indicators are given equal weights inside their categories. Due to differently sized categories, the impact of individual indicators on the overall score varies.
Uncertainty information	Not reported for individual countries. However, the producers attempt to test the validity of their fragility index using a hypothesis on what causes state fragility (nomological validity). ⁵⁸

Presentation of results

Coverage

*Universe of cases: 'all countries for which data is available'*⁵⁹



The only full web-based dataset that is available covers the year 2007; publications with summaries of results for 2008 and 2006 can be retrieved from CIFP website. The producers announce that there will be data from 1980-2008 available with a book publication soon

Periodicity	Unknown
Categorization	Score thresholds and rank fraction: performing well relative to others (scores below 3.50), performing at or around the median (3.50-6.50); performing poorly (above 6.50); worst global performers (worst ranking 5%)

Application

Strengths	<p>The CIFP Fragility Index is embedded in a comprehensive theoretical framework. The index is complemented by various other forms of assessment which provide much more information than most other projects producing indices. They include databases on conflict risk assessment and democratic processes as well as extensive country profiles.</p> <p>A significant theoretical contribution made by CIFP is the attempt to disaggregate fragility by authority, legitimacy and capacity scores. This goes beyond sectoral baskets that are applied in most other indices, as does the additional gender score as cross-cutting information.</p>
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The index has a large geographical coverage.

Weaknesses

Disaggregate data below the level of the six categories is not provided, which prevents users from modifying and replicating the index.

The Methodology of the CIFP Fragility Index is not clearly laid out in one publication. Information is more dispersed (over various documents) than that of other indices.

Only full data for 2007 is currently available on the internet, even though a temporally extended dataset exists already.

Recommended use

The *CIFP Fragility Index* can be used to identify general fluctuations indicating socio-political change. As the operationalization is very broad, before using the index or its subcomponents as indicators for a better defined concept, constituting indicators need to be reviewed concerning their validity for a certain application as well as possible multicollinearity with control variables.

The list of indicators used in the *CIFP Fragility Index* is among the most extensive that indices provide and should be a source of inspiration for fragility-related projects. The list can be found on the website, the data, unfortunately, not.

Examples of Results

There is an intense discussion on how closely environmental and political fragility are connected.⁶⁰ The *CIFP Fragility Index* is the only fragility index to focus on the environment as its own sector. Environmental indicators include variables like arable land availability, ecological footprint and carbon dioxide emissions per capita. Results for worst performers are shown below.

Countries scoring worst on the environment category in 2007

Country	CIFP Fragility Index		CIFP environment category	
	Rank	Score	Rank	Score
Occupied Palestinian Territory	11	6.35	1	8.55
Aruba	136	4.35	2	7.73
Qatar	107	4.8	3	7.5
United Arab Emirates	117	4.62	4	7.45
Singapore	160	3.68	5	7.01

Countries scoring worst on the overall CIFP Fragility Index in 2007

Country	CIFP Fragility Index		CIFP environment category	
	Rank	Score	Rank	Score
Sudan	1	6.79	97	4.93
Somalia	2	6.77	21	6.12
Afghanistan	3	6.69	51	5.48
Burundi	4	6.67	155	4.16
Iraq	5	6.55	145	4.26

Index: Country Policy and Institutional Assessment (CPIA) / International Development Association (IDA) Resource Allocation Index (IRAI)

Producer	The World Bank
Author(s)	World Bank staff
Funding Source	The World Bank
Website	http://go.worldbank.org/S2THW11X60
Publication	World Bank. 2008. <i>Country Policy and Institutional Assessment: 2008 Assessment Questionnaire (Operations Policy and Country Services)</i> .

Background concept

Stated Purpose	The International Development Association (IDA) Resource Allocation Index (IRAI) IRAI is based on the results of the Country Policy and Institutional Assessment (CPIA), which 'is intended to capture the quality of a country's policies and institutional arrangements' ⁶¹ . The ratings are used for allocating International Development Association (IDA) funds. In addition, it informs other World Bank activities, such as: Country Assistance Strategy programme, identification of countries for extra attention on fiduciary standards and governance; research on the determinants of growth and poverty reduction; Global Monitoring Reports .
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Definition of the concept measured	<i>Fragile State</i> 'The World Bank's definition of fragile states covers low-income countries scoring 3.2 and below' on the CPIA.
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Systematized concept

Dimensions	Economic, Political, Social
Categories	Economic Management, Structural Policies, Policies for Social Inclusion/Equity, Public Sector Management and Institutions (with four sub-categories each)

Selection and measurement of indicators

Number of indicators	16
Data type	Expert survey
Data sources	Country ratings are conducted by World Bank staff. They are preceded by an intensive benchmarking study on a smaller sample of countries and accompanied by consultation with country authorities. ⁶⁴
Time lag	About 1.5 years (e.g. the 2008 scores disclosed in June 2009 correspond to the 2008 CPIA exercise conducted from autumn 2007 to spring 2008) ⁶⁵

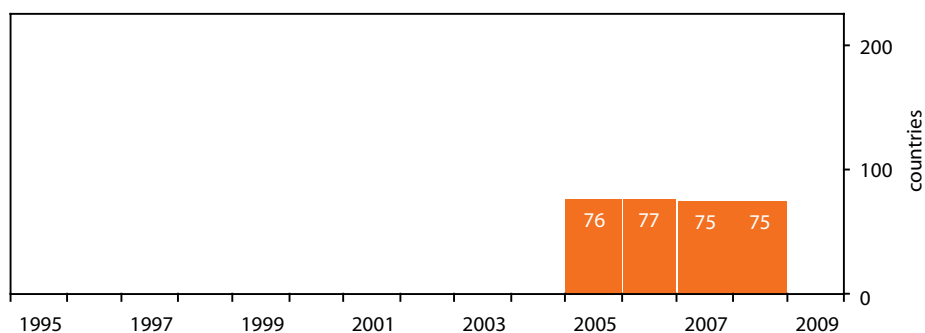
Calculation of index scores

Standardization	Coding applies a 1 to 6 scale (worst to best)
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Index scale	1.0 to 6.0 (worst to best); time invariant
Aggregation	Arithmetic average of categories; categories are arithmetic averages of four indicators each
Weighting	All indicators and categories are equally weighted ⁶⁶
Uncertainty information	Average standard error of 0.24 ⁶⁷

Presentation of results

Coverage Universe of cases: 'all IDA-eligible countries'



Note: CPIA scores were first disclosed in 2006 (2005 ratings)

Periodicity	Yearly
Categorization	Countries scoring 3.2 and below are termed fragile states ⁶⁹

Application

Strengths Its focus on policies and institutions makes the CPIA/IRAI a genuine measure of state performance that is conceptually independent of income levels and conflict.⁷⁰ (However, outcome indicators are also used as guideposts for World Bank staff in the rating process.)

The CPIA is produced in a comprehensive rating process that includes consultations with country authorities.

The CPIA has undergone substantial revisions. World Bank staff has lots of experience in conducting this rating.

Weaknesses As is the case with other measures relying on expert surveys, the process of assigning scores might be marred by subjective judgments that cannot be controlled for. Despite checks and balances to level out personal bias, ratings are established by World Bank staff only with no external, independent review⁷¹.

Index: Failed States Index

Producer	Fund for Peace
Author(s)	Pauline Baker, Will Ferroggiaro, Rita Grossman-Vermaas, Krista Hendy, Nate Haken, Joelle Burbank, Mark Loucas and Shawn Rowley (Fund for Peace) ⁷³
Funding Source	Fund for Peace
Website	http://www.fundforpeace.org
Publication	Foreign Policy and Fund for Peace. 2009. "The Failed States Index 2009", <i>Foreign Policy</i> 173: 80-127.

Background concept

Stated Purpose 'Because it is crucial to closely monitor weak states – their progress, their deterioration, and their ability to withstand challenges – the Fund for Peace [...] and Foreign Policy present the fourth annual Failed States Index.⁷⁴ The ultimate goal of producers is to assess the 'risk of failure'.⁷⁵

Definition of the concept measured *Failed state*
 'A state that is failing has several attributes. One of the most common is the loss of physical control of its territory or a monopoly on the legitimate use of force. Other attributes of state failure include the erosion of legitimate authority to make collective decisions, an inability to provide reasonable public services, and the inability to interact with other states as a full member of the international community.'⁷⁶

Systematized concept

Dimensions Security, political, economic, social

Categories Social indicators, economic indicators, political indicators⁷⁷

Selection and measurement of indicators

Number of indicators 12

Data type Content analysis / expert survey / public statistics

Data sources The Fund for Peace collects its own data. The core of data generation is a tool for content analysis of electronically available documents, termed 'Conflict Assessment System Tool' (CAST). It is accompanied by a ranking of countries based on public statistics (provided by the World Health Organization, the World Bank, The Office of the United Nations High Commissioner for Refugees, UNDP and others), and with calibration carried out by Fund for Peace experts.

With regard to their data base, the producers state: "We receive our full text documentation from Meltwater, a news feed organization which provides us with links to over 90,000 sources originating from 110 countries in 50 languages."⁷⁹

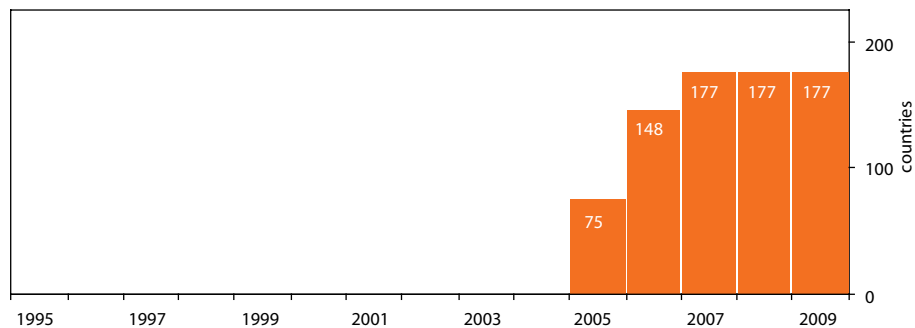
Time lag About 6 to 18 months for the data processed in the content analysis (data collected over one year, processing requires six months); time lag of public statistics used varies according to the producers.

Calculation of index scores

Standardization	Indicators are standardized to a 0.0-10.0 scale (best to worst)
Index scale	0.0-120.0 (best to worst); time invariant (base year: 2005)
Aggregation	Additive: sum of 12 indicators
Weighting	All indicators are given equal weights.
Uncertainty information	According to the producers, the key words used in the content analysis have been peer-reviewed and validated over the years. Results are becoming 'increasingly accurate with less need for change when subjected to additional reviews.' ⁸⁰ The producers consider any change in an indicator score of 0.2 or less as not significant. ⁸¹

Presentation of results

Coverage	<i>Universe of cases:</i> 'recognized sovereign states based on UN membership.' ⁸² It excludes countries with insufficient data. ⁸³
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Periodicity	Yearly publication
Categorization	Two different methods are used for categorization: <ul style="list-style-type: none"> • On the Fund for Peace webpage, countries are categorized by score quartiles: alert (scores of 90-120), warning (60-90), moderate (30-60), sustainable (0-30) • In the <i>Foreign Policy</i> journal article, countries are categorized by rank thresholds: critical (ranks of 1-20), in danger (21-40), borderline (41-60). Table shows only 60 countries, remaining boundaries not defined), stable, most stable (latter two only present in map)

Application

Strengths

The Failed States Index extends the methodological spectrum of fragility indices by making use of content analysis. Content analysis taps tremendous amounts of data and may enable the measurement of concepts that are difficult to measure with other methods, especially in the area of fragile states. The Fund for Peace stores all text analysed for qualitative verification and, potentially, replication. Provided that producers will publish its full methodology and data in the future, the Failed States Index could become an important addition to social science data.

Foreign Policy provides an interactive website with a map visualizing all scores and sub-scores which allows for convenient browsing of the results.

Weaknesses

The producers do not provide a complete methodology, data of sub-indicator scores, measurement error, key words and particular sources used, which impedes replication and external quality control demanded by researchers.⁸⁵

Current trends of unverified news reproduction via internet news-sites may increase the danger of biased measurement.

The Failed States Index takes into account only English language publications (adding other languages or sources translated into English is planned).

Different ways of categorization may confuse users confronted with both the website and article. Although the number of countries in each category presented in the Fund for Peace website varies every year depending on scores, the categorization in the Foreign Policy articles assumes that overall fragility of the international system remains constant (i.e. there are always 20 'critical' countries, 20 countries 'in danger' and so on).

Recommended use

Despite its weaknesses, the index can be used to cross-check the robustness of results achieved with more traditional approaches based on expert surveys or quantitative data.

Examples of Results

These are examples of sub-indicators used to construct the indicator 'Security Apparatus Operates as a State within the State':

- Arms proliferation
- Forced conscription and child soldiering
- Members of the security apparatus operating with impunity (corruption or divided loyalties)
- Military not under civilian control
- Insecurity hampers activity
- Guerilla forces exist and operate
- Private militias exist and operate
- Gang violence
- Politically motivated, state-sponsored violence
- Youth unemployment⁸⁶

The following countries score worst in this category in 2009:

Overall rank	Country	Security Apparatus Score	Overall score
1	Somalia	10.0	114.7
7	Afghanistan	9.9	108.2
4	Chad	9.9	112.2
6	Iraq	9.7	108.6
5	Dem. Rep. of Congo	9.7	108.7
3	Sudan	9.7	112.4
2	Zimbabwe	9.7	114.0
8	Central African Republic	9.6	105.4
10	Pakistan	9.5	104.1
15	Nigeria	9.4	99.8
9	Guinea	9.4	104.6
22	Sri Lanka	9.2	96.7
29	Lebanon	9.1	93.5
31	Uzbekistan	9.0	92.8
20	East Timor	9.0	97.2

Index: Global Peace Index

Producer	Institute for Economics and Peace
Author(s)	Economist Intelligence Unit analysts, supported by an international panel of experts
Funding Source	Steve Killelea
Website	http://www.visionofhumanity.org/
Publication	Global Peace Index. 2008. <i>2008 Methodology, Results & Findings</i> . St. Leonards, Institute for Economics and Peace.

Background concept

Stated Purpose	The Global Peace Index measures negative peace to explore positive peace (i.e. 'institutions that create and maintain peace'); 'The Global Peace Index is a first step in this direction; a measurement of peace that seeks to determine what cultural attributes and institutions are associated with states of peace.' ⁸⁷
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Definition of the concept measured	<i>Negative Peace</i> 'The concept of peace is notoriously difficult to define. The simplest way of approaching it is in terms of harmony achieved by the absence of war or conflict. Applied to nations, this would suggest that those not involved in violent conflicts with neighboring states or suffering internal wars would have achieved a state of peace.' ⁸⁸
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Systematized concept

Dimensions	Security
Categories	Geographic categorization: internal peace, external peace Thematic categorization: measures of ongoing domestic and international conflict, measures of societal safety and security, measures of militarization

Selection and measurement of indicators

Number of indicators	23 ⁸⁹
Data type	Expert data / opinion polls / public statistics
Data sources	Bonn International Centre for Conversion, Economist Intelligence Unit, International Centre for Prison Studies, The International Institute for Strategic Studies, Political Terror Scale, Stockholm International Peace Research Institute, United Nations Office on Drugs and Crime, Uppsala Conflict Database, World Bank
Time lag	1-7 years

Calculation of index scores

Standardization	Scale of 1-5 for qualitative indicators (coded by Economist Intelligence Unit) and rescaling of quantitative data to 1-10 (converted to a 1-5 scale before aggregation)
Index scale	1.000-5.000 (best to worst); time invariant (since 2009 edition; data from 2008 edition serves as baseline) – not all indicators are time invariant, which makes the index de facto time variant

Aggregation The overall score is the weighted average of 'internal peace' and 'external peace'. These categories are weighted averages of their respective indicators (allocation of indicators to categories not clearly expressed in methodology).

Weighting Theory-based weighting through advisory panel by 'consensus': On the level of categories, internal peace is weighted by 0.6 and external peace by 0.4. On the level of indicators, weighting factors vary between 1 and 5 (particular weights reported in publication).

Uncertainty information Not reported

Presentation of results

Coverage *Universe of cases: "independent states"*



Periodicity Yearly

Categorization 3 categories: ten most at peace (top quintile), ten least at peace (bottom quintile); remaining countries not labeled

Application

Strengths The Global Peace Index is conceptualized in a uni-dimensional manner, which makes it easier to determine what it is actually measuring. It points at the prevalence of violence in the international system with quantitative means. The Vision of Humanity website provides a database including the overall index scores, the standardized individual indicators used in the index and additional "drivers of peace".

Weaknesses The reported scores imply higher than possible precision. Neither the website nor the publication report scores for the categories 'internal peace' and 'external peace'.

The concept of peace applied in the index may be more "pacifist" than that shared by others in the security and development community. Opponents would argue that a world without weapons will never be feasible and that sufficient military expenditure and sophistication, which impact the scores negatively, are necessary conditions for peace. In this aspect, the index goes beyond its proposition to measure negative peace and reduces its viability for measuring that concept.

The laudable effort to provide easily accessible data on the website is diminished by the fact that only five countries can be displayed simultaneously. The full database is not available for convenient download.

Recommended use

The Global Peace Index cannot be used as proxy for state fragility since indicators that are generally considered as signs of the capacity to act, like weapon transfers and military sophistication, influence the overall score negatively.



Nonetheless, the index website is a good resource for obtaining additional data related to state fragility.

Comments

The 2009 edition was amended to remove a possible bias (contributions to non-UN peacekeeping troops as a negative factor in assessing peacefulness of a country) and has improved its methodology accordingly. Critics had questioned whether, for example, military deployments to prevent a genocide could be considered to peace.

Examples of Results

The Vision of Humanity website provides selected indicators and driver information. The following is an excerpt of 2009 data:

Country:		
Overall peace index	Afghanistan	Iraq
Rank	143	144
Score	3.285	3.341
Indicator information	Afghanistan	Iraq
Number of external and internal conflicts fought: 2002-2007	1.5	1.5
Estimated number of deaths from organised conflict (external)	1	1
Number of deaths from organised conflict (internal)	4	5
Level of organised conflict (internal)	5	5
Relations with neighbouring countries	4	3
Perceptions of criminality in society	5	5

Index: Harvard Kennedy School Index of African Governance

Producer	Harvard University
Author(s)	Robert I. Rotberg and Rachel M. Gisselquist (Belfer Center for Science and International Affairs / John F. Kennedy School of Government, Harvard University)
Funding Source	World Peace Foundation (formerly Mo Ibrahim Foundation)
Website	http://belfercenter.ksg.harvard.edu/project/52/
Publication	R. I. Rotberg and R. M. Gisselquist. 2008. <i>Strengthening African Governance: Index of African Governance, Results and Rankings</i> . Cambridge, MA.

