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Deutsches Institut für Entwicklungspolitik

German Development Institute

Discussion Paper 3/2012

# State Fragility: Towards a Multi-Dimensional Empirical Typology

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Bonn 2012

Discussion Paper / Deutsches Institut für Entwicklungspolitik
ISSN 1860-0441

Die deutsche Nationalbibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie; detaillierte bibliografische Daten sind im Internet über http://dnb.d-nb.de abrufbar.

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data is available in the Internet at http://dnb.d-nb.de.

ISBN 978-3-88985-546-6

This Discussion Paper is a product of the Democracy and Stability in Fragile States programme within the DIE's Department of Governance, Statehood and Security.

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Abstract

The purpose of this paper is to demonstrate that, empirically, state fragility – conceptualised as a multi-dimensional phenomenon along the categories of authority, capacity and legitimacy – comes in several distinct configurations, yet that the number of such configurations is rather limited. We suggest that this finding has useful, previously unexplored implications for policy design vis-à-vis fragile states. We do not intend to call into question the necessity of country-specific analysis. A better grasp of "typical" forms of fragility, however, should help development agencies to better prepare for the types of situations they are most likely to be confronted with. The final section of the paper explores some of the practical implications that can be derived from our classification.

Contents

**Annexes, Boxes, Figures and Tables**

# Abbreviations

| | |
|---|---|
| ACL | State Authority, State Capacity and State Legitimacy |
| BIC | Bayesian Information Criterion |
| BMZ | Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung / Federal Ministry for Economic Cooperation and Development |
| BRIC | Brazil, Russia, India, China |
| BTI | Bertelsmann Transformation Index |
| CPIA | Country Policy and Institutional Assessment |
| ERD | European Report on Development |
| IDA | International Development Association |
| IHME | Institute for Health Metrics and Evaluation |
| LICUS | Low-income Countries under Stress |
| OECD/DAC | Organisation for Economic Co-operation and Development / Development Assistance Committee |
| PTS | Political Terror Scale |
| RSF | Reporters Sans Frontières |
| UCDP | Uppsala Conflict Data Program |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UNHCR | United Nations High Commissioner for Refugees |
| UNODC | United Nations Office on Drugs and Crime |
| WDI | World Development Indicators |

# 1 Introduction[1]

This paper proposes an approach to empirically identify country groupings that are each characterised by a distinct constellation of state fragility. We build upon a theoretical framework that distinguishes three dimensions of statehood: authority, legitimacy and state capacity. We argue that current approaches towards measuring fragility do not properly account for the diversity of fragile situations. By assigning countries to certain problem constellations, our approach can lead to a better understanding of challenges in these countries; this approach is beyond the reach of one-dimensional approaches represented by many indexes on fragility. Such a differentiation of fragile states resonates with recent debates that have taken place in the International Dialogue on Peacebuilding and Statebuilding and during the IDA16 replenishment process (International Development Association).

Recent research on state fragility has emphasised that fragility can also occur at a sub-national level in states that are generally considered stable (e.g. Naudé / McGillivray / Rossouw 2009; Guo / Freeman 2011). Nonetheless, most donor countries and multilateral institutions in development policy have country-based operation models and allocation systems, and despite an increasing role of non-state actors, states continue to be both major players and important objects of activities in the international system. Hence, we consider it appropriate that the unit of analysis in our approach remains the state.

The paper proceeds as follows: Firstly, we argue the case for a differentiated view of state fragility and for moving from a uni-dimensional to a multi-dimensional concept. We then provide a brief review of the current debate on fragile states in order to derive the main categories that constitute fragility. Thirdly, we present the approach adopted in this paper. Here, we describe how we conceptualise and measure our three dimensions of fragility. Fourthly, based on statistical data, we present empirical results that identify seven groups of states that are characterised by specific constellations of our dimensions. We then present possible policy implications for each group. In our conclusion, we discuss strengths and limitations of the classification exercise presented here and some ways forward.

# 2 Why classifying fragile states makes sense

The weakness, fragility or failure of states has evolved into one of the major narratives of politics and international relations in the post-Cold War era, possibly en par with "globalisation" and with the emergence of "new powers" such as the BRICs (Brazil, Russia, India

1 We are grateful for comments and advice provided at various stages by Aaron Clauset, Jörg Faust, Gary Goertz, Kristian Gleditsch, Joe Hewitt, Seth Kaplan, Andrew Mack, Imme Scholz, Stella Seibert, Daniel Stegmüller and Mario Stumm. Research towards the paper was in part funded by the Federal Ministry for Economic Cooperation and Development (BMZ) under a research grant on Development and Transformation in Fragile States. The paper's approach and findings are the sole responsibility of the authors and should in no way be taken to represent the view of BMZ or the German government.

and China). Like the latter, state fragility is assumed to have profound impact on how key issues of global concern, such as climate change, poverty and violent conflict, can be addressed.

Most recently, major multilateral development actors have given the issue of state fragility – often coupled with violent conflict – high visibility. In 2009 the first-ever European Report on Development was devoted to "Overcoming Fragility in Africa" (ERD 2009); in 2010 the OECD Development Assistance Committee adopted a policy guidance paper on Supporting Statebuilding in Situations of Conflict and Fragility (OECD / DAC 2011); and most recently, the 2011 World Development Report concentrated on "Conflict, Security and Development" (World Bank 2011).

These reports demonstrate a significant demand on the part of policy-makers for orientation in dealing with fragile states. A rising number of fragility indexes that have emerged over the past years – such as the Failed States Index, the Index of State Weakness, the State Fragility Index, the Political Instability Index and many others – have tried to provide some of this orientation.[2] The World Bank, too, has contributed to this endeavour (see Box 1).

**Box 1: The World Bank's definition of fragile states**

An influential definition of state fragility from a development perspective is associated with the World Bank's Country Policy and Institutional Assessment (CPIA) index, a tool that was originally designed to measure eligibility for World Bank financing based on a set of normative governance and policy requirements. Beginning with its "low-income countries under stress" (LICUS) initiative, the World Bank introduced the bottom two quintiles of low-income countries in the CPIA scale as a working definition of fragility – a practice that was soon adopted by many other donor agencies. Later, the World Bank replaced the relative threshold of the bottom two quintiles with an absolute one, designating a state as fragile if its CPIA score was below or equalled 3.2.

Any CPIA-based definition of fragile states, however, suffers from the fact that the index was designed for a different purpose. Above all, it comprises several indicators that cannot fairly be said to describe fragility (or statehood), such as trade liberalisation. Furthermore, as the CPIA score represents the mere aggregation of these indicators, it does not allow for a differentiated view of challenges to statehood, nor for deriving possible interventions. Lastly, as the CPIA predominantly reflects the performance of policies and institutions, it says little about the quality of state-society relations, which are increasingly considered to be pivotal for functioning statehood.

The World Bank's 2011 World Development Report adopts a broader perspective by including situations of extensive criminal or political violence. At the indicator level, the CPIA-based criterion is complemented by measures of physical violence and the presence of international peacekeeping forces.

Sources: IDA (2007, 2); Fabra Mata / Ziaja (2009, 50–52); World Bank (2011).

The problem with these indexes, however, is that they tend to simplify the complicated reality behind the stability or decay of statehood to such an extent that they are of very limited use for the operational task of crafting policies that could help prevent or mitigate state fragility. As recent studies have argued, the main issue with these indexes is not so

2 For a comprehensive overview of these indexes, see Fabra Mata / Ziaja (2009).

much the ever-difficult challenge of measurement but rather their common conceptual assumption that a multi-dimensional concept such as statehood can be aggregated and projected onto a uni-dimensional scale without a massive loss – and even distortion – of information (see Fabra Mata / Ziaja 2009; Gutiérrez Sanín 2011). As a result, countries as diverse as Haiti and North Korea may end up in close neighbourhood to each other towards the bottom end of the Failed States Index 2010, although it is obvious that the respective challenges they face are rather different in nature[3]: a collapsed state unable to provide any basic safety and security for its population, on the one hand; and a repressive regime able to threaten the world with nuclear armament – although increasingly unable to feed its population – on the other.

In many cases, the authors of fragility indexes are well-aware of the limitations innate to their instruments: at least some of them recommend their index merely as an "early-warning" tool that warrants further analysis into any given case, and they caution against too far-reaching interpretations based on their data. Yet, case studies *per se*, on the other hand, incur the risk of idiosyncratic judgements that forego the methodological advantage of comparisons – which is why indexes became fashionable in the first place.

As a consequence, more recent contributions have highlighted the importance of disaggregating state fragility into key dimensions that need to be considered in their own right as well as in their interaction.[4] Carment / Prest / Samy (2010), for example, propose a three-dimensional view of statehood – distinguishing between *authority, legitimacy* and *capacity* – and present their Country Indicators for Foreign Policy not only in an aggregated form but also for each of the dimensions separately. Structuring the resulting list of country scores in a meaningful way, however, remains a task to be undertaken by their reader.

Similar to Carment et al., yet based on work by the Commission on Weak States and US National Security (2004), Call (2010) identifies *gaps* in *capacity*, *security* and *legitimacy* as well as their *interaction* as the crucial variables defining state fragility. According to him, "[t]hese gaps are overlapping, but conceptually and logically distinct enough that they often lead to divergent policy prescriptions." Call argues strongly for not conflating these three gaps but rather using them to categorise failed states. Implicitly applying a binary scale to each of his three dimensions of fragility (by distinguishing countries according to whether they face a certain gap or not), Call proposes a picture of three intersecting areas to illustrate what basically comes down to a three-dimensional cross-tabulation with $2^3 = 8$ combinations. According to Call, each of these combinations (with the exception of the case where no gap at all exists) represents a distinct type of fragility challenge that requires a particular policy response.

3 See: http://www.foreignpolicy.com/articles/2010/06/21/2010_failed_states_index_interactive_map_and_rankings.

4 These works can build on a broad literature at the intersection of political science and policy advice that looked into the components of state fragility during the 2000s, but usually failed to combine these conceptual insights with comparative data for a large number of countries. For more details, see Section 1 below.

We consider Call's approach a notable improvement over earlier attempts to bridge the gap between data-based quantitative research and policy implications. We have, however, several reservations with regard to his methodology, the main one being that it projects the reality of a large number of countries onto an ideal-typical matrix – thus ignoring the problems emerging when boundaries blur and real-life phenomena refuse to group easily according to binary logics. Our aim in this paper is to sketch out a methodology that is based on the same initial idea as Call's approach but tries to avoid some of its pitfalls. The ultimate goal is to provide a data-driven typology of state fragility that lends itself towards modestly generalisable policy implications. By this, we do not mean to deny the importance of case-specific analyses. Rather, we assume that farsighted policies require instruments that order reality not only according to theoretical assumptions but also on the basis of empirical observations. A more precise grasp of existing, typical forms of fragility should help development agencies and other actors to better prepare for the types of situations they are most likely to be confronted with.

## 3 The debate on state fragility

Both in its academic and its policy-oriented strands, the literature on state fragility abounds of studies investigating the causes and consequences of fragility and internal conflict and discussing possible contributions towards making states more resilient. Parts of this literature are of a more general, conceptual nature (e.g. Fukuyama 2004; Hameiri 2007; Jones et al. 2008; Kaplan 2008), others rely on in-depth case studies (for instance, Rotberg 2003; Paris 2004; Schlichte 2005; Call / Wyeth 2008), and yet others use cross-country data to compute correlations and infer causality (for example, Fearon / Laitin 2004; Bratton / Chang 2006; Englehart 2009).[5] In part to assist these latter efforts, and in part in order to satisfy public interest in easily accessible overviews of the "state of state fragility" in the world, a plethora of indexes classifying countries according to their statehood (or to any proxy chosen to represent this concept) has emerged (Fabra Mata / Ziaja 2009).

### 3.1 The multi-dimensional character of state fragility

A broad consensus exists across the literature that fragile states take very different forms. Some fail to provide basic services, such as primary schooling, health care or water supply and sanitation, to a sufficient degree and face eroding authority as a consequence. Others are drowning in civil war or criminal violence. Yet others are unable to extend their reach over all parts of their territory, with populations in some areas not recognising the legitimacy of the central state authorities. In some cases, these different types of problems combine and exacerbate each other; in others they do not.

5 Most of these studies ignore previous works on state weakness, e.g. Gros (1996), Jackson / Rosberg (1982), Migdal (1988), Helman / Ratner (1992).

Many authors would also argue that fragility problems – although varying in their scope and nature – revolve around a limited number of "functions", "gaps" or, as we prefer to call them, *dimensions*. Authors disaggregating fragility in two, three, four or more dimensions include Milliken / Krause (2002), the Commission on Weak States and US National Security (2004), Schneckener (2004), Ghani / Lockhart / Carnahan (2005), Patrick (2006), Cliffe / Manning (2008), Carment / Prest / Samy (2010), Call (2010) and certainly many others.

Despite the seeming variety of approaches in this literature, their underlying concepts of state functions are not so dissimilar. As Call (2010, 305) has observed, much of the literature has focussed on two concepts: effectiveness and legitimacy.[6] Others, such as Carment / Prest / Samy (2010) and Call himself (2010), have argued that the provision of security is a capacity that is different in nature from the delivery of services such as water supply and sanitation or primary schooling, since it is intimately related to the state's ability to protect its authority vis-à-vis competing actors, and have thus proposed to distinguish three main dimensions. Cliffe / Manning (2008), in turn, add public finance functions as an additional, analytically distinct fourth dimension (rather than viewing them as a subset of effective state capacity).[7]

Yet, these debates have not introduced completely new aspects alien to earlier considerations. Rather, we can observe reconfigurations of more or less the same set of interdependent functions, where several options exist of how to draw analytical boundaries between them. As laid out further below, however, we argue that theoretical considerations militate in favour of a three-dimensional conceptualisation of statehood. One such approach has recently been presented by Charles Call. Thus, the following subsection gives a brief overview of his approach before we present our own theoretical argument and conceptualisation.

