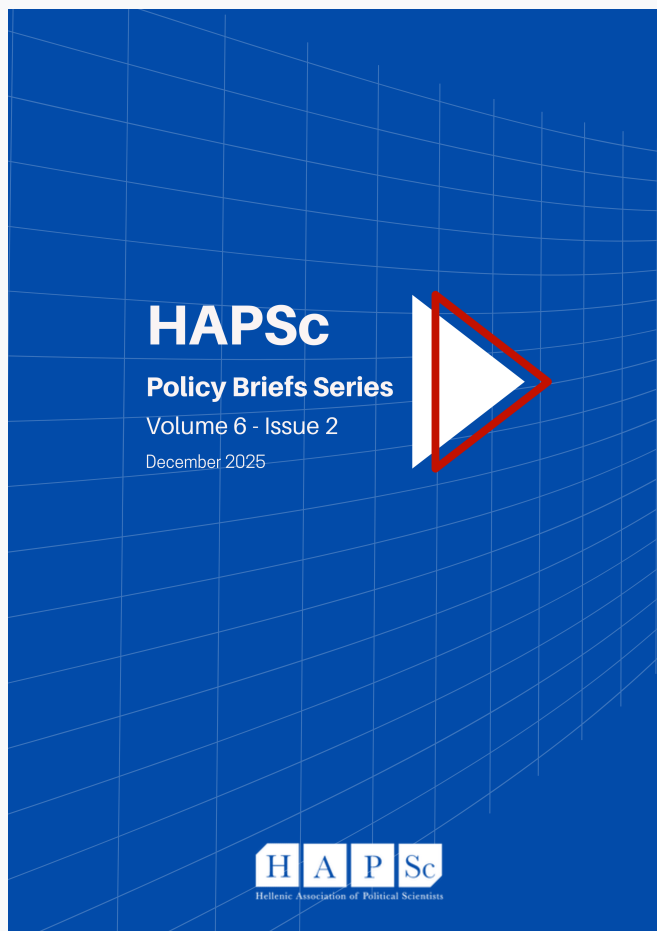


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Operationalizing a Framework for Political Instability Risk Assessment: Index Development and Baseline Interpretation¹

Zisis S. Kyrgos²

Abstract

Political instability has seen a significant rise in the previous decades, with a significant case number increase. This paper builds on previous research on the topic in order to develop a political instability risk index for calculating the relative probability of a societal/political entity utilizing the means at its disposal for altering the status quo of the system it belongs in, taking into consideration the factors identified in the relevant literature. The methodology used in the development of the index is the one proposed by the OECD Handbook on Composite Indexes. The index takes into consideration nine different indicators, aggregated into two categories. An indicator value scale is also provided for each variable. From a policy perspective, the index offers a feasible, transparent and not overly technical tool which may assist structured risk assessment by security analysts.

Keywords: Security; Analysis; National security; Internal security; Index; Political risk; Risk assessment

Introduction

This paper serves as a continuation of the research previously conducted by Kyrgos and Daskalakis (2025) and published under the title “*Theoretical Foundation of a Proposed Methodology and Analysis Framework for Political Instability Risk Assessment*”. The above research proposes a novel framework for analyzing internal political instability. In its conclusion, the authors recommended that a pilot study would be necessary to evaluate the initial findings, as well as test the diagnostic character of the proposed framework. This paper serves as a bridging point between the aforementioned methodology and a prospective pilot study, by providing a quantitative working framework on which said study could be based upon. The necessity of connecting qualitative research theories to quantifiable data upon which a forecast and subsequent decision could be based has been highlighted extensively in relevant bibliography (see Mandel & Barnes, 2017: pp. 1-2; Rajmil & Morales, 2023). Specifically, while the initial theoretical methodology presented identified a set of core factors that influence political instability, its immediate application was by definition limited to the production of a purely theoretical and non-quantifiable report. Even though this could be argued to be sufficient for a great majority of analysis contexts, the framework itself would be incomplete in its application

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without a systematic quantification process. Therefore, this paper bridges that gap by developing a preliminary index function, factor scaling and by proposing a baseline for results interpretation. The index result would indicate the relative likelihood of a social/political entity attempting to alter the status quo of a system in favor of its perceived rights via the analysis of previously defined factors, namely the entity's relative size, denial of rights, information flow, geography, leadership, means of projecting power, environmental conditions, repression/freedom of action, and triggering event.