Background concept

Stated Purpose	'The 2008 Index measures the degree to which each of these political goods [see Categories] is provided within the forty-eight African countries south of the Sahara. By comprehensively measuring the performance of government in this manner, that is, by measuring governance, the Index is able to offer a report card on the accomplishments of each government for the years being investigated [...].' ⁹²
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Definition of the concept measured	<i>Governance</i> 'Governmental delivery of services' ⁹³
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Systematized concept

Dimensions	Security, political, economic, social
Categories	Safety and Security; Rule of Law, Transparency, and Corruption; Participation and Human Rights; Sustainable Economic Opportunity; and Human Development

Selection and measurement of indicators

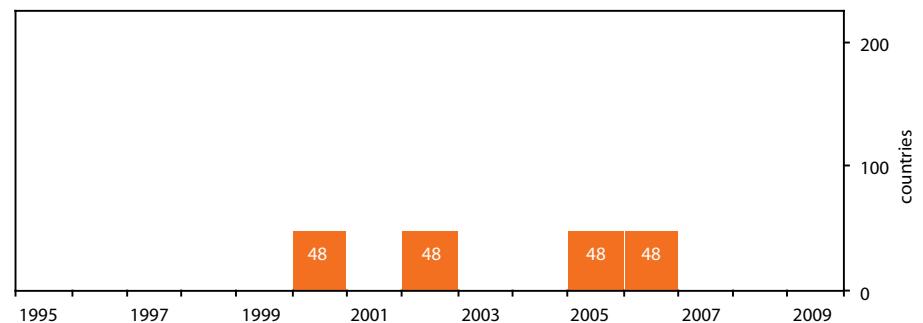
Number of Indicators	55
Data type	Expert data / public statistics
Data sources	African Development Bank, African Economic Outlook, CIRI Human Rights Data Project, Environmental Performance Index, Freedom House, Global Peace Index, Heritage Foundation, Institute for Health Metrics and Evaluation, International Centre for Prison Studies, International Monetary Fund, International Road Federation, International Telecommunication Union, Norwegian Refugee Council, Reporters without Borders, Transparency International, UN, The UN Office for the Coordination of Humanitarian Affairs, UN Security Council, UNESCO, UNHCR, UNICEF, Uppsala Conflict Database, U.S. Committee for Refugees and Immigrants, U.S. Energy Information Administration, WHO, World Bank
Time lag	Indicators lag two years behind nominal year of index publication. In the data files, however, the nominal year accords to the actual year of data. In the 2008 publication, the most current series available is that of 2006.

Calculation of index scores

Standardization	Indicators are standardized each year with reference to the extreme values over all years. This means that each year, index scores for all years need to be updated, with the advantage of maintaining both a closed scale of 0-100 while producing time invariant scores.
Index scale	0.0-100.0 (worst to best; 1 digit displayed, ~13 digits reported in data file); time invariant (subject to time invariance of indicators)
Aggregation	The overall score is the arithmetic average of the five categories employed. Each category consists of 2-4 sub-categories calculated by arithmetic average from 1-11 indicators each, with the exception of safety and security, whose sub-categories are weighted.
Weighting	All categories, sub-categories and indicators are weighted equally, with the exception of national security which is weighted by a factor of two in the category of safety and security to account for insufficient data in the second sub-category, public safety.
Uncertainty information	Not reported ⁹⁴

Presentation of results

Coverage Universe of cases: 'African countries south of the Sahara'⁹⁵



Periodicity Annually

Categorization None

Application

Strengths The *Index of African Governance* covers all sub-Saharan countries, for which full samples are often hard to obtain.

The documentation provides a comprehensive discussion of standardization methods, data availability and other methodological issues not mentioned by other indices. The proposed method of standardization makes scores theoretically comparable over time while maintaining a convenient 0-100 scale. Not all indicators applied are comparable over time, however, which makes the index de facto time variant.⁹⁶

The index updates past years when new information is available.

Weaknesses

The index's geographical coverage is limited to sub-Saharan African countries.

The index's good documentation is not easily accessible for the non-expert user. Even though limitations of the index are transparently addressed, notes of clarification get lost in the voluminous book publication that is interrupted by long data tables.

Recommended use

The *Index of African Governance* is a broad governance measurement of the most important sectors affecting human well-being. The index may be used as a measure of a society's fragility in general.

Comment

The *Index of African Governance* is not a fragility index in the strict sense. Since its intent is to provide detailed governance information on sub-Saharan Africa, the region most affected by state fragility, it may serve as a proxy for state fragility.

Examples of Results

The *Index of African Governance* produces interesting suggestions on the relationship of governance and security in Africa. Out of the five top ranking countries in the overall index, only two rank in the top ten in Safety and Security. While these rankings may surprise at first glance, it shows that the scores for security are at least 75.0 and more than the overall scores for the top four countries. Only South Africa scores exceptionally low on security. Regarding the lower end of the overall index, four out of five countries score low on security as well. The exception is Angola with a very good security rating of 82.0, 53 points away from Sudan on the neighbouring overall rank (at an overall score difference of 9.1).

Country	IAG Overall Index 2008		IAG Safety and Security Category	
	Score	Rank	Score	Rank
Mauritius	85.1	1	91.7	6
Seychelles	79.8	2	83.2	20
Cape Verde	74.7	3	100.0	1
Botswana	74.0	4	75.0	34
South Africa	71.5	5	61.1	42
..
Angola	43.3	44	82.0	21
Sudan	34.2	45	29.0	48
Chad	33.9	46	51.5	45
Democratic Republic of Congo	29.8	47	52.8	44
Somalia	18.9	48	38.8	47

Index: Index of State Weakness in the Developing World

Producer	Brookings Institution
Author(s)	Susan E. Rice and Stewart Patrick (Brookings Institution/ Center for Global Development)
Funding Source	Brookings Institution
Website	http://www.brookings.edu/reports/2008/02_weak_states_index.aspx
Publication	S. E. Rice and S. Patrick. 2008. <i>Index of State Weakness in the Developing World</i> , Washington, D.C., Brookings Institution.

Background concept

Stated Purpose 'The Index of State Weakness in the Developing World was designed to provide policy-makers and researchers with a credible tool for analyzing and understanding the world's most vulnerable countries.'⁹⁸

Definition of the concept measured *Weak states*
 'We define weak states as 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.'⁹⁹

Systematized concept

Dimensions	Security, political, economic, social
Categories	Security Basket, Political Basket, Economic Basket, Social Welfare Basket

Selection and measurement of indicators

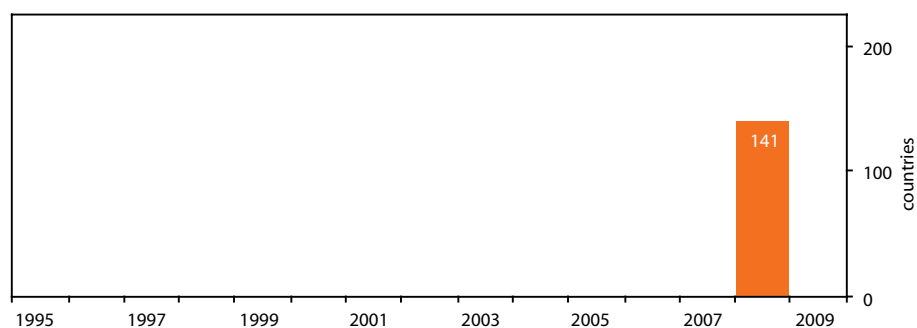
Number of indicators	20
Data type	Expert data / opinion polls / public statistics
Data sources	Archigos, Center for Systemic Peace, Economist Intelligence Unit, FAO, Freedom House, International Monetary Fund, Political Instability Task Force, Political Terror Scale, the UN, UNICEF, World Bank, Worldwide Governance Indicators
Time lag	2-4 years. For the measurement of some attributes, the index does not use indicator scores from a single year, but it uses averages that stretch over several years instead. This is to account for the assumption that events from the past do influence the current situation (path dependency). Thus, some indicators used include values that go up to 17 years back in time.

Calculation of index scores

Standardization	Indicator values are converted to a range between 0 and 10
Index scale	Interval: 0.00-10.00 (worst to best); time variant
Aggregation	The overall score is the arithmetic average of the four categories. The categories are the arithmetic averages of five indicators each.
Weighting	All indicators are given equal weights. ¹⁰⁰ Some indicators are averages calculated over time. In these cases, data from most recent years receive more weight than older data.
Uncertainty information	Not reported

Presentation of results

Coverage	Universe of cases: sovereign developing countries (defined as those with a gross national income per capita below \$11,115) with a population above 100,000 ¹⁰¹
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Periodicity	Yearly
Categorization	The three weakest countries are termed 'failed states' for performing 'markedly worse than all others'. The bottom rank quintile is termed 'critically weak states'. The second rank quintile is termed 'weak states'. States that 'score notably poorly in at least one of the four core areas of state function' are termed 'states to watch'.

Application

Strengths	The simple methodology makes the Index of State Weakness in the Developing World easily accessible. Its main goal of transparency is reached better than in other indices.
Weaknesses	The index provides no significant methodological advances compared to indices existing at the time of publication. As the index puts more emphasis on accessibility than on precision, validity and reliability may be compromised.

Its coverage is limited to developing countries. Although this is a conscious choice, it may make the index politically less credible ('rating the others') and limit its use for macro-quantitative research (biased sample, excluding the successful control group of developed countries). Changes over the years cannot be interpreted since the index is time variant.

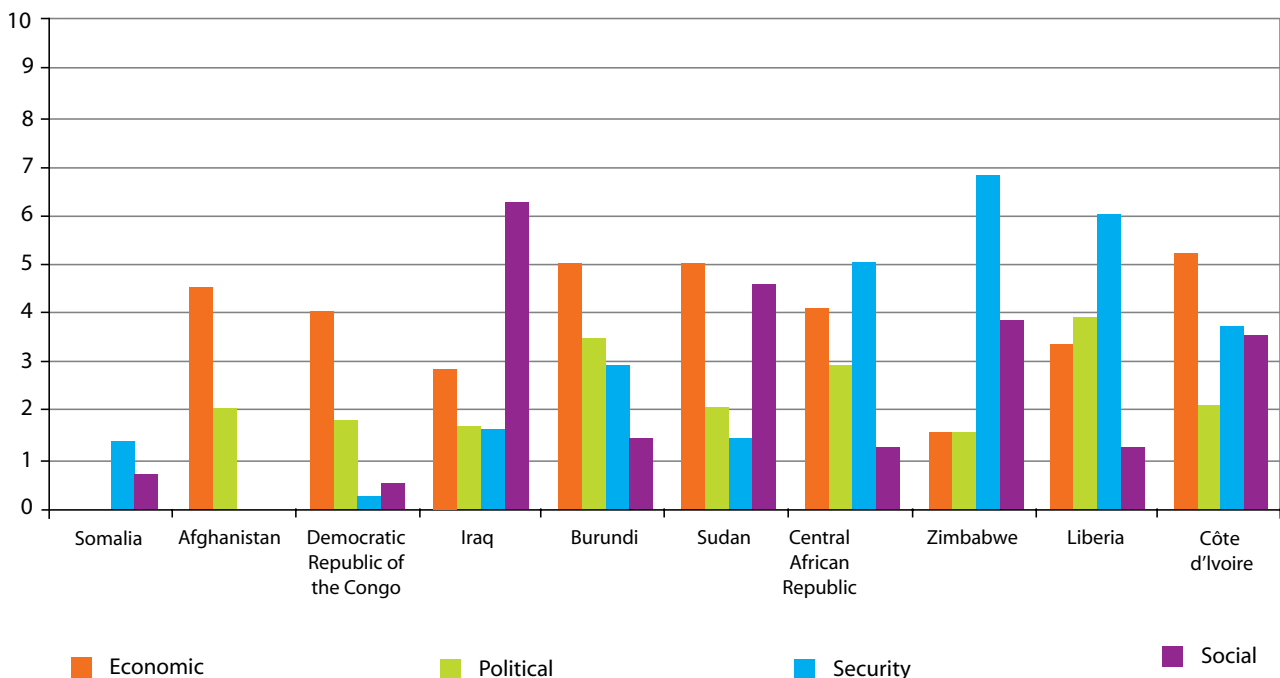
Recommended use

While comparisons over time are not possible and validity is limited, cross-index comparisons may hint at relevant discrepancies between countries' scores. Also, sub-category scores may be compared with similarly structured indices like the *CIFP Fragility Index* and the *State Fragility Index*.

Be aware of the strong influence of the Worldwide Governance Indicators on the index scores.

Examples of Results

The diagram below shows the ten countries scoring worst on the 2008 Index of State Weakness and their respective scores in each of the four baskets. What stands out are the rather high scores (i.e. bad scores) for Afghanistan in the economic basket, for Iraq in the social basket and Zimbabwe in the security basket. The fact that the green bars of the political basket do not show any extreme deviations ("outliers") for the ten weakest states may derive from its composition. It combines four indicators from the Worldwide Governance Indicators and the Freedom House ratings. These are themselves highly aggregate expert opinions which may be influenced by a variety of impressions that belong to the other baskets as well, like security and economy. As a result, extremes level out and the political basket becomes a rather general and undefined concept of governance.



Index: Peace and Conflict Instability Ledger

Producer	University of Maryland
Author(s)	J. Joseph Hewitt (Center for International Development and Conflict Management, University of Maryland)
Funding Source	University of Maryland
Website	http://www.cidcm.umd.edu/
Publication	J. J. Hewitt, J. Wilkenfeld and T. R. Gurr. 2009. <i>Peace and Conflict 2010</i> . Center for International Development and Conflict Management, University of Maryland.

Background concept

Stated Purpose	'[The] new <i>Peace and Conflict Instability Ledger</i> [is] a ranking of 160 countries in terms of their risk of future state instability.' ¹⁰³
Definition of the concept measured	<i>State instability</i> '[E]vents that create significant challenges to the stability of states. These include revolutionary wars, ethnic wars, adverse regime changes, and genocides or politicides.' ¹⁰⁴

Systematized concept

Dimensions	Security, political, economic, social
Categories	Inconsistency of the governing regime, high infant mortality rates, lack of integration with the global economy, the militarization of society, and the presence of armed conflict in neighbouring states ¹⁰⁵

Selection and measurement of indicators

Number of indicators	5
Data type	Expert data / public statistics
Data sources	Center for Systemic Peace, Correlates of War Project, Expanded Trade and GDP Data (Gleditsch 2002), Penn World Table, Political Instability Task Force, Uppsala Conflict Database, World Bank
Time lag	3 years

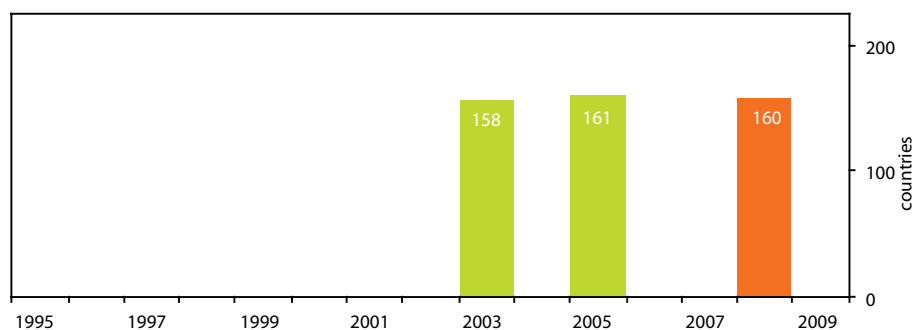
Calculation of index scores

Standardization	Indicators are transformed individually: Regime consistency: squared policy score (results in a scale of 1-100); infant mortality: deaths per 1000 live births, logged and interpolated; economic openness: portion of gross domestic product accounted for by total trade (imports plus exports), logged; militarization: ratio of a country's total military personnel over its total population; neighbourhood war: dummy; additional dummies account for full autocracies (stable) and partial democracies (unstable)
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Index scale	Ratio: >0 (smaller score, less risk; OECD average = 1)
Aggregation	Model-driven approach derived from the work of the <i>Political Instability Task Force</i> (PITF) which had been commissioned by the U.S. Government to predict state failure. Uses data from 1950-2003 to estimate coefficients used for prediction (out-of-sample predictions ¹⁰⁶).
Weighting	Coefficients of the mathematical model of political instability are used for prediction. ¹⁰⁷
Uncertainty information	95% confidence range reported; bars representing the confidence range are colour-coded to visualize those risk categories that a country might belong to.

Presentation of results

Coverage	Universe of cases: independent countries with a population of 500,000 or more in 2007 ¹⁰⁸
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Green bars indicate significantly different methodology of previous editions.

Periodicity	Biannual
Categorization	Rank quartiles: high risk (top rank quartile), moderate risk (second rank quartile), low risk (third and fourth rank quartile) ¹⁰⁹

Application

Strengths	The Peace and Conflict Instability Ledger is based on the Political Instability Task Force model on state failure. The task force has processed massive amounts of data and claims high predictive capacity for its model. Through the Peace and Conflict publication, the results of an application of this model fed with current and global data become available to the public.
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The methodology is highly transparent. Uncertainty is explicitly addressed and very visible in the presentation of results. Full data and replication instructions are provided.

Weaknesses

The strong methodology of the ledger cannot remedy the lack of quality in source data even though it makes the uncertainty transparent. The three-year time lag of indicators confronting a model with predictive capacity of three years makes the ledger de facto a descriptive tool rather than a predictive one.

The predictive capacity of the index is limited because indicators are not available in time. The model is intended to predict a time span of three years. As the availability of required indicators lags behind, the Peace and Conflict 2010 edition, to be published in mid-2009, will only 'predict' the risk of instability for the 2008-2010 period.

Recommended use

The Peace and Conflict Instability Ledger is a potential proxy for state fragility. However, the distribution of scores is skewed towards the lower end of the scale since political instability is a rare event in historical perspective. The statistical implications of this uneven distribution need to be considered when applying the ledger. By examining a country's risk score along with its performance on the component indicators, it is possible to formulate a preliminary diagnosis about which factors are most influential in shaping a country's risk level.

