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The Stateness Index (StIx) –
Conceptual Design and
Empirical Results

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Würzburger Arbeitspapiere zur Politikwissenschaft und Soziologie

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The Stateness Index (StIx) – Conceptual Design and Empirical Results

Theresa Paola Stawski, Hans-Joachim Lauth

Abstract:

Exploring and explaining diversity and patterns of stateness is crucial for understanding causes of efficiency, duration, or the collapse of a state. The new Stateness Index (StIx) contributes to the conceptual and analytical debate on stateness and state fragility. StIx is a tool for measuring stateness and state quality since 1950 that includes country-ranking through aggregated and disaggregated data to advance performance comparison and policy analysis. This article first sums up the main theoretical aspects, followed by descriptive results.

Keywords:

State, Stateness, Informality, Measurement, Index

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1. Introduction

Exploring and explaining diversity and patterns of stateness is crucial for understanding causes of efficiency, duration, or the collapse of a state. Although a considerable number of indices that measure “state fragility” exist¹, the quality of data is oftentimes disputable (Stawski 2022), e.g., in relation to the concept being measured, the relevance of indicators, the final calculation of index scores as well as multi-country and -year coverage, timeliness of data and transparency. The new Stateness Index² (StIx) is a tool for measuring stateness that includes country-ranking through aggregated and disaggregated data. Three unique features distinguish our index from existent efforts to measure stateness: *firstly*, we follow a novel approach of conceptualization – parsimonious but extensive enough to display the substantial components of stateness. We provide a composite index that compiles three central dimensions as main components – the monopoly of law, monopoly of violence and monopoly of administration – into a single index and simultaneously keep the multidimensionality of stateness through disaggregated scores. *Secondly*, drawing on data from the Varieties-of-Democracy-Project (V-Dem)³, the index offers data for more than 170 countries in the period between 1950 and today. *Thirdly*, by including informal institutions into our calculations, we expand the measurement of stateness. The innovation of our Stateness Index is the distinction between two layers of conceptualization and operationalization: the *first layer* of the concept presents the formal state that is measured through a set of indicators that represent formal or “official” institutions (core measurement). The *second layer* of informality enriches the formal concept with informal institutions that exist alongside the formal institutional framework of a state (context measurement).

This article introduces the theoretical groundwork of our index, i.e., concept of state and stateness. Chapter three provides examples of measurement and analysis. For further information about measurement, aggregation and results see www.stateness-index.org, especially the Handbook of StIx (Stawski and Lauth 2023).

¹ Fabra Mata and Ziaja (2009) list 11 indices that focus on the measurement of state and stateness and/or fragility or conflict. Two newer indices (Ziaja et al. 2019; OECD 2022) complete the list, resulting in at least 13 more or less established indices that measure “stateness”.

² The index is the result of the DFG research project “Der Staatlichkeits-Index „StIx“: Messanlage und Analyse der Staatlichkeit” of the Chair of Comparative Politics and German Government at the University of Würzburg.

³ The Varieties of Democracy Research Project provides a disaggregated dataset, which measures more than 450 indicators annually from 1789 to the present for all countries of the world (Coppedge et al. 2023a). Although originally developed to measure democracy, the V-Dem dataset also provides indicators that are suitable to measure divergent concept like stateness. In fact, the dataset is explicitly designed to “assemble and disassemble parts”, comparable to a “Lego Set”, for further research (Coppedge et al. 2023a: 9) with full access to replication data.

2. Concept and Components

The construction of our Index is in line with Goertz's (2006: 6) three levels of concept specification: on the *first level*, the cognitively central theoretical groundwork of the concept is located. The *second level* encompasses constitutive dimensions of the basic level concept; these dimensions are still part of the theoretical concept but more concrete. The basic and second level build the theoretical structure of the concept. The *third operationalization level* deals with indicators that represent the substantive content of level one and two.

2.1. Defining the Concept

We define the state as an institutionalized social and political order and organization of hierarchical authority that is in exclusive control of the monopoly of law, monopoly of violence, and monopoly of administration throughout a given territory and its inhabitants (Stawski 2021). The state's monopolies include the state's authority as the single entity to provide and apply law, violence, and administration; the state is the sole legitimate "producer" of stateness with exclusive rights within these monopolies, depriving individuals or groups within society of the authority to use physical force, establish and enforce rules or implement administrative structures. The only exception requires the approval of the state through state-delegation⁴: if the state formally delegates its powers or functions to independent institutions or organisations. Our definition emphasizes the legality of authority as a definitive aspect of stateness that rests on the state's legal claim to power and internal and external recognition as the legitimate supreme entity that exercises control over its inhabitants and territory through formal institutions. The state's legal authority is a combination of impersonality and formality as well as the recognition of the legality of normative rules and the right of those in power ("the state") to issue commands and execute authority (Weber 1947: 328).⁵ For this, the state monopolizes the means of law, violence and administration and claims legitimacy "to assert and defend its [internal and external] sovereignty within a given territory" (Lambach et al. 2013: 7).

⁴ Delegation as "an alternative mode of public control whereby the utilities and other industries deemed to affect the public interest are left in private hands but are subject to rules developed and enforced by specialised agencies" (Majone 1998: 2).

⁵ Legitimacy is congruent to the "validity of the ruler's right to command", i.e., "the state" and its agency possesses the right to issue commands by formal laws. Those commands and rules do not have to be "fair" or "just" to be considered as valid and legally binding. Legal authority of the state is not based on the content of the rule, but rather the legal claim to the right to exercise authority (Guzman 2007), resulting in a general obligation to obey (Gerschewski 2018: 654) the impersonal legal order.

Stateness is the extent to which the state can exercise its authority throughout its entire territory and the people living within it (Teskey et al. 2012: 9), it entails the state's quantitative and qualitative dispersion and penetration of the state territory and state population through state authority. *Stateness* as the performance of institutions denotes that a state can insert and uphold the laws enacted by the regime⁶ across its territory, possesses the means necessary to control both territory and populations, and commands a bureaucratic infrastructure to implement and exert territorial sovereignty throughout the state territory. *Stateness* radiates "authoritatively outwards from a centre but stop[s] at defined territorial boundaries" (Mann 1984: 198). It rests on the state's ability to exercise its legal and administrative monopoly as well as its monopoly on the use of force within state borders (Eriksen 2005: 296).

2.2. Determining Components

Beyond the agreed upon monopoly of violence as a core institution of the state, concepts of the state diverge. Concept specifications range between maximalist and minimalist definitions that exclude relevant attributes (Munck and Verkuilen 2002: 8). We use neither a maximalist nor minimalist conceptualization, but one that is located in a middle range.⁷ The second level components of the concept – the monopolies/dimensions as the defining features – are non-redundant, distinctive features of the state: the monopoly of law, the monopoly of violence and the monopoly of administration.