Methodology

In order to achieve the research objectives set in the introduction, it was necessary to follow a qualitative – quantitative hybrid approach when designing the methodology of this article. The steps followed for developing the index were extracted by the *“Handbook on Constructing Composite Indicators”* by OECD (2008), as well as the online guide provided by the Competence Centre on Composite Indicators and Scoreboards of the European Commission (European Commission, 2025; Kuc-Czarnecka et al., 2020; OECD & JRC EC, 2008).

The methodology provided by the above institutions include the theoretical framework, data selection, and indicator normalization, weighting and aggregation. A significant percentage of the above sequence had already been completed with the publication of the original research article. Specifically, the theoretical framework and factor determination were already completed. Therefore, this research article covers the indicator normalization and scaling, weighting and aggregation. For each of these steps, an empirical approach was initially tested. However, the preliminary results indicated that a theory – driven approach would provide more stable and appropriate results.

For the preliminary trial, the first five cases analyzed in the first publication were selected, as they were deemed to cover the randomness criteria as an academic minimum, and be representative of the dataset they were randomly selected from. Due to this, namely the limited case scope, it is argued that any results and conclusions produced by the present research do not constitute a full validation of the proposed framework but serve as a bridging step towards a future pilot study, as proposed in the conclusion of the previous publication.

Following the completion of the above steps, the index function was determined as a categorical addition of the average of the Necessary and Enabling factors. The index score result produced by the function needed to have a consistent interpretation, so as to be operationally relevant. The configuration of a systemic baseline was determined as the most appropriate method for this, in order to distinguish between normal conditions and conditions that could potentially award a monitoring or more invasive response.

Results and Discussion

The results and discussion section follows the path laid in the methodology section of the article. Specifically, each factor was coded to a specific indicator. Then, a weight scaling method was implemented, followed by the development of the index function. A method of interpreting the index value was also developed. Finally, a sample application of the quantified methodology is presented for a randomly selected case of the original dataset.

Indicator Scaling

Before attempting to develop the index function, it was necessary to first code the nine factors to their corresponding indicators and then adopt a suitable scaling methodology for assigning a numerical value to the different appearances of each indicator across the cases analyzed. Out of the different possible scaling methods (nominal, ordinal, interval, ratio scales), the interval scaling was deemed the most suitable (Malhotra et al., 2017: pp. 334, 337-342). Specifically, it was initially determined that each indicator would receive a score of 0.0 to 1.0 in 0.2 intervals, with 0 being the absolute absence of that factor from the entity or system and 1 being its maximum possible appearance. Each interval of 0.2 constitutes an equal advancement of its score. The 0.2 interval was adopted in order to allow for the determination of a suitable fineness regarding the indicators' score. This approach also eliminated the necessity of indicator normalization, as all indicators were scaled using the same system.

A number of limitations were extracted by the definitions and categorizations of the indicators as Necessary and Enabling. Specifically, Necessary indicators could not equal 0.0, as they must necessarily be present for an entity to exhibit action, while the RS indicator could also not equal 1.0, as then the entity under examination would be the only entity present in its system's context. The above factor to indicator coding as well as each indicator's limitations are presented in Table 1.

Table 1: Factor to Indicator Coding and Score Limitations per Indicator

Indicator Category	Factor	Indicator	Lower Limit	Upper Limit
Necessary	Relative Size	RS	0.2...	to ...0.8
	Denial of a Right	DR	0.2...	to ...1.0
	Means of Projecting Power	MPP	0.2...	to ...1.0

	Triggering Event	TE	0.2... to ...1.0
Enabling	Environmental Conditions	EC	0.0... to ...1.0
	Flow of Information	FI	0.0... to ...1.0
	Geography	GEO	0.0... to ...1.0
	Leadership	LEAD	0.0... to ...1.0
	Repression/Freedom of Action	RFA	0.0... to ...1.0

Taking into consideration the above, the indicators' scaling was determined as presented in Tables 2 for Necessary and 3 for Enabling Indicators.