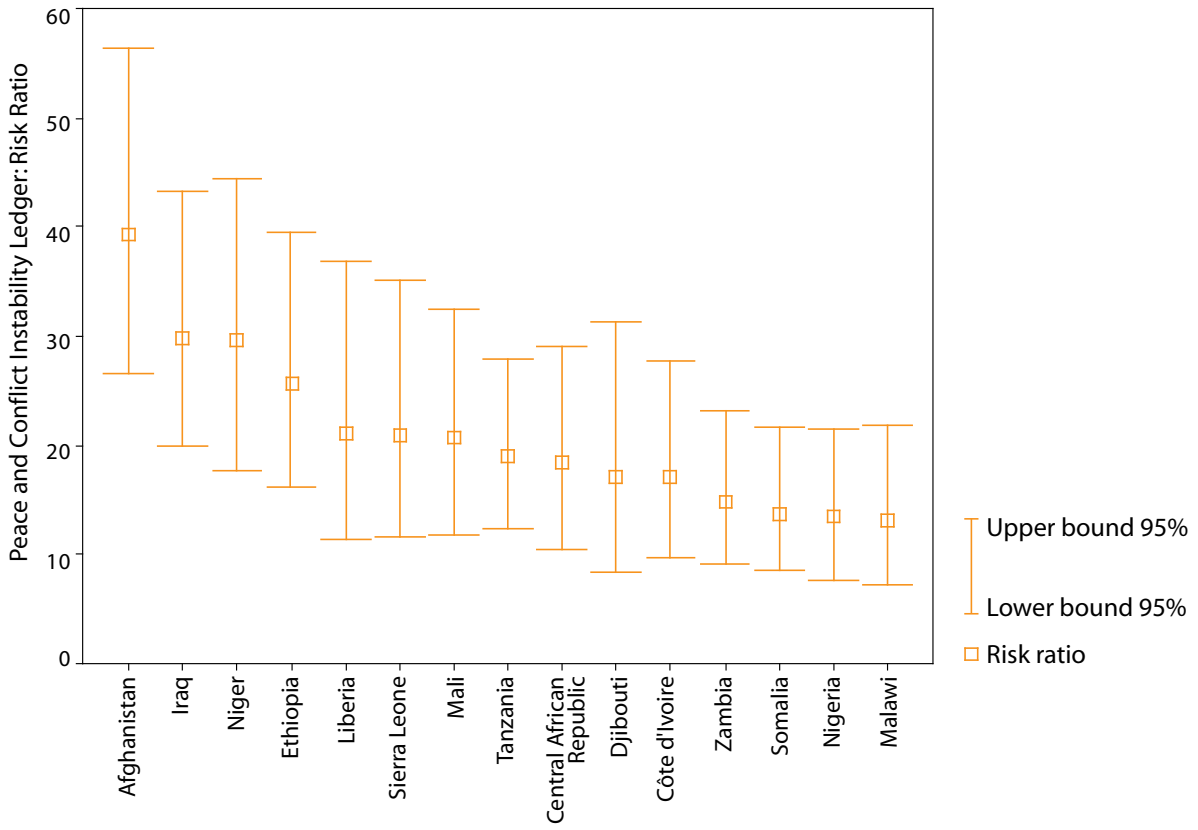
Comments

The 2008 version of PCIL by J. Joseph Hewitt follows a different methodology than the 2003 and 2005 editions by Monty G. Marshall, who continues his attempts at measuring fragility at the George Mason University with the production of the State Fragility Index (see page 73).

The producers have indicated their plans to make the Peace and Conflict Instability Ledger a short-term forecast model better suited to policy-making needs. Adding additional sources, for example on sub-national actors, is envisaged as well.¹¹²

Examples of Results

These are the 15 countries that are most prone to political instability. One reads the information presented in this graph as follows: compared to the average OECD country, Afghanistan is at a probability of 95% between 26 and 56 times as likely to experience political instability. The best estimate of Afghanistan's (AFG) risk compared to the OECD average ('risk ratio') is about 39.



Index: Political Instability Index

Producer	Economist Intelligence Unit
Author(s)	Economist Intelligence Unit
Funding Source	Economist Intelligence Unit
Website	http://viewswire.eiu.com/site_info.asp?info_name=instability_map
Publication	EIU (Economist Intelligence Unit). 2009. <i>Manning the barricades: Who's at risk as deepening economic distress foments social unrest</i> . London.

Background concept

Stated Purpose 'To assess the degree to which countries are vulnerable to unrest, we draw on our Political Instability Index, specially constructed to accompany this report.'¹¹³

Definition of the concept measured *Social and political unrest*
 'We define social and political unrest or upheaval as those events or developments that pose a serious extra-parliamentary or extra-institutional threat to governments or the existing political order. The events will almost invariably be accompanied by some violence as well as public disorder. These need not necessarily succeed in toppling a government or regime. Even unsuccessful episodes result in turmoil and serious disruption.'¹¹⁴

Systematized concept

Dimensions	Political, economic, social
Categories	Underlying vulnerability, economic distress

Selection and measurement of indicators

Number of indicators	15
Data type	Expert data / opinion polls / public statistics
Data sources	Afrobarometer, Asian Barometer Fractionalization (Alesina 2003), Center for Systemic Peace, Central Intelligence Agency, Economist Intelligence Unit, Eurobarometer, Latinobarómetro, Political Instability Task Force, UN International Labour Organization, World Bank, World Values Survey
Time lag	Insufficient information provided by producers to determine time lag

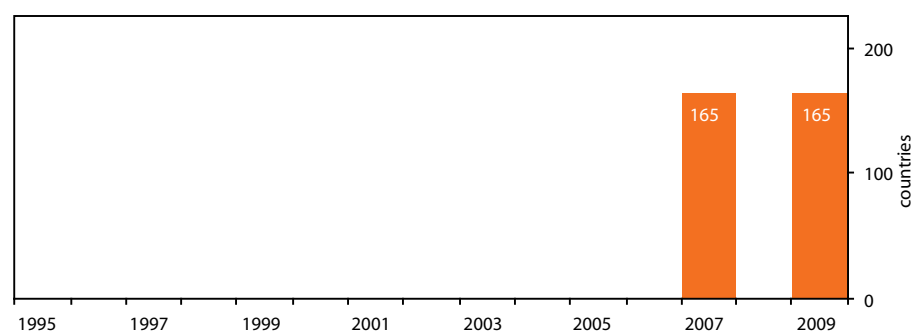
Calculation of index scores

Standardization	Three-value ordinal coding (0-2), either qualitative or by threshold; two exceptions: regime type (two values: 0 if full democracy or an authoritarian regime, 2 if partial democracy or hybrid regime), regime type and factionalism (4 if a country is both an intermediate regime and suffers from factionalism, 0 if not).
Index scale	0.0-10.0 (best to worst); treated as time invariant (as aggregation rules are unclear, external judgment is not possible)

Aggregation	The index is calculated as the arithmetic mean of both categories. The aggregation of categories not clearly described, but is likely to be the weighted average of indicators and the subsequent rescaling to the index scale.
Weighting	All indicators are given equal weights except for 'growth in incomes', 'unemployment' and 'regime type and factionalism' (double weights respectively). Categories are weighted equally but differently sized. This produces varying impacts of individual indicators (0.038-0.200) on the overall score.
Uncertainty information	Not reported; reports 66-70% success rates from back-testing 2007 predictions.

Presentation of results

Coverage Universe of cases: not qualified



The nominal year of the edition displayed as 2009 is '2009/2010'.

Periodicity	Unknown
Categorization	Thresholds (determination not explained): very high risk (above 7.4), high risk (5.8-7.4), moderate risk (4.0-5.7), low risk (below 4.0)

Application

Strengths

The compilation of indicators is based on empirical findings of the Political Instability Task Force (PITF). Thus, the Political Instability Index is an alternative operationalization to the *Peace and Conflict Instability Ledger*. Comparing their results and methodological choices might provide insights into the occurrence of state fragility, given that scores of these indices diverge significantly (see Part I, Chapter 3.4).

The Economist Intelligence Unit's considerable research capacity might translate into increased reliability, e.g. up-to-date expert assessments that minimize time-lag.

Weaknesses

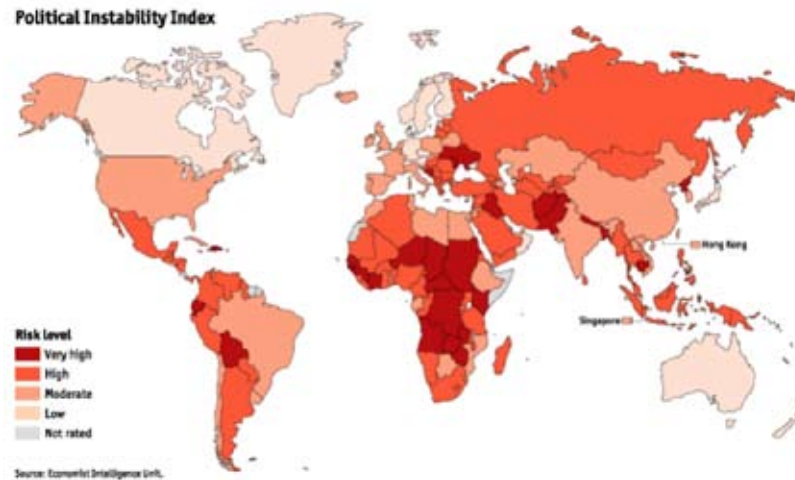
An assessment of the time lag is not possible due to a lack of methodological information. The reliance upon commercially exploited expert data from the Economist Intelligence Unit inhibits transparency on the indicator level as well.

While using variables identified by the Political Instability Task Force, weights are assumed rather than derived from data. Thus, information provided by the data-driven model is reduced without further justification.

Recommended use

Consider its conceptual focus on social unrest when applying the *Political Instability Index*. Be aware that it claims to derive the selection of indicators from the same source as does the *Peace and Conflict Instability Ledger*, but that the resulting scores of both indices correlate relatively low.

Examples of Results



Source: http://viewswire.eiu.com/site_info.asp?info_name=instability_map&rf=0

The above map depicts the risk of social instability as measured by the Political Instability Index 2009/10. The publication *Manning the barricades* reports an impact of the financial crisis on the risk of political and social unrest:

'Of the 165 countries covered by the index, 95 are in the very high risk or high risk group, with 27 in the former and 68 in the latter. For 53 countries, the risk of instability is rated as moderate – which is by no means a clean bill of health – and only 17 countries, almost all highly developed states, are rated as low risk.

'Because of the sharp increase in economic distress, the situation has changed fundamentally compared with the recent past. In 2007, according to the model, only 35 states (just over one-third of the current number) were rated as being at very high or high risk of instability.'¹¹⁶

Index: State Fragility Index

Producer	George Mason University
Author(s)	Monty G. Marshall, Jack Goldstone and Benjamin R. Cole (George Mason University)
Funding Source	George Mason University
Website	http://www.systemicpeace.org
Publication	M. G. Marshall and B. R. Cole. 2008. "Global Report on Conflict, Governance and State Fragility 2008," <i>Foreign Policy Bulletin</i> 18(1): 3-21.

Background concept

Stated Purpose	'The State Fragility Index can be used to reliably and accurately rate the "state fragility" of the world's many and varied countries and monitor change in "fragility" over time.'
Definition of the concept measured	<i>State fragility</i> 'A state may remain in a condition of fragile instability if it lacks effectiveness or legitimacy in a number of dimensions; however a state is likely to fail, or to already be a failed state, if it has lost both.'

Systematized concept

Dimensions	Security, political, economic, social
Categories	Two categories, effectiveness and legitimacy, with four sectors each (security, political, economic and social)

Selection and measurement of indicators

Number of indicators	14
Data type	Expert data / public statistics
Data sources	Center for Systemic Peace, Elite Leadership (Gurr / Harff), Leadership Duration (Bienen / van de Walle), Minorities at Risk, Political Terror Scale, UNDP, US Census Bureau, World Bank
Time lag	0-2 years; moving averages of individual indicators may reach 25 years back in time.

Calculation of index scores

Standardization	Sub-categories are transformed to a four-point scale (0-3) by thresholds: 0 'no fragility', 1 'low fragility', 2 'medium fragility', 3 'high fragility' ¹¹⁹
Index scale	Ratio: 0-24 (best to worst); all eight components are rescaled into a 4-point score ranging from 0 to 3; time invariant (2004 quintile cut-points serve as baselines for transforming indicators ¹²⁰)

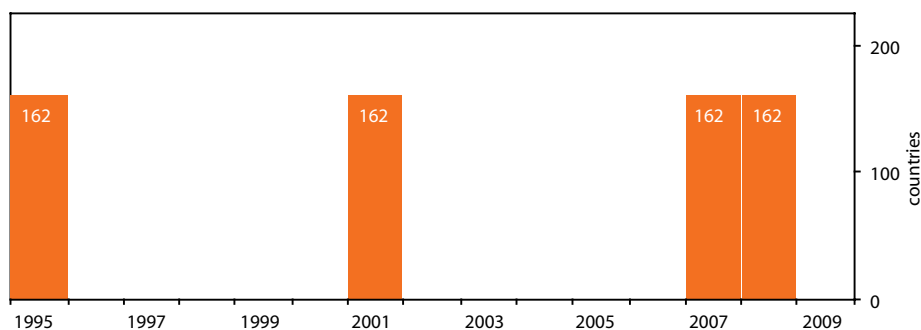
Aggregation Additive: overall score = effectiveness score + legitimacy score; both categories are composed by the sum of security, political, economic and social sub-categories. Political effectiveness and legitimacy are aggregated from several indicators by addition. Social legitimacy is measured by infant mortality and corrected by over- or underperformance compared to income level and human development. The remaining sub-categories are derived from singular variables by setting thresholds.

Weighting All categories are given equal weights. The number of indicators contributing to categories varies. Individual indicators may be weighted in time as moving averages depending on their recent amplitude.

Uncertainty information Not reported

Presentation of results

Coverage *Universe of cases:* 'all independent countries in the world in which the total country population is greater than 500,000'¹²¹



Periodicity Yearly

Categorization None for the overall score (see 'standardization' for denomination of indicator scale categories)

Application

Strengths The State Fragility Index attempts to distinguish effectiveness and legitimacy. This goes beyond the standard approach to compose indices of sectors only.

The sub-categories of the index are relatively parsimonious: they use one to three indicators each.

The State Fragility Index provides scores for 1995, which most other indices cannot. It revises index scores when more current data becomes available. The low-resolution scale applied does not pretend to be overly exact.

Weaknesses The Index uses a scoring system with a maximum of 24 which is not as user friendly as a zero to ten or zero to hundred score as the fractions become more difficult to process.

By using parsimonious operationalizations of sub-categories, these sub-categories become more vulnerable to data problems. Under these circumstances, and without information on uncertainty, it is not possible to assess the reliability of the overall index.

Recommended use

Due to the similarities in the systematized concepts, the *State Fragility Index* may be used for reciprocal robustness tests with the Index of State Weakness and the *CIFP Fragility Index*. The index provides even more nuanced categories that may be combined according to user needs (e.g. adding political effectiveness, political legitimacy and security legitimacy scores to represent a narrow concept of state fragility).

Comments

The State Fragility Index is similar to previous Peace and Conflict Instability Ledger editions. Both have been authored by Monty G. Marshall.

The differentiation between effectiveness and legitimacy was in response to USAID requests. The index thus responds to demands from development practice.

Examples of Results

The eight most fragile states according to the *State Fragility Index* are without exception conflict or post-conflict countries. According to the index, Afghanistan has improved more than the other seven worst performing countries since 1995.

	State Fragility Index 2007	State Fragility Index 2001	State Fragility Index 1995	Trajectory 1995-2007	Armed Conflict Indicator 2007	Effectiveness Score 2007	Legitimacy Score 2007
Somalia	22	21	22		War	11	11
Sudan	22	22	23		War	10	12
Afghanistan	21	24	24		War	11	10
Myanmar (Burma)	21	20	20		War	10	11
Chad	20	21	21		War	11	9
Dem. Rep. of Congo	20	23	22		War	11	9
Iraq	20	19	19		War	9	11
Rwanda	20	21	21		*	10	10

Index: World Governance Indicators (WGI) Political Stability and Absence of Violence

Producer	The World Bank
Author(s)	Daniel Kaufmann (Brookings Institution), Aart Kraay (World Bank), Massimo Mastruzzi (World Bank Institute)
Funding Source	The World Bank
Website	http://info.worldbank.org/governance/wgi
Publication	D. Kaufmann, A. Kraay and M. Mastruzzi. 2009. <i>Governance Matters VIII: Governance Indicators for 1996-2008</i> . Washington, D. C., The World Bank (Policy Research Working Paper 4978).

Background concept

Stated Purpose	'[T]he composite indicators we construct are useful as a first tool for broad cross-country comparison and for evaluating broad trends over time. [...] We therefore view the WGI [Worldwide Governance Indicators] as complementary to a large number of other efforts to construct more detailed measures of governance [...]' ¹²³
Definition of the concept measured	<i>Political stability and absence of violence</i> 'Political Stability and Absence of Violence/Terrorism measures the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism' ¹²⁴

Systematized concept

Dimensions	Security
Categories	Rank quartiles and top and bottom deciles, only colour coding: dark red (bottom decile), red (remaining bottom quartile), orange (3rd quartile), yellow (2nd quartile), green (top quartile excluding top decile), dark green (top decile) ¹²⁵

Selection and measurement of indicators

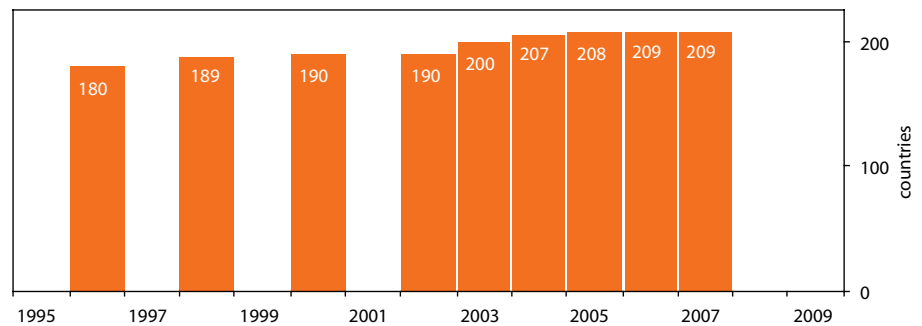
Number of indicators	35 indicators from 13 sources ¹²⁶
Data Type	Expert data / opinion polls
Data Sources	African Economic Outlook, Business Environment Risk Intelligence, CIRI Human Rights Data Project, Economist Intelligence Unit, Global Insight Global Risk Service, iJET, Institute for Management Development, Institutional Profiles Database, Merchant International Group, Political Risk Services, Political Terror Scale, World Economic Forum
Time lag	0-2 years; the 2008 scores presented in the 2009 edition draw on data published between 2006 (one indicator) and 2008 (all remaining indicators). ¹²⁷

Calculation of index scores

Standardization	Indicators are rescaled to a mean of 0 and a standard deviation of 1
Index scale	About -2.50-2.50 (worst to best; 2 digits displayed, ~15 in data file; extreme values outside this range are possible); time variant (WGI producers argue that the world average of each of the WGI measures is likely to be constant over time)
Aggregation	Aggregation using unobserved components model
Weighting	Data driven, may vary in time; impact of individual indicators on overall score ranges between 0.010 and 0.094 (for the year 2007)
Uncertainty information	Standard error reported: there is a 70% chance that the true value of a country lies within the score plus/minus the standard error.