The three monopolies are necessary dimensions of the state, i.e., they are necessary characteristics that are jointly sufficient. They are separate, but distinctive features that are not substitutable. The monopoly of law is necessary to create and control the legal order of a state. The monopoly of violence is necessary to enforce the binding rules, even in the face of resistance. The monopoly of administration is necessary to penetrate society and territory and to implement logistically political decisions and the binding rules (Mann 1984: 189). The three monopolies are mutually constitutive, supporting and interlinked, and consequently, all three

⁶ The state establishes a centralized governance structure through the political regime. The state-regime-nexus is an equiprimordial nested institutional complex (Stawski 2021): The state is the basic institutional structure that is neutral to any regime type. But a state without a regime is a polycephalic entity without a centre of authority. As the permanent manifestation of the political organisation of authority, the regime represents the state authority that uses and exercises this power through the state. The regime is an integral part of the state, and the state is a definitional part of the regime. State and regime thus form a unit of governance.

⁷ A middle-range concept enriches the minimal concept (most undisputed: Monopoly of Violence) only to the extent necessary for a differentiated analysis, and at the same time neither overstretches nor limits or oversimplifies the institutional concept of the state (Lauth and Schlenkrich 2020).

provide necessary functions of the state to assert authority over inhabitants within the state territory that cannot compensate each other.

Monopoly of Law

Drawing on theories of the German “Staatswissenschaft”, the “essence of the state” is the monopoly of law as the state’s legitimate right to authoritative binding rulemaking, supported by the monopoly of violence to enforce laws (Mann 1984: 188). Furthermore, the monopoly of law connects to and establishes the state’s legitimate claim as the hierarchical supreme authority.⁸ The monopoly of law combines legislation and application of law and the state’s legal order.⁹

The monopoly of law of the state does not rest on normative conditions or content; rather it accentuates the legal-rational logic of law and order. Legality emphasizes how the state operates, i.e., through law and legal order, anticipating a general obligation to obey. States and their legal systems exist together with democratic and autocratic regimes. To avoid a democracy bias, we use legal orders in a positivist understanding and not in the normative sense of the rule of law, which has an inherent relation to democracy.

Monopoly of Violence

The state is an order and enforcer of power that is institutionalized into the permanent manifestation of authority. State power is authoritative power with coercive organizations (Mann 1984: 187) to implement and enforce norms and rules enacted by the political regime “unconditionally” (Dusza 1989: 88): coercion includes the state’s ability to preserve its borders, avert internal and external “threats”, maintain order, and enforce compliance with the law (Hanson and Sigman 2020: 9). The monopoly of violence as the state’s expression of “ultimate control” rests in its prerogative to use physical force for the maintenance of its order (Weber 1968: 54 ff.). This includes the authority to undertake actions without negotiations with the subordinates (Mann 1984: 188). The state monopolizes the exertion of physical violence through its organisations (police, military) that control and prevent civil violence and enforce

⁸ Legitimacy is an endogenous attribute and property of the state as the basic institutional order of a given territory, while legitimisation or legitimation refers to the process of generating legitimacy through empirically observable activity (Gerschewski 2018: 655).

⁹ Legal norms are broadly defined as the system or set of rules of conduct establishes and sanctioned by the state (Duminica 2014: 24).

state decisions and policies to maintain domestic order. The monopoly of violence deprives individuals of their “right” to exert violence, forming the state not only into the enforcer of rules but also the one that is in control of and controls violence throughout the state’s territory (Haack 2017: 1153).

Monopoly of Administration

Institutionally, the state is "an administrative and legal order subject to change by legislation, to which the organized activities of the administrative staff, which are also controlled by regulations, are oriented" (Weber 1968: 55 f). The monopoly of administration contains the organizational structures of the state, the territorial and societal reach, material resources and organizational competencies internal to the bureaucracy. Administrative power becomes institutionalized into authority of the institution authorized by law, independent of the personnel that work within the state’s bureaucracy.¹⁰ By exerting administrative control, the bureaucracy of the state manages and allocates resources according to rules and criteria that are formally stipulated by law (Soreide and Rose-Ackerman 2015: 4). Through the monopoly of administration, the state exercises power of command “as a continuous, persistent sphere of activity (Geschaeft) adapted to day-to-day needs (routinized)” (Dusza 1988: 76) and this is maintained through its system of public offices.¹¹

Together, the administrative and legal order claim binding authority over all actions within the state, the bureaucracy includes all organized activities of administration of state order. A state thus possesses what Mann (1984: 189) calls “infrastructural power” as the ability to implement logistical decisions within the realm of the state. State administration includes all existing procedures, structures, and skilled official personnel and expertise to implement policies and administer basic public services (Skocpol 1985: 16; Dimitrova et al. 2021: 5).

¹⁰ Officeholders within the bureaucracy as “public servants” follow impersonal and functional purposes (Dusza 1989: 92), establishing the separation of private and public sphere of legal-rational order.

¹¹ The system of public offices consists of the hierarchical differentiation of the state administration from the head of state down to communes and their political leadership.

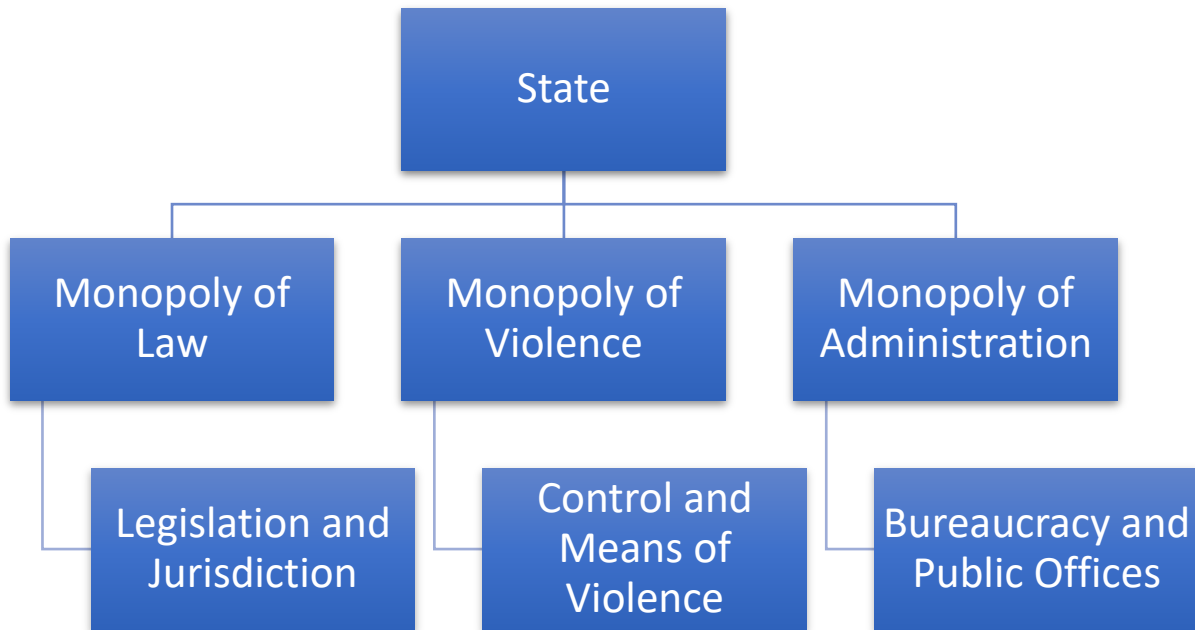


Figure 1: Conceptual organization and logical structure, core concept (own illustration)

2.3. Conceptual Enrichment - Informality

Formal and informal institutions shape every state.¹² In contrast to our ideal type of the state defined above, the interaction between formal institutions and informality refers more to the real manifestation of the state. In a comprehensive understanding of the state, empirical cases are always a mixture of formal and informal institutions and practices, which together shape the specific appearance of the state. Hence, informality in the realm of the state is not a separate concept, but a second layer that is an intrinsic element of the formal state institutions. Thereby we analyse and account ^{And} the facto “making of pu ^{And} hority” as a dynamic and even contested process in the realm of the state (Lund 2006: 679).¹³ The common denominator of formal institutions is its origin and base – the state.¹⁴ Formal institutions legally construct a state through written rules and regulations that are implemented and enforced by the state. Formal institutions are positive law, adopted through the act of a legal body and the state is the

¹² We follow the neo-institutionalist approach that defines institutions broadly as “simply rules [...]. Some are formal (as in constitutional rules) some are informal (as in cultural norms)” (Steinmo 2001).