Table 2: Necessary Indicators’ Characterizations and Corresponding Scores. (Source: own elaboration)

Score	Characterizations – Necessary Factors			
	RS	DR	MPP	TE
0.0	-	-	-	-
0.2	The entity exists but is extremely small or socially or politically irrelevant.	Minor grievances, but no actual systemic oppression. The group may feel underrepresented, but legal rights are intact, and there is no active discrimination.	Minimal organizational ability to mobilize its means.	Minor projection of an event, series of events or situation(s) which could result in wide-spread actions by the entity.
0.4	The group is noticeable in identity or demographics but has limited access to structural or strategic power.	Some significant restrictions, either legal or economic, exist, but the group still retains its fundamental rights. Oppression is more perceived than institutionalized, or it is present but not severe.	Moderate organizational ability to mobilize its means.	Moderate projection of an event, series of events or situation(s) which could result in wide-spread actions by the entity.
0.6	The entity is numerically relevant or strategically placed, but its influence is partially constrained by other forces.	Moderate oppression, with restrictions on political, economic, or cultural freedoms. The group faces systemic discrimination or repression but still has some legal rights and avenues for political action.	Strong organizational ability to mobilize its means.	Strong projection of an event, series of events or situation(s) which could result in wide-spread actions by the entity.
0.8	The entity is either large in population or holds key institutional power (such as military or financial power).	Severe oppression, with widespread denial of rights, police or military crackdowns, and systematic exclusion from the political and economic life.	Very strong organizational ability to mobilize its means.	Very strong projection of an event, series of events or situation(s) which could result in wide-spread actions by the entity.
1.0	-	Extreme oppression, potentially including mass arrests, censorship, and/or ethnic or political persecution.	Maximum organizational ability to immediately and at will mobilize the means at its disposal.	Absolute projection of an event, series of events or situation(s) which could result in wide-spread actions by the entity.

Table 3: Enabling Indicators’ Characterizations and Corresponding Scores. (Source: own elaboration)

Score	Characterizations - Enabling Factors				
	EC	FI	GEO	LEAD	RFA
0.0	The entity faces active external opposition: diplomatic isolation, sanctions, or military pressure from neighboring or international actors.	The entity or movement has no means of communicating or disseminating information internally or externally.	Completely unfavorable geography for the initiation of the desired action.	Absence of any form of leadership.	Extreme repression – Complete suppression of activities
0.2	The environment includes formal disapproval or political obstacles, such as condemnations or regional pressure, but no direct interference.	Information is only available through informal or unreliable means.	Slightly unfavorable geography for the initiation of the desired action .	Weak leadership, unable to motivate or provide strategic direction.	Severe repression – Severe limitations on freedom of action
0.4	External actors are aware but inactive; no clear support or obstruction from nearby states or international bodies.	Information flows at a limited level, possibly through small, informal networks.	Moderately favorable geography for the initiation of the desired action.	Moderate leadership, partially able to motivate or provide strategic direction.	Significant repression – Major restrictions
0.6	The environment includes tacit or indirect support, such as lenient borders, political sympathy, or passive enabling from regional actors.	Information flows relatively freely but may still be restricted by communication barriers or inefficiencies, such as state control of communication networks, or the existence of disinformation and fake news.	Favorable geography for the initiation of the desired action.	Strong leadership, capable of motivating and providing strategic direction.	Moderate repression – Some restrictions.
0.8	External actors facilitate the group’s actions materially or diplomatically — training, financing, media access, or political legitimization.	Information flows smoothly and consistently, allowing for good internal coordination.	Very favorable geography for the initiation of the desired action.	Very strong leadership, highly competent of motivating and providing strategic direction.	Minimal repression – Limited constraints.
1.0	There is direct and strategic involvement from external states or international actors — including arms, funding, training, intelligence, or proxy support.	Information spreads instantaneously and is fully accessible to all members and the broader public, without fake news impacting its quality.	Perfect geography for the initiation of the desired action.	Exceptional leadership, highly skilled and able to inspire and provide complex strategic direction.	No repression – Full freedom of action.