Presentation of results

Coverage	Universe of cases: all independent states
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Periodicity	Yearly
Categorization	None

Application

Strengths	The WGI Political Stability and Absence of Violence index provides the largest geographical and temporal coverage of all fragility indices yet. It tries to mitigate data problems by tapping many sources and combining them into a meta index. The Worldwide Governance Indicators project has definitely advanced the study of cross-national social science indices. Providing estimates on the measurement error and using data-driven weighting were innovations in the field of governance indices.
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Weaknesses

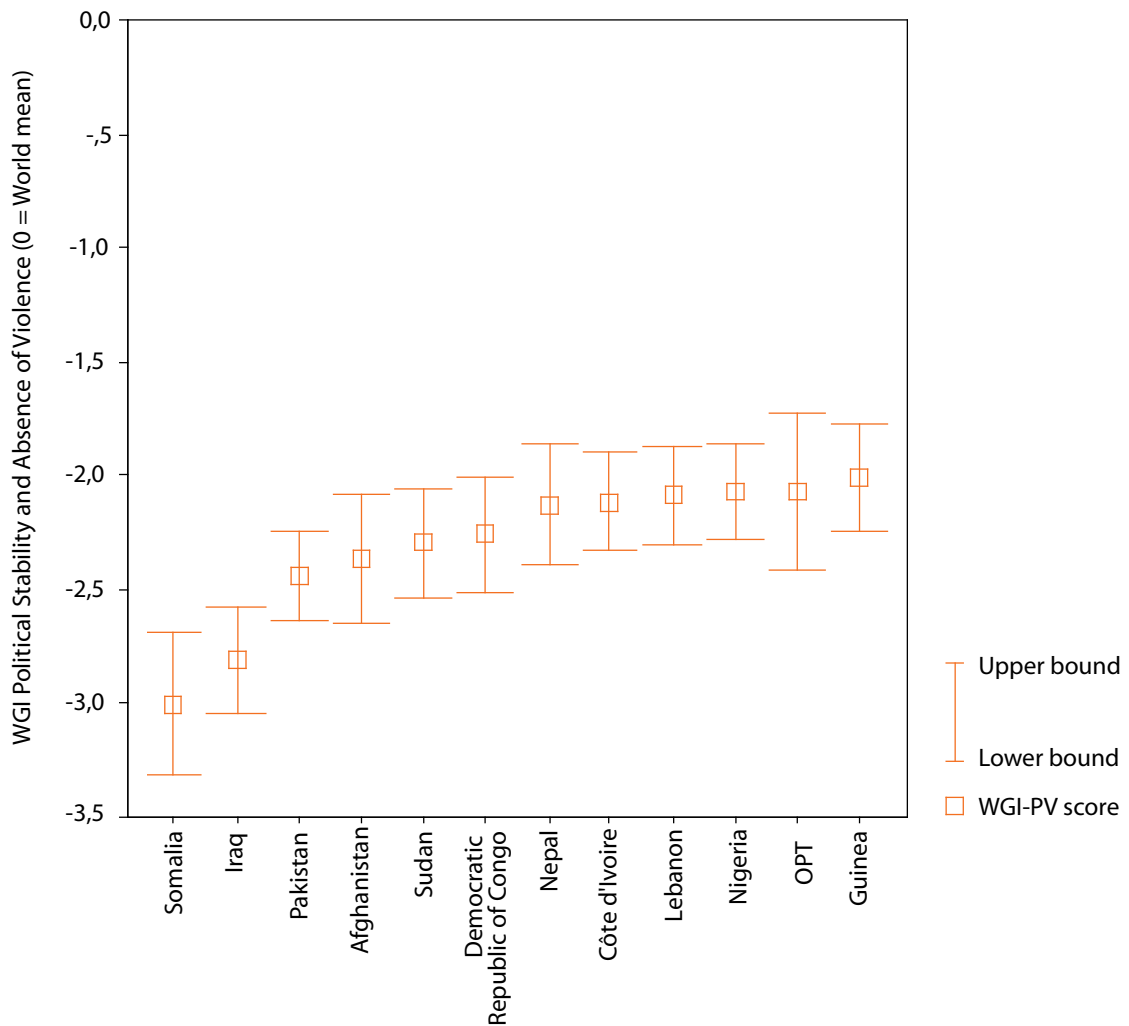
The Worldwide Governance Indicators have been criticized for methodological shortfalls, which the authors reject.¹²⁸ The most prominent grievances include lack of comparability over time¹²⁹ and the expert bias.¹³⁰ Since most data sources rely on expert surveys, these certainly biased indicators might reinforce each other in the data-driven process of determining the weights that each of the indicators receives.

Recommended use

The WGI Political Stability and Absence of Violence index is a good pointer to how development experts judge the conditions of states worldwide. The question of how much bias this expert judgment contains and whether it is sufficiently corrected for is still disputed. Nevertheless, the index may serve the purpose of broad comparisons between countries. It is in fact widely used in statistical analyses.

Examples of Results

When displaying WGI Political Stability and Absence of Violence results for 2007 with its 70% confidence range, it shows that Somalia and Iraq perform worst. The next twelve countries from Pakistan to Chad, however, cannot be distinguished even at 70% of certainty and their confidence ranges overlap widely.



ANNEXES

ANNEX I:

INDICATORS AND DATA SOURCES USED BY FRAGILITY INDICES

This annex unpacks and lists the indicators and data sources used in constructing the 11 indices of fragility analyzed in the previous chapters. Both internally and externally produced indicators accessible on the internet and with detailed methodological information are included.

The list of indicators and data sources presented below aims first and foremost to provide an insightful look at the building blocks of fragility indices: by means of dismantling the nucleus of indicators around which indices are constructed, and organizing and presenting them, the potential user can better assess the strengths and weaknesses of a particular index. In this regard, the annex supplements the discussion in chapter 3.2.

In addition, the list can also be used as a stand-alone reference for those interested in using different sets of indicators for a variety of purposes. If that is the objective, then the user must be cognizant of the fact that there are potentially more (and perhaps more authoritative and reliable) data sources available than those listed here. It is advisable to refer to some of the several publications reviewing governance, development and conflict data sources and indicators¹³¹.

The indicators and data sources have been grouped in forty-one categories¹³², namely:

- Armed conflict
- Business
- Civil and Political Rights and Freedoms
- Communications
- Corruption and Abuse of Office
- Coup d'état
- Crime
- Democracy
- Detainees and Prisoners
- Development
- Economy and Finance
- Education
- Energy
- Environment
- Exclusion and Discrimination
- Foreign Aid
- Gender
- Government Capability
- Health
- Infrastructure
- Internationalisation
- Life Expectancy
- Migration
- Militarisation
- Mortality
- Physical Integrity
- Political Culture
- Political Violence
- Population
- Poverty
- Property Rights
- Refugees and IDPs
- Regime
- Regionalisation
- Rule of Law
- Social Cleavages
- Social Unrest – Riots
- Terrorism
- Trade
- Unemployment
- Water

Type of Indicators Used by Fragility Indices

	BTI-SWI	CIFP-FI	CPIA / IRAI	FSI	GPI	IAG	ISW	PCIL	PII	SFI	WGI-PV
Armed conflict		x		x	x	x	x	x			x
Business		x	x		x	x	x				
Civil and Political Rights and Freedoms		x		x	x	x	x			x	x
Communications		x				x					
Corruption and Abuse of Office		x	x		x	x	x				
Coup d'état							x			x	x
Crime					x						
Democracy					x	x					
Detainees and Prisoners					x	x					
Development		x								x	
Economy and Finance		x	x	x	x	x	x		x	x	
Education		x			x	x	x				
Energy		x									
Environment		x	x			x					
Exclusion and Discrimination									x	x	x
Foreign Aid		x									
Gender		x	x		x	x					
Government Capability		x	x	x	x		x				x
Health		x				x	x				
Infrastructure		x				x					
Internationalisation		x				x					x
Life Expectancy		x			x	x	x				
Migration		x		x	x						
Militarisation		x			x			x			
Mortality		x			x	x	x	x	x	x	
Physical Integrity		x				x			x		x
Political Culture		x		x	x					x	x
Political Violence				x			x				x
Population		x		x	x						
Poverty			x			x					
Property Rights			x			x					
Refugees and IDPs		x				x					
Regime	x	x						x	x	x	x
Regionalisation					x			x			x
Rule of Law		x	x			x	x				
Social Cleavages		x							x	x	x
Social Unrest – Riots									x		x
Terrorism		x									x
Trade		x	x		x			x		x	
Unemployment		x			x				x		
Water		x				x	x				

ARMED CONFLICT

<p>Armed Conflict dataset / Uppsala Conflict Data Program (UCDP)/PRIO Department of Peace and Conflict Research, Uppsala University/ Centre for the Study of Civil War, International Peace Research Institute (PRIO) http://www.prio.no/CSCW/Datasets/Armed-Conflict/UCDP-PRIO/</p>	IAG, GPI, PCIL; CIFP-FI
<p>Conflicts of ethnic, religious, regional nature / Institutional Profiles Database French Ministry of the Economy, Industry and Employment and the Agence Francais de Developpement http://www.cepii.fr/ProfilsInstitutionnelsDatabase.htm</p>	WGI
<p>External public security / Institutional Profiles Database French Ministry of the Economy, Industry and Employment and the Agence Francais de Developpement http://www.cepii.fr/ProfilsInstitutionnelsDatabase.htm</p>	WGI
<p>Non-State Conflict Dataset / Uppsala Conflict Data Program (UCDP) Department of Peace and Conflict Research, Uppsala University http://www.pcr.uu.se/research/UCDP/data_and_publications/datasets.htm</p>	IAG
<p>One-sided Violence Dataset / Uppsala Conflict Data Program (UCDP) Department of Peace and Conflict Research, Uppsala University http://www.pcr.uu.se/research/UCDP/data_and_publications/datasets.htm</p>	IAG
<p>Political Stability and Absence of Violence / Worldwide Governance Indicators The World Bank http://www.govindicators.org</p>	CIFP-FI, ISW
<p>Security Apparatus Operates as a “State Within a State” Fund for Peace http://www.fundforpeace.org/</p>	FSI
<p>Territory affected by fighting / Political Instability Task Force Political Instability Task Force http://globalpolicy.gmu.edu/pitf/pitfdata.htm</p>	ISW
<p>Number of deaths from organised conflict (external) / Global Peace Index Rescaled data from the UCDP/PRIO Armed Conflict Dataset http://www.visionofhumanity.org/gpi/results/rankings.php</p>	GPI
<p>Number of deaths from organised conflict (internal) / Global Peace Index Rescaled data from the International Institute for Strategic Studies http://www.visionofhumanity.org/gpi/results/rankings.php</p>	GPI
<p>Funding for UN peacekeeping missions / Global Peace Index Rescaled data from the United Nations http://www.visionofhumanity.org/gpi/results/rankings.php</p>	GPI

BUSINESS

Business Regulatory Environment / CPIA – IRAI

CPIA - IRAI

The World Bank

<http://go.worldbank.org/S2THW11X60>

FDI – percentage of GDP / World Development Indicators

CIFP-FI

The World Bank

<http://go.worldbank.org/E3TMO2RJX0>

Foreign Direct Investment (flow) % of GDP

GPI

Economist Intelligence Unit

<http://www.visionofhumanity.org/gpi/results/rankings.php>

Comment: Driver information – potential determinant of peace (GPI).

Investment Climate – Contract Regulation / Index of Economic Freedom

CIFP-FI

Heritage Foundation and The Wall Street Journal

<http://www.heritage.org/Index/>

Number of Days to Start a Business / World Bank: Ease of Doing Business indicators

IAG

The International Bank for Reconstruction and Development / The World Bank

<http://www.doingbusiness.org/>

Regulatory Quality / Worldwide Governance Indicators

CIFP-FI, ISW

The World Bank

<http://www.govindicators.org>

CIVIL AND POLITICAL RIGHTS AND FREEDOMS

Civil Liberties / EIU Democracy Index

GPI

Economist Intelligence Unit

<http://www.eiu.com/>

Comment: Driver information – potential determinant of peace (GPI).

Empowerment Rights Index / Cingranelli-Richards Human Rights Dataset

CIFP-FI; IAG

David L. Cingranelli and David L. Richards

<http://ciri.binghamton.edu/>

Freedom of Assembly and Association / Cingranelli-Richards Human Rights Dataset

IAG

David L. Cingranelli and David L. Richards

<http://ciri.binghamton.edu/>

Freedom of the Press / Press Freedom Survey

CIFP-FI

Freedom House

<http://www.freedomhouse.org>

<p>Political Terror Scale Mark Gibney, Linda Cornett and Reed Wood http://www.politicalterrorsscale.org/</p>	GPI; ISW; SFI; WGI
<p>Press Freedom Index / Press Freedom Index Reporters without Borders http://www.rsf.org/article.php3?id_article=29031 Comment: Driver information - potential determinant of peace (GPI).</p>	IAG; GPI
<p>Restrictions on Civil Liberties / Freedom in the World Freedom House http://www.freedomhouse.org/template.cfm?page=15</p>	CIFP-FI, ISW
<p>Restrictions on Political Rights / Freedom in the World Freedom House http://www.freedomhouse.org/template.cfm?page=15</p>	CIFP-FI, ISW
<p>Suspension or Arbitrary Application of the Rule of Law and Widespread Violation of Human Rights http://www.fundforpeace.org/</p>	FSI
<p>Voice and Accountability / Worldwide Governance Indicators (Governance Matters) The World Bank http://www.govindicators.org</p>	CIFP-FI; ISW
COMMUNICATIONS	
<p>Computer Usage per 100 Inhabitants International Telecommunication Union http://www.itu.int/net/home/index.aspx</p>	IAG
<p>Infrastructure – Telephone mainlines per capita / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Internet Usage per 100 Inhabitants International Telecommunication Union http://www.itu.int/net/home/index.aspx</p>	IAG
<p>Internet Usage per capita / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Telephone Subscribers per 100 Inhabitants International Telecommunication Union http://www.itu.int/net/home/index.aspx</p>	IAG

CORRUPTION AND ABUSE OF OFFICE

Control of Corruption / Worldwide Governance Indicators ISW

The World Bank
<http://www.govindicators.org>

Corruption Perceptions Index / Corruption Perceptions Index CIFP-FI; IAG; GPI

Transparency International
http://www.transparency.org/policy_research/surveys_indices/cpi
 Comment: Driver information – potential determinant of peace (GPI).

Transparency, Accountability and Corruption in the Public Sector / CPIA-IRAI CPIA/IRAI

The World Bank
<http://go.worldbank.org/S2THW11X60>

COUP D'ETAT

Coups d'Etat / Coups d'Etat Events, 1960-2006 SFI

Monty G. Marshall and Donna Ramsey Marshall – Center for Systemic Peace
<http://www.systemicpeace.org/inscr/inscr.htm>

Incidence of Coups / Archigos. A Data Base on Leaders ISW

Hein E. Goemans, Kristian Skrede Gleditsch and Giacomo Chiozza
<http://mail.rochester.edu/~hgoemans/data>

CRIME

Level of violent crime / Global Peace Index GPI; IAG

Coded by the Economist Intelligence Unit
<http://www.visionofhumanity.org/gpi/results/rankings.php>

Ease of access to small arms and lights weapons / Global Peace Index GPI; IAG

Coded by the Economist Intelligence Unit
<http://www.visionofhumanity.org/gpi/results/rankings.php>

UN Surveys of Criminal Trends and Operations of Criminal Justice Systems GPI

UNODC
<http://www.unodc.org/unodc/en/data-and-analysis/index.html>

DEMOCRACY

Electoral Process and Pluralism / EIU Democracy Index GPI

Economist Intelligence Unit
<http://www.eiu.com/>
 Comment: Driver information – potential determinant of peace (GPI).

Political Participation / EIU Democracy Index GPI
 Economist Intelligence Unit
<http://www.eiu.com/>
 Comment: Driver information – potential determinant of peace (GPI).

DETAINEES AND PRISONERS

Pre-trial detainees / remand prisoners / World Pre-trial / Remand Imprisonment List IAG
 International Centre for Prison Studies, King's College London
<http://www.kcl.ac.uk/schools/law/research/icps>

World Prison Population List GPI
 International Centre for Prison Studies, King's College London
<http://www.kcl.ac.uk/depsta/law/research/icps/publications.php>

DEVELOPMENT

Human Development Index CIFP-FI; SFI
 UNDP
<http://hdr.undp.org/>

ECONOMY AND FINANCE

Debt Policy / CPIA-IRAI CPIA / IRAI
 The World Bank
<http://go.worldbank.org/S2THW11X60>

Deficits/ Surplus as a % of GDP / Selected Statistics on African Countries 2008 IAG
 African Development Bank
<http://www.afdb.org/en/knowledge/statistics/publications/selected-statistics-on-african-countries-2008/>

Economic growth – Percentage of GDP / World Development Indicators CIFP-FI, ISW, IAG; SFI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

Economic Size – Relative - GDP per capita / World Development Indicators CIFP-FI, SFI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

Economic Size – Total – GDP / World Development Indicators CIFP-FI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

<p>Efficiency of Revenue Mobilization / CPIA-IRAI The World Bank http://go.worldbank.org/S2THWI1X60</p>	CPIA/IRAI
<p>Equity of Public Resource Use / CPIA- IRAI The World Bank http://go.worldbank.org/S2THWI1X60</p>	CPIA - IRAI
<p>External Debt – percentage of GNI / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Financial Sector / CPIA-IRAI The World Bank http://go.worldbank.org/S2THWI1X60</p>	CPIA/IRAI
<p>Fiscal Policy / CPIA-IRAI The World Bank http://go.worldbank.org/S2THWI1X60</p>	CPIA / IRAI
<p>GDP per capita / Global Peace Index Economist Intelligence Unit http://www.visionofhumanity.org/gpi/results/rankings.php Comment: Driver information – potential determinant of peace (GPI).</p>	GPI
<p>GDP per capita based on PPP (constant 2005 international dollars) / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0</p>	IAG
<p>GINI coefficient / Global Peace Index UN Human Development Index, World Bank; EIU estimates http://www.visionofhumanity.org/gpi/results/rankings.php Comment: Driver information – potential determinant of peace (GPI).</p>	GPI
<p>GINI coefficient / Human Development Index United Nations Development Programme http://hdr.undp.org/en/statistics/indices/ Comment: Driver information – potential determinant of peace (GPI).</p>	GPI
<p>GINI coefficient / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0 Comment: Driver information – potential determinant of peace (GPI).</p>	GPI
<p>GNI per capita / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0</p>	ISW