## 3.2 Charles Call's approach of three interdependent "gaps" of statehood

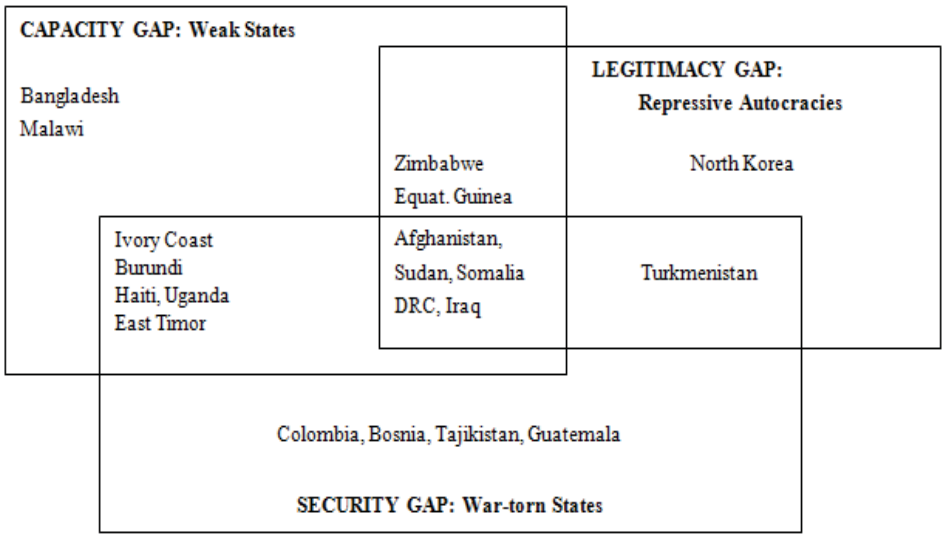
Charles Call (2010) proposes to consider "gaps" in the areas of capacity, security and legitimacy as key factors driving state fragility (thus far relying on the Commission on Weak States and US National Security), but to keep them as distinct as possible rather than conflating them, as often done in indexes and other parts of the literature. "Overlaps" of two or three gaps in any given country should lead to interesting insights into their respective interaction, and policy responses in those cases should tackle the challenge of "balancing the gaps" (Call 2010).

As can be seen in Figure 1, reproduced from Call's article, this approach is able to illustrate the difference between the exemplary cases mentioned above, Haiti and North

6 This includes a broadly shared view among OECD donor agencies during much of the 2000s, according to which fragile states were those that were either unable or unwilling to carry out key tasks.

7 In addition, Cliffe and Manning consider the provision of rule of law to be a crucial aspect closely linked to the security function (rather than to state capacity).

**1 Figure 1: Intersecting gaps of statehood according to Call**




Source: Call (2010).

Korea, rather well. Thus far, we agree fully with Call's assertion – both with regard to the importance of distinction and with regard to his conclusion – that the reality of fragile states differs in quality, depending on which dimensions of statehood are defunct.

The problem with Call's approach is that when he applies his model to the empirical world, his categorisation of states is based on an implicit binary logic: a gap exists or does not exist. Which of the two possibilities applies depends to a large extent on the arbitrary choice of a threshold. The consequence is two-fold. Firstly, the classification of individual countries may be misleading because a different threshold – possibly even on more than one dimension – might yield a completely different result. Secondly, the distinction of eight possible combinations (two values per each of the three dimensions) is purely ideal-typical. It says nothing about the distribution of real-world phenomena along the three dimensions. In particular, in combination with the issue of thresholds, this instrument is unable to shed light on the quality of statehood (or its deficiencies) in the broad "midfield" of fragility. Yet, it is precisely this midfield that policy-makers should take an increasing interest in if they want to help prevent the decay of statehood in countries that have lately been fortunate enough not to be listed among the most fragile countries of all.

## 4 Three dimensions of statehood

In line with the many authors discussed above, we propose to conceptualise statehood (or its negative occurrence, fragility) as a phenomenon that is constituted of three distinct, though interrelated, dimensions: state authority, state capacity and state legitimacy (ACL). While our terminology is the same as that of Carment / Prest / Samy (2010), our conceptualisation of these dimensions is not identical to theirs but rather resembles that of

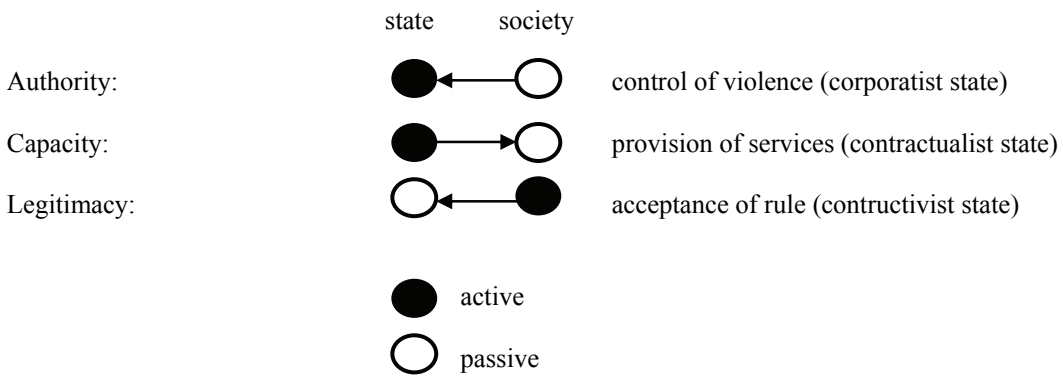
Call (2010) and the Commission on Weak States (2004). The exact focus of each of these dimensions, however, is not directly borrowed from any of these works but derived from general conceptual considerations.

We argue that, despite the obvious interdependence of state functions, a theoretical argument can be made to distinguish exactly these three dimensions of statehood. In fact, each of the three categories of authority, capacity and legitimacy has been the focus of a certain strand of political theory and represents a particular type of state-society relation.

As Figure 2 illustrates, **authority** refers to the control of violence by the state, which, for this purpose, *takes* the freedom to use violence away from the people. This is a *corporatist* strand of political theory that views the state as a violence entrepreneur. It can be traced back to Thomas Hobbes and was developed, among others, by Charles Tilly (1985). More recently, North / Wallis / Weingast (2009) have contributed to this type of thinking. The exact degree of authority required to maintain a stable state is dependent on context factors such as popular expectations and the strengths of rivals. In any case, it is an empirical problem.

State **capacity**, in turn, represents a state-society relation that is characterised by the state *giving* the provision of basic services to the people. These services include not only basic education and health care, but in an increasingly globalised world they encompass also a basic institutional setting for economic activities (legal framework, tax system, governing common goods etc.), macroeconomic policies and other basic state functions (cp. OECD 2008). Failure to perform in one or more of these areas diminishes the life chances (i.e. the opportunities to improve one's quality of life) for large parts of the population. The perspective of the state as a provider of services is that of a *contractual* relationship between state and society, as it was already developed by 17th century philosopher John Locke. Which services have to be delivered in order for the state to be considered as fulfilling its obligations cannot be generally answered. Again, social expectations are the most important yardstick here.

**Figure 2: Three dimensions of statehood as distinct types of state-society relations**



Finally**, legitimacy** is about a type of state-society relation in which society itself is active, in that it accepts, or refuses to accept, the state's claim to be the only legitimate actor to set and enforce generally binding rules (cp. Weber 1976). As legitimacy is closely linked to the forging of a sense of identity within a society, this concept can be viewed as stemming from a *constructivist* perspective on the state (e.g. Anderson 1991).

While it is obvious that success or failure on each dimension can have direct or indirect effects on the other dimensions, we argue that empirical cases show that none of these effects is automatic or linear.

## 4.1 Attributes and indicators of authority, capacity and legitimacy

The three dimensions of statehood are still rather abstract concepts that cannot be directly observed. It is thus necessary to develop general attributes for each dimension. Based on these attributes, we propose to select a rather limited number of publicly available indicators that we use as proxies to measure a country's degree of statehood (or "fragility") in a given year along each of the dimensions.

Our goal is to select only indicators that cannot be assumed to compensate for each other.[8] Instead, we assume that each indicator represents a necessary condition for a high score in the respective dimension – or, in other words, that a low score in one measure drives the overall performance in that dimension.[9]

We will only briefly name and define the variables here and argue why we include them, based on the theory introduced above. For more detailed explanations on sample, sources and modification of the datasets, please see Annex 4.

*Authority*

The authority dimension refers to the extent to which the state holds the monopoly of violence and can secure its claim on this monopoly vis-à-vis competitors. A diminished authority reduces the state's ability to define and execute rules and protect citizens from wilful violence. By implication, authority is thus related to the degree that the state can guarantee the physical integrity of its citizens and protect them from physical threats. However, a certain degree of violent crime seems to be unavoidable in any society without necessarily calling the state's monopoly of violence into question. The true question here really is whether, and to which degree, the state faces an organised challenge to its monopoly of violence from one or more parties within or outside its society.

8 Assumed compensation is one of the weakest points of most commonly used indexes of state fragility. In almost any case, it is theoretically unjustifiable to assume that a higher degree of performance in one measure makes up for a lower degree of performance in another measure. Nonetheless, most models are based on average scores – a procedure that rests on exactly the assumption of compensation; see Fabra Mata / Ziaja (2009). Our approach intends to avoid this pitfall.

9 The implications this approach has for data transformation is discussed in Annex 4. For a methodological argument, see Goertz / Mahoney (2011, 31).

An indicator that reflects our conceptualisation of authority quite well is the "monopoly of violence" indicator from the Bertelsmann Transformation Index (BTI). It is based on expert judgement and is supposed to measure the extent to which the state monopolises the use of force over the entire territory (Bertelsmann Stiftung 2008, 73). However, BTI data is available only for about 125 countries and only every other year since 2006.

Two direct outcome measures of the state's success to maintain its monopoly of violence are related to deaths that occur unauthorised by the state. The first of these indicators is battle-related deaths, taken from the joint battle-related deaths database of the Uppsala Conflict Data Program (UCDP). These include all casualties directly related to combat – civilians *and* military – on the territory of a specific country (UCDP 2011b). We take this measure to reflect the intensity of internal and external attacks on the integrity of a state and thus the degree to which the state faces an organised challenge to its monopoly of violence.

A second measure is intentional homicides, i.e. "unlawful death purposefully inflicted on a person by another person" (UNODC 2011, 1). The United Nations Office on Drugs and Crime collects information from international and national institutions on a yearly basis, stemming from the health or criminal justice sector. As stated above, we argue that only above a certain quantity of "usual" crime is it appropriate to assume that homicides reflect an organised challenge to the state's monopoly of violence.

*Capacity*

Capacity means the state's ability to provide its citizens with basic life chances. These include the protection from (relatively easily) avoidable harmful diseases; a basic education that allows for an active participation in social and economic activities; and a basic administration that regulates social and economic activities sufficiently to increase collective gains and avoid massive negative externalities.

Useful indicators of the protection from diseases are improved access to clean water, which is known to have massive positive impact, as well as a low rate of child mortality. For the latter, we use under-five mortality per 1,000 births, as published by the Institute for Health Metrics and Evaluation (IHME 2010); for the former, we refer to data from the World Bank's World Development Indicators (WDI).

In terms of basic education, we consider primary enrolment an appropriate measure, i.e. the "ratio of children of official school age based on the International Standard Classification of Education 1997 who are enrolled in school to the population of the corresponding official school age" (UNESCO 2011).

As for basic administration, BTI again offers an indicator that refers to the existence of fundamental structures of a civilian administration, such as a basic system of courts and tax authorities. While it does not assess their quality, a minimum degree of professionalism and meritocracy has to exist for a civilian state apparatus to be maintained (Bertelsmann Stiftung 2008, 74).

*Legitimacy*

The third dimension, legitimacy, is notoriously complicated to measure. In line with our conceptualisation of legitimacy as acceptance of rule, our indicators need to capture empirical (rather than normative) legitimacy. In theory, it should suffice to use mass surveys that ask the question of whether an individual accepts the rule exerted by the state authorities of their country as legitimate. In practice, however, the results of such surveys – if feasible in the first place – are that much less reliable the more illegitimate a state is. Any result would therefore suffer from a systematic measurement error (or bias) produced by exactly the property to be measured in the first place, or at least from a strong theoretical assumption that such a bias should exist. In addition, existing survey data from several regional "barometers" developed in recent years have yet to reach a sufficient degree of methodological convergence that would allow for the merging of their respective data in one dataset.

Void of the almost direct observations that reliable survey data would yield, we propose to use indirect measures that are based on the theoretical assumption that legitimate rule requires a lower degree of state repression to achieve obedience and induces a lower number of citizens to leave their country for political reasons. With regard to the first aspect, the argument is that, due to its high cost, repression is only the second-best option for a state to resort to. Consequently, a state will keep it at its lowest possible level, while, the less legitimate the state is, the more it will depend on such measures (following Wintrobe 1998). Or, in short: "[T]he lower the degree of legitimacy the higher should be the amount of coercion" in a state (Dogan 1992, 120). For our purpose, the Political Terror Scale (PTS), which measures the degree to which a state resorts to violence ("physical integrity violations") in order to preserve its power (Gibney / Cornett / Wood 2011), is an adequate indicator.

The argument that a state that can allow for an unrestricted media will be sure of its legitimacy is based on the same reasoning. Consequently, freedom of the press is also an appropriate indicator of legitimacy. The data we use is extracted from the Reporters Without Borders database (RSF 2009).

Lastly, a legitimate state can be expected to force fewer citizens into political exile (or emigration). From the people's point of view, even if they have no possibility of expressing their opinion publicly, e.g. due to a lack of civic and political rights or press freedom, they (usually) still have the option of "voting with their feet", that is, of emigrating and seeking asylum for political reasons. In order to better distinguish political motivations for emigration from other reasons, we consider the number of granted asylums by country of origin (UNHCR 2011) an appropriate measure of this factor.

| **Table 1:** | **Conceptualisation and measurement of state fragility** | | |
|---|---|---|---|
| Concept | State fragility (or, inverse, statehood) | | |
| Dimensions | Authority | Capacity | Legitimacy |
| Attributes | Monopoly of violence:<br>• no (effectively) competing claims;<br>• no large-scale (organised) violation of physical integrity of persons | Provision of basic life chances:<br>• protection from easily avoidable diseases;<br>• basic education;<br>• provision of basic administration | Acceptance of rule:<br>• no resort to state repression as a means to achieve obedience;<br>• no politically motiv-ated emigration |
| Indicators | • Monopoly of violence (BTI)<br>• Homicides (UNODC)<br>• Battle deaths (WDI) | • Under-5 mortality (IHME)<br>• Primary enrolment (WDI)<br>• Access to water (WDI)<br>• Basic administration (BTI) | • Physical integrity rights violations (PTS)<br>• Press freedom violations (RSF)<br>• Granted asylums by country of origin (UNHCR) |

## 4.2 Aggregation

We aggregate the indicators for each dimension by taking the minimum value that any of the indicators takes in a given country year. This procedure is based on the assumption that each attribute of the same dimension represents a necessary condition for good performance. In other words, the "weakest link", i.e. the smallest value within each dimension, represents the best proxy for a country's score on that dimension in a given year (Goertz / Mahoney 2011, 31). For example, a country with a good official record in observing physical integrity rights and few asylum seekers could just be successful in non-violent repression and preventing emigration. We would thus consider limitations of press freedom most indicative of a country's legitimacy, and not the average of all three measures. As a result, our dimension scores are more valid than aggregate measures (such as factor scores). They are also immune to upward measurement error, unless it occurs in all indicators of one dimension at once. Summary statistics, histograms and bivariate scatter plots of the resulting aggregate scores on authority, legitimacy and capacity are reproduced in Annex 5.