¹³ This differentiation accounts for the proposal by Engel and Erdmann (2007) that classify the relation and outcome of state-centred formal and informal institutions as a continuous phenomenon: informal institutions penetrate the formal state institutions and effect their logic and output. If informality does not take exclusive control over the legal-rational order of the state, there is the potential for mutual reinforcement or substitution between the formal and informal sphere. But the more dominant the informal sphere becomes, the weaker the formal sphere of this hybrid logic of institutional mixture gets, ultimately resulting in an informal state (e.g., “Shadow State”, “State capture”).

¹⁴ “Not all law is state law, but all those norms that are enforced by some [state] agency are ‘law’” (Dusza 1989: 88).

legal regulator of the creation and implementation of the legal order (Kelsen and Paulson 1982: 68). This includes state law, regulations and standing orders (Lauth 2000: 24). Formal institutions denote legality of authority that rests on the state's legal claim to power and internal and external recognition (or aspiration) as the legitimate supreme entity that exercises control over inhabitants and territory through formal institutions; ¹⁵ they are juridified through the state's sovereign claim of legislative and jurisdictional authority.

Informal institutions are "rules and procedures that are created, communicated, and enforced outside the officially sanctioned channels" that "are often as important as their formal counterparts in structuring the 'rules of the game'" (Helmke and Levitsky 2006: 5). Informal institutions are rules that are not unique, not optional, or dispensable, but they are permanent, binding, and authoritative rules (Senge 2011: 91). Their authority is based on various sources, especially the de facto power of the agency that enforces the institution, density and social appliance and compliance (contrary to acceptance, which is not necessary for compliance with an (informal) institution). In contrast to formal institutions, their authority is not based or originated from the state's sovereign claim to the monopoly of law, but rather evolves from the "power of the facts" as actual enforcement power of non-state actors and groups that enables them to legislate and enforce their own rules (Sehring and Lauth 2009: 189). They can be legal (in accordance with formal law), extra-legal (exploiting loopholes) or illegal (breaking formal law), depending on their relation to the formal institutional framework – the legal order – of a state.

¹⁵ The transpersonal aspect of authority divides legal-rational orders (formal, first level indicators) from personalist orders such as charismatic or traditional (informal, second level indicators) states that are based on personal/patrimonial conceptions of rulership. By separating the sovereignty of the state from the sovereignty of the ruler(s) and through the institutionalization of persons or groups of persons as "organs" of the state, the state becomes the subject and medium of all prerogatives of authority (Dusza 1989: 83). Through this, the state turns into "a system of legal relations" (Dusza 1989: 84).

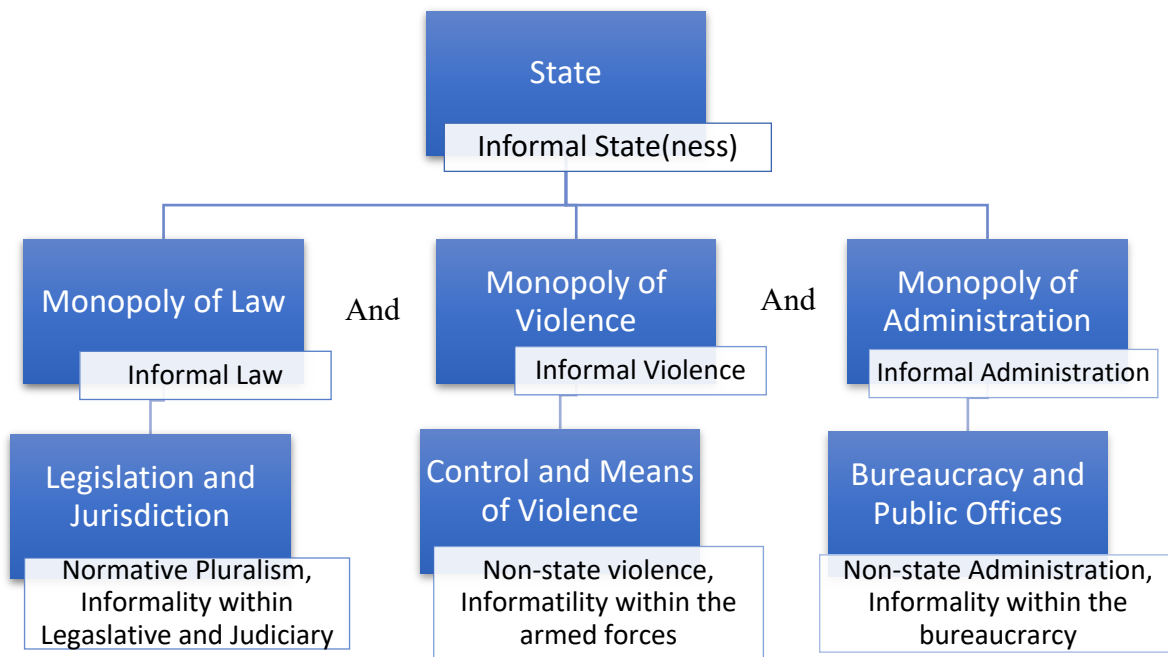


Figure 2: Conceptual organization and logical structure, contextualization (own illustration)

Relational Framework

In complex societies, formal institutions and informal institutional arrangements are interdependent. Literature on formal and informal institutions (Lauth 2000; Helmke and Levitsky 2006; Grzymala-Busse 2010) prevalently map out the relation according to their reciprocal compatibility and impact (Kiss 2020). While complementary (support) and substitutive (replacement) institutions are generally seen as compatible to formal institutions that can enhance the performance or effectivity of formal institutions, deviant¹⁶ (“decoupled”) or competing informal institutions decrease the performance of formal institutions (undermining and competition) (Kiss 2020; Helmke and Levitsky 2006; Lauth 2000; Grzymala-Busse 2010).

The effect is “double-edged” (Helmke and Levitsky 2006: 17)¹⁷: informal institutions can stabilize, change, or destroy formal institutions. In short, the impact of informal institutions is so ambiguous because it depends on a multitude of factors like prevalence, autonomy, role, and

¹⁶ Violation of formal rules and simultaneous compensation for shortcomings of formal institutional functioning (Kiss 2020: 18).