Income inequality / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0	ISW
Inequality – GINI Coefficient / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0	CIFP-FI; IAG
Inequality (GINI Index) / African Economic Outlook African Development Bank – OECD http://www.oecd.org/department/0,2688,en_2649_15162846_1_1_1_1_1,00.html	IAG
Inequality / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0	PII
Inflation / World Economic Outlook IMF http://www.imf.org/	IAG, ISW
Inflation / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0	CIFP-FI
Informal Economy – Black Market / Index of Economic Freedom Heritage Foundation and The Wall Street Journal http://www.heritage.org/Index/	CIFP-FI
Informal Economy – Ratio of PPP to GDP / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0	CIFP-FI
Macroeconomic Management / CPIA-IRAI The World Bank http://go.worldbank.org/S2THW11X60	CPIA / IRAI
Nominal GDP (US\$ bn) / Global Peace Index Economist Intelligence Unit http://www.visionofhumanity.org/gpi/results/rankings.php Comment: Driver information – potential determinant of peace (GPI).	GPI
Nominal GDP (US\$PPP bn) / Global Peace Index Economist Intelligence Unit http://www.visionofhumanity.org/gpi/results/rankings.php Comment: Driver information – potential determinant of peace (GPI).	GPI

<p>Paying Taxes / Ease of Doing Business indicators</p> <p>The World Bank</p> <p>http://www.doingbusiness.org/</p>	CIFP-FI
<p>Quality of Budgetary and Financial Management / CPIA-IRAI</p> <p>The World Bank</p> <p>http://go.worldbank.org/S2THWI1X60</p>	CPIA /IRAI
<p>Remittances Received – percentage of GDP / World Development Indicators</p> <p>The World Bank</p> <p>http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Reserve Holdings – Total / World Development Indicators</p> <p>The World Bank</p> <p>http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Sharp and/or Severe Economic Decline / Failed States Index</p> <p>The Fund for Peace</p> <p>http://www.fundforpeace.org/</p>	FSI
<p>Uneven Economic Development along Group Lines / Failed States Index</p> <p>The Fund for Peace</p> <p>http://www.fundforpeace.org/</p>	FSI
EDUCATION	
<p>Adult literacy rate (% of population over the age of 15)</p> <p>UNESCO Institute for Statistics</p> <p>http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng</p> <p>Comment: Driver information – potential determinant of peace (GPI).</p>	GPI; IAG
<p>Adult literacy rate among women</p> <p>UNESCO Institute for Statistics</p> <p>http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng</p>	IAG
<p>Current education spending (% of GDP)</p> <p>UNESCO Institute for Statistics</p> <p>http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng</p> <p>Comment: Driver information – potential determinant of peace (GPI).</p>	GPI
<p>Education – Primary Completion – female / World Development Indicators</p> <p>The World Bank</p> <p>http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Education – Primary Completion – total / World Development Indicators</p> <p>The World Bank</p> <p>http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI

<p>Education – Primary Enrolment – Ratio of Female to Male / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Education Primary Enrolment – total / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Higher education – enrolment ratio (% Gross) / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0 Comment: Driver information – potential determinant of peace (GPI).</p>	GPI
<p>Literacy – female / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Literacy – total / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Mean years of schooling UNESCO Institute for Statistics http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng Comment: Driver information – potential determinant of peace (GPI).</p>	GPI
<p>National Literacy Rates for Youths (15-24) and Adults (15+) UNESCO Institute for Statistics http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng</p>	IAG
<p>Primary Completion Rate, Female (% of relevant age group) UNESCO Institute for Statistics http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng</p>	IAG
<p>Primary School Completion / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0</p>	ISW
<p>Primary School Completion Rate (% of relevant age group) UNESCO Institute for Statistics http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng</p>	IAG
<p>Primary school enrolment ratio (% Net) / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0 Comment: Driver information – potential determinant of peace (GPI).</p>	GPI

<p>Progression to Secondary School (%) UNESCO Institute for Statistics http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng</p>	IAG
<p>Pupil-Teacher Ratio, Primary UNESCO Institute for Statistics http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng</p>	IAG
<p>Ratio of Girls to Boys in Primary and Secondary Education (%) UNESCO Institute for Statistics http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=143&IF_Language=eng</p>	IAG
<p>Secondary school enrolment ratio (% Net) / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0 Comment: Driver information - potential determinant of peace (GPI).</p>	GPI

ENERGY

<p>Consumption – Commercial energy consumption per capita / Energy Statistics UN Common database http://unstats.un.org/unsd/default.htm</p>	CIFP-FI
<p>Consumption – Use of solid fuels / Energy Statistics UN Common database http://unstats.un.org/unsd/default.htm</p>	CIFP-FI
<p>Electricity capacity (total installed capacity per capita) / International Energy Annual 2005 U.S. Energy Information Administration http://www.eia.doe.gov/</p>	IAG

ENVIRONMENT

<p>Arable/fertile land availability / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Average number of deaths per hazardous events / Disaster Risk Index UNDP and UNEP/GRID-Geneva http://gridca.grid.unep.ch/undp/</p>	CIFP-FI
<p>Ecological Footprint – Global hectares per capita / Ecological Footprint Global Footprint Network http://www.footprintnetwork.org</p>	CIFP-FI

Environmental Performance Index	IAG
Daniel C. Esty, M.A. Levy, C.H. Kim, A. de Sherbinin, T. Srebotnjak, and V. Mara, 2008 Yale Center for Environmental Law and Policy http://epi.yale.edu/Home	
Forest – Annual percentage change in area / Global Forest Resources Assessment	CIFP-FI
FAO http://www.fao.org/forestry/1191/en/	
Policies and Institutions for Environmental Sustainability / CPIA – IRAI	CPIA - IRAI
The World Bank http://go.worldbank.org/S2THW11X60	
Pollution – CO2 Emissions per capita / World Development Indicators	CIFP-FI
The World Bank http://go.worldbank.org/E3TMO2RJX0	
Pollution – CO2 Emissions per dollar PPP / World Development Indicators	CIFP-FI
The World Bank http://go.worldbank.org/E3TMO2RJX0	
EXCLUSION AND DISCRIMINATION	
Discrimination Dataset / Minorities at Risk	SFI
University of Maryland’s Center for International Development and Conflict Management http://www.cidcm.umd.edu/mar/	
Economic Discrimination Index / Minorities at Risk	PII
University of Maryland’s Center for International Development and Conflict Management http://www.cidcm.umd.edu/mar/	
Political Discrimination Index / Minorities at Risk	PII
University of Maryland’s Center for International Development and Conflict Management http://www.cidcm.umd.edu/mar/	
FOREIGN AID	
Food Security – Aid as percentage of total consumption Food Security	CIFP-FI
FAOstat http://faostat.fao.org/	
Foreign Aid – percentage of Central Government Expenditures / World Development Indicators	CIFP-FI
The World Bank http://go.worldbank.org/E3TMO2RJX0	

Foreign Aid – Total per capita / World Development Indicators	CIFP-FI
The World Bank http://go.worldbank.org/E3TMO2RJX0	
GENDER	
Gender Related-Development Index / Human Development Index	CIFP-FI
UNDP http://hdr.undp.org/	
Gender Equality / CPIA - IRAI	CPIA / IRAI
The World Bank http://go.worldbank.org/S2THWI1X60	
Gender Empowerment Measure / Human Development Index	CIFP-FI
UNDP http://hdr.undp.org/en/statistics/indices/	
Gender Inequality / Gender Gap Index	GPI
World Economic Forum http://www.weforum.org/en/initiatives/gcp/Gender%20Gap/index.htm Comment: Driver information – potential determinant of peace (GPI).	
Proportion of seats held by women in national parliament (%) / World Development Indicators	CIFP-FI
The World Bank http://go.worldbank.org/E3TMO2RJX0	
Sex ratio of population: women/men	GPI
UN Statistics http://unstats.un.org/unsd/demographic/products/socind/population.htm Comment: Driver information – potential determinant of peace (GPI).	
Women in parliament (as a percentage of the total number of representatives in the lower house)	GPI
Inter-parliamentary Union http://www.ipu.org/iss-e/women.htm Comment: Driver information – potential determinant of peace (GPI).	
Women in the labour force / World Development Indicators	CIFP-FI
The World Bank http://go.worldbank.org/E3TMO2RJX0	
Women's Economic Rights / Cingranelli-Richards Human Rights Dataset	IAG
David L. Cingranelli and David L. Richards http://ciri.binghamton.edu/	
Women's Political Rights / Cingranelli-Richards Human Rights Dataset	IAG
David L. Cingranelli and David L. Richards http://ciri.binghamton.edu/	

Women's Social Rights / Cingranelli-Richards Human Rights Dataset IAG
 David L. Cingranelli and David L. Richards
<http://ciri.binghamton.edu/>

GOVERNMENT CAPABILITY

Functioning of Government / EIU Democracy Index GPI
 Economist Intelligence Unit
<http://www.eiu.com/>
 Comment: Driver information – potential determinant of peace (GPI).

Government Effectiveness / Worldwide Governance Indicators CIFP-FI; ISW
 The World Bank
<http://www.govindicators.org>

Building Human Resources / CPIA – IRAI CPIA - IRAI
 The World Bank
<http://go.worldbank.org/S2THW11X60>

Progressive Deterioration of Public Services FSI
 Fund for Peace
<http://www.fundforpeace.org>

Quality of Public Administration / CPIA – IRAI CPIA - IRAI
 The World Bank
<http://go.worldbank.org/S2THW11X60>

HEALTH

Access to Sanitation / World Development Indicators CIFP-FI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

Health Infrastructure – Expenditures as a percentage of GDP / World Development Indicators CIFP-FI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

HIV Prevalence / World Development Indicators IAG
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

HIV/AIDS – New AIDS Cases Reported CIFP-FI
 UNAIDS-WHO
<http://www.who.int/globalatlas/default.asp>

HIV/AIDS – Percentage of Adult Females Infected / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0	CIFP-FI
HIV/AIDS – Proportion of Adult population infected / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0	CIFP-FI
Immunization, DPT (% of children ages 12-23 months) UNICEF / WHO http://www.who.int/research/en/	IAG
Immunization, measles (% of children ages 12-23 months) UNICEF / WHO http://www.who.int/research/en/	IAG
Incidence of Tuberculosis (per 100,000 people) WHO http://www.who.int/mediacentre/factsheets/fs104/en/	IAG
Nursing and Midwifery Personnel per 100,000 People / WHO Statistical Information System WHO http://www.who.int/whosis/en/	IAG
Percent Population with Access to Improved Sanitation Facilities / World Development Indicators The World Bank http://go.worldbank.org/E3TMO2RJX0	ISW
Percentage of people (aged 15-49 years) living with HIV UNAIDS-WHO http://www.who.int/globalatlas/default.asp	IAG
Physicians per 100,000 People / WHO Statistical Information System WHO http://www.who.int/whosis/en/	IAG
Undernourishment (% of population) / World Development Indicators FAO – The World Bank Group http://go.worldbank.org/E3TMO2RJX0	IAG; ISW

INFRASTRUCTURE

Electricity Installed Capacity per Capita (kilowatts) / International Energy Annual U.S. Energy Information Administration http://www.eia.doe.gov/iea/	IAG
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Infrastructure – Reliability of Electricity Supply / World Development Indicators CIFP-FI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

INTERNATIONALISATION

Intervention of Other States or External Political Actors FSI, CIFP
 Fund for Peace
<http://www.fundforpeace.org>

International organization participation / CIA World Factbook CIFP-FI
 Central Intelligence Agency
<https://www.cia.gov/library/publications/the-world-factbook/>

International Sanctions IAG
 Own coding based on information from the UN Security Council
<http://belfercenter.ksg.harvard.edu/project/52/>

Level of participation in international economic organizations / CIA World Factbook CIFP-FI
 Central Intelligence Agency
<https://www.cia.gov/library/publications/the-world-factbook/>

Ratification of Core International Human Rights Conventions IAG
 Own coding based on information from Office of the High Commissioner for Human Rights
<http://belfercenter.ksg.harvard.edu/project/52/>

LIFE EXPECTANCY

Life Expectancy at Birth (years) / World Development Indicators IAG; ISW; GPI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>
 Comment: Driver information – potential determinant of peace (GPI).

Life Expectancy – Female / World Development Indicators CIFP-FI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

Life Expectancy – Total / World Development Indicators CIFP-FI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

MIGRATION

Chronic and Sustained Human Flight FSI
 Fund for Peace
<http://www.fundforpeace.org>

Massive Movement of Refugees or Internally Displaced Persons creating Complex Humanitarian Emergencies FSI

Fund for Peace

<http://www.fundforpeace.org>

Migration – Estimated Net CIFP-FI

UN Common Database -UN Population Division,

Department of Economic and Social Affairs, United Nations Secretariat

<http://data.un.org/Default.aspx>

Net Migration (% of total population) / World Development Indicators GPI

The World Bank

<http://go.worldbank.org/E3TMO2RJX0>

Comment: Driver information - potential determinant of peace (GPI).

MILITARISATION

Aggregate number of heavy weapons per 100,000 people / BICC Weapon Holdings Database GPI

Bonn International Centre for Conversion

<http://www.bicc.de/>

Military Capability / Sophistication / Global Peace Index GPI

Coded by Economist Intelligence Unit

<http://www.visionofhumanity.org/gpi/results/rankings.php>

Military Expenditure / World Development Indicators CIFP-FI

The World Bank

<http://go.worldbank.org/E3TMO2RJX0>

Military Expenditure as a percentage of GDP GPI

The International Institute for Strategic Studies

<http://www.iiss.org>

National Material Capabilities – Military personnel / Correlates of War Project PCIL

Singer, J. David, Stuart Bremer, and John Stuckey.

<http://www.correlatesofwar.org/>

Number of armed services personnel per 100,000 people GPI

The International Institute for Strategic Studies

<http://www.iiss.org>

Ratio of total military personnel over its total population / World Development Indicators PCIL

The World Bank

<http://go.worldbank.org/E3TMO2RJX0>

Volume of transfers of major conventional weapons (imports and exports) per 100,000 people / Arms Transfers Database GPI
 SIPRI
<http://www.sipri.org/contents/webmaster/databases>

MORTALITY

Child Mortality per 1,000 IAG
 Murray et al. 2007
<http://www.healthmetricsandevaluation.org/>

Infant Mortality / Political Instability Task Force PCIL
 Political Instability Task Force
<http://gking.harvard.edu/data.shtml>

Infant Mortality / World Development Indicators CIFP-FI; PCIL; GPI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>
 Comment: Driver information – potential determinant of peace (GPI).

Infant Mortality Rate SFI
 U.S. Census Bureau International Data Base
<http://www.census.gov/ipc/www/idb/>

Level of social provision / World Development Indicators PII
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

Maternal Mortality (per 100,000 live births) IAG
 WHO, UNICEF, UNFPA and The World Bank
http://www.who.int/topics/maternal_health/en/

Under-five mortality rate / The State of the World's Children ISW
 UNICEF
<http://www.unicef.org/publications/index.html>

PHYSICAL INTEGRITY

Frequency of disappearances / Cingranelli-Richards Human Rights Dataset WGI
 David L. Cingranelli and David L. Richards
<http://ciri.binghamton.edu/>

Frequency of political killings / Cingranelli-Richards Human Rights Dataset WGI
 David L. Cingranelli and David L. Richards
<http://ciri.binghamton.edu/>

Frequency of tortures / Cingranelli-Richards Human Rights Dataset WGI
 David L. Cingranelli and David L. Richards
<http://ciri.binghamton.edu/>

Physical Integrity Rights Index / Cingranelli-Richards Human Rights Dataset CIFP-FI; IAG
 David L. Cingranelli and David L. Richards
<http://ciri.binghamton.edu/>

POLITICAL CULTURE

Confidence in parliament / World Values Survey PII
 World Value Survey Association
<http://www.worldvaluessurvey.org/>

Criminalization and/or Delegitimization of the State FSI
 Fund for Peace
<http://www.fundforpeace.org>

Hostility to foreigners/private property / Global Peace Index GPI
 Coded by Economist Intelligence Unit
<http://www.visionofhumanity.org/gpi/results/rankings.php>
 Comment: Driver information – potential determinant of peace (GPI).

Political Culture / EIU Democracy Index GPI
 Economist Intelligence Unit
<http://www.eiu.com/>
 Comment: Driver information – potential determinant of peace (GPI).

Trust in institutions / The Africa Barometer poll PII
 Various (Network)
<http://www.afrobarometer.org/>

Trust in institutions / The Asia Barometer poll PII
 Various (Network)
<http://www.asianbarometer.org/>

Trust in institutions / The Euro Barometer poll PII
 The European Commission
http://ec.europa.eu/public_opinion/index_en.htm

Trust in institutions / The Latino Barometer poll PII
 Corporación Latinobarómetro
<http://www.latinobarometro.org/>

Rise of Factionalized Elites FSI
 Fund for Peace
<http://www.fundforpeace.org>

POLITICAL VIOLENCE

<p>Legacy of Vengeance-Seeking Group Grievance or Group Paranoia</p> <p>Fund for Peace</p> <p>http://www.fundforpeace.org</p>	FSI
<p>Major Episodes of Political Violence / Armed Conflict and Intervention Datasets</p> <p>Center for Systemic Peace</p> <p>http://www.systemicpeace.org/inscr/inscr.htm</p>	ISW; SFI
<p>Political troubles / African Economic Outlook</p> <p>African Development Bank – OECD</p> <p>http://www.oecd.org/department/0,2688,en_2649_15162846_1_1_1_1_1,00.html</p>	WGI

POPULATION

<p>15-34 year old males as a % of total population / UN World Population Prospects</p> <p>UN Population Division, Department of Economic and Social Affairs, United Nations Secretariat</p> <p>http://esa.un.org/unpp/</p> <p>Comment: Driver information – potential determinant of peace (GPI).</p>	GPI
<p>Mounting Demographic Pressures</p> <p>Fund for Peace</p> <p>http://www.fundforpeace.org</p>	FSI
<p>Population Density / World Development Indicators</p> <p>The World Bank</p> <p>http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Population Growth / World Development Indicators</p> <p>The World Bank</p> <p>http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Slum Population – proportion of population / World Development Indicators</p> <p>The World Bank</p> <p>http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI
<p>Slum Population – proportion of population / UN Common Database</p> <p>UN Statistics Division</p> <p>http://data.un.org/Default.aspx</p>	CIFP-FI
<p>Urban Growth Rate – Annual percentage / World Development Indicators</p> <p>The World Bank</p> <p>http://go.worldbank.org/E3TMO2RJX0</p>	CIFP-FI

Youth Bulge – Pop. Aged 0-14 as a % of Total / World Development Indicators CIFP-FI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

POVERTY

Poverty Rate at \$1 per person per day / African Economic Outlook IAG
 African Development Bank – OECD
http://www.oecd.org/department/0,2688,en_2649_15162846_1_1_1_1_1,00.html

Poverty Rate at \$1 per person per day / World Development Indicators IAG
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

Poverty Rate at National Poverty Line / African Economic Outlook IAG
 African Development Bank – OECD
http://www.oecd.org/department/0,2688,en_2649_15162846_1_1_1_1_1,00.html

Poverty Rate at National Poverty Line / World Development Indicators IAG
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

Social Protection and Labor / CPIA-IRAI CPIA-IRAI
 The World Bank
<http://go.worldbank.org/S2THWI1X60>