## 4.3 Identification of clusters

After having constructed the dimension variables, we enter these into a mixture model to identify country groups, or clusters (cp. Fraley / Raftery 2006; Ahlquist / Breunig 2012). Identifying clusters requires assigning countries to specific groups. There is no assumption, however, that countries remain in their respective groups permanently. What we do

expect is that the groups are relatively stable configurations over the medium term, whereas the individual countries can move between the groups. In other words, our methodology is geared towards identifying types of groups, while we do not claim that the same methodology is ideal to assess exactly which group a certain country belongs to.

The methodology is based on the assumption that the distribution of dimension scores is normal (i.e. Gaussian) within each group. To find the groups without having an existing indicator pointing at which country belongs to which group, the algorithm tries to fit two or more (multivariate) normal distributions within the "observed" distributions of the input variables. In other words, we try to identify groups within our sample by looking at the sample's shape. When more than one variable is considered – in this case our three dimension scores – the problem becomes quite complex. To determine the best solution, the clustering algorithm tests various specifications with different numbers of groups, providing a Bayesian Information Criterion (BIC) for each specification. The model with the highest BIC has (formally) the best fit. Size, shape and orientation of the multivariate normal distributions can be specified *a priori* or selected according to the BIC.

## 5 Results

We ran several specifications for datasets with single years, moving averages and pooled years between 2003 and 2010. The number of groups and the type of specifications indicated by the BIC varies across years, which is not surprising since the scores vary as well. When defined solely by the BIC, the group number varies between three and seven. In most cases, four is formally the best solution. As we are interested in a more detailed picture and willing to accept a slightly lower degree of formal fit (cp. Grimmer / King 2010), we chose the point on the BIC curve that is on average the last one before the curve decreases significantly, which was seven. After fixing the number of groups to seven and the multivariate normal distributions to be equal in size and shape, most years and moving averages provide roughly similar groupings.

Figure 3 provides scatter plots of all countries respective to all possible pairs of dimensions for the average scores for 2007 to 2009. Group membership is indicated by differently coloured and shaped markers. The plots already indicate that we are confronted with a multi-dimensional phenomenon: the groups are not sequentially ordered so that they could be projected onto a one-dimensional vector, but the pattern is more complex. The groups represented by green asterisks and blue x's, for example, overlap when considering legitimacy and capacity only. They are, however, clearly separate on the authority dimension, where the former group performs substantially better.

As in all statistical analysis, there is *uncertainty* in our results, i.e. countries do not fit equally well into the assigned classes. In the following description of the country groups, we include only those 145 countries that can be grouped with an uncertainty below 0.25. This means that within our model the probability of a country belonging to a certain group is at least three times higher than the joint probability of it belonging to any other group. Out of our sample of 163 countries, 116 are classified with an uncertainty below 0.1.

**Group A** combines those countries with the largest deficiencies in all dimensions. It is most different from other groups with regard to authority, where only a few countries from Group D perform worse. On average, Group A also scores lowest on capacity and legitimacy, but performance varies more and overlaps with Group B on capacity and Groups C, D and E on legitimacy. Typical countries for Group A include **Chad, DR Congo** and **Sudan**.

**Group B** has low capacity, but its authority and legitimacy scores are far better than those of Group A. Group B includes many of the poor but relatively stable developing countries that are known to provide a favourable environment for donor activities. Typical examples are **Madagascar, Ghana** or **Burkina Faso**.

**Group C** is the largest group with 37 members. It has similar capacity scores as Group B but relatively lower levels of authority and a broad range of legitimacy scores in the lower area of the scale. Due to its large size, this group displays a large variance in all dimensions. The most typical countries are **Congo, Uganda** and **Kenya**.

**Group D** has similarly spread levels of legitimacy as Group C, but despite clearly higher levels of capacity, its authority scores are the lowest for any countries outside Group A. Typical countries for Group D include **Algeria, Venezuela** and **the Dominican Republic**.

**Group E** has good authority and relatively good capacity scores, but it drops off with regard to legitimacy, which is again spread over a broad, yet relatively lower, spectre of the scale. **Tunisia, Belarus** and **Egypt** are typical countries in this group.

**Group G** has clearly the best scores on all dimensions, and **Group F** is following suit. These two groups host the best performers across all indicators.

As can be expected, non-assigned countries – represented in the box plot entitled "X" – cover a broad range of scores across all three dimensions. However, there are no countries with an authority score below 0.38 left unassigned.

The results show nicely that it is not recommendable to measure a multi-dimensional concept such as fragility with a one-dimensional index score: Group D is worse than Group B in authority, but better in capacity. They are "non-comparable" when considering authority and capacity simultaneously because nobody can tell how much authority could compensate for how much capacity (cp. Gutiérrez Sanín 2011). With the clustering approach, we can distinguish these non-comparable groups. Classifications derived from additive indexes such as The Failed States Index or the CPIA (or IDA Resource Allocation) cannot distinguish these groups: there, they receive very similar scores (see the Figures in Annex 3).

## 6 Different policies for different types of "fragile statehood"

Our results suggest that out of the seven groups identified on the basis of our data, five are of potential concern for development donors (Groups A, B, C, D and E). Four of them (A, B, C and D) cover most IDA-only recipients. Groups F and G, by contrast, are of no or little concern from a fragility point of view, nor do they include typical aid recipients.

This is not to say that we propose to stretch the meaning of the attribute "fragile" to all five groups "of concern". Rather, we suggest that an analysis undertaken from a multi-dimensional fragility perspective merely leads us to conclude that countries belonging to these groups face particular challenges related to their statehood, yet that the respective extent and configuration of these challenges differ greatly between the groups.

The empty spaces between existing configurations, as shown in Figure 3, remind us that our variables are strongly correlated. Higher degrees of capacity or legitimacy are mostly found in countries with commensurate levels of authority. Likewise, low levels of state legitimacy seldom go in hand with high levels of capacity. These findings do not, however, provide additional insights into potential causalities underlying these correlations. It is a widely held assumption that providing basic peace and security must be a first priority in places that face multiple challenges at the same time; others argue that only a capable or legitimate state is ever able to achieve peace.

Table 2 gives a summary overview of which policy goals require priority attention in which group of statehood and what the implications could be for external donor support in each case. The word "priority" is meant rather literally here. Failure to mention a policy area is not meant to imply its unimportance. Rather, a priority goal should be understood as the main criterion from which the usefulness of activities in other areas should be assessed.

For countries of the **Group A** type, a broad consensus has emerged over the last years that the main priority under such circumstances must be to improve security – which in many cases means to end organised violence by reaching some form of peace. However, there is less agreement about the next steps. Some argue that immediate socioeconomic gains are necessary to secure a more sustained peace (the "peace dividend"), while others argue that establishing a minimum of legitimate state institutions might be no less – or even more – important. Some recent evaluations of external engagement, such as in South Sudan and Sri Lanka, suggest that the political process following a peace agreement should be a high priority to be taken care of, since peace settlements are rarely a done deal but need close attendance so that all parties honour their commitments and resist the temptation to renege from earlier agreements as soon as the first difficulties emerge and new conflicting issues arise (see Chapman et al. 2009; Bennett et al. 2010).

| **Table 2: Implications for policies on state fragility** | | | |
|---|---|---|---|
| Group (typical countries) | Character | Priority goal | Character of external support |
| Group A (Chad, DR Congo, Sudan etc.) | Extremely low levels in all three dimensions: authority, capacity and legitimacy | Focus on the provision of basic security first. Then bring quick socioeconomic gains *and/or* establish the basics of legitimate politics (*debated!*) | Broad-based international engagement; peacebuilding and statebuilding |
| Group B (Madagascar, Ghana, Burkina Faso etc.) | Very low levels of capacity, but decent authority and above-average legitimacy | Strengthen capacity in state, society and economy | Alignment with country system and local priorities ("Paris Agenda") |
| Group C (Rep. Congo, Uganda, Kenya etc.) | Mostly very low levels of capacity but also relatively low on authority; diverse, though mostly at the lower end, on legitimacy | Improve capacity, but combine it with strengthening legitimacy | Offer support for capacity, yet encourage (or demand) better governance based on broader legitimacy |
| Group D (Algeria, Venezuela, the Dominican Republic etc.) | Decent capacity, yet high levels of violence | Prevent violence; invest in constructive state-society relations | Statebuilding and governance support based on meaningful political dialogue; coordination essential |
| Group E (Tunisia, Belarus, Egypt etc.) | Good authority and decent capacity, but mostly lower levels of legitimacy | More legitimate rule | Cautious support of more legitimate governance unless and until opportunity for a broad engagement opens up |

Countries in **Group B**, by contrast, feature relatively well-functioning state structures (and state-society relations) that are able to maintain a decent state monopoly of violence and garner basic legitimacy among larger parts of the population. In such countries – which some would argue are the typical clients of the "Paris Agenda" – the most reasonable priority to pursue is improving the state's capacity to provide basic services, a conducive environment for economic activities and better governance (including the rule of law).

**Group C**, constituting the largest group identified, is generally characterised by lower levels of authority and legitimacy than Group B, yet a broader spread of capacity (from lowest levels to almost average). Obviously, strengthening state capacity is a need in these countries, yet investments in a higher legitimacy of the state can contribute substantially towards making capacity gains more sustainable and also improving authority.

In countries of **Group D**, with the second lowest authority levels among all groups, mitigating and preventing violence clearly has to be the top priority. While in many cases "criminal" violence seems to dominate the picture, research has shown that the boundary

between political violence and widespread criminal violence is often blurred, and the disaffection of large numbers of (predominantly male) youths with the state contributes to a general atmosphere of lawlessness and "ungoverned" areas. Under such circumstances, the state needs to massively invest in more constructive state-society relations that give those who feel structurally marginalised an increasing sense of holding a stake in the future development of the state. While in Group A the relative importance of immediate socioeconomic benefits is a matter of ongoing debate, in countries of Group D, which are substantially better off economically and often considered as emerging economies, an element of social equity and the terms of how existing social wealth (e.g. through natural resources) is being shared across society are crucial for a sustainable solution of the existing authority problems and also the serious legitimacy issues that many countries in this group face. Consequently, external engagement should focus on governance and broader aspects of statebuilding, including the terms of the political settlement. A high degree of coordination is essential to ensure sufficient leverage, while existing and functioning state structures and self-defined national priorities will have to be taken into consideration. A meaningful political dialogue will often have to provide the basis for any effective engagement in the first place.

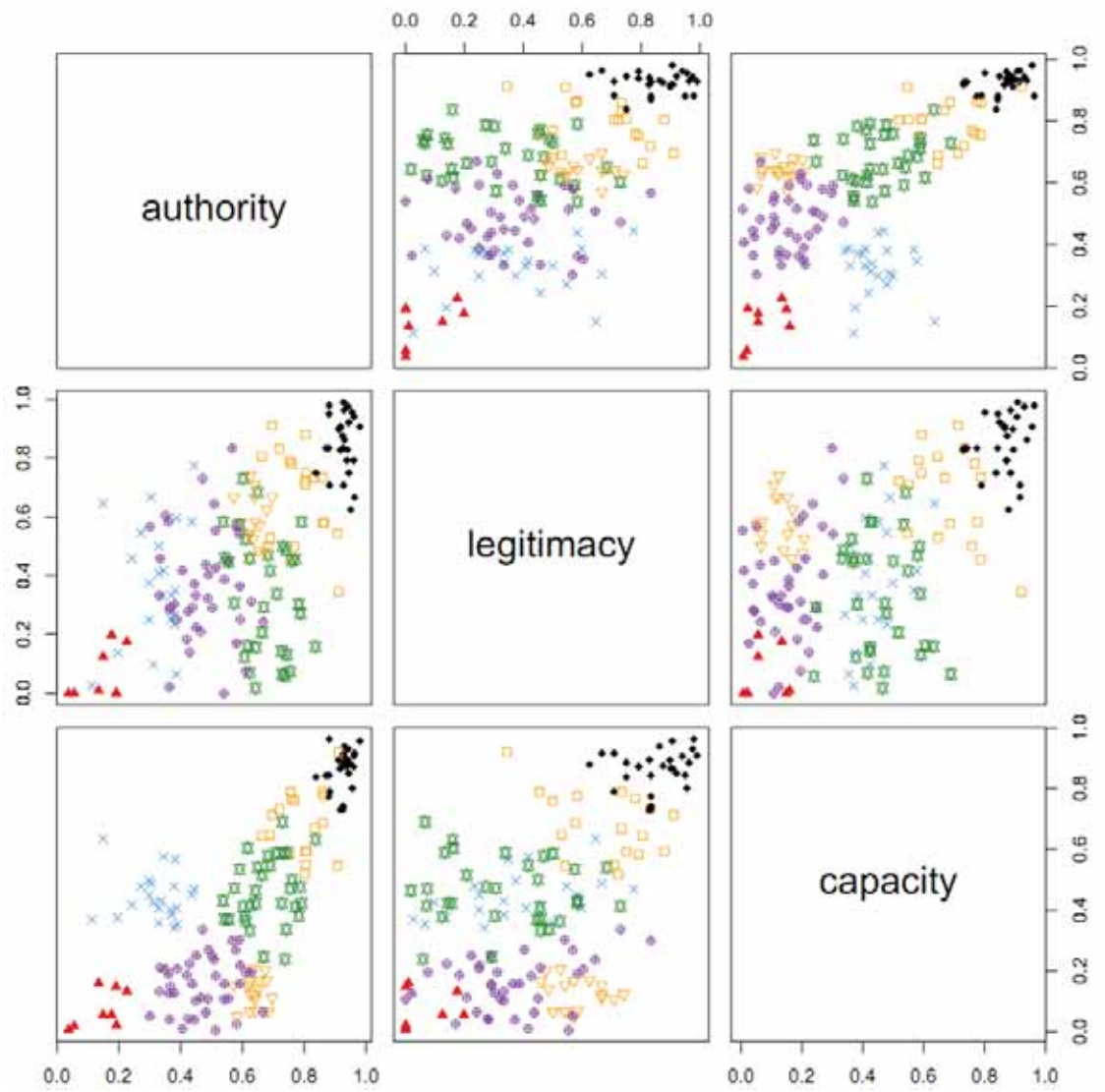
**Group E**, despite its broad spectre of legitimacy scores, includes many countries with serious legitimacy issues, among them many of the "Arab Spring" countries of 2011, but also some of the most authoritarian post-Socialist states of Eastern Europe and Central Asia.[10] The revolutions in North Africa have clearly signified the limits of authoritarian stability in these countries. Addressing the legitimacy gap needs to be the priority in such an environment, and external support must be first and foremost oriented towards this objective. While revolutions cannot – and should not! – be planned from outside, agents of change within and outside the state apparatus need support and encouragement, and illegitimate practices require a clear response. Under conditions of closed regimes, support on the ground will often have to be cautious and carefully chosen so as to not endanger partners or donor staff. However, these activities should be designed in such a way that they can be built upon and scaled up, should a political liberalisation allow for a far broader engagement.