¹⁷ E.g., Clientelism is a mutually beneficial but asymmetrical exchange relationship between a patron and a client (Roniger 2004: 353). The asymmetry relationship is based on non-institutionalized relations that frequently contradict formal law, penetrating the formal system “leading to a domination of the public spheres by private relationships and particularistic interests” (Kraushaar and Lambach 2009: 9). The patron uses his position as a “gatekeeper” to control access to state resources (Lemarchand and Legg 1972). Still, clientelism provides a “link between the elite and the subalterns, the center and the periphery” (Kraushaar and Lambach 2009: 9).

authority of non-state legal orders, which in turn vary across contexts, institutional settings, and dynamic factors.¹⁸

For our Index, we oversimplify the interactions between state and informality with a restriction to competing or conflictual relations and negative effects between formal and informal institutions. Our decision to examine conflicting interactions is based on pragmatic reasons: positive effects between formal and informal institutions need in-depth case studies, no data is available to measure a positive, i.e., substitutive or accommodating outcome. Hence, we focus on those cases only where informality leads to the loss of the hierarchical supremacy of the state's monopolies of law, violence, and administration. The state's monopolies become internally diluted or eroded by informality or externally discharged and turned into oligo- or polypolies. In these constellations, the interaction of formal and informal institutions either directly or indirectly challenges the state's sovereign and monopolistic claim to authority (competition).¹⁹

3. Operationalization, Aggregation and Typology of StIx

Operationalization i.e., the process of indicator selection depends on the conceptual groundwork. This step is crucial for the quality of any index since “strengths and weaknesses of composite indicators largely derive from the quality of the underlying variables” (Nardo et al. 2008: 23). Several criteria guide our operationalization: (1) conceptual fit of the three core dimensions of the state and (2) exclusion of indicators that overlap too much with other concepts, e.g., regime; (3) broad geographical and temporal coverage and (4) avoidance of aggregated indices (Hanson and Sigman 2020: 10).²⁰

¹⁸ E.g., political violence can counteract the formal state if it is directed against the state as a form of protest or resistance. Political violence furthermore always dilutes the formal monopoly of violence. But it can, depending on its appliance, also help maintain stability if informal actors use their power in accordance with the state, e.g., to settle disputes or fight against adversary groups of the state. The dynamic constellations depend on the arrangements between formal and informal actors/elites and ultimately on the empirical case.

¹⁹ In all relational constellations, informal institutions either directly challenge the state's monopolies or establish parallel “areas of competence” by influencing the state's formal institutions (Lauth 2000: 25).

²⁰ For a description of the indicators see the StIx Codebook; annotations about the transformation of indicators are found in the StIx Handbook.

3.1 Operationalization: Core and Context Measurement

Monopoly of Law – Core Measurement

The Monopoly of Law is based on the premise that legal order, creation and application of law are de facto existent, without competing claims of legal orders or jurisdiction. We operationalize the monopoly of law through five indicators: to measure legal autonomy of law, i.e., internal and external sovereignty of a state, we use (1) “Domestic autonomy” and (2) “International autonomy”. These indicators measure if a state is autonomous from the control of other states with respect to the conduct of domestic and foreign policy. To measure impartiality as a principle for the legal-rational authority and procedural norms (Rothstein and Teorell 2008: 166), we include the indicator (3) “Judicial accountability”²¹ to examine if judges are disciplined when they are found responsible of serious misconduct. We include the dichotomous indicator (4) “Regime interregnum”²² as a proxy that indicates whether a state can implement laws enacted by an existent regime (Andersen et al. 2014: 1208).²³ By including the dichotomous indicator (5) “Legislature closed down or aborted” we can identify temporary or sustained ruptures within the legislative process of the monopoly of law.

Monopoly of Law – Context Measurement

For a more realistic measurement that targets the de facto existence of the monopoly of law, our second level indicators aim at uncovering situations of societal legal pluralism and parasitic state-centred informal institutions that, although located alongside formal institutions of the state, erode the integrity of the legal-formal monopoly of law by bending it to informal rules. By using two indicators (1) “HOS control over” and (2) “HOG control over” we incorporate the occurrence of non-state public authority that have to be customarily consulted prior to making important decisions on domestic policies, namely a tribal or ethnic council.²⁴

²¹ “When judges are found responsible for serious misconduct, how often are they removed from their posts or otherwise disciplined?” (Coppedge et al. 2023b).

²² The dichotomous indicator is coded 0 if no political regime is in control over the state. It is coded “conservatively, meaning that partial control over political bodies and processes in fairly large parts of the country (which is also often the case during civil wars) is sufficient for a 0 score” (Coppedge et al. 2023b).

²³ A regime uses the state to implement its goals and simultaneously determines and shapes the state in form and content (Andersen et al. 2014: 1203-1204).

²⁴ If a state possesses a fully functioning monopoly of law, decisions of the highest office holders (Head of state and/or Head of government) should not be dependent on the permission of societal groups. It is thus an indication of a fragile monopoly of law if officeholders (embodiments of “the regime”) need the approval of powerful groups within society prior to legislation.

We also include the indicator (3) “Executive respects constitution” that measures if members of the executive (the head of state, the head of government, and cabinet ministers) respect the constitution. If the executive frequently violates the constitution without legal consequences, the constitution as the “Grundnorm” (Kelsen 1960) and “ultimate locus of the foundation which confers validity on the norms of a legal system” (Rachuonyo 1987: 416) becomes less significant. Hence, if the executive violates the constitution, it basically violates its own legal authority and legal validity of the legal order of a state.²⁵

The fourth indicator focuses on informal institutions that are used to exercise public authority of the state in discordance with formal rules and procedures, ultimately deforming the monopoly of law and legal-rational authority to a monopoly of privilege and personal authority. The indicator (4) “Judicial corruption decision” measures the exploitation of public power for private gain.²⁶ The fifth indicator (5) “Legislature corrupt activities” captures if members of the legislature abuse their position for financial gain.

Monopoly of Violence – Core Measurement

The Monopoly of violence reflects the state’s ability to uphold territorial sovereignty and the state’s resources/means to do so. We use three indicators to measure the state’s authority and control within its territory and the quality of the armed forces.²⁷ (1) “State authority over territory”²⁸ captures the hegemonic control of the state over its territory and control over political forces that reject its authority (percentage of territory controlled by the central state). The indicators we include to measure the means of violence examine formal and informal procedures of recruitment and salary among the armed forces: (2) “Criteria for appointment decisions in the armed forces” and (3) “Remuneration in the Armed Forces”. Quality of the armed forces is approximately determinable through the acceptance of boundaries between

²⁵ This assumption is not identical to the “dual state” of Fraenkel – the “prerogative state” is still legalized through the constitution and the legal order of state – not remote from it.

²⁶ Corruption is broadly defined as the abuse of public power for private gain (e.g., Worldbank) within public or private sector activities. Corruption can be political, bureaucratic, centralized, or decentralized as well as coercive and collusive (Tanzi 1998). As an informal institution, this establishes relations that are valid and can be sanctioned if they are not behavioural patterns but the binding rules of a society that also include meta-rules that stipulate the relation between rulers and the ruled, and they are embedded in the broader context of other rules, which can be formal or informal.