PROPERTY RIGHTS

Property Rights and Ruled-based Governance / CPIA-IRAI CPIA-IRAI
 The World Bank
<http://go.worldbank.org/S2THWI1X60>

Property Rights Index / Index of Economic Freedom IAG
 Heritage Foundation and The Wall Street Journal
<http://www.heritage.org/Index>

REFUGEES AND IDPs

Refugees / World Development Indicators CIFP-FI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

Refugees – IDPs Statistical Online Population Database / Global Report IAG; CIFP-FI; GPI
 UNHCR
<http://www.unhcr.org/>

<p>IDP Database / Internal Displacement Monitoring Centre (IDMC) Norwegian Refugee Council http://www.internal-displacement.org/8025708F004BD0DA/(httpPages)/1DEE6B69E30F84A68025708F0058BE6D?OpenDocument1</p>	IAG
<p>World Refugee Survey U.S. Committee for Refugees and Immigrants http://www.refugees.org/article.aspx?id=2114&subm=179&area=About%20Refugees&</p>	IAG
REGIME	
<p>Adverse Regime Change Problem Set / State Failure Problem Set data – Internal Wars and Failures of Governance Political Instability Task Force http://globalpolicy.gmu.edu/pitf/pitfpset.htm</p>	PII
<p>Basic administration / Bertelsmann Transformation Index Bertelsmann Stiftung http://www.bertelsmann-transformation-index.de/11.0.html?&L=1</p>	BTI-SWI
<p>Date of Independence / CIA World Factbook Central Intelligence Agency https://www.cia.gov/library/publications/the-world-factbook/</p>	PII
<p>Hardening of the Regime / African Economic Outlook African Development Bank – OECD http://www.oecd.org/department/0,2688,en_2649_15162846_1_1_1_1_1,00.html</p>	WGI
<p>Monopoly on use of force / Bertelsmann Transformation Index Bertelsmann Stiftung http://www.bertelsmann-transformation-index.de/11.0.html?&L=1</p>	BTI-SWI
<p>Permanence of Regime Type / Polity IV: Regime Authority Characteristics and Transitions Datasets Center for Systemic Peace http://www.systemicpeace.org/inscr/inscr.htm</p>	CIFP-FI
<p>Polity Fragmentation / Polity IV: Regime Authority Characteristics and Transitions Datasets Center for Systemic Peace http://www.systemicpeace.org/inscr/inscr.htm</p>	SFI
<p>POLITY2 - Net Democracy/Autocracy score / Polity IV: Regime Authority Characteristics and Transitions Datasets Center for Systemic Peace http://www.systemicpeace.org/inscr/inscr.htm</p>	CIFP-FI
<p>Regime Consistency / Polity IV: Regime Authority Characteristics and Transitions Datasets Center for Systemic Peace http://www.systemicpeace.org/inscr/inscr.htm</p>	PCIL

Regime durability / Polity IV: Regime Authority Characteristics and Transitions Datasets SFI
 Center for Systemic Peace
<http://www.systemicpeace.org/inscr/inscr.htm>

Regime type and factionalism / Polity IV: Regime Authority Characteristics and Transitions Datasets PII, SFI
 Center for Systemic Peace
<http://www.systemicpeace.org/inscr/inscr.htm>

REGIONALISATION

Direct Contiguity Data, 1816-2006. Version 3.1 / Correlates of War Project PCIL
 Stinnett, Douglas M., Jaroslav Tir, Philip Schafer, Paul F. Diehl, and Charles Gochman
<http://www.correlatesofwar.org/>

RULE OF LAW

Rule of Law / Freedom in the World IAG
 Freedom House
<http://www.freedomhouse.org/template.cfm?page=15>

Rule of Law / Worldwide Governance Indicators CIFP-FI; ISW
 The World Bank
<http://www.govindicators.org>

SOCIAL CLEAVAGES

Factionalism / Polity IV: Regime Authority Characteristics and Transitions Datasets SFI
 Center for Systemic Peace
<http://www.systemicpeace.org/inscr/inscr.htm>

Fractionalisation PII
 Alesina Alberto and Arnaud Devleeschauwer, William Easterly and Sergio Kurlat
http://www.anderson.ucla.edu/faculty_pages/romain.wacziarg/papersum.html

Minorities at Risk Data Set (Risk of Ethnic Rebellion) / Minorities at Risk CIFP-FI
 University of Maryland's Center for International Development and Conflict Management
<http://www.cidcm.umd.edu/mar/>

SOCIAL UNREST – RIOTS

Likelihood of violent demonstrations / Global Peace Index GPI
 Coded by Economist Intelligence Unit
<http://www.visionofhumanity.org/gpi/results/rankings.php>

Violent actions by underground political organisations / Institutional Profiles Database WGI
 French Ministry of the Economy, Industry and Employment and the Agence Francais de Developpement
<http://www.cepii.fr/ProfilsInstitutionnelsDatabase.htm>

Violent social conflicts / Institutional Profiles Database WGI
 French Ministry of the Economy, Industry and Employment and the Agence Francais de Developpement
<http://www.cepii.fr/ProfilsInstitutionnelsDatabase.htm>

TERRORISM

Potential for Terrorist Acts/ Global Peace Index GPI
 Coded by Economist Intelligence Unit
<http://www.visionofhumanity.org/gpi/results/rankings.php>

The threat of terrorism in the country imposes significant costs on business / Global Competitiveness Survey WGI
 World Economic Forum
<http://www.weforum.org/en/index.htm>

Worldwide Incidents Tracking System CIFP-FI
 US National Counterterrorism Center
<http://www.nctc.gov/>

TRADE

Share of Export Trade in Manufactured Goods / World Development Indicators SFI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

Share of Export Trade in Manufactured Goods / Human Development Index SFI
 UNDP
<http://hdr.undp.org/>

Trade / CPIA-IRAI CPIA /IRAI
 The World Bank
<http://go.worldbank.org/S2THW11X60>

Trade Balance – percentage of GDP / World Development Indicators CIFP-FI
 The World Bank
<http://go.worldbank.org/E3TMO2RJX0>

Trade data PCIL
 Kristian Skrede Gleditsch
<http://privatewww.essex.ac.uk/~ksg/exptradegdp.html>

Trade data / Penn World Table	PCIL
Alan Heston, Robert Summers and Bettina Aten, Penn World Table, Center for International Comparisons of Production, Income and Prices, University of Pennsylvania http://pwt.econ.upenn.edu/	
Trade data / World Development Indicators	PCIL
The World Bank http://go.worldbank.org/E3TMO2RJX0	
Trade Openness – percentage of GDP / World Development Indicators	CIFP-FI
The World Bank http://go.worldbank.org/E3TMO2RJX0	
UNEMPLOYMENT	
Unemployment	P11
UN International Labour Organization (ILO) http://www.ilo.org	
Unemployment – Total / World Development Indicators	CIFP-FI
The World Bank http://go.worldbank.org/E3TMO2RJX0	
WATER	
Access to Drinking Water (% of overall population) / Joint Monitoring Programme for Water Supply and Sanitation	IAG
WHO / UNICEF http://www.wssinfo.org	
Improved water source (% of population with access) / World Development Indicators	CIFP-FI
The World Bank http://go.worldbank.org/E3TMO2RJX0	
Percent Population with Access to Improved Water Sources / World Development Indicators	ISW
The World Bank http://go.worldbank.org/E3TMO2RJX0	
Water – Annual withdrawal / AQUASTAT	CIFP-FI
FAOSTAT http://faostat.fao.org/default.aspx	
Water – Renewable available per capita / AQUASTAT	CIFP-FI
FAO http://www.fao.org/nr/water/aquastat/main/index.stm	

ANNEX II:

AGGREGATION METHODS USED IN FRAGILITY INDICES

Index	Number of Aggr. Levels	Aggregation Procedure	Number of Indicators	Range of Weights per Indicator
BTI State Weakness Index	1	<i>(Monopoly of Violence + Basic Administration) / 2</i>	2	0.500
CIFP Fragility Index	2	<i>Governance + Economics + Security & Crime + Human Development + Demography + Environment</i> Categories are calculated by arithmetic means of their indicators.	83	0.007-0.019
CPIA / IRAI	2	<i>(Economic Management + Structural Policies + Policies for Social Inclusion/Equity + Public Sector Management and Institutions) / 4</i> All categories consist of 4 indicators each.	16	0.063
Failed States Index*	1	<i>I-1 + I-2 + ... + I-12</i>	12	0.083
Global Peace Index	2	<i>0.4 *External Peace + 0.6 * Internal Peace</i> ¹³³ Weights between 1 and 5 assigned to individual indicators comprising the categories (calculated by weighted means).	23	0.012-0.061**
Index of African Governance	3	<i>(Safety and Security + Rule of Law, Transparency, and Corruption + Participation and Human Rights + Sustainable Economic Opportunity + Human Development) / 5</i> All categories consist of 2-4 subcategories which consist of 1-11 indicators. All are weighted equally (calculated by arithmetic mean) except for Safety and Security = $(2 * \text{National Security} + \text{Public Safety}) / 3$	55	0.006-0.067
Index of State Weakness	2	<i>(Economic Basket + Political Basket + Security Basket + Social Basket) / 4</i> Categories are arithmetic averages of 5 indicators each.	20	0.050
Peace and Conflict Instability Ledger	1	Model driven (Logistic Regression Estimates); employed variables: Inconsistency of the governing regime, high infant mortality rates, lack of integration with the global economy, the militarization of society, and the presence of armed conflict in neighbouring states ¹³⁵	5	n.a.***
Political Instability Index	2	<i>(Underlying Vulnerability + Economic Distress) / 2</i> Categories are calculated means from 12 and 3 indicators respectively, with one and two indicators respectively weighted double.	15	0.038-0.200
State Fragility Index	3	<i>Effectiveness score + Legitimacy score</i> <i>Effectiveness Score = Security Effectiveness + Political Effectiveness + Economic Effectiveness + Social Effectiveness</i> <i>Legitimacy score = Security Legitimacy + Political Legitimacy + Economic Legitimacy + Social Legitimacy</i> Sub-categories consist of 1 to 3 indicators each.	14	0.031-0.125
WGI Political Stability and Absence of Violence	1	Model driven ('Unobserved Components Model')	35 ¹³⁶	0.010-0.094

*) The Failed States Index reports only the last level of its complex aggregation process.

**) Weights may derive from actual values due to missing information.

***) Comparable (standardized) coefficients not available. According to the author, regime consistency has the strongest impact, militarization the lowest impact.

ANNEX III:

LIST OF SOURCES NOT INCLUDED IN THE USERS' GUIDE

INDEX	MAIN REASON FOR EXCLUSION
Alert! Report on Conflicts, Human Rights and Peacebuilding The School for a Culture of Peace, Autonomous University of Barcelona http://escolapau.uab.cat/english/index.php	No fragility focus
Asian Risks Prospects Political and Economic Risk Consultancy http://asiarisk.com/	Insufficient methodological information
Business Risk Service BERI http://www.beri.com/	No free access on the internet
Conflict Barometer Heidelberg Institute for International Conflict Research, University of Heidelberg http://www.hiik.de/en/index.html	No fragility focus
Conflict Early Warning Systems Intergovernmental Authority on Development http://www.cewarn.org/	Not multi-country
Country Risk Evaluation and Assessment Model Country Index Exclusive Analysis http://www.exclusive-analysis.com/	No free access on the internet
Ethno-linguistic and Religious Fractionalization Index and Political Instability Index Anthony Annet http://www.imf.org/External/Pubs/FT/staffp/2001/03/pdf/annett.pdf	Not updated
FAST International Early Warning Program Swisspeace http://www.swisspeace.ch/	Not updated

INDEX	MAIN REASON FOR EXCLUSION
<p>Global Risk Service HIS Global Insight http://www.globalinsight.com/</p>	No free access on the internet
<p>Global Risks Portfolio Maplecroft http://www.maplecroft.com/</p>	No free access on the internet
<p>Grey Area Dynamics Merchant International Group http://www.merchantinternational.com</p>	No free access on the internet
<p>International Country Risk Guide Political Risk Services http://www.prsgroup.com/</p>	No free access on the internet
<p>CrisisWatch International Crisis Group http://www.crisisgroup.org</p>	Not quantified
<p>Life Integrity Violations Analysis Helen Fein http://muse.jhu.edu/login?uri=/journals/human_rights_quarterly/v017/17.1fein.html</p>	Not updated
<p>Militarization Index Bonn International Center for Conversion http://www.bicc.de/</p>	No free access on the internet
<p>Political Terror Scale Gibney, M., Cornett, L., & Wood, R http://www.politicalerrorscale.org/</p>	No fragility focus
<p>Polity IV – Country Reports Polity IV Project http://www.systemicpeace.org/polity/polity4.htm</p>	No fragility focus
<p>Proxy List of Fragile States Department for International Development http://www.dfid.gov.uk/Documents/publications/fragilestates-paper.pdf</p>	Not quantified

INDEX	MAIN REASON FOR EXCLUSION
<p>Sovereignty Credit rating Standard & Poor's http://www2.standardandpoors.com/</p>	No fragility focus
<p>Sovereignty Index Institute for State Effectiveness http://www.effectivestates.org/book.htm</p>	No free access on the internet
<p>The Index of Human Insecurity Global Environmental Change and Human Security Project http://www.gechs.org</p>	Not updated
<p>VRA Knowledge Manager Virtual Research Associates http://www.vranet.com/</p>	No free access on the internet

Criteria:

- *Relevancy*: The index has an evident focus on measuring fragility on the country level.
- *Quantification*: The index provides numerical scores on states and is thus possibly suited for cross-country comparisons.
- *Accessibility*: The index is available free of charge on the internet in English.¹³⁷
- *Transparency*: The index provides information about its methodology.
- *Multi-country coverage*: The index provides data for at least 75 countries, or for most countries from a specific region.
- *Updated information*: The source is updated periodically, with the latest scores published within the last two years.

ANNEX IV: A CATALOGUE OF FRAGILITY AND CONFLICT QUALITATIVE METHODOLOGIES¹

A Handbook for Peace and Conflict Impact Assessment

Author: Bush

Publication year: 2004 / Pages: 38

Website: http://cpr.web.cern.ch/cpr/Library/Tools/Hands-onPCIA_Handbook.pdf

Target Audience: Practitioners

Methodology:

5 Steps:

1. Assessing the environment – peace & conflict mapping;
2. Completing a risk and opportunity assessment;
3. (Pre-project) Assessing potential peace and conflict impacts during project design;
4. Assessing peace and conflict impacts during project implementation;
5. (Post-project) Assessing peace and conflict impacts as part of post-project evaluation.

Description: a handbook format (user-friendly, practical guidance and real life examples); it advocates for community involvement/ people-centred peace and conflict analysis; it attempts to engender indicators; process-oriented; close linkages to the project cycle.

Conflict Analysis and Response Definition

Author: FEWER

Publication year: 2001 / Pages: 21

Website: [http://www.reliefweb.int/rw/lib.nsf/db900sid/LGEL-5DVE4E/\\$file/fewer-meth-apr01.pdf?openement](http://www.reliefweb.int/rw/lib.nsf/db900sid/LGEL-5DVE4E/$file/fewer-meth-apr01.pdf?openement)

Target Audience: Practitioners

Methodology:

3 stages:

1. Analysis of conflict trends
2. Analysis of peace trends
3. Analysis of stakeholder trends

Description: Overall trends are the result of the formula conflict trends – peace trends +/- stakeholder trends; explicit recognition of the value of gender-sensitive indicators

¹ Reference to quantitative methodologies is made to offer the reader an overview of the main measurement tools. As this non-exhaustive catalogue shows, there are both similarities and divergences between quantitative and qualitative analyses in terms of, *inter alia*, dimensions of analysis, stated purposes and producers.

Conflict Analysis for Project Planning and Management

Author: GTZ (Leonhardt)

Publication year: 2001 / Pages: 95

Website: <http://www.gtz.de/de/dokumente/en-crisis-conflictanalysis-2001.pdf>

Target Audience: Development agencies' desk officers and staff in the field

Methodology:

2 stages:

1. Conflict Analysis:
 - Step 1: Conflict profile
 - Step 2: Stakeholder analysis
 - Step 3: Cause analysis
 - Step 4: Trends and opportunities
2. Project Planning:
 - Step 5: Capacity analysis
 - Step 6: Objectives analysis
 - Step 7: Strategy development
 - Step 8: Risk appraisal
 - Step 9: Conflict indicators

Description: A synthesis of elements, methodologies and toolbox for conflict analysis; it integrates conflict analysis into project cycle; emphasis on participatory conflict analysis, with guidance on participatory methodology; gender-disaggregated capacity and vulnerability analysis.

Conflict Analysis Framework

Author: World Bank

Publication year: 2005 / Pages: 33

Website: <http://siteresources.worldbank.org/INTCPR/214574-1112883508044/20657757/CAFApril2005.pdf>

Target Audience: World Bank staff

Methodology:

2 stages:

1. Risk Screening process (to determine whether or not a conflict analysis is recommended)
2. Conflict analysis
 - 5 steps:
 - i. Existing information on the conflict situation reinterpreted along the lines of Conflict Analysis Framework (brief desk study);
 - ii. Workshops conducted with country specialists to cover each of the six Conflict Analysis Framework categories;
 - iii. If necessary, follow up studies on issues identified in the workshop;
 - iv. If necessary, country consultations with different stakeholder groups;
 - v. Concluding workshops to discuss integration of findings into the poverty reduction strategy, country strategy or other country programmes.

Description: Qualitative indicators for risk screening process; Identification of poverty – conflict variables, with the aim to determine linkages and impact.

Conflict Assessment Framework

Author: USAID

Publication year: 2005/ Pages: 44

Website: http://www.usaid.gov/our_work/cross-cutting_programs/conflict/publications/docs/CMM_ConflAssessFrmwrk_May_05.pdf

Target Audience: USAID Staff

Methodology:

3 stages:

1. Analysis of the causes of conflict
2. Map existing programmes against identified causes of conflict
3. Suggest new areas of intervention

Description: Checklist of questions; emphasis on causes of conflict, which are thought to be interlinked.

Conflict Impact Assessment: A Practical Working Tool for Prioritizing Development Assistance in Unstable Situations

Author: European Union Analysis and Evaluation Centre European Union

Publication year: 1999 / Pages: 27

Website: <http://cpr.web.cern.ch/cpr/Library/Tools/Col16.pdf>

Target Audience: Policymakers / Desk Officers / Practitioners

Methodology:

2 Steps:

1. Identifying significant problem areas for the country under review;
2. Assessing problem areas, resorting to guiding questions and possible indicators and generating scorecards for each problem area.

Description: Identification of problem areas; guidance to assign scores to problem areas; no set of options for action; no project focus; attempts to engender indicators.