## 7 Conclusion: strengths and limitations of classifying fragile states

Our results suggest that state fragility should indeed be considered as a multi-dimensional concept, as one loses policy-relevant information when collapsing our three dimensions into one. The assumption of many policy-makers that fragile countries differ and that they need separate approaches is justified. Total idiosyncrasy, however, is not justified. Rather, it seems warranted to develop further our tools of identification of clusters of fragility (or statehood more generally) and link them with an evaluation of the impact of different policy responses for each of these groups. This could serve as a better starting point for

10 It is important to remember that the data used here precedes the 2011 political upheaval in the Arab world.

**Figure 3: Scatter plots of the latent dimensions (2007–2009)**




To assess the degree to which a country is representative of its group, we develop an indicator of *typicality*. Typicality is measured as the sum of the squared differences of a country's dimension scores from the respective medians of its group, standardised to a 0 to 1 scale. The higher the score, the more representative a country is of its group.

We use box plots to summarise the group properties (see Annex 1). The box plots have a black bar indicating the median, a coloured bar containing the two middle quartiles of all cases, and the whiskers and dots mark the extremes. Each plot depicts a group's properties with regard to authority (A), legitimacy (L) and capacity (C). The groups have been labelled "A" to "G". These labels do not imply any order, the classification is nominal, not ordinal, i.e. no group is necessarily better than any other. The final plot ("X") does not represent a group but rather the distribution of those countries that we did not group due to their uncertainty above 0.25 (as referred to above).

country-specific programming than general notions of "fragility" have provided in the past.

With regard to the methodology presented here, there are still some technical improvements to be made. The ability of the mixture model algorithm to cluster results is limited due to our small sample size. Nonetheless, we consistently find similar constellations of our dimension variables in groups from different years and specifications. This supports our hypothesis that there actually are empirical patterns of fragility that could help to inform policy advice. The first potential application of our typology is thus the sorting of policy approaches, which are, on average, more promising in some groups than in others (not to substitute detailed in-case analysis, but to quickly grasp the manoeuvring space and reduce complexity for macro-analyses).

The current results do not allow for a comparison over time yet. This is a rather complex issue when using explorative models, since too many "open ends" prohibit meaningful interpretation. To make our approach useful for comparison over time, one will have to fix certain parts of the model *a priori* to make results more stable and interpretable. There are several options how to go about restricting the model. One option is to include stronger assumptions about the properties of certain groups into the model. A Bayesian approach would allow including prior information such as the expectation to find OECD countries clustered at the positive end, and post-war countries at the lower end, relying less on the few data points we have for the latter group, for example, and leading to more stable and comparable results. Another option is to take one period as a reference point and then recalculate the classes for all years relative to these reference points. Based on either of these methods, one could investigate whether certain groups grow or shrink over time, indicating whether and how general development challenges change.

One further drawback of our current operationalisation is the lack of real-time monitoring: most variables are available only on a yearly basis, they become available with a lag of at least one year, and many are slowly-changing structural variables. But if combined with more sensitive early warning systems or disaster response mechanisms, the country groupings could provide an additional source of information on how to best deal with the issue of concern, proposing reaction patterns in cases of emergency for different kinds of states.

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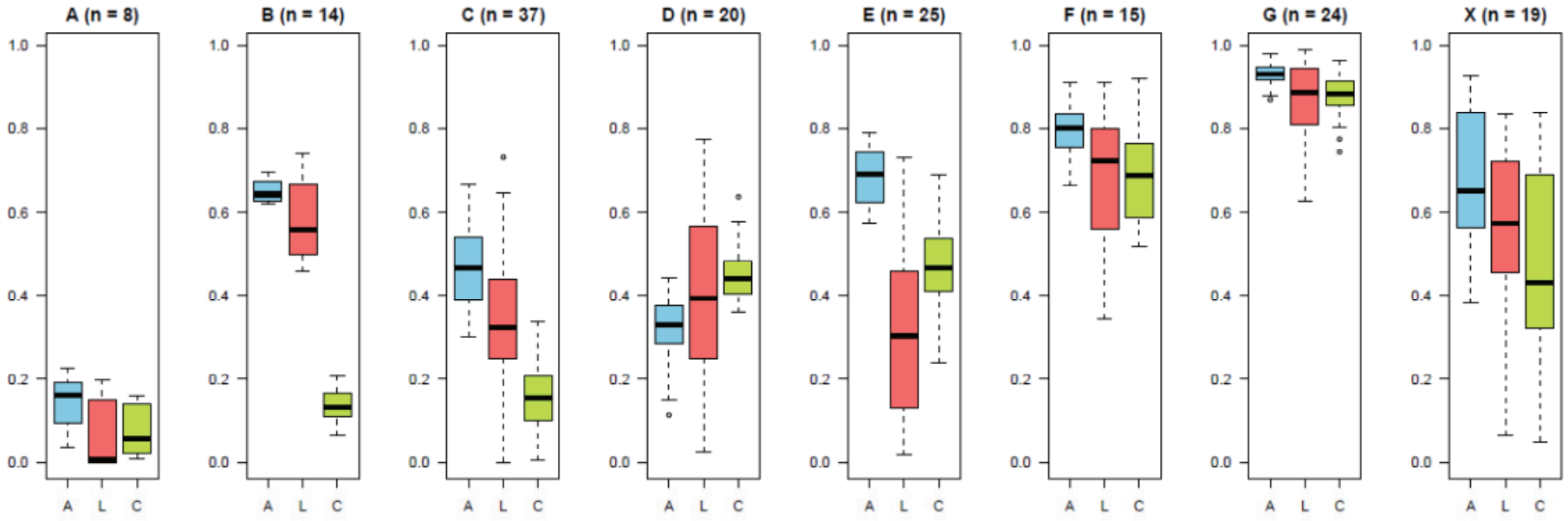
# Annex

## Annex 1: Box plots for country groups

**Figure 4: Box plots for country groups (2007–2009) (n = group size)**



## Annex 2: Table with country scores (average 2007–2009)

| Country | Group | Probability of classification | Degree of typicality (1 = high) | Second most probable group | Probability of classification for second group | Authority | Monopoly of violence (BTI) | Homicides (per 100,000; imputed) | Battle deaths (per 100,000) | Capacity | Basic administrative structures (BTI) | Under-5 mortality (per 100,000) | Primary school enrolment (%; imputed) | Improved water access (%) | Legitimacy | Physical integrity rights violations (PTS) | Press freedom (RSF) | Asylum seekers (per 100,000) | IDA country | IDA Resource Allocation Index | IDA-only country | Polity IV democracy score | GDP per capita |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chad | A | 1.00 | 0.99 | C | 0.00 | 0.15 | 0.23 | 0.61 | 0.30 | 0.06 | 0.10 | 0.05 | 0.44 | 0.28 | 0.13 | 0.13 | 0.47 | 0.51 | 1 | 2.52 | 1 | -2 | 1228 |
| Congo DR | A | 1.00 | 0.97 | C | 0.00 | 0.19 | 0.32 | 0.32 | 0.42 | 0.02 | 0.14 | 0.02 | 0.22 | 0.23 | 0.00 | 0.00 | 0.32 | 0.35 | 1 | 2.74 | 1 | 5 | 287 |
| Iraq | A | 1.00 | 0.97 | D | 0.00 | 0.13 | 0.18 | 0.51 | 0.20 | 0.16 | 0.15 | 0.30 | 0.67 | 0.55 | 0.01 | 0.04 | 0.21 | 0.01 | 0 | 2.52 | 0 | -2 | 3121 |
| Sudan | A | 1.00 | 0.97 | C | 0.00 | 0.19 | 0.28 | 0.35 | 0.44 | 0.15 | 0.17 | 0.15 | 0.47 | 0.31 | 0.00 | 0.00 | 0.34 | 0.45 | 1 | 2.49 | 1 | -4 | 1949 |
| Afghanistan | A | 1.00 | 0.95 | C | 0.00 | 0.06 | 0.07 | 0.56 | 0.15 | 0.02 | 0.04 | 0.02 | 0.29 | 0.41 | 0.00 | 0.00 | 0.26 | 0.24 | 1 | 2.62 | 1 | 5 | 984 |
| Central African Republic | A | 1.00 | 0.94 | C | 0.00 | 0.18 | 0.27 | 0.42 | 0.74 | 0.06 | 0.12 | 0.08 | 0.30 | 0.33 | 0.20 | 0.21 | 0.74 | 0.27 | 1 | 2.55 | 1 | -1 | 685 |
| Somalia | A | 1.00 | 0.94 | C | 0.00 | 0.04 | 0.04 | 0.58 | 0.15 | 0.01 | 0.01 | 0.02 | 0.20 | 0.21 | 0.00 | 0.04 | 0.13 | 0.00 | 1 | 2.49 | 1 | 0 | 1949 |
| Pakistan | A | 0.91 | 0.93 | C | 0.07 | 0.23 | 0.53 | 0.80 | 0.30 | 0.13 | 0.34 | 0.13 | 0.44 | 0.56 | 0.18 | 0.21 | 0.19 | 0.87 | 1 | 3.35 | 0 | 4 | 2351 |
| Madagascar | B | 0.97 | 1.00 | C | 0.02 | 0.66 | 0.76 | 0.82 | 1.00 | 0.17 | 0.46 | 0.16 | 0.75 | 0.52 | 0.57 | 0.58 | 0.62 | 0.97 | 1 | 3.63 | 1 | 7 | 953 |
| Senegal | B | 0.95 | 0.99 | C | 0.05 | 0.62 | 0.71 | 0.82 | 1.00 | 0.15 | 0.49 | 0.14 | 0.43 | 0.59 | 0.54 | 0.54 | 0.71 | 0.81 | 1 | 3.66 | 1 | 8 | 1651 |
| Burkina Faso | B | 0.97 | 0.99 | C | 0.03 | 0.64 | 0.75 | 0.83 | 1.00 | 0.07 | 0.41 | 0.06 | 0.25 | 0.43 | 0.58 | 0.58 | 0.78 | 0.84 | 1 | 3.73 | 1 | 0 | 1072 |
| Ghana | B | 0.98 | 0.99 | C | 0.02 | 0.68 | 0.76 | 0.82 | 1.00 | 0.17 | 0.49 | 0.16 | 0.54 | 0.60 | 0.63 | 0.63 | 0.90 | 0.84 | 1 | 3.90 | 1 | 8 | 1360 |
| Zambia | B | 0.94 | 0.98 | C | 0.06 | 0.62 | 0.75 | 0.75 | 1.00 | 0.07 | 0.38 | 0.06 | 0.69 | 0.47 | 0.54 | 0.54 | 0.72 | 0.97 | 1 | 3.47 | 1 | 6 | 1254 |
| Tanzania | B | 0.98 | 0.98 | C | 0.02 | 0.64 | 0.80 | 0.76 | 1.00 | 0.12 | 0.46 | 0.11 | 0.68 | 0.53 | 0.67 | 0.67 | 0.79 | 0.98 | 1 | 3.84 | 1 | -1 | 1194 |
| Kosovo | B | 0.85 | 0.98 | C | 0.12 | 0.63 | 0.73 | 0.78 | 1.00 | 0.21 | 0.49 | 0.20 | 0.77 | 0.67 | 0.53 | 0.75 | 0.79 | 0.55 | 1 | 3.43 | 1 | 8 | 774 |
| Togo | B | 0.95 | 0.97 | C | 0.04 | 0.65 | 0.75 | 0.82 | 1.00 | 0.14 | 0.42 | 0.13 | 0.56 | 0.53 | 0.49 | 0.58 | 0.82 | 0.49 | 1 | 2.67 | 1 | -4 | 774 |
| Malawi | B | 0.99 | 0.97 | C | 0.01 | 0.70 | 0.80 | 0.85 | 1.00 | 0.11 | 0.45 | 0.11 | 0.68 | 0.61 | 0.67 | 0.67 | 0.75 | 0.98 | 1 | 3.40 | 1 | 6 | 740 |
| Mozambique | B | 0.95 | 0.96 | C | 0.05 | 0.68 | 0.76 | 0.81 | 1.00 | 0.07 | 0.41 | 0.06 | 0.43 | 0.44 | 0.50 | 0.50 | 0.73 | 1.00 | 1 | 3.67 | 1 | 6 | 773 |
| Gabon | B | 0.79 | 0.95 | C | 0.12 | 0.67 | 0.76 | 0.90 | 1.00 | 0.20 | 0.53 | 0.19 | 0.65 | 0.75 | 0.48 | 0.50 | 0.56 | 0.87 | 0 | 3.47 | 0 | -4 | 13318 |
| Cambodia | B | 0.81 | 0.95 | C | 0.18 | 0.62 | 0.71 | 0.81 | 1.00 | 0.17 | 0.35 | 0.16 | 0.65 | 0.49 | 0.46 | 0.46 | 0.58 | 0.89 | 1 | 3.27 | 1 | 2 | 1753 |
| Benin | B | 0.98 | 0.95 | C | 0.02 | 0.64 | 0.75 | 0.76 | 1.00 | 0.11 | 0.42 | 0.10 | 0.58 | 0.64 | 0.71 | 0.71 | 0.79 | 0.93 | 1 | 3.55 | 1 | 7 | 1355 |
| Solomon Islands | B | 0.95 | 0.92 | C | 0.05 | 0.63 | 0.71 | 0.85 | 1.00 | 0.12 | 0.42 | 0.12 | 0.52 | 0.69 | 0.74 | 1.00 | 0.75 | 0.75 | 1 | 2.76 | 1 | 8 | 2350 |
| Congo | C | 1.00 | 0.99 | E | 0.00 | 0.49 | 0.59 | 0.78 | 1.00 | 0.11 | 0.33 | 0.10 | 0.28 | 0.56 | 0.32 | 0.58 | 0.65 | 0.32 | 1 | 2.73 | 1 | -4 | 3669 |
| Uganda | C | 1.00 | 0.99 | D | 0.00 | 0.45 | 0.58 | 0.78 | 0.83 | 0.10 | 0.34 | 0.10 | 0.73 | 0.41 | 0.33 | 0.33 | 0.67 | 0.86 | 1 | 3.88 | 1 | -1 | 1062 |
| Kenya | C | 0.99 | 0.99 | D | 0.01 | 0.44 | 0.54 | 0.88 | 1.00 | 0.16 | 0.41 | 0.15 | 0.54 | 0.58 | 0.29 | 0.29 | 0.69 | 0.70 | 1 | 3.66 | 1 | 7 | 1434 |
| Mauritania | C | 0.98 | 0.98 | E | 0.01 | 0.54 | 0.65 | 0.76 | 1.00 | 0.16 | 0.43 | 0.15 | 0.51 | 0.61 | 0.39 | 0.54 | 0.70 | 0.39 | 1 | 3.30 | 1 | -1 | 1804 |