²⁷ Other approaches to measure the monopoly of violence are available that use comparable indicators to our approach (e.g., Bertelsmann Transformation Index, Fragile States Index, World Governance Indicators, OECD), but none of these achieve global coverage over a sufficient number of years that are actualized annually.

²⁸ The V-Dem Dataset originally included the indicator “State authority over population”, but this indicator was discontinued. Furthermore, the indicator State authority over territory is set to missing when the indicator Independent states (v2svindep) is 0.

public sphere (civil servants, transpersonal aspect) and private sphere restrictions (Rothstein and Teorell 2008: 177). Appointment decisions based on merit as “the opposite of patronage systems” prevent personal and political criteria to determine entry into the administration, making access to state resources “more universal and impersonal” (Dimitrova et al. 2021: 24).

Monopoly of Violence – Context Measurement

Our measurement of informal institutions includes situations in which the state is challenged by competing claims to the monopoly of violence or by excessive practice of violence within society. In extreme cases, the emergence of non-state violence increases civilian deaths through ubiquitous social violence that has become the norm (Kingston 2004: 1).²⁹ We draw on the indicator (1) “Political Violence” to measure the level of violence of non-state actors within society. We also include the indicator (2) “State of emergency due to an armed conflict/war, domestically or internationally” to further measure domestic or international situations of imminent danger to the monopoly of violence.

Monopoly of Administration – Core Measurement

The monopoly of administration represents the state’s ability to implement policies and govern inhabitants throughout the state’s territory. To operationalize the Monopoly of Administration we use three indicators: Administrative and infrastructural efficiency based on legal-rationale administrative organisation includes (1) “Criteria for appointment decisions in the state administration” and (2) “Bureaucratic remuneration”. The first two indicators allow insight into the quality of the administration and the acceptance of boundaries between public sphere (civil servants, transpersonal aspect) and private sphere (Rothstein and Teorell 2008: 177). The last indicator (3) “Access to public services distributed by urban-rural location” measures whether access to basic public services, such as order and security, primary education, clean water, and healthcare, is distributed equally across urban and rural areas (“urban elite bias”). The centripetal “functional disintegration” of the state is an indicator of state defects stemming from unequal depths of state penetration throughout the entire state territory.

²⁹ For this reason, proxies like “battle-related deaths” or “homicide rates” are oftentimes used to measure the monopoly of violence (e.g., Ziaja et al. 2019).

Monopoly of Administration – Context Measurement

To assess the de facto functioning of the administration, we measure the extent of neopatrimonial domination, i.e., the co-existence of patrimonial and legal-rational bureaucratic domination (Engel and Erdmann 2007).³⁰ We use two indicators to measure the extent of informality within the state administration³¹: (1) “Public sector corrupt exchanges” and (2) “Public sector theft”. The first indicator measures the average of routinely given favours of public sector employees in exchange for bribes or other material inducements (Coppedge et al. 2023b). The second indicator aims at uncovering whether public sector employees steal, embezzle, or misappropriate public funds or other state resources for personal use.

3.2 Aggregation

In line with the basic conceptual framework and the structure of components we derive methods of aggregation, between and within levels.³² The decision whether to use a compensatory or non-compensatory approach of aggregation is dependent on the theoretical framework and interpretation of dimensions as being either complementary or compensatory. We then differentiate between three levels of aggregation: *Within dimensions* (first level indicators; second level indicators), *between dimensions* (total composite value), and *between formal and informal institutions* (first and second level indicators).

For these three measurement levels we apply differing methods of aggregation: In line with our concept that is based on equally important components, for the composite value we choose aggregation that does not allow substitution and compensation³³ between dimensions (high values in one dimension cannot compensate for low values in other dimensions). We use multiplicative aggregation that is simple in its construction, creates solid and meaningful results and ensures that low scores in one dimension will not be compensated fully in other dimensions

³⁰ A patron-client relation is a “vertical dyadic alliance, which is an alliance between two persons of unequal status, power or resources each of whom finds it useful to have as an ally someone superior or inferior to himself” (Landé 1977: XX). It is a face-to-face, repeated interaction constituting a lasting personal relationship of dependence between individuals of unequal socio-political status (Hilgers 2011) that varies between voluntary to coercive forms to ensure compliance.

³¹ Other indices that V-Dem offers like the Neopatrimonial Rule Index or Clientelism Index include components of democratic rule (judicial independence) and thus are too extensive to fit our perception of neopatrimonial rule within the state administration.

³² A composite Index “[...] is formed when individual indicators are compiled into a single index, on the basis of an underlying model of the multi-dimensional concept that is being measured” (Nardo et al. 2008: 13).

³³ Compensability refers to the existence of trade-offs, i.e., the possibility of offsetting a disadvantage on some criteria by a sufficiently large advantage on another criterion, whereas smaller advantages would not do the same. Thus, a relation is non-compensatory if no trade-off occurs, and is compensatory otherwise (Nardo et al. 2008: 104-105).

Table 1: Indicators (V-Dem) and Dimensions

Dimension	Indicator
Monopoly of Law, Core	Domestic autonomy
Monopoly of Law, Core	International autonomy
Monopoly of Law, Core	Regime interregnum
Monopoly of Law, Core	Judicial accountability
Monopoly of Law, Core	Legislature closed down or aborted
Monopoly of Law, Context	Societal Legal Pluralism
Monopoly of Law, Context	Judicial Corruption
Monopoly of Law, Context	Legislature corrupt activities
Monopoly of Law, Context	Executive respects constitution
Monopoly of Violence, Core	State authority over territory
Monopoly of Violence, Core	Criteria for appointment decisions in the armed forces
Monopoly of Violence, Core	Remuneration in the Armed Forces
Monopoly of Violence, Context	National state of emergency due to an armed conflict/war
Monopoly of Violence, Context	Political Violence
Monopoly of Administration, Core	Criteria for appointment decisions in the state administration
Monopoly of Administration, Core	Bureaucratic remuneration
Monopoly of Administration, Core	Access to public services distributed by urban-rural location
Monopoly of Administration, Context	Public sector corrupt exchanges
Monopoly of Administration, Context	Public sector theft

(Greco et al. 2019: 76):³⁴ “a low score on any of the component indices thus suppresses the value of the overall index” (Teorell et al. 2019: 81).³⁵ The final composite Index score is calculated across our three dimensions by multiplicative aggregation with equal weights of dimensions to reflect the logic of conceptualization, i.e., all three dimensions are necessary and

³⁴ Non-compensatory is equivalent to a not fully compensatory approach. Partial compensability allows for the small compensation between decreases and increases of components (Mazziotta and Pareto 2018: 969).

³⁵ As a result, the distribution can be skewed towards zero (Teorell et al. 2018: 81).

together sufficient dimensions of stateness and every dimension is “‘worth’ the same in the composite” (Nardo et al. 2008: 31).

The dimensional indices (monopoly of law, monopoly of violence, monopoly of administration) are the multiplicative product of the indicators resp. mean values of remuneration und recruitment criteria within the public services and armed forces, each raised to their assigned weights (Greco et al. 2019: 75). This type of aggregation is simple but effective as it allows us to calculate values based on analytical relevance of the indicators (weights). Furthermore, the multiplicative aggregation ensures that values of or close to zero in any indicator or dimension result in an overall score of or close to zero, indicating insufficient performance of stateness.