Conflict Prognosis: A Conflict and Policy Assessment Framework

Author: Clingendael (Verstegen, Van de Goor)

Publication year: 1999 (Part I) and 2000 (Part II) / Pages: 77 (Part One), 93 (Part Two)

Website: <http://www.clingendael.nl/cru/publications/occasionalpapers/>

Target Audience: Policymakers

Methodology:

4 steps:

1. Conflict Analysis in risk countries;
2. Policy Analysis;
3. Planning, Assessment and Decision-making;
4. Implementation.

Description: Attempt to link up with and connect existing tools and approaches; it is closely linked to the Fund for Peace and its analytical model of internal conflict and state collapse.

Conflict-related Development Analysis (CDA)

Author: UNDP

Publication year: 2003 / Pages: 66

Website: http://www.undp.org/cpr/whats_new/cda_combined.pdf

Target Audience: UNDP staff, development agencies' staff

Methodology:

3 stages:

1. Analysis of Conflict: background, causes, actors, dynamics, scenarios;
2. Analysis of current responses: mapping of current responses, development and conflict; development and formal peace processes;
3. Identification of Ways Forward: Strategic conclusions, programme and advocacy strategies for UNDP.

Description: Causes of conflict are interconnected; actors may have an interest in conflict; 'do no harm' approach; development agencies should maximize their impact on conflict. Attempts to introduce gender considerations.

Development in Conflict: A Seven Step Tool for Planners

Author: FEWER, International Alert and Safer World (Nyheim, Leonhardt, Gaigals)

Publication year: 2001 / Pages: 32

Website: <http://www.international-alert.org/pdf/tool.pdf>

Target Audience: Practitioners

Methodology:

3 stages/ 7 steps:

1. Analysis:
 - I. Identifying the conflict factors and key indicators
 - II. Stakeholder analysis
2. Strategy:
 - III. Identifying strategic issues
 - IV. Making strategic choices and setting objectives
3. Implementation:
 - V. Defining programme purpose and activities
 - VI. Risk assessment and sustainability
 - VII. Using the Project Management Cycle Framework

Description: Micro/Macro level; International/Local interventions. Explicit recognition of the value of gender-sensitive indicators.

Early Warning and Early Response Handbook

Author: Conflict Prevention and Post-Conflict Reconstruction Network

Publication year: 2005 / Pages: 27

Website: http://cpr.web.cern.ch/cpr/Library/tools/EW-HandbookFinalEn_v2.3.pdf

Target Audience: Development practitioners

Methodology:

7 steps:

1. Conflict Diagnosis Framework;
2. Conflict Analysis;
3. Peace Analysis;
4. Stakeholder Profile;
5. Scenarios and Objectives;
6. Strategic Issues and Choices;
7. Peacebuilding Recommendations.

Description: Standardized tools (definitions, process, guiding questions) for analysis and decision-making; recognized value of consultative process with stakeholders - although no systematic guidance is provided. Attempts to engender indicators.

Interagency Framework for Conflict Analysis in Transition Situations

Author: UNDG/ECHA

Publication year: 2004 / Pages: 18

Website: http://www.undg.org/docs/8467/5329-Common_Inter-Agency_Framework_for_Conflict_Analysis_in_Transition.doc

Target Audience: UN practitioners

Methodology:

3 stages / 7 steps:

1. Conflict Analysis;
 - I. Analysis of Key Conflict Factors
 - II. Actor Analysis
 - III. Analysis of Capacities for Peace
2. Analysis of Ongoing Responses;
 - IV. Mapping of Ongoing Responses
 - V. Assessment of the Impact of Ongoing Responses in relation to Conflict
3. Strategic and Programmatic Conclusions for Transition Planning
 - VI. Strategic Recommendations for Transition Planning
 - VII. Programmatic Recommendations for Transition Programming

Description: Importance of data type (qualitative and quantitative) and objective and rigorous analysis; acknowledgement of data constraints. Recognized value of consultative process with stakeholders; entry point for a wider conflict transformative process; inclusive data; building on local capacity.

Mainstreaming Conflict Prevention in Analysis and Programming: A Review of CCA/UNDAF processes

Author: UNDP (Ebata)

Publication year: 2001/ Pages: 35

Website: http://www.undp.org/cpr/documents/prevention/integrate/CCA_and_UNDAF_Review.doc

Target Audience: Practitioners

Methodology:

N/A

Description: Lessons learned from reviewing CCA/UNDAF; guidance on selecting and developing conflict indicators; set of indicators provided.

Manual for Conflict Analysis

Author: SIDA

Publication year: 2006 / Pages: 38

Website: <http://www2.sida.se/sida/jsp/sida.jsp?d=118&a=3351>

Target Audience: SIDA staff, development agencies' staff

Methodology:

3 Steps:

1. Conflict analysis (structures, actors, dynamics)
2. Scenario analysis
3. Impact assessment and opportunities

Description: Process-oriented; reflections on conflict analysis at the sector and project level. It recognizes the value of consultative process with stakeholders, but only when and if conditions permit. References to disaggregated analysis.

Multilateral Needs Assessments in Post-Conflict Situations

Author: UNDP, World Bank, United Nations Development Group

Publication year: 2004 / Pages: 49

Website: http://www.undp.org/cpr/documents/prevention/integrate/Post_Conflict_Needs_Assessment_methodology.pdf

Target Audience: Practitioners and policymakers

Methodology:

3 stages:

1. Preparation;
2. Conflict-sensitive sector assessment, planning and costing;
3. Consolidation of results.

Description: Integration outcome/results with national planning processes; national ownership (including validation of findings).

Peace and Conflict Impact Assessment Handbook

Author: Conflict Prevention and Post-Conflict Reconstruction Network

Publication year: 2005 / Pages: 29

Website: http://cpr.web.cern.ch/cpr/library/Tools/PCIA_HandbookEn_v2.2.pdf

Target Audience: Practitioners

Methodology:

3 stages / 9 Steps:

1. Profile assessments;
 - 1.Step 1: Conflict Profile
 - 2.Step 2: Peace Profile
 - 3.Step 3: Stakeholder Profile
 - 4.Step 4: Responsibilities and Underlying Causes
 - 5.Step 5: Scenarios and Objectives

2. Impact Assessment;
 1. Step 6: Political Impact
 2. Step 7: Economic, Social and Cultural Impact
 3. Step 8: Security Impact
3. Decision making.
 1. Step 9: Decision Tool

Description: Standardized tools (definitions, process, and guiding questions) for situation and impact analyses and decision making; attempts to engender indicators.

Stability Assessment Framework

Author: Clingendael (Verstegen, van de Goor, de Zeeuw)

Publication year: 2005 / Pages: 80

Website: http://www.clingendael.nl/publications/2005/20050200_cru_paper_stability.pdf

Target Audience: Practitioners and policymakers

Methodology:

4 stages:

1. Develop the terms of reference (preparatory work)
2. Mapping and analysis (trend analysis, institutional analysis, political actor analysis)
3. Workshop (consultative process)
4. Strategy development

Description: Process-management tool for unstable environments. Detailed methodology (e.g. indicators, rating system, interpreting results). External validation by stakeholders in a workshop. Few guiding questions address gender issues.

Strategic Conflict Assessment

Author: DFID

Publication year: 2002 / Pages: 52

Website: [http://www.reliefweb.int/rw/rwt.nsf/db900SID/NVEA-5ULK7X/\\$File/DFID_ConflictAssessment.pdf?OpenElement](http://www.reliefweb.int/rw/rwt.nsf/db900SID/NVEA-5ULK7X/$File/DFID_ConflictAssessment.pdf?OpenElement)

Target Audience: DFID staff, development agencies' staff

Methodology:

3 stages:

1. Analysis of the conflict (structures, actors and dynamics);
2. Analysis of responses (mapping external responses, development policies and programmes and assessing impacts on conflict and peace);
3. Strategies/options.

Description: Analysis must be dynamic (structures and actors) and adaptable (to user's needs and to context); preferences for shared analysis; it has a programme focus. Participative community assessments mentioned as one among several methods for actors' analysis. It recognizes the role of women in peacebuilding; gender imbalance as possible source of conflict.

The Do No Harm Handbook (The Framework for Analyzing the Impact of Assistance on Conflict)

Author: CDA Collaborative Learning Projects

Publication year: 2004 / Pages: 25

Website: <http://www.cdainc.com/dnh/docs/DoNoHarmHandbook.pdf>

Target Audience: Practitioners

Methodology:

7 steps:

1. Understanding the context of conflict;
2. Analysing dividers and sources of tension;
3. Analysing connectors and local capacities for peace;
4. Analysing the assistance programme;
5. Analysing the assistance programme's impacts on dividers and connectors;
6. Programme options;
7. Testing programming options and redesigning the project

Description: 'Indications' (guiding questions) for assessing positive or negative impacts of assistance. Limited methodological guidance.

ANNEX V:

SCORES OF THE BTI INDICATORS FOR IDENTIFYING STATE WEAKNESS, 2008

Country name	Monopoly on use of force	Basic administration	"BTI State Weakness Index"
Somalia	1	1	1.0
Central African Republic	1	2	1.5
Afghanistan	2	2	2.0
Iraq	2	2	
Chad	2	3	2.5
Côte d'Ivoire	3	2	
Democratic Republic of Congo	2	3	
Haiti	2	4	3.0
Sudan	3	3	
Myanmar	2	5	3.5
Nepal	5	3	4.0
Colombia	5	4	4.5
Yemen	4	5	
Angola	4	6	5.0
Congo	4	6	
Liberia	3	7	
Mali	5	5	
Niger	4	6	
Nigeria	5	5	
Pakistan	5	5	
Papua New Guinea	4	6	
Zimbabwe	4	6	
Guinea	4	7	
Kenya	6	5	5.5
Lebanon	6	5	
Sri Lanka	7	4	
Tajikistan	5	6	

Country name	Monopoly on use of force	Basic administration	"BTI State Weakness Index"
Algeria	6	6	6.0
Azerbaijan	6	6	
Cameroon	5	7	
Georgia	6	6	
Guatemala	6	6	
Honduras	6	6	
Bangladesh	6	7	
Bhutan	5	8	
Bolivia	7	6	
Burundi	7	6	
Cambodia	5	8	
El Salvador	6	7	
Eritrea	6	7	
Kyrgyzstan	6	7	
Moldova	7	6	
Nicaragua	6	7	
Paraguay	6	7	
Peru	7	6	
Philippines	7	6	
Senegal	6	7	
Sierra Leone	6	7	
Uganda	6	7	
Uzbekistan	6	7	7.0
Benin	6	8	
Ecuador	6	8	
Ethiopia	7	7	
Ghana	6	8	
Indonesia	7	7	
Iran, Islamic Republic of	6	8	
Jordan	6	8	
Mongolia	6	8	
Morocco	6	8	
Mozambique	6	8	
Panama	7	7	
Syrian Arab Republic	5	9	

Country name	Monopoly on use of force	Basic administration	"BTI State Weakness Index"
Albania	7	8	7.5
Bosnia and Herzegovina	7	8	
Brazil	8	7	
Burkina Faso	6	9	
Dominican Republic	6	9	
Egypt	6	9	
Lao People's Democratic Republic	7	8	
Madagascar	6	9	
Malawi	6	9	
Mauritania	7	8	
Mexico	8	7	
Russian Federation	7	8	
Saudi Arabia	7	8	
Thailand	9	6	
Togo	6	9	
Turkmenistan	6	9	
United Republic of Tanzania	6	9	
Venezuela (Bolivarian Republic of)	7	8	
Zambia	6	9	
Argentina	8	8	8.0
Belarus	6	10	
India	8	8	
Jamaica	8	8	
Libyan Arab Jamahiriya	7	9	
Namibia	7	9	
Rwanda	7	9	
Turkey	8	8	
Ukraine	7	9	
Viet Nam	7	9	
Armenia	8	9	8.5
China	8	9	
Kazakhstan	8	9	
Oman	7	10	
South Africa	8	9	
The former Yugoslav Republic of Macedonia	9	8	

Country Name	Monopoly on use of force	Basic administration	"BTI State Weakness Index"
Botswana	8	10	9.0
Democratic People's Republic of Korea	8	10	
Kuwait	8	10	
Mauritius	8	10	
Serbia	9	9	
Tunisia	8	10	
United Arab Emirates	8	10	
Bahrain	9	10	9.5
Costa Rica	9	10	
Montenegro	10	9	
Bulgaria	10	10	10.0
Chile	10	10	
Croatia	10	10	
Cuba	10	10	
Czech Republic	10	10	
Estonia	10	10	
Hungary	10	10	
Latvia	10	10	
Lithuania	10	10	
Malaysia	10	10	
Poland	10	10	
Romania	10	10	
Singapore	10	10	
Slovakia	10	10	
Slovenia	10	10	
South Korea	10	10	10.0
Taiwan	10	10	
Uruguay	10	10	

Scores of "BTI index of State Weakness" have been calculated as the arithmetic average of the BTI sub-indicators *Monopoly on use of force* and *Basic administration* by the authors of this guide. The assumption that this score is capable of serving as a proxy measurement of state fragility is based on the following statement from the explanation of BTI methodology: "A state is classified as 'failed state' when the arithmetic mean of scores given for monopoly on the use of force (1.1) and basic administration (1.4) is less than three" (BTI 2008: 85). The number of digits reported (2) probably overstates the precision of this measure. Countries with equal scores are sorted alphabetically.

ANNEX VI:

TECHNICAL GLOSSARY

TERM	DEFINITION	SOURCE
Aggregation	The procedure of combining two or more values into a single value. The most common aggregation methods for fragility indices are addition and the arithmetic mean.	
Arithmetic mean	[related term: <i>aggregation</i>] A value that is computed by dividing the sum of a set of terms by the number of terms	Merriam-Webster Dictionary
Bivariate correlation	Linear relationship between two variables measured as a correlation coefficient ranging from 0 (no correlation) to 1 (perfect correlation)	
Boolean	Of, relating to, or being a logical combinatorial system (as Boolean algebra) that represents symbolically relationships (as those implied by the logical operators AND, OR, and NOT) between entities (as sets, propositions, or on-off computer circuit elements)	Merriam-Webster Dictionary
Cronbach's Alpha	Statistical method to test the internal consistency – and hence, reliability – of a survey. It produces a consistency/reliability score.	
Confidence range	[also <i>confidence interval</i> , <i>confidence level</i> ; related term: margin of error] Range of values within which the true value of a measurement is located with a certain probability. This probability is the confidence level. The most common confidence levels used in statistics are 90%, 95% and 99%.	
Content analysis	Analysis of the manifest and latent content of a body of communicated material (as a book or film) through a classification, tabulation, and evaluation of its key symbols and themes in order to ascertain its meaning and probable effect	Merriam-Webster Dictionary
Direct measurement	Measurement of a concept than can be directly observed	
Error	[see <i>measurement error</i>]	
Expert coding	Information generated by translating qualitative information into scores through trained personnel.	
Expert data	Information collected from professionals deemed to be experts in the issue to be measured.	

TERM	DEFINITION	SOURCE
Expert survey	(Representative) survey of several professionals deemed to be experts in the issue to be measured.	
Index	A combination of several indicators into one score.	
Index scale	A graduated range of values forming a standard system for measuring or grading something.	Compact Oxford English Dictionary
Indicator	Measurement tool.	
Input indicator	[see <i>indicator</i>] indicator providing information on the existence and quality of enabling structural conditions	
Latent measurement	[see <i>measurement</i>] Indirect measurement of a concept that cannot be directly observed	
Measurement	1) The assignation of scores to objects; 2) The scores assigned to objects.	
Measurement error	[see <i>measurement</i>] estimated deviation of a measurement from the true value; generally obtained by dividing the confidence range by two.	
Multicollinearity	Strong correlation between several variables; may cause problems when applying statistical models and should thus be avoided by excluding redundant variables	
Nomological validation	[see also <i>validity</i>] A way of assessing validity of an index by using that index in a statistical model and testing whether it behaves as theoretically expected	
Operationalization	Defining the rules by which to measure a certain concept.	
Opinion poll	[see also <i>survey</i>] A survey on the opinion of a sample population which allows inference to the opinion of the general population.	
Outliers	Observations that deviate significantly from other observations.	
Output indicator	[see <i>indicator</i>] Indicator that measures the end results of actions	
Pairwise deletion	When dealing with more than two variables, pairwise deletion excludes cases (countries, in the case of indices covered in this Guide) only for those variables where observations are missing. Countries remain in the overall sample even if single observations are missing. Most indices handle missing data by pairwise deletion.	
Pearson's R	Pearson's product moment correlation or r is a measure of the linear association between two interval or ratio variables and varies between -1 and +1.	Cramer, D. (1998): <i>Fundamental statistics for social research: Step-by-step calculations and computer techniques using SPSS for Windows</i> . London: Routledge. P.137

TERM	DEFINITION	SOURCE
Predictive measurement	A measurement which assesses the probability of an event to occur	
Process indicator	[see <i>indicator</i>] indicator of efforts made to achieve certain outputs or outcomes	
Proxy measurement	Using an indicator that is different from but highly correlated with the concept of interest	
Public statistics	Data systematically collected by official authorities.	
Random error	[see <i>measurement error</i>] Measurement error that cannot be ascribed to an identifiable factor but only to indeterminable influences of the environment on a measurement. Random errors level out over time and in large samples. Still, random errors may hamper regression analyses.	
Ranking	A position in a hierarchy or scale.	Compact Oxford English Dictionary
Reliability	The extent to which an experiment, test, or measuring procedure yields the same results on repeated trials.	Merriam-Webster Dictionary
Score	A number that expresses accomplishment (as in a game or test) or excellence (as in quality) either absolutely in points gained or by comparison to a standard.	Merriam-Webster Dictionary
Standardization	Rescaling of indicators so that differences in original scales do not have unwanted weighting effects	
Survey	[see also <i>opinion poll</i>] A query of persons in order to collect data.	
Systematic error	[see also <i>measurement error</i>] A measurement error that is non-random and thus correlates with a factor that can be determined and which does not level out over time.	
Systematized concept	A concept that has been clearly defined regarding the attributes it considers relevant.	
Time lag	1) Delay of data availability; 2) Difference between the nominal date of a score and the actual date of the primary data.	
Truncation	Limiting the number of values an index can assume. This may be problematic if variance cannot be adequately displayed any more.	
Validity	The capacity of an index or indicator to adequately represent a concept.	
Weighting	Adjusting the impact of individual components (indicators) on an index.	