| Country | Group | Probability of classification | Degree of typicality (1 = high) | Second most probable group | Probability of classification for second group | Authority | Monopoly of violence (BTI) | Homicides (per 100,000; imputed) | Battle deaths (per 100,000) | Capacity | Basic administrative structures (BTI) | Under-5 mortality (per 100,000) | Primary school enrolment (%; imputed) | Improved water access (%) | Legitimacy | Physical integrity rights violations (PTS) | Press freedom (RSF) | Asylum seekers (per 100,000) | IDA country | IDA Resource Allocation Index | IDA-only country | Polity IV democracy score | GDP per capita |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Papua New Guinea | C | 0.99 | 0.97 | E | 0.01 | 0.51 | 0.62 | 0.82 | 1.00 | 0.18 | 0.32 | 0.17 | 0.58 | 0.45 | 0.43 | 0.58 | 0.53 | 0.94 | 1 | 3.29 | 0 | 4 | 2016 |
| Ethiopia | C | 0.99 | 0.97 | D | 0.01 | 0.38 | 0.58 | 0.82 | 0.49 | 0.13 | 0.38 | 0.12 | 0.41 | 0.39 | 0.30 | 0.33 | 0.30 | 0.53 | 1 | 3.41 | 1 | 1 | 797 |
| Haiti | C | 0.98 | 0.96 | D | 0.02 | 0.37 | 0.48 | 0.59 | 1.00 | 0.15 | 0.26 | 0.18 | 0.37 | 0.43 | 0.29 | 0.54 | 0.77 | 0.29 | 1 | 2.89 | 1 | 5 | 1039 |
| Niger | C | 1.00 | 0.96 | D | 0.00 | 0.44 | 0.58 | 0.72 | 0.65 | 0.04 | 0.28 | 0.04 | 0.13 | 0.31 | 0.37 | 0.42 | 0.52 | 0.92 | 1 | 3.31 | 1 | 6 | 614 |
| Azerbaijan | C | 0.97 | 0.96 | E | 0.02 | 0.50 | 0.61 | 0.87 | 1.00 | 0.25 | 0.42 | 0.23 | 0.80 | 0.63 | 0.29 | 0.58 | 0.29 | 0.48 | 1 | 3.80 | 0 | -7 | 8083 |
| Gambia | C | 0.88 | 0.95 | B | 0.09 | 0.59 | 0.69 | 0.81 | 1.00 | 0.16 | 0.45 | 0.15 | 0.49 | 0.72 | 0.36 | 0.54 | 0.39 | 0.38 | 1 | 3.23 | 1 | -5 | 1256 |
| Liberia | C | 1.00 | 0.95 | E | 0.00 | 0.48 | 0.61 | 0.65 | 1.00 | 0.06 | 0.23 | 0.06 | 0.17 | 0.34 | 0.44 | 0.58 | 0.78 | 0.44 | 1 | 2.83 | 1 | 6 | 356 |
| Burundi | C | 1.00 | 0.95 | D | 0.00 | 0.42 | 0.58 | 0.62 | 0.79 | 0.04 | 0.40 | 0.04 | 0.68 | 0.38 | 0.28 | 0.33 | 0.59 | 0.30 | 1 | 3.02 | 1 | 6 | 353 |
| Comoros | C | 0.95 | 0.94 | E | 0.03 | 0.49 | 0.59 | 0.79 | 1.00 | 0.27 | 0.41 | 0.25 | 0.64 | 0.75 | 0.40 | 0.67 | 0.71 | 0.47 | 1 | 2.40 | 1 | 9 | 1120 |
| India | C | 0.95 | 0.94 | D | 0.05 | 0.39 | 0.67 | 0.76 | 0.50 | 0.21 | 0.52 | 0.19 | 0.71 | 0.62 | 0.25 | 0.25 | 0.57 | 0.99 | 1 | 3.81 | 0 | 9 | 2820 |
| Cote d Ivoire | C | 0.97 | 0.94 | D | 0.03 | 0.33 | 0.41 | 0.91 | 1.00 | 0.13 | 0.24 | 0.12 | 0.42 | 0.50 | 0.33 | 0.33 | 0.64 | 0.51 | 1 | 2.68 | 1 | 0 | 1533 |
| Guinea | C | 1.00 | 0.94 | D | 0.00 | 0.47 | 0.57 | 0.79 | 1.00 | 0.11 | 0.28 | 0.11 | 0.44 | 0.48 | 0.21 | 0.21 | 0.64 | 0.37 | 1 | 2.94 | 1 | -1 | 960 |
| Cameroon | C | 0.88 | 0.94 | B | 0.12 | 0.56 | 0.66 | 0.80 | 1.00 | 0.11 | 0.38 | 0.10 | 0.47 | 0.62 | 0.45 | 0.46 | 0.55 | 0.60 | 1 | 3.21 | 1 | -4 | 2002 |
| Nepal | C | 0.96 | 0.92 | D | 0.04 | 0.45 | 0.53 | 0.79 | 1.00 | 0.25 | 0.41 | 0.24 | 0.67 | 0.69 | 0.22 | 0.25 | 0.42 | 0.74 | 1 | 3.35 | 1 | 6 | 1018 |
| Nigeria | C | 1.00 | 0.92 | D | 0.00 | 0.36 | 0.47 | 0.85 | 0.83 | 0.04 | 0.24 | 0.04 | 0.33 | 0.20 | 0.28 | 0.29 | 0.42 | 0.86 | 1 | 3.43 | 1 | 4 | 1937 |
| Angola | C | 1.00 | 0.92 | D | 0.00 | 0.41 | 0.55 | 0.71 | 0.66 | 0.01 | 0.25 | 0.01 | 0.21 | 0.26 | 0.42 | 0.42 | 0.60 | 0.64 | 1 | 2.74 | 1 | -2 | 5178 |
| Swaziland | C | 0.82 | 0.91 | E | 0.16 | 0.63 | 0.75 | 0.73 | 1.00 | 0.20 | 0.48 | 0.18 | 0.74 | 0.64 | 0.31 | 0.50 | 0.31 | 0.94 | 0 | 2.68 | 0 | -9 | 4532 |
| Bangladesh | C | 0.89 | 0.91 | E | 0.11 | 0.59 | 0.70 | 0.79 | 1.00 | 0.22 | 0.43 | 0.20 | 0.73 | 0.62 | 0.25 | 0.25 | 0.42 | 0.90 | 1 | 3.50 | 1 | -6 | 1232 |
| Yemen | C | 0.99 | 0.91 | D | 0.01 | 0.42 | 0.55 | 0.81 | 0.65 | 0.19 | 0.27 | 0.17 | 0.56 | 0.47 | 0.18 | 0.25 | 0.19 | 0.87 | 1 | 3.19 | 1 | -2 | 2225 |
| South Africa | C | 0.81 | 0.90 | D | 0.19 | 0.33 | 0.75 | 0.43 | 1.00 | 0.21 | 0.55 | 0.20 | 0.67 | 0.78 | 0.46 | 0.46 | 0.87 | 0.99 | 0 | 3.71 | 0 | 9 | 9435 |
| Zimbabwe | C | 0.97 | 0.85 | D | 0.03 | 0.43 | 0.54 | 0.67 | 1.00 | 0.22 | 0.25 | 0.21 | 0.62 | 0.47 | 0.14 | 0.25 | 0.29 | 0.28 | 1 | 1.64 | 0 | -4 | 1018 |
| Rwanda | C | 0.96 | 0.83 | E | 0.03 | 0.67 | 0.75 | 0.85 | 1.00 | 0.07 | 0.42 | 0.06 | 0.77 | 0.44 | 0.24 | 0.63 | 0.24 | 0.38 | 1 | 3.71 | 1 | -3 | 932 |
| Equatorial Guinea | C | 1.00 | 0.82 | E | 0.00 | 0.58 | 0.68 | 0.86 | 1.00 | 0.03 | 0.34 | 0.02 | 0.35 | 0.75 | 0.17 | 0.50 | 0.17 | 0.68 | 0 | 2.40 | 0 | -5 | 29681 |
| Sierra Leone | C | 1.00 | 0.80 | B | 0.00 | 0.51 | 0.62 | 0.91 | 1.00 | 0.01 | 0.31 | 0.01 | 0.20 | 0.35 | 0.55 | 0.67 | 0.56 | 0.57 | 1 | 3.13 | 1 | 7 | 720 |
| Lesotho | C | 0.93 | 0.79 | D | 0.07 | 0.36 | 0.74 | 0.43 | 1.00 | 0.19 | 0.48 | 0.19 | 0.58 | 0.57 | 0.58 | 0.67 | 0.62 | 1.00 | 1 | 3.51 | 1 | 8 | 1317 |
| Tajikistan | C | 0.76 | 0.77 | E | 0.19 | 0.58 | 0.67 | 0.84 | 1.00 | 0.27 | 0.44 | 0.25 | 0.83 | 0.64 | 0.57 | 0.63 | 0.59 | 0.90 | 1 | 3.21 | 1 | -3 | 1737 |
| Guyana | C | 0.88 | 0.75 | D | 0.12 | 0.35 | 0.66 | 0.45 | 1.00 | 0.20 | 0.47 | 0.19 | 0.70 | 0.79 | 0.60 | 0.67 | 0.79 | 0.69 | 1 | 3.41 | 1 | 6 | 2787 |
| Mali | C | 0.99 | 0.74 | D | 0.01 | 0.30 | 0.54 | 0.73 | 0.40 | 0.05 | 0.32 | 0.05 | 0.45 | 0.35 | 0.57 | 0.79 | 0.86 | 0.57 | 1 | 3.69 | 1 | 7 | 1055 |
| Laos | C | 0.87 | 0.71 | E | 0.13 | 0.61 | 0.70 | 0.90 | 1.00 | 0.20 | 0.44 | 0.18 | 0.56 | 0.50 | 0.08 | 0.71 | 0.08 | 0.86 | 1 | 3.21 | 1 | -7 | 1957 |
| Bolivia | C | 0.97 | 0.70 | E | 0.02 | 0.51 | 0.61 | 0.75 | 1.00 | 0.24 | 0.51 | 0.22 | 0.69 | 0.68 | 0.64 | 0.71 | 0.68 | 0.88 | 1 | 3.77 | 0 | 8 | 3917 |
| Myanmar | C | 0.99 | 0.65 | D | 0.01 | 0.36 | 0.54 | 0.79 | 0.48 | 0.12 | 0.24 | 0.14 | 0.57 | 0.47 | 0.02 | 0.08 | 0.06 | 0.14 | 1 |  | 1 | -8 | 9435 |
| Eritrea | C | 1.00 | 0.62 | E | 0.00 | 0.54 | 0.64 | 0.75 | 1.00 | 0.11 | 0.39 | 0.22 | 0.19 | 0.44 | 0.00 | 0.29 | 0.05 | 0.00 | 1 | 2.31 | 1 | -7 | 557 |
| Botswana | C | 0.76 | 0.45 | D | 0.17 | 0.47 | 0.88 | 0.57 | 1.00 | 0.34 | 0.65 | 0.32 | 0.66 | 0.82 | 0.73 | 0.75 | 0.77 | 0.91 | 0 | 3.21 | 0 | 8 | 12520 |
| Algeria | D | 0.97 | 0.99 | C | 0.03 | 0.33 | 0.63 | 0.86 | 0.43 | 0.41 | 0.49 | 0.38 | 0.85 | 0.82 | 0.41 | 0.50 | 0.47 | 0.85 | 0 |  | 0 | 2 | 7372 |