The third level of aggregation allocates formal and informal institutions³⁶ for each dimension. We focus on informal institutions that undermine and distort the formal institutions of the state. This includes both parasitic institutions that are located within the formal state institutions as well as competing societal institutions. To calculate the impact of informality on the formal state, we use a multiplication procedure without weights (malus system). The negative impact of informal institutions is assessed as a distortion of the formal state that negatively influences a state. Consequently, strong informality within a state with a maximum value of the first level indicators receives a downgrading to a moderate functioning state and so forth. If no or limited informality is present, the results of the first level measurement are confirmed (Lauth and Schlenkrich 2019).

Table 2: Aggregation levels and method of aggregation

Aggregation of Levels	Method of Aggregation
First Level Indicators – Within Dimensions	Weighted multiplicative function, root
Composite Index aggregation – Total score	Multiplicative with equal weights, root
Second Level Indicators – Informality	Arithmetic mean with equal weights
First and Second level Indicators – Core (formal) and Context (informal)	Multiplicative function without weights, Malus

Typology:

StIx uses a theoretically grounded typology of stateness: The first threshold at 0.7 separates the “full” presence of components and attributes in line with the root concept of a functioning state

³⁶ The composite value of informality of each dimension is based on the logic of substitutability: high values of one indicator substitute for low values on the other and vice versa. This is based on the logic that the indicators are “of the same thing”, i.e., informality. Assuming that informal institutions are partial substitutes, we average them with the mean value.

from empirical patterns that, although not completely corresponding to the concept of stateness, still fulfil criteria with some minor deficits, i.e., moderate functioning states.

The second threshold is located between moderate functioning and defective states at 0.5. The third threshold at 0.3 is located within diminished subtypes to further differentiate between defective and profound defective states that differ regarding the severity of defects. The fourth threshold specifies at which point attributes and components are no longer sufficiently given, i.e., when the minimal standards are no longer existent (collapsed state; 0.1).



Figure 3: Typology of StIx (own illustration)

Table 3: Thresholds and Rules of Classification

Typology	Thresholds and Rules of Classification
High functioning State	1 – 0.7, all dimensional scores above 0.7
Moderate functioning State	<0.7 – 0.5, one or more dimensional scores below 0.7 and all above 0.5
Defective State	<0.5 – 0.3, one or more dimensional scores below 0.5 and all above 0.3
Profound defective State	<0.3 – 0.1, one or more dimensional scores below 0.3 and all above 0.1
Collapsed State	< 0.1, one or more dimensional scores below 0.1

State fragility as a continuous phenomenon encompasses states with small defects (Defective States), severe defects (Profound Defective States) and situations of institutional collapse (Collapsed States), where (formal) stateness is de facto absent.

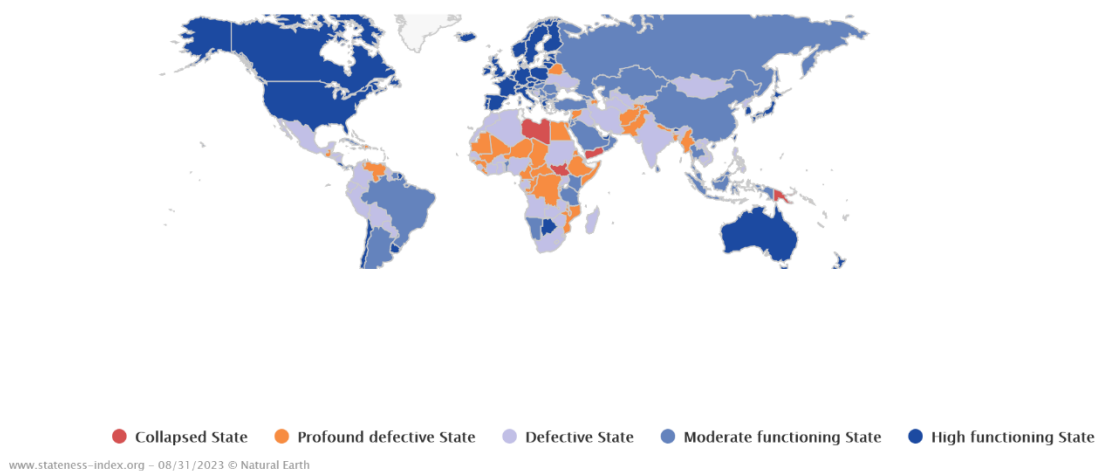
4. Examples of Measurement

The following section gives a short overview of the regional distribution of stateness, includes short case studies of differing types of stateness and provides a summary of the most current trends.

4.1 Regional Distribution of Stateness 2022

Country Overview

Year 2022 | Context Measurement



The regional distribution of state-types reveals an unsurprising picture: Most high functioning states are found in Europe and North America, while the majority of defective states are found in Africa.

Table 4 - Stateness across World Regions

Comparing Stateness across World Regions 2022					
Region	CS	PD	DS	MF	HF
Caribbean	-	2	-	1	3
Central America	-	1	4	1	1
Central Asia	-	1	3	1	-
Eastern Africa	1	7	6	3	1
Eastern Asia	-	-	2	1	3
Eastern Europe	-	1	2	4	3
Middle Africa	-	6	3	-	-
North America	-	-	-	-	2
Northern Africa	1	1	3	-	-
Northern Europe	-	-	-	-	10
Oceania (including Australia and the Pacific)	1	1	1	1	2
South America	-	1	6	3	2
South-Eastern Asia	-	1	5	3	1
Southern Africa	-	-	3	1	1
Southern Asia	-	4	2	2	1
Southern Europe	-	-	1	5	7
Western Africa	-	6	8	2	-
Western Asia	1	3	4	7	2
Western Europe	-	-	-	-	7
Total	4	35	53	35	46

CS = Collapsed State, PD = Profound defective State, DS = Defective State, MF = Moderate functioning State, HF = High functioning State

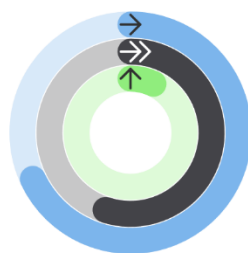
4.2 State collapse

Four states are collapsed in 2022: Yemen, South Sudan, Libya, and Papua New Guinea. While Yemen, South Sudan and Libya show balanced profiles of state collapse, Papua New Guinea's stateness is highly unbalanced with the defects among the monopoly of administration exceeding the defects among the monopoly of violence and monopoly of law by far.

The Monopoly of Law and Monopoly of Violence fall within the thresholds of a somewhat moderate functioning state although non-state actors frequently challenge the monopoly of violence of the state. Informality and the politization of the state administration hamper the state's abilities to implement its policies. More importantly, Papua New Guinea suffers from a profound urban bias ("paper state"), i.e., the absence of the state within the periphery: public services and infrastructure are highly deficient to completely absent outside of major towns and capitals (BTI PNG 2022).