ENDNOTES

- ¹ Sources investigated but not found to meet these criteria have been collected in Annex III.
- ² The internet criterion is based on the assumption that most users are not willing to spend significant amounts of time or funds to obtain data. The language criterion is based on the assumption that most of the leading work on fragility situations is published in the English language; also, English publications can be accessed by a majority of actors dealing with state fragility and are thus considered universally accessible.
- ³ Foreign Policy co-authors the yearly article published in its journal that presents the newest edition to a wider audience, but is not involved in the production of the index.
- ⁴ Formerly known as 'Ibrahim Index of African Governance', the current name is 'Harvard Kennedy School Index of African Governance' (Correspondence between Robert I. Rotberg and the authors, 1 April 2009).
- ⁵ Users of fragility indices have not been interviewed due to research constraints. A study of how fragility indices are applied in practice could indeed be a valuable addition. Similarly, there is still a gap in knowledge about how to better use existing qualitative and quantitative fragility measurements in combination. Extending the guide in this direction was, however, beyond the scope of this project.
- ⁶ OECD, 2007, p.2.
- ⁷ OECD, 2008c.
- ⁸ Similar terminologies are used by Carment et al., 2006, and Stewart and Brown, 2009.
- ⁹ While all labels surrounding fragility are normative, the term 'failed state' carries probably the most negative connotation. To describe a state as failed may be understood as a forceful stigma by those referred to by the term.
- ¹⁰ This is the title of an influential article by Helman and Ratner, 1993.
- ¹¹ See, for example, Jackson and Rosberg, 1982; Migdal, 1988.
- ¹² A phrase from the United States National Security Strategy 2002 is often cited as the starting point of this new phase: "America is now threatened less by conquering states than we are by failing ones." (United States of America, 2002, page 1).
- ¹³ See, for example, The World Bank, 2009a.
- ¹⁴ Iqbal and Starr, 2008.
- ¹⁵ For a critical analysis of the linkages between state weakness and global threats, see Patrick, 2006.
- ¹⁶ See, for example, Kaldor, 2007.
- ¹⁷ Collier et al., 2003.
- ¹⁸ UCDP, UCDP Code Book, http://www.pcr.uu.se/database/definitions_all.htm
- ¹⁹ UCDP, UCDP Definitions http://www.pcr.uu.se/research/UCDP/data_and_publications/definitions_all.htm
- ²⁰ European Commission, 2008.
- ²¹ Minson, 2007, p. 2.
- ²² OECD, 2009, p. 21.
- ²³ This model and the diagram are inspired by Adcock and Collier (2001), with additional considerations on the measurement of indicators by Munck, 2009. We modified and expanded their model and adapted it to measuring fragility.
- ²⁴ The following paragraphs are partly based upon Carmines and Zeller, 1979.
- ²⁵ Herrera and Kapur (2007) address the widely underestimated implications of measurement error. Treier and Jackman (2008) show that models of the influence of regime type on civil war onset provide different results when considering the uncertainty inherent in the Polity III scores.

- ²⁶ While the method is still limited to English language sources, which might introduce an additional bias into the results, the Fund for Peace is working on expanding content analysis of fragility – either by translating the key phrases into other languages or the documents into English (Correspondence between Pauline H. Baker and the authors, 21 May 2009).
- ²⁷ For an academic discussion on taxation data, see Liebermann, 2002. In the field of policy, the importance to a state of raising funds through taxation is emphasized by, for example, the OECD, 2008c.
- ²⁸ OECD, 2009, p.14.
- ²⁹ See Munck (2009: 30-35; 68-73) for other aggregation methods and their implications, using examples from democracy indices.
- ³⁰ Freudenberg, 2003.
- ³¹ Fund for Peace website [<http://www.fundforpeace.org>]. Last access: May 2009.
- ³² Foreign Policy and Fund for Peace, 2008, p. 65.
- ³³ See Arndt (2008) for a discussion on the politics of governance indicators in general.
- ³⁴ There is a special connection between the State Fragility Index and the Peace and Conflict Instability Ledger: Monty G. Marshall is producing the former after leaving the University of Maryland and having been previously responsible for the Peace and Conflict publications in which the Peace and Conflict Instability Ledger is presented.
- ³⁵ The Canadian Government has supported *Country Indicators for Foreign Policy* and their *Fragility Index* through the Canadian International Development Agency (CIDA) and other agencies. The Brookings Institution – producer of the *Index of State Weakness in the Developing World* – is funded in part by the Governments of the United States, Japan and the United Kingdom. The Fund for Peace, in contrast, while receiving government grants for other projects, claims not to use government funds for producing the *Failed States Index* (Interview with Pauline H. Baker, Fund for Peace, on 4 May 2009 in Linköping, Sweden).
- ³⁶ Data for the BTI is collected by the Center for Applied Policy Research (University of Munich) through the BTI Country Assessments which draw on one local and one international expert each which work for a variety of various institutions.
- ³⁷ The graph has been produced with visone, a program for the analysis and visualization of social networks [<http://visone.info/>].
- ³⁸ Scores from the State Fragility Index were obtained from calculating the arithmetic average between legitimacy and effectiveness scores for each basket. Results were normalized on a scale of 0 to 10 and then inverted (so 0 and 10 became the worst and best scores, respectively).
- ³⁹ The table shows rankings calculated with data from the 2008 editions of these indices. The Political Instability Index has been excluded since it was first published in 2009. The Index of African Governance has been excluded due to its exclusive focus on Africa. Rankings from the Global Peace Index correspond to the ten countries at the bottom of the index.
- ⁴⁰ See Freudenberg, 2003.
- ⁴¹ It would also be possible to categorize countries by clusters derived from a statistical analysis of the scores. This kind of data-driven categorization – which would presuppose a high level of measurement quality – is not applied by any fragility index.
- ⁴² This categorization is not used in the World Bank working paper publication, but only on the website [<http://info.worldbank.org/governance/wgi/>] Last access: August 2009.
- ⁴³ The most prominent example of employing a macro-index for informing policy is the Country Policy and Institutional Assessment (CPIA), which is being used by the World Bank to allocate IDA funds. It is an attempt to transparently and fairly distribute aid, but scores are still determined by World Bank experts and are not dependent on statistics that are out of reach of “correcting” human influence.
- ⁴⁴ Purpose of the overall BTI publication: “Advocating reforms targeting the goal of a constitutional democracy and socially responsible market economy, the BTI provides the framework for an exchange of best practices among agents of reform.” (BTI website [<http://www.bertelsmann-transformation-index.de/11.0.html?&L=1>]. Last access: May 2009).

- ⁴⁵ The BTI Status Index and the BTI Management Index are much broader and include all dimensions: security, political, economic, social and environmental.
- ⁴⁶ The BTI Management Index, which complements the BTI Status Index, uses two additional observable indicators.
- ⁴⁷ This information would not only increase overall transparency but might also serve as an indicator on how disputed (or uncertain) individual scores are within the expert group. The producers indicated that 80% of all scores lie within the range defined by the first and second expert and that they are thinking about publishing further information on uncertainty. (Correspondence between Peter Thiery and the authors, 27 July 2009).
- ⁴⁸ *BTI Status Index and BTI Management Index* are calculated from more indicators and report a 0.00-10.00 scale.
- ⁴⁹ BTI Status Index and BTI Management Index have 3 aggregation levels each, the former applying simple arithmetic means on all stages, the latter correcting results by “level of difficulty” in a slightly more complex approach.
- ⁵⁰ *BTI Status Index* with weighting effect through differently sized categories; *BTI Management Index* weighting effect more complex (BTI 2008: 83).
- ⁵¹ BTI 2008, p. 79.
- ⁵² BTI s.a. a, p. 3.
- ⁵³ Thresholds are not given in the brochure. They have been provided by the index producers on demand. (Correspondence between Peter Thiery and the authors, 27 July 2009).
- ⁵⁵ Munck, 2009, p.8.
- ⁵⁶ CIFP website, “Failed and Fragile States”; <http://www.carleton.ca/cifp/ffs.htm> Last access: 2 May 2009.
- ⁵⁷ CIFP, CIFP Failed and Fragile States FAQ, <http://www.carleton.ca/cifp/27/01/06> Last access: 2 May 2009.
- ⁵⁸ Nomological validation means using an index in a statistical model and checking whether it behaves as theoretically expected. As for other indices, the producers of the CIFP fragility index revert to the model of state failure developed by the Political Instability Task Force (PITF). They use the variables income, growth, democracy, trade openness and infant mortality to explain fragility. Coefficients behave as expected (Carment et al. 2008: 358-361).
- ⁵⁹ Correspondence between David Carment and the authors, 16 July 2009.
- ⁶⁰ One of the most influential works stating this relationship is Jared Diamond’s (2005) *Collapse*.
- ⁶¹ IDA, 2009, Q1.
- ⁶² IDA, 2009, Q10.
- ⁶³ IDA, 2007, p. 2.
- ⁶⁴ IDA, 2009.
- ⁶⁵ IDA, 2009, Q17.
- ⁶⁶ 2008 IDA Resource Allocation Index (IRAI), Table 2, [<http://siteresources.worldbank.org/IDA/Resources/73153-1181752621336/IRAI2008table2.pdf>] Last access: July 2009.
- ⁶⁷ World Bank, 2006, p. 130.
- ⁶⁸ IDA, 2009, Q20.
- ⁶⁹ IDA, 2007, p.2.
- ⁷⁰ As Chauvet and Collier (2008: 333) have indicated, “it is, in principle, entirely possible for an impoverished country with very poor socioeconomic outcomes to get the maximum rating on this measure, as long as the state is performing its public goods and regulatory functions as well as is possible under difficult conditions.”
- ⁷¹ This criticism has been articulated in different ways in various quarters. See, for example, Chauvet and Collier, 2008; and World Bank, 2006.
- ⁷² From the 2008 edition, three IDA-eligible countries have been excluded (Liberia, Myanmar, and Somalia).
- ⁷³ Foreign Policy co-authors the yearly article published in its journal that presents the newest edition to a wider audience, but is not involved in the production of the index.
- ⁷⁴ Foreign Policy and Fund for Peace, 2008, p. 66.
- ⁷⁵ http://www.foreignpolicy.com/articles/2009/06/22/the_2009_failed_states_index Last access: July 2009.

- ⁷⁶ Fund for Peace website, "Failed States Index FAQ"; [http://www.fundforpeace.org/web/index.php?option=com_content&task=view&id=102&Itemid=327#5] Last access: May 2009.
- ⁷⁷ The Fund for Peace website groups the twelve indicators informing the total score into "social," "economic" and "political" indicators while the article in Foreign Policy claims to use "social, economic, political and military indicators" (Foreign Policy and Fund for Peace 2008: 66).
- ⁷⁸ Email from Pauline H. Baker to the authors, 21 May 2009. Examples provided on which quantitative indicators were used: i. Demographic Pressures: 1. HIV prevalence; 2. Youth Bulge; 3. Tuberculosis prevalence; 4. Population Growth; 5. Life Expectancy; 6. Infant Mortality; 7. Under 5 Mortality; 8. Percent Undernourished; ii. Refugees/IDPs: 1. Refugees and IDPs per capita; 2. Total number of Refugees and IDPs; iii. Economic Decline: 1. GDP per capita; 2. GDP Growth; 3. Inflation; 4. Percent living under \$1 per day; 5. Youth Unemployment; iv. Public Services: 1. Primary Education; 2. Population With Access to Improved Water Source; 3. Physicians per capita; 4. Literacy Rates; 5. Population With Access to Improved Sanitation; 6. Slum population as percentage of urban; 7. Births attended by a professional; 8. Electricity consumption per capita
- ⁷⁹ Email from Pauline H. Baker to the authors, 21 May 2009.
- ⁸⁰ Email from Pauline H. Baker to the authors, 22 May 2009.
- ⁸¹ Email from Pauline H. Baker to the authors, 21 May 2009.
- ⁸² Fund for Peace (2009).
- ⁸³ Email from Pauline H. Baker to the authors, 21 May 2009.
- ⁸⁴ In the 2009 edition, this methodology has changed slightly.
- ⁸⁵ The producers stated in an interview with the authors (Linköping, Sweden, 03 May 2009) that they are planning to publish on their website more detailed methodology and data soon.
- ⁸⁶ These examples have been kindly provided to the authors by Pauline H. Baker (21 May 2009).
- ⁸⁷ GPI, 2008, p.3.
- ⁸⁸ GPI, 2008, p.3.
- ⁸⁹ The 2007 and 2008 editions comprise 24 indicators. The measures of UN and non-UN deployments have been removed in the 2009 edition and replaced by financial support to UN peacekeeping missions.
- ⁹⁰ GPI, 2009, p.2.
- ⁹¹ GPI, 2009, p.3.
- ⁹² Rotberg and Gisselquist, 2008, p. 7.
- ⁹³ Rotberg and Gisselquist, 2008, p. 8.
- ⁹⁴ Producers refer to "A robust model to measure governance in African countries" by Saisana et al., 2009. (Email from Rachel Gisselquist to the authors, 18 July 2009).
- ⁹⁵ Rotberg and Gisselquist, 2008, p.7.
- ⁹⁶ The variance due to certain time-variant indicators may be negligible, but this assumption must be scrutinized.
- ⁹⁷ Rotberg and Gisselquist, 2008, p.7.
- ⁹⁸ Brookings Institution, "Index of State Weakness in the Developing World"; [http://www.brookings.edu/reports/2008/02_weak_states_index.aspx] Last access: May 2009.
- ⁹⁹ Rice and Patrick, 2008, p. 3.
- ¹⁰⁰ Rice and Patrick, 2008, p. 26, endnote 33: "This aggregation methodology implicitly assumes that each of the four core areas of state function contributes to state weakness equally. Because there is no widely accepted formula to definitively assess the relative contribution of each of the four areas to state weakness, any unequal weighting system would be open to criticism on the grounds that it could not be accurate for all countries and it reflected the arbitrary biases of the researchers. Though this assumption is currently valid, the state weakness literature would benefit from further exploration of how the four core areas of state function should be weighted and how they interact with each other."

- ¹⁰¹ Rice and Patrick, 2008, p. 8; p. 25, endnote 6: "The Index includes developing countries with sufficient data coverage and a population above 100,000. In defining developing countries, we use the World Bank's 2007 income classification, in which economies are divided according to 2006 GNI per capita, calculated using the World Bank Atlas method. These include: low-income countries with a 2006 GNI per capita of \$905 or less; lower-middle-income countries with a 2006 GNI per capita between \$9,066 and \$3,595; and upper-middle-income countries with a 2006 GNI per capita between \$3,596 and \$11,115. Although the World Bank includes the West Bank and Gaza as a low-income economy, we do not include it in our Index because it is not a sovereign state."
- ¹⁰² Rice and Patrick, 2008, p.10.
- ¹⁰³ Hewitt et al., 2008b, p. 4; emphasis in original.
- ¹⁰⁴ Hewitt et al., 2008b, p. 5.
- ¹⁰⁵ Hewitt et al., 2008b, p. 4.
- ¹⁰⁶ Out-of-sample predictions aim at finding values not only for cases that have not yet been observed but also for a time-span that has not been observed for any case. A rather "flat" sample may be interpreted either as a sign of a linear relationship or as the flat bottom of an exponential relationship, with severe implications for the estimation of future developments (see King and Zheng, 2007).
- ¹⁰⁷ These are the coefficients reported by Hewitt, 2007, p.1. Consider that different scale levels of indicators impede immediate comparison: regime consistency -0.006* (0.003); infant mortality 0.797*** (0.173); economic openness -0.220* (0.107); militarization 17.626* (9.759); neighbourhood war 0.354* (0.184); autocracy -0.638* (0.276); partial democracy 0.764*** (0.235); constant -6.566*** (0.996), with * p < 0.05; ** p < 0.01; *** p < 0.001.
- ¹⁰⁸ Communication with the author, 31 July 2009.
- ¹⁰⁹ According to the producer, the 2010 report classifies countries into five categories: highest risk, high risk, moderate risk, some risk, low risk. Communication with the author, 31 July 2009.
- ¹¹⁰ King and Zheng (2001) provide a critique of the PITF methodology and improve the model's predictive capacity.
- ¹¹¹ Correspondence with the author, July 31, 2009.
- ¹¹² Phone interview with J. Joseph Hewitt, 22 April 2009.
- ¹¹³ EIU, 2009, p.19.
- ¹¹⁴ EIU, 2009, p. 15.
- ¹¹⁵ EIU, 2009, p. 20.
- ¹¹⁶ EIU, 2009, p.19.
- ¹¹⁷ Correspondence between Monty G. Marshall and the authors, 6 April 2009.
- ¹¹⁸ Marshall and Cole, 2008, p.13; emphasis in original.
- ¹¹⁹ Marshall and Cole, 2008, p. 17.
- ¹²⁰ Marshall and Cole, 2008, p.18.
- ¹²¹ Marshall and Cole, 2008, p.17.
- ¹²² Marshall and Goldstone, 2007, p.13.
- ¹²³ Kaufmann, et al. 2009, p.5.
- ¹²⁴ Governance Matters 2008, World Wide Governance Indicators, "Frequently Asked Questions", [<http://info.worldbank.org/governance/wgi/faq.htm#2>] Last access: August 2009.
- ¹²⁵ This categorization is used on [<http://info.worldbank.org/governance/wgi/>] Last access: August 2009.
- ¹²⁶ The whole WGI project uses 35 sources.
- ¹²⁷ See Kaufmann et al., 2009, pp. 39-73.
- ¹²⁸ For critique regarding the Worldwide Governance Indicators, see Arndt and Oman, 2006, Kurtz and Schrank, 2007, and Langbein and Knack, 2008. A combined response of the authors to the critique can be found in Kaufmann and Kraay, 2008.

- ¹²⁹ The producers have proposed a way of mitigating this deficiency (Kaufmann et al. 2009: 101-103).
- ¹³⁰ The authors argue that the reliance on expert assessments does not bias the results (Kaufmann et al. 2007).
- ¹³¹ For analysis and description of these and others indicators and data sources, see for example, UNDP, 2009a, 2009b, 2009c, 2009d, 2008a, 2008b, and Eck, 2005.
- ¹³² Considering the amount of data and space limitations, only basic information for each indicator and data source (name, project, producer, website) is provided. In some cases comments have been inserted for purposes of clarification (i.e. driver information – potential determinant for peace (GPI)).
- ¹³³ Not clearly defined to what category the individual indicators belong; only individual weights considered.
- ¹³⁴ The producers claim to use 57 indicators; we counted 55.
- ¹³⁵ Hewitt et al., 2008, p.4.
- ¹³⁶ WGI Political Stability 2008 uses 35 indicators from 13 sources. The whole WGI project uses 35 sources.
- ¹³⁷ The internet criteria are based on the assumption that most users are not willing to spend significant amounts of time or funds to obtain data. The language criteria are based on the assumption that most of the leading work on fragility situations is published in the English language; also, English publications can be accessed by a majority of actors dealing with state fragility and are thus considered universally accessible.

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United Nations Development Programme
UNDP Oslo Governance Centre
Inkognitogata 37
0256 Oslo, Norway
www.undp.org/oslocentre
oslo.governancecentre@undp.org

d·i·e

Deutsches Institut für
Entwicklungspolitik



German Development
Institute

**German Development Institute/
Deutsches Institut für Entwicklungspolitik**
Tulpenfeld 6
53113 Bonn, Germany
www.die-gdi.de

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