| Country | Group | Probability of classification | Degree of typicality (1 = high) | Second most probable group | Probability of classification for second group | Authority | Monopoly of violence (BTI) | Homicides (per 100,000; imputed) | Battle deaths (per 100,000) | Capacity | Basic administrative structures (BTI) | Under-5 mortality (per 100,000) | Primary school enrolment (%; imputed) | Improved water access (%) | Legitimacy | Physical integrity rights violations (PTS) | Press freedom (RSF) | Asylum seekers (per 100,000) | IDA country | IDA Resource Allocation Index | IDA-only country | Polity IV democracy score | GDP per capita |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Venezuela | D | 1.00 | 0.99 | C | 0.00 | 0.30 | 0.70 | 0.38 | 1.00 | 0.50 | 0.51 | 0.49 | 0.79 | 0.75 | 0.38 | 0.38 | 0.55 | 0.72 | 0 | | 0 | 5 | 11450 |
| Dominican Republic | D | 0.98 | 0.98 | C | 0.02 | 0.34 | 0.79 | 0.43 | 1.00 | 0.43 | 0.52 | 0.41 | 0.63 | 0.83 | 0.33 | 0.33 | 0.70 | 0.97 | 0 | | 0 | 8 | 7464 |
| Honduras | D | 1.00 | 0.97 | C | 0.00 | 0.24 | 0.63 | 0.32 | 1.00 | 0.42 | 0.42 | 0.39 | 0.82 | 0.70 | 0.46 | 0.46 | 0.61 | 0.80 | 1 | 3.69 | 1 | 7 | 3559 |
| Turkey | D | 0.87 | 0.96 | C | 0.13 | 0.37 | 0.93 | 0.90 | 0.48 | 0.38 | 0.89 | 0.36 | 0.89 | 0.99 | 0.33 | 0.33 | 0.60 | 0.68 | 0 | | 0 | 7 | 11695 |
| Jamaica | D | 1.00 | 0.95 | E | 0.00 | 0.35 | 0.71 | 0.45 | 1.00 | 0.58 | 0.59 | 0.61 | 0.66 | 0.84 | 0.42 | 0.42 | 0.92 | 0.70 | 0 | 3.69 | 0 | 9 | 7121 |
| Guatemala | D | 0.90 | 0.94 | C | 0.10 | 0.33 | 0.64 | 0.43 | 1.00 | 0.36 | 0.46 | 0.34 | 0.82 | 0.79 | 0.50 | 0.50 | 0.63 | 0.64 | 0 | | 0 | 8 | 4329 |
| Thailand | D | 0.99 | 0.94 | E | 0.01 | 0.38 | 0.66 | 0.76 | 0.49 | 0.57 | 0.63 | 0.57 | 0.74 | 0.74 | 0.35 | 0.38 | 0.42 | 1.00 | 0 | 3.46 | 0 | 2 | 7354 |
| Brazil | D | 0.99 | 0.93 | C | 0.01 | 0.30 | 0.76 | 0.40 | 1.00 | 0.45 | 0.64 | 0.42 | 0.84 | 0.80 | 0.25 | 0.25 | 0.74 | 0.99 | 0 | | 0 | 8 | 9398 |
| El Salvador | D | 1.00 | 0.93 | C | 0.00 | 0.27 | 0.70 | 0.35 | 1.00 | 0.48 | 0.56 | 0.46 | 0.85 | 0.77 | 0.55 | 0.58 | 0.78 | 0.56 | 0 | | 0 | 7 | 6146 |
| Philippines | D | 0.90 | 0.92 | C | 0.10 | 0.37 | 0.65 | 0.79 | 0.47 | 0.40 | 0.52 | 0.38 | 0.78 | 0.76 | 0.25 | 0.25 | 0.44 | 0.99 | 0 | | 0 | 8 | 3212 |
| Russia | D | 0.97 | 0.90 | C | 0.02 | 0.38 | 0.73 | 0.61 | 0.48 | 0.48 | 0.53 | 0.45 | 0.79 | 0.84 | 0.23 | 0.25 | 0.28 | 0.55 | 0 | | 0 | 4 | 14131 |
| Peru | D | 0.90 | 0.86 | C | 0.10 | 0.39 | 0.70 | 0.85 | 0.49 | 0.41 | 0.60 | 0.38 | 0.83 | 0.82 | 0.60 | 0.75 | 0.63 | 0.90 | 0 | | 0 | 9 | 7646 |
| Ecuador | D | 0.83 | 0.85 | C | 0.11 | 0.44 | 0.73 | 0.58 | 0.80 | 0.45 | 0.46 | 0.43 | 0.78 | 0.88 | 0.58 | 0.58 | 0.76 | 0.95 | 0 | | 0 | 5 | 7397 |
| Trinidad and Tobago | D | 1.00 | 0.78 | C | 0.00 | 0.30 | 0.77 | 0.40 | 1.00 | 0.49 | 0.60 | 0.46 | 0.76 | 0.83 | 0.67 | 0.67 | 0.92 | 0.76 | 0 | | 0 | 10 | 23612 |
| Colombia | D | 0.99 | 0.73 | C | 0.01 | 0.20 | 0.41 | 0.27 | 0.46 | 0.38 | 0.35 | 0.50 | 0.76 | 0.76 | 0.14 | 0.17 | 0.48 | 0.25 | 0 | | 0 | 7 | 8135 |
| Occupied Palestinian Territory | D | 0.98 | 0.72 | C | 0.02 | 0.31 | 0.61 | 0.77 | 0.41 | 0.43 | 0.43 | 0.41 | 0.53 | 0.88 | 0.10 | 0.29 | 0.10 | 0.24 | 0 | | 0 | 9 | 7646 |
| Israel | D | 1.00 | 0.63 | C | 0.00 | 0.15 | 0.71 | 0.88 | 0.20 | 0.64 | 0.67 | 0.79 | 0.90 | 0.98 | 0.65 | 0.67 | 0.80 | 0.87 | 0 | | 0 | 10 | 25448 |
| Panama | D | 0.82 | 0.52 | E | 0.09 | 0.44 | 0.79 | 0.55 | 1.00 | 0.47 | 0.65 | 0.44 | 0.89 | 0.87 | 0.78 | 0.92 | 0.81 | 0.98 | 0 | | 0 | 9 | 11475 |
| Sri Lanka | D | 0.99 | 0.44 | A | 0.00 | 0.11 | 0.30 | 0.83 | 0.15 | 0.37 | 0.35 | 0.60 | 0.92 | 0.82 | 0.03 | 0.04 | 0.09 | 0.24 | 1 | 3.46 | 0 | 6 | 4185 |
| Tunisia | E | 0.97 | 0.97 | F | 0.03 | 0.79 | 0.88 | 0.89 | 1.00 | 0.48 | 0.67 | 0.45 | 0.90 | 0.88 | 0.27 | 0.50 | 0.27 | 0.84 | 0 | 3.80 | 0 | -4 | 7324 |
| Belarus | E | 0.99 | 0.96 | F | 0.01 | 0.66 | 0.84 | 0.76 | 1.00 | 0.52 | 0.49 | 0.62 | 0.78 | 0.84 | 0.21 | 0.58 | 0.21 | 0.64 | 0 | | 0 | -7 | 11313 |
| Mexico | E | 0.95 | 0.96 | C | 0.03 | 0.57 | 0.89 | 0.67 | 1.00 | 0.47 | 0.89 | 0.45 | 0.91 | 0.89 | 0.31 | 0.38 | 0.35 | 0.89 | 0 | | 0 | 8 | 13078 |
| Egypt | E | 0.99 | 0.95 | F | 0.00 | 0.78 | 0.84 | 0.94 | 1.00 | 0.38 | 0.51 | 0.36 | 0.82 | 0.86 | 0.30 | 0.38 | 0.30 | 0.89 | 0 | | 0 | -3 | 4975 |
| Albania | E | 0.86 | 0.95 | F | 0.14 | 0.71 | 0.78 | 0.84 | 1.00 | 0.59 | 0.61 | 0.56 | 0.77 | 0.95 | 0.34 | 0.71 | 0.72 | 0.34 | 1 | | 0 | 9 | 7186 |
| Fiji | E | 0.91 | 0.94 | F | 0.09 | 0.69 | 0.80 | 0.78 | 1.00 | 0.55 | 0.62 | 0.52 | 0.68 | 0.93 | 0.42 | 0.75 | 0.52 | 0.50 | 0 | | 0 | -4 | 4218 |
| Armenia | E | 0.98 | 0.92 | C | 0.02 | 0.64 | 0.72 | 0.88 | 1.00 | 0.42 | 0.55 | 0.40 | 0.67 | 0.77 | 0.16 | 0.58 | 0.66 | 0.16 | 1 | 4.33 | 0 | 5 | 5222 |
| Jordan | E | 0.86 | 0.92 | F | 0.14 | 0.76 | 0.83 | 0.88 | 1.00 | 0.50 | 0.57 | 0.49 | 0.76 | 0.87 | 0.45 | 0.46 | 0.53 | 0.71 | 0 | 4.33 | 0 | -3 | 5003 |
| Syria | E | 1.00 | 0.91 | C | 0.00 | 0.73 | 0.81 | 0.87 | 1.00 | 0.42 | 0.46 | 0.44 | 0.84 | 0.79 | 0.14 | 0.29 | 0.14 | 0.60 | 0 | | 0 | -7 | 4217 |
| Montenegro | E | 0.97 | 0.90 | F | 0.03 | 0.77 | 0.83 | 0.90 | 1.00 | 0.41 | 0.78 | 0.41 | 0.71 | 0.91 | 0.46 | 0.75 | 0.80 | 0.46 | 1 | | 0 | 8 | 10228 |
| Bosnia-Herzegovina | E | 0.79 | 0.88 | F | 0.21 | 0.68 | 0.76 | 0.93 | 1.00 | 0.58 | 0.55 | 0.69 | 0.83 | 0.96 | 0.47 | 0.75 | 0.87 | 0.47 | 1 | 3.70 | 0 | 8 | 7272 |
| Saudi Arabia | E | 0.99 | 0.87 | F | 0.01 | 0.62 | 0.82 | 0.93 | 0.82 | 0.60 | 0.57 | 0.68 | 0.72 | 0.93 | 0.16 | 0.33 | 0.16 | 0.99 | 0 | | 0 | -10 | 21420 |
| Indonesia | E | 0.79 | 0.86 | C | 0.21 | 0.62 | 0.71 | 0.89 | 1.00 | 0.33 | 0.55 | 0.31 | 0.87 | 0.70 | 0.46 | 0.46 | 0.62 | 0.95 | 1 | | 0 | 8 | 3674 |
| Uzbekistan | E | 0.89 | 0.86 | C | 0.11 | 0.61 | 0.70 | 0.87 | 1.00 | 0.38 | 0.48 | 0.36 | 0.73 | 0.70 | 0.12 | 0.50 | 0.12 | 0.70 | 1 | 3.26 | 0 | -9 | 2452 |
| Serbia (Yugoslavia) | E | 0.96 | 0.85 | F | 0.04 | 0.74 | 0.81 | 0.90 | 1.00 | 0.59 | 0.62 | 0.64 | 0.87 | 0.97 | 0.13 | 0.75 | 0.78 | 0.13 | 1 | | 0 | 8 | 9953 |

| Country | Group | Probability of classification | Degree of typicality (1 = high) | Second most probable group | Probability of classification for second group | Authority | Monopoly of violence (BTI) | Homicides (per 100,000; imputed) | Battle deaths (per 100,000) | Capacity | Basic administrative structures (BTI) | Under-5 mortality (per 100,000) | Primary school enrolment (%; imputed) | Improved water access (%) | Legitimacy | Physical integrity rights violations (PTS) | Press freedom (RSF) | Asylum seekers (per 100,000) | IDA country | IDA Resource Allocation Index | IDA-only country | Polity IV democracy score | GDP per capita |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Morocco | E | 0.99 | 0.84 | C | 0.01 | 0.74 | 0.81 | 0.96 | 1.00 | 0.34 | 0.56 | 0.32 | 0.75 | 0.82 | 0.49 | 0.50 | 0.53 | 0.95 | 0 | | 0 | -6 | 3932 |
| Vietnam | E | 1.00 | 0.83 | F | 0.00 | 0.75 | 0.83 | 0.89 | 1.00 | 0.47 | 0.57 | 0.44 | 0.83 | 0.83 | 0.07 | 0.58 | 0.07 | 0.95 | 1 | 3.80 | 0 | -7 | 2571 |
| China | E | 0.97 | 0.82 | C | 0.03 | 0.62 | 0.82 | 0.92 | 0.83 | 0.42 | 0.63 | 0.39 | 0.81 | 0.79 | 0.07 | 0.29 | 0.07 | 0.90 | 0 | | 0 | -7 | 5717 |
| Mongolia | E | 0.84 | 0.81 | C | 0.15 | 0.61 | 0.73 | 0.70 | 1.00 | 0.36 | 0.49 | 0.34 | 0.73 | 0.77 | 0.52 | 0.58 | 0.70 | 0.54 | 1 | 3.35 | 1 | 10 | 3179 |
| North Korea | E | 0.99 | 0.75 | C | 0.01 | 0.64 | 0.79 | 0.77 | 1.00 | 0.46 | 0.53 | 0.31 | 0.79 | 0.76 | 0.02 | 0.08 | 0.06 | 0.86 | 0 | | 0 | -9 | 11109 |
| Moldova | E | 0.94 | 0.74 | F | 0.05 | 0.59 | 0.68 | 0.84 | 1.00 | 0.54 | 0.57 | 0.50 | 0.71 | 0.83 | 0.57 | 0.58 | 0.65 | 0.64 | 1 | 3.76 | 1 | 8 | 2641 |
| Rumania | E | 0.86 | 0.73 | F | 0.14 | 0.79 | 0.88 | 0.89 | 1.00 | 0.42 | 0.76 | 0.40 | 0.79 | 0.95 | 0.58 | 0.58 | 0.85 | 0.94 | 0 | | 0 | 9 | 11109 |
| Cuba | E | 0.92 | 0.67 | F | 0.08 | 0.73 | 0.88 | 0.84 | 1.00 | 0.69 | 0.74 | 0.73 | 0.92 | 0.87 | 0.07 | 0.50 | 0.07 | 0.66 | 0 | 3.35 | 0 | -7 | 3179 |
| Turkmenistan | E | 0.92 | 0.66 | C | 0.08 | 0.74 | 0.80 | 0.85 | 1.00 | 0.24 | 0.48 | 0.23 | 0.74 | 0.76 | 0.06 | 0.63 | 0.06 | 0.85 | 0 | | 0 | -9 | 6134 |
| Nicaragua | E | 0.92 | 0.42 | C | 0.06 | 0.60 | 0.77 | 0.70 | 1.00 | 0.41 | 0.54 | 0.39 | 0.87 | 0.72 | 0.73 | 0.75 | 0.81 | 0.89 | 1 | 3.74 | 1 | 9 | 2467 |
| Mauritius | F | 0.95 | 0.96 | E | 0.05 | 0.81 | 0.89 | 0.88 | 1.00 | 0.59 | 0.69 | 0.56 | 0.84 | 0.94 | 0.75 | 0.75 | 0.86 | 0.98 | 0 | | 0 | 10 | 11372 |
| Kuwait | F | 0.98 | 0.96 | E | 0.02 | 0.86 | 0.93 | 0.90 | 1.00 | 0.69 | 0.69 | 0.65 | 0.76 | 0.95 | 0.58 | 0.79 | 0.79 | 0.58 | 0 | | 0 | -7 | 45539 |
| Bulgaria | F | 0.87 | 0.95 | E | 0.13 | 0.80 | 0.88 | 0.91 | 1.00 | 0.55 | 0.79 | 0.52 | 0.87 | 0.99 | 0.71 | 0.71 | 0.81 | 0.82 | 0 | | 0 | 9 | 11563 |
| Chile | F | 1.00 | 0.94 | E | 0.00 | 0.76 | 0.92 | 0.82 | 1.00 | 0.77 | 0.84 | 0.72 | 0.89 | 0.95 | 0.78 | 0.79 | 0.85 | 0.98 | 0 | | 0 | 10 | 13164 |
| Latvia | F | 0.91 | 0.93 | E | 0.09 | 0.75 | 0.88 | 0.84 | 1.00 | 0.58 | 0.81 | 0.55 | 0.75 | 0.96 | 0.79 | 0.79 | 0.96 | 0.92 | 0 | | 0 | 8 | 14904 |
| Bahrain | F | 0.96 | 0.93 | G | 0.04 | 0.86 | 0.90 | 0.96 | 1.00 | 0.78 | 0.77 | 0.74 | 0.87 | 0.99 | 0.58 | 0.79 | 0.58 | 0.91 | 0 | | 0 | -7 | 31598 |
| Qatar | F | 0.79 | 0.92 | E | 0.21 | 0.80 | 0.85 | 0.93 | 1.00 | 0.52 | 0.67 | 0.49 | 0.88 | 0.97 | 0.72 | 0.83 | 0.72 | 0.98 | 0 | | 0 | -10 | 80812 |
| Estonia | F | 0.99 | 0.91 | E | 0.01 | 0.72 | 0.90 | 0.79 | 1.00 | 0.73 | 0.83 | 0.70 | 0.85 | 0.98 | 0.83 | 0.88 | 0.98 | 0.88 | 0 | | 0 | 9 | 18226 |
| Costa Rica | F | 0.89 | 0.90 | E | 0.11 | 0.66 | 0.89 | 0.75 | 1.00 | 0.64 | 0.72 | 0.61 | 0.79 | 0.97 | 0.80 | 0.83 | 0.91 | 0.98 | 0 | | 0 | 10 | 10235 |
| USA | F | 0.97 | 0.88 | E | 0.03 | 0.77 | 1.00 | 0.83 | 1.00 | 0.76 | 1.00 | 0.72 | 0.81 | 0.99 | 0.50* | 0.50 | 0.88 | 1.00 | 0 | | 0 | 10 | 42895 |
| Uruguay | F | 0.98 | 0.86 | E | 0.02 | 0.80 | 0.93 | 0.85 | 1.00 | 0.59 | 0.87 | 0.56 | 0.90 | 0.98 | 0.88 | 1.00 | 0.88 | 0.98 | 0 | | 0 | 10 | 11485 |
| Oman | F | 0.86 | 0.85 | E | 0.14 | 0.91 | 0.93 | 0.96 | 1.00 | 0.55 | 0.69 | 0.86 | 0.54 | 0.91 | 0.54 | 1.00 | 0.54 | 0.98 | 0 | | 0 | -8 | 22233 |
| Malaysia | F | 0.96 | 0.81 | E | 0.04 | 0.76 | 0.93 | 0.82 | 1.00 | 0.79 | 0.82 | 0.77 | 0.86 | 0.93 | 0.46 | 0.71 | 0.46 | 0.98 | 0 | | 0 | 5 | 12892 |
| Lithuania | F | 0.99 | 0.81 | E | 0.01 | 0.70 | 0.89 | 0.77 | 1.00 | 0.71 | 0.83 | 0.67 | 0.80 | 0.98 | 0.91 | 0.96 | 0.94 | 0.98 | 0 | | 0 | 10 | 16531 |
| Singapore | F | 1.00 | 0.44 | E | 0.00 | 0.91 | 0.94 | 0.95 | 1.00 | 0.92 | 0.89 | 0.96 | 0.93 | 1.00 | 0.34 | 0.92 | 0.34 | 0.98 | 0 | | 0 | -2 | 47906 |
| Belgium | G | 1.00 | 1.00 | F | 0.00 | 0.92 | 1.00 | 0.94 | 1.00 | 0.87 | 1.00 | 0.82 | 0.95 | 1.00 | 0.88 | 0.88 | 0.97 | 0.99 | 0 | | 0 | 8 | 33147 |
| France | G | 1.00 | 1.00 | F | 0.00 | 0.94 | 1.00 | 0.95 | 1.00 | 0.89 | 1.00 | 0.84 | 0.96 | 1.00 | 0.83 | 0.83 | 0.88 | 1.00 | 0 | | 0 | 9 | 30258 |
| Canada | G | 1.00 | 1.00 | F | 0.00 | 0.92 | 1.00 | 0.93 | 1.00 | 0.87 | 1.00 | 0.82 | 0.94 | 1.00 | 0.90 | 0.92 | 0.95 | 1.00 | 0 | | 0 | 10 | 35512 |
| Slovenia | G | 1.00 | 1.00 | F | 0.00 | 0.91 | 0.93 | 0.96 | 1.00 | 0.89 | 0.88 | 0.89 | 0.91 | 0.99 | 0.90 | 1.00 | 0.90 | 0.99 | 0 | | 0 | 10 | 26108 |
| Denmark | G | 1.00 | 0.99 | F | 0.00 | 0.92 | 1.00 | 0.93 | 1.00 | 0.87 | 1.00 | 0.82 | 0.94 | 1.00 | 0.91 | 0.92 | 0.98 | 1.00 | 0 | | 0 | 10 | 33672 |
| Czech Republic | G | 1.00 | 0.99 | F | 0.00 | 0.93 | 1.00 | 0.94 | 1.00 | 0.94 | 1.00 | 0.89 | 0.92 | 1.00 | 0.86 | 0.96 | 0.94 | 0.90 | 0 | | 0 | 8 | 22728 |
| Australia | G | 1.00 | 0.99 | F | 0.00 | 0.94 | 1.00 | 0.95 | 1.00 | 0.85 | 1.00 | 0.80 | 0.93 | 1.00 | 0.92 | 1.00 | 0.92 | 1.00 | 0 | | 0 | 10 | 34210 |
| Switzerland | G | 1.00 | 0.99 | F | 0.00 | 0.94 | 1.00 | 0.95 | 1.00 | 0.87 | 1.00 | 0.82 | 0.87 | 1.00 | 0.79 | 0.79 | 0.97 | 1.00 | 0 | | 0 | 10 | 37631 |
| Cyprus | G | 0.97 | 0.98 | F | 0.03 | 0.87 | 0.90 | 0.95 | 1.00 | 0.84 | 0.82 | 0.82 | 0.95 | 0.99 | 0.83 | 0.83 | 0.88 | 0.99 | 0 | | 0 | 10 | 25967 |