Papua New Guinea

Year 2022



● Monopoly of Law (Context Measurement)

● Monopoly of Administration (Context Measurement)

● Monopoly of Violence (Context Measurement)

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Societal fragmentation is promoted by the archipelago nature of PNG with around 600 small islands, and although PNG is a resource-rich country, high levels of poverty and inequality exist, trapping PNG in a “low-level equilibrium” (Bizhan and Gorea 2020), i.e., a “fragility trap”. On the one hand, informal societal organization of self-help like the “wantok system” – the traditional welfare system of a tribe – substitute the state’s deficiencies, on the other hand, these informal networks undermine the formal state and its administration (Bizhan and Gorea 2020). Strong microsocieties compete with the central state, the societal and geographical fragmentation constrain the state’s penetration of people and territory. As Bizhan and Gorea (2020: 3) conclude, “the de jure arrangement for authority at the national level is supposed to be rational-legal, the de facto arrangement is largely informal”. Political instability is persistent, office holders within the state use their position to uphold clientelistic networks, and corruption is endemic. The national military is unable to control the tribal forces and the state is frequently challenged by non-state actors, e.g., the autonomous region of Bougainville.

4.3 Profound defective States

In 2022, 35 States are classified as profound defective states. The majority of this type of stateness is found in eastern Africa, middle Africa, western Africa and Southern Asia.

Within this group of profound defective states countries like the Dominican Republic, Malawi or Egypt show grave deficits among the Monopoly of Administration, while the Monopolies of Law and Violence are moderately functioning. Other countries like Afghanistan or Syria have

no meaningful capacities among all three monopolies, placing these states in imminent danger of a (returning) state collapse.

Niger is a profound defective state: the monopoly of violence is challenged by various non-state actors like Boko Haram and al-Qaeda in the Islamic Maghreb along the borders with Nigeria, Mali, Libya, and Burkina Faso. The administrative capacity of the state is severely limited, even in Niamey. Nomadic people rarely have access to state services. The monopoly of law has potential to function properly, but due to the infrastructural deficiencies, the monopoly of law is defective outside of the capital. Although the Ministry of Justice occasionally organizes mobile courts in rural areas, alternative legal systems dominate large segments of the population (BTI Niger 2022). In many regions, local state structures only exist on paper and corruption in all branches of the state is rampant.

Furthermore, Niger is experiencing grave challenges in 2023. Following the coup of the Presidential Guard in Niger in July of 2023 and the forming of a junta and the seizure of power by various branches of the defence and security forces, the danger of domestic unrest and international as well as regional conflict is high. Internal power struggles between the military and the president, which started under President Issoufou and continued under President Bazoum, are the legacy of a long history of authoritarian, military-dominated rule. Niger is the third central Sahel state – after Mali and Burkina Faso – to be overthrown by a military coup since 2020. It remains to be seen whether the military cooperation between Niger, the United States and the European Union, which has externally strengthened the Nigerian state to maintain control over its territory, will be renewed after Western support to Niger has been suspended in response to the coup.

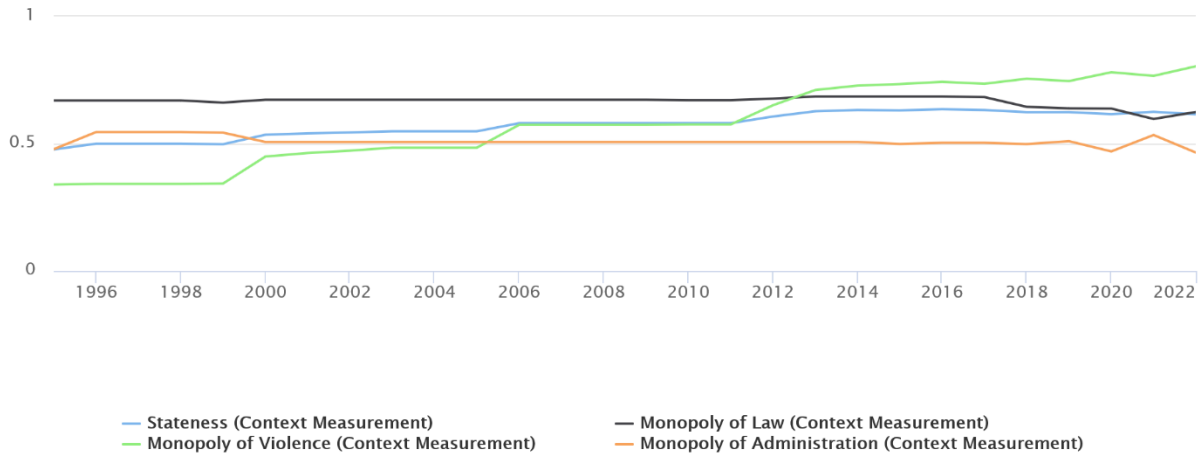
4.4 Defective States

53 states are classified as defective states in 2022, making this category the predominant type of global stateness. Defective states are found around the globe, except for Western and Northern Europe, and North America.

The majority of defective states are stable within this category, contradicting the assumption that defective stateness is inherently unstable. On the contrary, countries like Algeria, Gabon, Iran and Morocco confirm the stability of fragile states. An institutional equilibrium between the monopolies of law, violence and administration in combination with autocratic regimes and informal networks within the state generate the necessary stability.

Algeria

Year 1995 to 2022



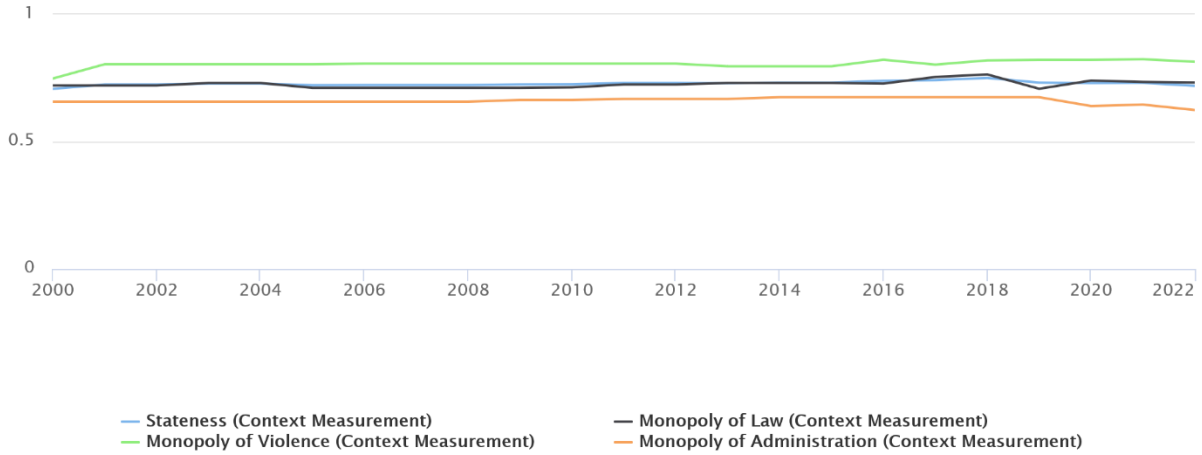
Algeria’s status as a defective state is mainly due to its deficiencies within the monopoly of administration. The monopoly of violence lies within the functioning spectrum, the Algerian military is well-funded and trained, and there is no large-scale competition over the state’s monopoly of force. Although the region is plagued by conflict, the Algerian security forces maintain control over state territory. The military is a strong veto player, and leaders rely on its support to maintain office (BTI Algeria 2022). The Monopoly of Law lies within the moderate functioning spectrum, informality within the judiciary, executive and legislative branch produce stability and simultaneously undermine the formal institutions of the state. The monopoly of administration is categorized as defective, bordering on moderately functioning. Inadequate anti-corruption laws and a bloated bureaucracy foster corruption that is widespread within the state. Basic infrastructure and public services exist throughout the state, there is a moderate urban-rural bias, and the bureaucracy is infiltrated by informal rules.