Weight Determination and Index Function

In order to identify the proper weight determination methodology of each indicator, a preliminary test was conducted for the first five cases. The analysis followed the proposed methodology of the original research. Specifically, a short case analysis was produced based on the relevant bibliography for each instability instance. The analysis included the definition of the entity under examination, the system it belonged in, the means used by the entity, as well as anything relevant in determining the indicators' scores. Scores were then assigned to each indicator per case, based on the scales developed in the previous section.

An initial attempt at determining empirical weight scores based on the above five cases showed that the normalized empirical weights did not exhibit values significantly higher or lower than that of an equal weight baseline comparison. Therefore, it was determined that an equal weight approach per indicator category was the most appropriate path to structure the index equation (Greco et al., 2018: pp.65-66). Furthermore, due to the small N-sample design of the original research, a statistical – empirical approach could potentially exhibit unstable results. Finally, all the indicators were treated as linear.

Taking the above into consideration, the index was determined to be calculated via the following mathematics:

$$\bar{N} = \frac{1}{4} \sum_{i \in N} x_i \qquad \bar{E} = \frac{1}{5} \sum_{j \in E} x_j$$

Where $N = \{RS, DR, MPP, TE\}$ and $E = \{EC, FI, GEO, LEAD, RFA\}$, with $x_{EC,FI,GEO,LEAD,RFA} \in [0, 1]$, $x_{DR,MPP,TE} \in [0.2, 1]$ and $x_{RS} \in [0.2, 0.8]$, according to the theoretical limitations presented above.

The final index equation is determined as follows:

$$Political\ Instability\ Index = \bar{N} + \bar{E} =$$

$$= \frac{1}{4}RS + \frac{1}{4}DR + \frac{1}{4}MPP + \frac{1}{4}TE + \frac{1}{5}EC + \frac{1}{5}FI + \frac{1}{5}GEO + \frac{1}{5}LEAD + \frac{1}{5}RFA$$

With $PII_{min} = 0.2$ and $PII_{max} = 1.95$

Index Baseline and Interpretation

In order to interpret the Index score, it was necessary to determine an appropriate baseline. The methodological approach was the same as the one used for determining the index formula. Specifically, the midpoint average of every indicator was used to determine an acceptable baseline. Based on the limitations provided above per indicator, the midpoint average per indicator, as shown in Table 1, and indicator category, the baseline was calculated as follows:

$$\text{Necessary Indicators: } \bar{N} = \frac{0.5+0.6+0.6+0.6}{4} = 0.575$$

$$\text{Enabling Indicators: } \bar{E} = \frac{0.5+0.5+0.5+0.5+0.5}{5} = 0.5$$

$$\text{Baseline Calculation: } B = \bar{N} + \bar{E} = 0.575 + 0.5 = 1.075$$

Therefore, the index baseline is set at 1.075. Any score below this would indicate an entity without any tendencies for exhibiting destabilizing actions, while any score above this would fall into the “danger zone” and indicate an entity that could potentially act in a way to overturn the status quo of the system in favor of restoring one or more of its perceived denied rights. By applying the above function and baseline interpretation to the five cases mentioned above, they all scored above the baseline, a fact which reinforces the above interpretation.

Conclusions and Example Application

An example of the application of the above methodology is provided, as a show case of its application. The case selected was the Syrian Insurgency of 2011. Firstly, a brief analysis of the case was compiled, according to relevant sources and bibliography as follows:

The Syrian Insurgency resulted from the mass protests that took place around the country since March 2011. The insurgency included several state and non-state factions involved in the conflict. The most important of these groups in the initial phase of the insurgency was the Free Syrian Army, formed by a number of Syrian officers that defected to the opposition side of the conflict (Spyer, 2012). The protests came as a result of historical factors including factionalism, corruption, economic injustices and political liberties oppression (Baltes, 2016: 56-57; Hof & Simon, 2013). The Syrian Regime resorted in the violent repression of the initial protests, a course of action which appeared to furth fuel the antigovernment sentiment.