* For the USA, the PTS draws on Amnesty International (AI) data only. AI considers human rights violations in Guantanamo in its rating, which explains the low score of 0.5. To better reflect state legitimacy in the USA, we will drop the PTS scores for this country in future models.

| Country | Group | Probability of classification | Degree of typicality (1 = high) | Second most probable group | Probability of classification for second group | Authority | Monopoly of violence (BTI) | Homicides (per 100,000; imputed) | Battle deaths (per 100,000) | Capacity | Basic administrative structures (BTI) | Under-5 mortality (per 100,000) | Primary school enrolment (%; imputed) | Improved water access (%) | Legitimacy | Physical integrity rights violations (PTS) | Press freedom (RSF) | Asylum seekers (per 100,000) | IDA country | IDA Resource Allocation Index | IDA-only country | Polity IV democracy score | GDP per capita |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | G | 1.00 | 0.98 | F | 0.00 | 0.96 | 1.00 | 0.96 | 1.00 | 0.87 | 1.00 | 0.86 | 0.89 | 1.00 | 0.79 | 0.79 | 0.95 | 1.00 | 0 | | 0 | 10 | 35481 |
| Germany | G | 1.00 | 0.98 | F | 0.00 | 0.96 | 1.00 | 0.96 | 1.00 | 0.91 | 1.00 | 0.85 | 0.95 | 1.00 | 0.94 | 1.00 | 0.94 | 1.00 | 0 | | 0 | 10 | 33125 |
| Netherlands | G | 1.00 | 0.97 | F | 0.00 | 0.93 | 1.00 | 0.94 | 1.00 | 0.89 | 1.00 | 0.83 | 0.96 | 1.00 | 0.96 | 1.00 | 0.96 | 1.00 | 0 | | 0 | 10 | 37296 |
| Japan | G | 1.00 | 0.97 | F | 0.00 | 0.98 | 1.00 | 0.98 | 1.00 | 0.96 | 1.00 | 0.90 | 0.98 | 1.00 | 0.91 | 1.00 | 0.91 | 1.00 | 0 | | 0 | 10 | 30882 |
| Ireland | G | 0.99 | 0.97 | F | 0.01 | 0.88 | 0.95 | 0.94 | 1.00 | 0.84 | 0.96 | 0.80 | 0.94 | 1.00 | 0.95 | 0.96 | 0.98 | 1.00 | 0 | | 0 | 10 | 38894 |
| Portugal | G | 1.00 | 0.96 | F | 0.00 | 0.94 | 1.00 | 0.95 | 1.00 | 0.89 | 1.00 | 0.83 | 0.95 | 0.99 | 0.75 | 0.75 | 0.94 | 1.00 | 0 | | 0 | 10 | 21773 |
| Croatia | G | 0.85 | 0.96 | F | 0.15 | 0.88 | 0.92 | 0.95 | 1.00 | 0.77 | 0.87 | 0.73 | 0.80 | 0.98 | 0.83 | 1.00 | 0.83 | 0.90 | 0 | | 0 | 9 | 16753 |
| New Zealand | G | 0.99 | 0.95 | F | 0.01 | 0.96 | 1.00 | 0.96 | 1.00 | 0.80 | 1.00 | 0.76 | 0.97 | 1.00 | 0.96 | 1.00 | 0.96 | 1.00 | 0 | | 0 | 10 | 25387 |
| Sweden | G | 1.00 | 0.95 | F | 0.00 | 0.94 | 1.00 | 0.95 | 1.00 | 0.93 | 1.00 | 0.90 | 0.89 | 1.00 | 0.98 | 1.00 | 0.98 | 0.99 | 0 | | 0 | 10 | 33822 |
| Norway | G | 1.00 | 0.95 | F | 0.00 | 0.93 | 1.00 | 0.94 | 1.00 | 0.91 | 1.00 | 0.86 | 0.95 | 1.00 | 0.99 | 1.00 | 0.99 | 1.00 | 0 | | 0 | 10 | 48515 |
| Hungary | G | 0.83 | 0.94 | F | 0.17 | 0.93 | 1.00 | 0.94 | 1.00 | 0.74 | 1.00 | 0.70 | 0.78 | 1.00 | 0.83 | 0.83 | 0.93 | 0.97 | 0 | | 0 | 10 | 17588 |
| Finland | G | 0.99 | 0.93 | F | 0.01 | 0.88 | 1.00 | 0.91 | 1.00 | 0.96 | 1.00 | 0.91 | 0.92 | 1.00 | 0.98 | 1.00 | 0.98 | 0.99 | 0 | | 0 | 10 | 32628 |
| Italy | G | 0.99 | 0.93 | F | 0.01 | 0.93 | 1.00 | 0.94 | 1.00 | 0.92 | 1.00 | 0.86 | 0.94 | 1.00 | 0.71 | 0.71 | 0.86 | 1.00 | 0 | | 0 | 10 | 27838 |
| Spain | G | 0.99 | 0.88 | F | 0.01 | 0.96 | 1.00 | 0.96 | 1.00 | 0.92 | 1.00 | 0.86 | 0.99 | 1.00 | 0.67 | 0.67 | 0.87 | 1.00 | 0 | | 0 | 10 | 27974 |
| Greece | G | 0.95 | 0.83 | F | 0.05 | 0.95 | 1.00 | 0.96 | 1.00 | 0.88 | 1.00 | 0.83 | 0.95 | 1.00 | 0.63 | 0.63 | 0.89 | 1.00 | 0 | | 0 | 10 | 26766 |
| Ukraine | X | | 0.95 | E | 0.54 | 0.73 | 0.84 | 0.80 | 1.00 | 0.59 | 0.58 | 0.55 | 0.74 | 0.83 | 0.50 | 0.50 | 0.70 | 0.88 | 0 | | 0 | 7 | 6335 |
| Paraguay | X | | 0.94 | E | 0.74 | 0.54 | 0.75 | 0.64 | 1.00 | 0.43 | 0.51 | 0.41 | 0.78 | 0.74 | 0.58 | 0.58 | 0.73 | 0.99 | 0 | | 0 | 8 | 4212 |
| Argentina | X | | 0.94 | E | 0.72 | 0.65 | 0.83 | 0.73 | 1.00 | 0.54 | 0.74 | 0.51 | 0.87 | 0.96 | 0.68 | 0.71 | 0.78 | 0.99 | 0 | 3.67 | 0 | 8 | 12976 |
| Macedonia | X | | 0.92 | F | 0.63 | 0.69 | 0.82 | 0.79 | 1.00 | 0.65 | 0.69 | 0.65 | 0.73 | 0.96 | 0.53 | 0.71 | 0.88 | 0.53 | 0 | | 0 | 9 | 8654 |
| Kazakhstan | X | | 0.89 | E | 0.59 | 0.56 | 0.84 | 0.65 | 1.00 | 0.37 | 0.63 | 0.35 | 0.77 | 0.72 | 0.45 | 0.63 | 0.45 | 0.86 | 0 | | 0 | -6 | 10393 |
| Lebanon | X | | 0.89 | E | 0.51 | 0.54 | 0.63 | 0.87 | 1.00 | 0.37 | 0.50 | 0.35 | 0.66 | 0.85 | 0.46 | 0.50 | 0.75 | 0.49 | 0 | | 0 | 7 | 10982 |
| Kyrgyz Republic | X | | 0.88 | C | 0.56 | 0.59 | 0.69 | 0.77 | 1.00 | 0.30 | 0.48 | 0.29 | 0.62 | 0.65 | 0.54 | 0.67 | 0.56 | 0.71 | 1 | 3.67 | 1 | 3 | 2005 |
| Bhutan | X | | 0.63 | E | 0.64 | 0.67 | 0.77 | 0.79 | 1.00 | 0.25 | 0.42 | 0.23 | 0.64 | 0.69 | 0.29 | 0.75 | 0.70 | 0.34 | 1 | 3.89 | 1 | -2 | 4426 |
| Namibia | X | | 0.62 | C | 0.70 | 0.57 | 0.84 | 0.66 | 1.00 | 0.30 | 0.59 | 0.28 | 0.74 | 0.82 | 0.83 | 0.83 | 0.90 | 0.93 | 0 | 4.36 | 0 | 6 | 5884 |
| East Timor | X | | 0.60 | B | 0.71 | 0.57 | 0.69 | 0.76 | 1.00 | 0.15 | 0.35 | 0.14 | 0.42 | 0.37 | 0.67 | 0.67 | 0.75 | 0.96 | 1 | 2.81 | 1 | 7 | 715 |
| United Arab Emirates | X | | 0.51 | G | 0.57 | 0.86 | 0.93 | 0.90 | 1.00 | 0.79 | 0.74 | 0.81 | 0.81 | 0.99 | 0.73 | 0.79 | 0.75 | 0.99 | 0 | | 0 | -8 | 53174 |
| South Korea | X | | 0.51 | G | 0.71 | 0.88 | 1.00 | 0.91 | 1.00 | 0.79 | 1.00 | 0.74 | 0.96 | 0.99 | 0.71 | 0.71 | 0.84 | 0.99 | 0 | | 0 | 8 | 25344 |
| Georgia | X | | 0.45 | D | 0.64 | 0.38 | 0.62 | 0.70 | 0.72 | 0.34 | 0.47 | 0.32 | 0.79 | 0.78 | 0.27 | 0.50 | 0.69 | 0.27 | 1 | 4.36 | 0 | 6 | 4420 |
| United Kingdom | X | | 0.42 | G | 0.73 | 0.84 | 1.00 | 0.88 | 1.00 | 0.84 | 1.00 | 0.79 | 0.94 | 1.00 | 0.75 | 0.75 | 0.92 | 1.00 | 0 | | 0 | 10 | 33431 |
| Guinea-Bissau | X | | 0.41 | B | 0.65 | 0.58 | 0.68 | 0.79 | 1.00 | 0.05 | 0.36 | 0.05 | 0.26 | 0.43 | 0.57 | 0.71 | 0.68 | 0.76 | 1 | 2.60 | 1 | 6 | 964 |
| Slovakia | X | | 0.40 | G | 0.68 | 0.92 | 1.00 | 0.93 | 1.00 | 0.73 | 1.00 | 0.69 | 0.90 | 1.00 | 0.83 | 0.83 | 0.93 | 0.97 | 0 | | 0 | 10 | 19691 |
| Libya | X | | 0.39 | E | 0.72 | 0.84 | 0.88 | 0.91 | 1.00 | 0.63 | 0.62 | 0.62 | 0.78 | 0.94 | 0.16 | 0.50 | 0.16 | 0.71 | 0 | | 0 | -7 | 14890 |
| Poland | X | | 0.37 | G | 0.74 | 0.93 | 1.00 | 0.94 | 1.00 | 0.73 | 1.00 | 0.69 | 0.91 | 0.98 | 0.83 | 0.83 | 0.84 | 0.99 | 0 | | 0 | 10 | 16265 |
| Iran | X | | 0.00 | D | 0.62 | 0.39 | 0.80 | 0.84 | 0.49 | 0.35 | 0.54 | 0.33 | 0.81 | 0.84 | 0.06 | 0.25 | 0.06 | 0.52 | 0 | | 0 | -6 | 10429 |