4.5 Moderate functioning States

Moderate functioning States deviate from the ideal-type, but do not pass the thresholds of defective states. Instead, they show (minor) deficits that do not conglomerate to a state of fragility. In 2022, 35 countries are categorized as Moderate functioning States like Turkey, Qatar, Bulgaria, and Russia. 16 of those countries (e.g., Oman, Qatar and Kuwait) are classified as high functioning states without the inclusion of the context measurement, leading to the conclusion that, at least within this group of 16 states, informality bends rules and procedures of the formal state.

Qatar

Year 2000 to 2022



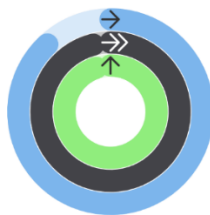
In 2022, Qatar’s monopoly of law and monopoly of violence are high functioning – the state has control over its territory, the people accept the state’s authority. The infrastructure is well developed throughout the territory, but appointment decisions in the state administration are based on personal or political connections, hence the monopoly of administration is located within the moderate functioning spectrum.

4.6 High functioning States

46 states correspond to the legal-rational ideal-type of a state, leading to the classification as high functioning states. Unsurprisingly, this type of stateness is mainly found in Europe, possibly affirming a Western bias of measurement. However, countries like Singapore, Costa Rica, Botswana, the United Arab Emirates, Chile, and Bhutan also fall into the category of high functioning states, contradicting both a democratic and Western bias.

Singapore

Year 2022



With a total Index value of 0.93, Singapore leads the stateness ranking of 2022, placing an electoral autocracy at the top of all states. The monopoly of violence is undisputed, the highly trained and skilled personnel in both administration and armed forces implement and execute the laws enacted by the regime. The state is fully capable of fulfilling its jurisdictional functions to enforce the laws within its territory. The infrastructure encompasses the whole territory, and due to the ruling party’s (People’s Action Party) rigorous fight against corruption, most corruption cases end in conviction (BTI Singapore 2022).

4.7 State Transformation: Changes between 2021 and 2022

State transformation includes any movement along the state-spectrum, i.e., between functioning and collapsed states. *Fragilization* is a process of declining stateness, covering all transformations towards the pole of a collapsed state, even though this process is open-ended, i.e., not determined to end in a collapsed state. While the starting point can be a functioning state, it is more likely that states with pre-existing defects become more fragile.

Improvements in stateness, meaning any shift closer to the pole of a functioning state with the above defined features, are labelled as strengthening of stateness (Stawski and Lemm forthcoming).

Table 5 - Top 5 Declines and Gains in Stateness 2021-2022 (Context Measurement)

Declines in Stlx Total Value (context)					
Top 5 Countries	2021		2022		Change
	Total	Rank	Total	Rank	
Tanzania	0,73	51	0,63	82	-0,10
Senegal	0,62	93	0,54	115	-0,08
Guinea-Bissau	0,44	144	0,37	153	-0,08
Bolivia	0,60	99	0,53	117	-0,07
Azerbaijan	0,51	128	0,44	142	-0,07
Gains in Stlx Total Value (context)					
Top 5 Countries	2021		2022		Change
	Total	Rank	Total	Rank	
Yemen	0,02	174	0,11	172	+0,09
Zambia	0,55	114	0,63	84	+0,08
Tajikistan	0,38	155	0,44	143	+0,06
Slovenia	0,77	45	0,83	33	+0,06
Syria	0,22	169	0,28	165	+0,06

Stateness is deteriorating in many countries: the number of states that experienced a decline of stateness between 2021 and 2022 (102) outweighs those states that experienced a positive

development of stateness (68). These declines occur in every region of the world and predominantly affect already defective states.

Gains: State strengthening

The five countries that have shown the most pronounced signs of state strengthening are Yemen, Zambia, Tajikistan, Slovenia and Syria. Between 2021 and 2022 Slovenia improved from a moderate functioning (2020-2021) to a high functioning state. Strengthening among the monopolies of law and administration led to its re-classification as a high functioning state.

Syria, a collapsed state between 2017 and 2019, showed small improvements in the state. Yet, Syria is still a profound defective state in an ongoing civil war that threatens the existence of the state. Yemen is still a collapsed state, although minor improvements among all three monopolies are detectable. Zambia showed strong improvements among the monopoly of law, but the monopoly of administration remains defective. Tajikistan, a profound defective state, saw improvements among both monopoly of law and monopoly of violence, while the monopoly of administration continues to be profoundly defective.

Declines: Loss of Quality and State Fragilization

Declines of stateness can be seen in Tanzania, Senegal, Guinea-Bissau, Bolivia and Azerbaijan. Although the Tanzanian state lost control over a part of its territory with a subsequent decline in the monopoly of violence, Tanzania remains a moderate functioning state. Senegal's stateness has deteriorated from a moderate functioning to a defective state. Both the monopoly of violence and the monopoly of administration sank beneath the thresholds of 0.5. The conflict in Casamance and violent non-state actors challenge the state's monopoly of violence. The state's apparatus is not capable of permeating the entire state territory, and basic administration and infrastructure are focused in urban areas.

The monopoly of law and monopoly of violence deteriorated in Guinea-Bissau, but the state remains profound defective. Bolivia changed categories between 2021 and 2022 and was downgraded to a defective state. The state's monopoly of violence is not evenly present in all parts of the territory. In some remote areas, non-state actors are de facto the highest authority. Azerbaijan was downgraded to a profound defective state, after a decline in both the monopoly of law and monopoly of administration. Although Azerbaijan regained control over most of its internationally recognized territory in 2022, it became more dependent on Russia and Turkey.

5. Conclusion

StIx is a new tool to measure stateness, based on the ideal type of a state as an institutionalized social and political order and organization of hierarchical authority that is in exclusive control of the monopoly of law, monopoly of physical violence and monopoly of administration throughout a given territory and over its inhabitants. We understand Stateness as a multi-faceted phenomenon that cannot be measured by a single indicator, thus, our Index is based on the aggregation of a set of indicators that represent the different components of a state. The index presented here exceeds existing indices to measure stateness both in number of years and soundness of measurement. Through the differentiation of first (core measurement) and second (context measurement) level indicators, we include informal institutions that embed and influence the formal institutions of a state, which results in a more realistic measurement of stateness overall. Our approach is based on both rigorous methods and valid indicators resulting in a transparent index and typology that is open to usage for researchers, policy makers and people without knowledge on the subject.

StIx captures and differentiates the vast variety of stateness: most states are defective to varying degrees and some states are on the brink of existence. The empirical results further indicate a negative trend – state fragility is on the rise and predominantly affects states that are already defective.

These trends of stateness-research provide important impulses for subsequent research like international development cooperation or questions about regime types and their endurance.

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