Social media also seemed to have played a significant role in the cultivation of said sentiment and the mobilization of protesters and insurgents (O’Callaghan et al., 2014). A significant influence in the

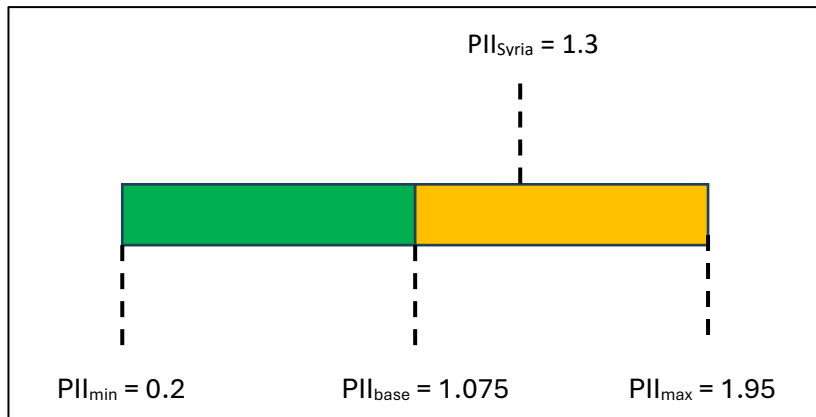
formation of the initial protests and the later insurgency was the broader context of the Arab Spring, which saw mass protests in several Arabic countries, including Egypt, Tunisia and Libya, many of which resulted in regime changes and in some cases, such as in Syria, in civil conflicts.

Following the brief analysis, the proposed methodology was implemented, by first defining the system the entity was a part of, defining the entity itself, the means utilized and finally the perceived rights denied. The system itself was the Syrian state, while the entity is described as “*Syrian Insurgents*” per the UCDP original Dataset. The means utilized were mass protests and armed conflict. The perceived denied rights included economical injustices, political repression and faction favoritism. The triggering event was not a singular event but the escalated response of the Syrian regime.

Taking into consideration the factor scaling, the original factors can be defined as follows:

Indicator	Score	Categorization
RS	0.6	The entity is numerically relevant or strategically placed, but its influence is partially constrained by other forces.
DR	0.8	Severe oppression, with widespread denial of rights, police or military crackdowns, and systematic exclusion from the political and economic life.
MPP	0.6	Strong organizational ability to mobilize its means.
TE	0.8	Very strong projection of an event, series of events or situation(s) which could result in wide-spread actions by the entity.
EC	0.6	The environment includes tacit or indirect support, such as lenient borders, political sympathy, or passive enabling from regional actors.
FI	0.8	Information flows smoothly and consistently, allowing for good internal coordination.
GEO	0.8	Very favorable geography for the initiation of the desired action.
LEAD	0.4	Moderate leadership, partially able to motivate or provide strategic direction.
RFA	0.4	Significant repression – Major restrictions

$$\begin{aligned}
 \text{Political Instability Index} &= \bar{N} + \bar{E} = \\
 &= \frac{1}{4}RS + \frac{1}{4}DR + \frac{1}{4}MPP + \frac{1}{4}TE + \frac{1}{5}EC + \frac{1}{5}FI + \frac{1}{5}GEO + \frac{1}{5}LEAD + \frac{1}{5}RFA \\
 &= \frac{1}{4}0.6 + \frac{1}{4}0.8 + \frac{1}{4}0.6 + \frac{1}{4}0.8 + \frac{1}{5}0.6 + \frac{1}{5}0.8 + \frac{1}{5}0.8 + \frac{1}{5}0.4 + \frac{1}{5}0.4 = 1.3
 \end{aligned}$$

Graph 4: Graphical representation of the PII score for the Syrian Insurgency of 2011.

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