## Annex 3: Other country indicators and indexes by group of fragility

Figure: GDP per capita by groups

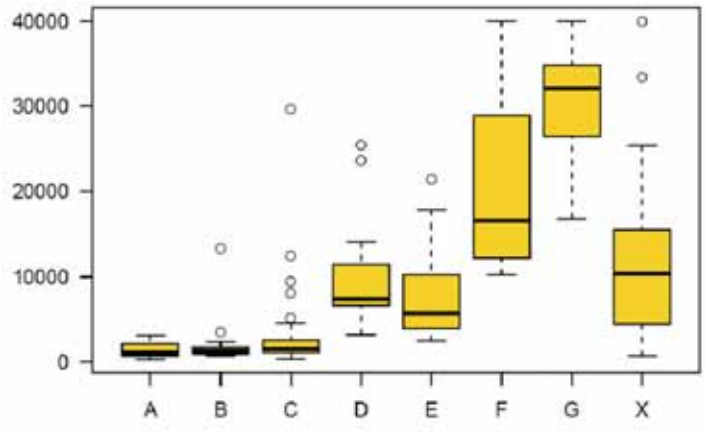



Figure: Failed States Index by groups

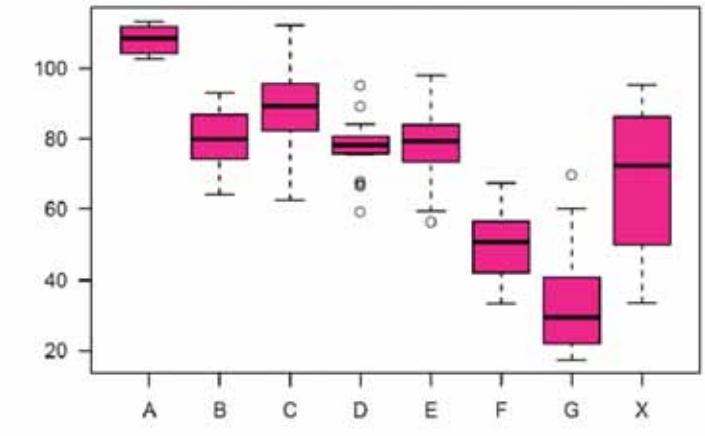
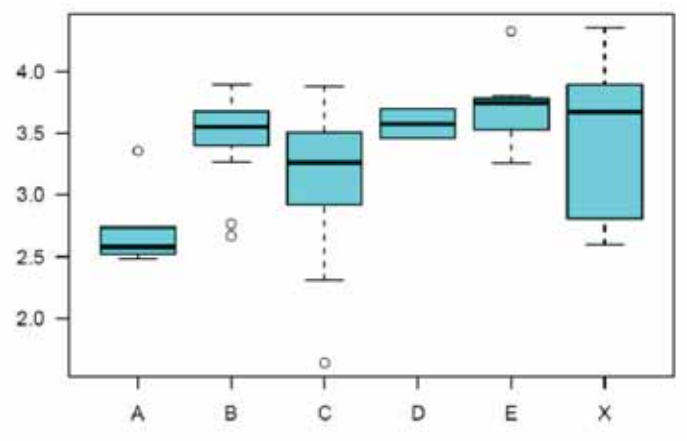


Figure: IDA Resource Allocation Index by groups



## Annex 4: Data sources and data treatment

Before we describe in more detail the data used in our approach and the operations undertaken to turn the data into useful indicators of the dimensions of statehood, it is important to remember here that our goal is *not* to give a valid measure of statehood for each individual country but rather to identify the types of clusters that states group in when measured along our three-dimensional scale. Singular outliers that may appear because of exceptional contextual circumstances or doubtful country scores as a result of exceptionally bad data should not be expected to have a significant influence on the validity of the general clustering.

Most of the variables included in the models have a number of missing observations, either for some countries or even for whole years. In order to remedy this problem, multiple imputation is applied to the dataset. Rather than listwise deletion or manual linear imputation, this approach uses the observed data to extract information about the missing observations in order to fill them in and construct multiple "completed" datasets. The uncertainty of the estimation is then reflected by the variation of the imputed values, so that the "best guess" of their real size is the mean of the imputed cells (Honaker / King 2010, 565).

In addition to the core variables of the model, a number of additional indicators are included in order to increase the information level available to the imputation software (Amelia II for R by Honaker / King / Blackwell 2010). In order to make the data more evenly distributed and keep it within borders if applicable, some variables are further transformed during imputation:

The following lines present details on the core indicators of the model and the operations applied to transform the data where necessary. Where variables are heavily skewed or have outliers, a natural logarithm is applied (granted asylums, battle deaths, homicides, press freedom). Since proportional data is sharply bounded between 0 and 1, a logistic transformation makes the distribution symmetric while avoiding imposing the strong assumptions of bounds (primary enrolment, improved access to clean water) (Honaker / King / Blackwell 2010).

After imputation, a standard approach is applied to most variables to prepare them for classification and clustering: first, outliers of "granted asylums" variable are eliminated by cutting at plus and minus two standard deviations. This is based on the – anecdotally plausible – assumption that, at this level, the maximum effect of the represented attribute is already reached. The marginal effect of an even more extreme value is assumed to be zero. In addition, variables that are assumed to have a constantly decreasing marginal effect with increasing value are then logged. We treat homicides, battle deaths, under-five mortality and granted asylums as such variables. Finally, some variables need to be inverted so that across our transformed dataset, lower values represent "worse" indicators than higher ones (press freedom violations, under-five mortality and granted asylums) and all indicators are standardised from 0 to 1.

Apart from the "standard recipe", some measures need special treatment or require definitions in addition to the ones already given. These are briefly described below.

*Monopoly of violence*

The BTI covers only developing, emerging, and transition countries, thus it is assumed that OECD states not included in the dataset would receive the highest score, i.e. 10. These countries are Australia, Austria, Belgium, Canada, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, USA and the United Kingdom.

*Homicides*

The United Nations Office on Drugs and Crime collects information from international and national institutions, stemming from the health or criminal justice sector. Data used is chosen following the International Homicide Statistics' (HIS) methodology: priority is given to cross-national data. The focus is on criminal justice data, if possible from United Nations Surveys on Crime Trends and the Operations of Criminal Justice Systems (UN-CTS) due to the consistency of both the definition of "homicide" and the questions of the survey. This information exists for the majority of countries in most years. If this is not the case, Interpol numbers are used, followed by national sources. In the case of non-availability of criminal justice data, health system information is considered, preferably provided by the World Health Organisation (WHO), then by national institutions. (For a detailed description of the HIS methodology, data sources and their usage, see UNODC 2011.)

Unlike all other indicators, the homicides data is transformed in such a way that the lowest (i.e. "worst") value is now 0.25 and the highest (i.e. "best") equals 1. This assumes that even though a state might suffer a relatively high number of homicides, it can still be considered to hold the monopoly of violence over its territory as long as it does not see any battle-related deaths.

*Battle-related deaths*

The battle deaths data is taken from the battle related deaths database of the Uppsala Conflict Data Program (UCDP 2011b). Battle deaths are defined as "deaths caused by the warring parties that can be directly related to combat over the contested incompatibility [...] All fatalities – military as well as civilian – incurred in such situations are counted as battle-related deaths" (UCDP 2011a, 5–6).

In order to create a relative, more meaningful number, the absolute head count is calculated per 100,000 inhabitants. We use the population information provided by the Penn World Tables (Heston / Summers / Aten 2009).

Furthermore, since the database claims completeness, it is assumed that there are no "true missings" but rather, that countries not included for a specific year have the real count of 0.

Battle deaths are truncated at the level of 10 and then inverted to make 10 battle deaths per 100,000 people a 0 value in the model indicator, arguing that – calculated for a country with 10 million inhabitants – this makes 1,000 deaths a year and is thus what others consider a full-scale war (Gleditsch et al. 2002). A battle deaths count of 0 then becomes an indicator value of 1 while every single fatality is considered a loss of authority significant enough to make the lowest non-zero count a 0.5 in the indicator.

*Net Enrolment Rate in Primary Education*

The net enrolment rate is the "ratio of children of official school age based on the International Standard Classification of Education 1997 who are enrolled in school to the population of the corresponding official school age." Primary education, furthermore, provides children with "a sound basic education in reading, writing and mathematics along with an elementary understanding of other subjects such as history, geography, natural science, social science, art and music" (UNESCO 2011, primary education).

*Political Terror Scale*

The Political Terror Scale (PTS) is based on the yearly country reports of Amnesty International and the US State Department Country Reports on Human Rights Practices and is available for the years 1976 to 2009. It ranges from one ("Countries under a secure rule of law, people are not imprisoned for their view, and torture is rare or exceptional. Political murders are extremely rare") to five ("Terror has expanded to the whole population. The leaders of these societies place no limits on the means or thoroughness with which they pursue personal or ideological goals") (Gibney / Cornett / Wood 2011).

*Freedom of the press*

Reporters Without Borders aim at assessing the state of affairs of the "degree of freedom journalists and news organisations enjoy in each country and the efforts made by the state to respect and ensure respect for this freedom." It does so by conducting a survey among partner organisations, correspondents, journalists, researchers, jurists and human rights activists. The Press Freedom Index can be found for the period from 2002 to 2009. The more independently a country's media is considered to be able to act, the lower its score (RSF 2009).

The coding and aggregation method of the RSF Press Freedom Index makes it an instrument that overemphasises differences at the less-free end of the scale. When transforming this data onto our 0 to 1 scale, we thus chose an algorithm that renders 0.1 for a score of 70 while proportionally transforming higher (= worse) scores up to the maximum (worst) value of 115, which represents zero. At the other end of the scale, values move again proportionally between 1 (for a Press Freedom score of 0.0) and 0.1 (70).

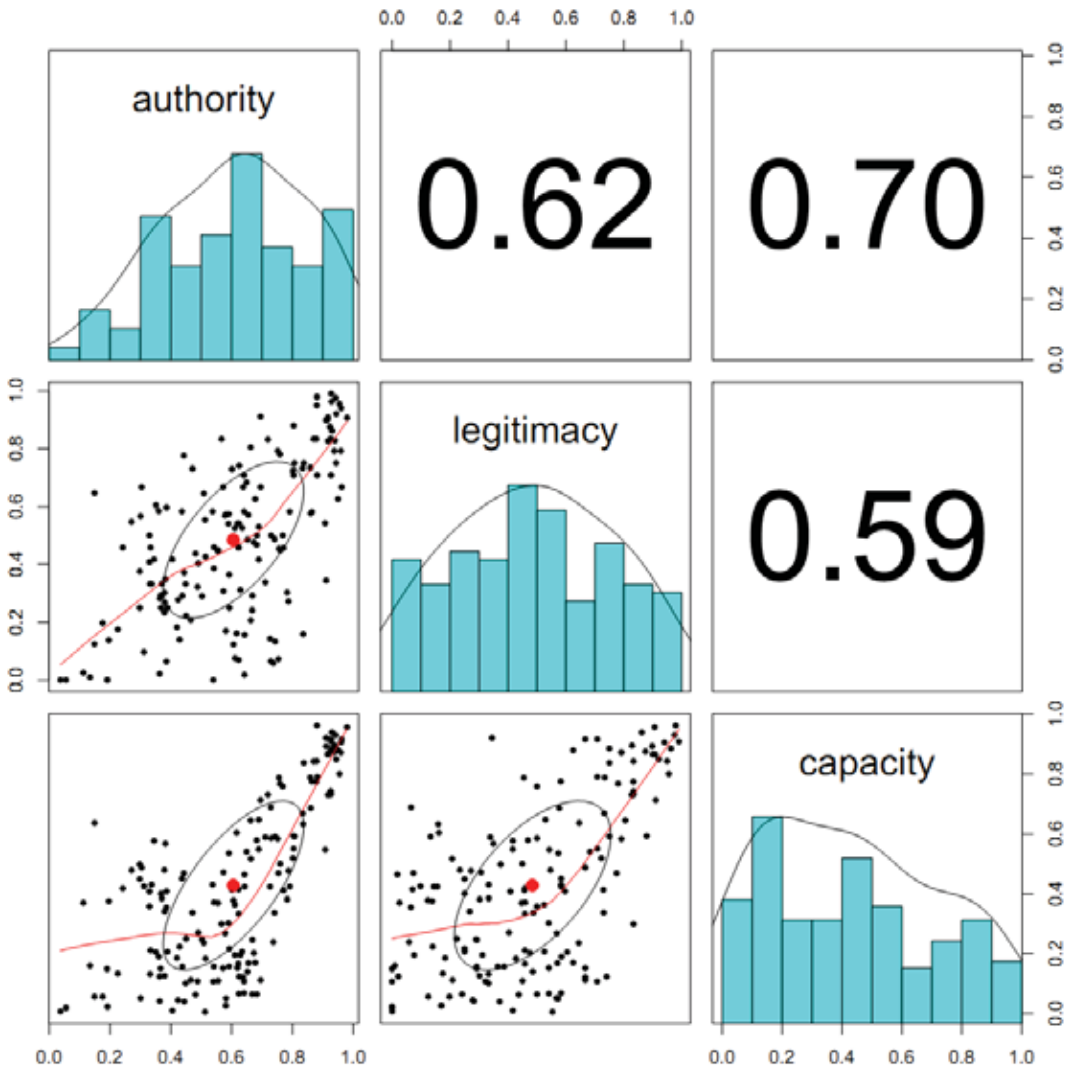
*Granted asylums by country of origin*

As for battle-related deaths, absolute values are transformed into values per 100,000 inhabitants using the Penn World Table data (Heston / Summers / Aten 2009).

The imputation provides us with complete data on all our indicators for 163 countries from 2003 to 2010. Given the amount of missing data in early years and in 2010, we consider the period 2006 to 2009 to be most reliable.

## Annex 5: Summary statistics and graphs of the aggregate scores

Figure: Properties of the dimension variables (average 2007–2009)



| Table: Summary statistics of indicators (average 2007–2009) | | | | |
|---|---|---|---|---|
| Variable | Mean | Std. Dev. | Min | Max |
| *Authority* | 0.61 | 0.23 | 0.04 | 0.98 |
| Monopoly of violence (BTI) | 0.75 | 0.19 | 0.04 | 1.00 |
| Homicides | 0.79 | 0.16 | 0.27 | 0.98 |
| Battle deaths | 0.90 | 0.22 | 0.15 | 1.00 |
| *Capacity* | 0.43 | 0.28 | 0.01 | 0.96 |
| Basic administrative structures (BTI) | 0.67 | 0.22 | 0.01 | 1.00 |
| Under-5 mortality | 0.76 | 0.22 | 0.04 | 0.95 |
| Primary school enrolment | 0.78 | 0.18 | 0.20 | 0.99 |
| Improved water access | 0.81 | 0.18 | 0.27 | 1.00 |
| *Legitimacy* | 0.48 | 0.27 | 0.00 | 0.99 |
| Physical integrity rights violations (PTS) | 0.59 | 0.25 | 0.00 | 1.00 |
| Press freedom (RSF) | 0.63 | 0.27 | 0.05 | 0.99 |
| Asylum seekers | 0.76 | 0.27 | 0.00 | 1.00 |

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