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Handbook: Introducing the Stateness Index StIx

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Content

1. Introduction	2
2. Concept and Components.....	4
2.1 Defining the Concept.....	5
2.2 Determining Components.....	7
3. Measurement and Indicators.....	16
3.1 Selection and Description of Indicators	16
3.2 Transformation of Data	25
3.3 Weighting	28
3.4 Aggregation.....	29
3.5 Missing data	34
4. Analysis: Results, Robustness, and sensitivity.....	35
5. Conclusion.....	46
References	48
Appendix	58

1. Introduction

Stateness, statehood, state fragility, fragile states, weak states, failing states or collapsed and failed states, to name only few – the list of concepts, definitions and terms being used for the same phenomenon is extensive. They all focus on the identical object: the state. The literature of the necessity to bring the state back in, “yet again” or “once more” not only refers to a statement that has been valid since 1985 (Evans et al. 1985), but also emphasizes the centrality of the state as the most important political institution per se.

Exploring and explaining diversity and patterns of stateness is crucial for understanding causes for efficiency, duration, or collapse. Research about the state also intersects with neighbouring concepts, e.g., regime research.¹ Apart from the state being an explanatory variable in macro social analysis e.g., climate change and the state’s ability and willingness to react to global challenges, analysis of causes and consequences of state fragility, the assessment of fragility and/or conflict potential and approaches for international intervention and aid includes research about the state.

These research desiderata, however, are confronted with several difficulties: Large-N analysis of these topics is aggravated by the scarcity of valid, reliable, and transparent longitudinal high-quality data that accurately measures stateness. Measurement is also a prerequisite for research of dynamic processes, e.g., stability and fragility, positive development and erosion or breakdown of the state. This requires reliable indicators and data; although a considerable number of indices that measure “fragility” exists², the quality of data is oftentimes disputable, e.g., in relation to the concept being measured, the relevance of indicators (operationalization), the final calculation of index scores (aggregation) as well as multi-country and -year coverage, timeliness of data and transparency.

With our Stateness Index (StIx), we aim to contribute to the conceptual and analytical debate on stateness and state fragility. The Stateness Index³ is a tool for measuring stateness and state

¹ “The state must be considered as more than the ‘government.’ It is the continuous administrative, legal, bureaucratic and coercive systems that attempt not only to structure relationships between civil society and public authority in a polity but also to structure many crucial relationships within civil society as well” (Skocpol 1985: 7).

² 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 2020) complete the list, resulting in at least 13 more or less established indices that measure “stateness”.

³ 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.

quality that includes country-ranking through aggregated and disaggregated data to advance performance comparison and policy analysis.

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. Our concept is distinct from assumptions about what normative outcomes the state should pursue, thereby avoiding the pitfall of conflating regime components with state components and circumventing a “democracy bias”.

Secondly, drawing on data from the Varieties-of-Democracy-Project (V-Dem)⁴, the index offers data for more than 170 countries in the period between 1950 until today.⁵ One exceptional strength of our index rests on both country and year coverage that surpasses existing indices that measure stateness by far.⁶

Thirdly, by including informal institutions into our calculations, we expand the measurement of stateness. This additional perspective of informal institutions draws upon theories on institutional hybridity (Kraushaar and Lambach 2009, Boege et al. 2008) that has not been adequately or explicitly included in existing efforts to measure stateness. Although most indices include indicators that reflect the existence of informality,⁷ neither the theoretical foundation nor the expected interactions between formal and informal institutions are clearly presented in the methodological handbooks. Our Index strives to overcome these shortfalls. 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 and stateness that is measured through a set of indicators that represent formal or “official” institutions. The second

⁴ 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. 2021). 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. 2021: 9) with full access to replication data.

⁵ For an overview of the comparative advantage of the V-Dem Dataset see McMann et al. (2016: 12 ff).

⁶ The scarcity of longitudinal data also prevents us from including indicators of other datasets, since the availability of country and year coverage is insufficient and the required imputational overstretch generates unusable data.

⁷ One exemption is the BTI indicator “No interference of religious dogmas”, that examines whether religious norms conflict with the basic constitution of the state or are forming a hybrid legal order. But since theocratic regimes are then attributed the lowest scores, this falsifies results in favour of secular regimes.

layer of informality enriches the formal concept with informal institutions that exist alongside the formal institutional framework of a state (second layer). We additionally measure informality along the first layer concept to accommodate for informality aside the formal institutional framework of the state. The inclusion of the second layer of measurement enhances the concept and captures the “reality” of stateness more accurately than the sole measurement of formal institutions.

This article first sums up the theoretical aspects, i.e., concept of state and stateness. We proceed with the discussion of central methodological steps of index construction: selection of indicators, transformation of data, aggregation, weights, and imputation (Mazziotta and Pareto 2013: 67). Finally, we include some evaluative results of our index as well as descriptive results of time- and cross-country comparison.

2. Concept and Components

Stateness is a concept that cannot be measured by a single indicator. Therefore, our Index as a composite index is based on the aggregation of a set of indicators that represent the different components of the multidimensional phenomenon stateness. The construction of our Index follows Goertz (2005:6) 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.

These three levels of concept building also correspond to Munck and Verkuilen’s (2002) “Logic of Conceptualization” that distinguishes between Conceptualization, Measurement, and Aggregation. The first step deals with the identification of attributes that are constitutive of the concept as the “anchor for all subsequent decisions”. Furthermore, organization by level of abstraction is necessary to isolate the attributes (components) of the concept and how they are related to each other. This step then creates a “bridge” between concept (state/stateness) and concrete level of observation. In addition, the relation between the attributes by level of abstraction must be addressed. Following the logic of necessary and sufficient conditions, the

vertical organization of attributes (second-level dimension) provides the “structural glue” (Goertz 2005: 7) of the concept.

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 physical violence and monopoly of administration throughout a given territory and its inhabitants (Stawski 2021). Together these three monopolies result in public authority (Moore et al. 2009), forming the state into the most important instrument of power.

The state’s monopolies include the state’s authority as the single entity to provide and apply law, violence, and administration. Hence, the state is the sole legitimate “producer” of stateness with the 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. These monopolies in turn constitute the distinction between state and society or public and private sphere: the private individual transfers these assignments to the state as a public entity that has the legal authority to control the entire public domain.⁸ The only exception requires the approval by the state through state-delegation⁹: if the state formally delegates its powers or functions to independent institutions or organisations. The idea of a monopoly thus does not imply that all tasks given with it are to be taken over by state agencies. In all functional areas, the state can delegate tasks to private or social actors. This can concern private mediation bodies as well as private security companies or security tasks outsourced to the private sector (prisons). However, even with such delegation, the state remains ultimately responsible and can, if it wishes, always take over these tasks again itself.

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 (or aspiration) as the legitimate supreme entity that exercises control over inhabitants and territory through formal

⁸ These monopolies are never perfect or “pure” because there is always an “universality of substitution” (Olson and McFarland 1962), but an ideal type of a state creates high barriers (legal, resources, economies of scale) for and penalizes competition. The state is never the sole actor that, e.g., uses violence but it is the only actor that can legally and legitimately authorize the use of violence. Furthermore, the state can delegate functions within these monopolies to private entities without losing its hierarchical dominance.

⁹ 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).

institutions.¹⁰ Formality creates legitimacy resting on obedience to formal rules and procedures of the order of the state, established through impersonal norms by enactment. The state's legal authority is a combination of impersonality and formality as well as the recognition of legality of normative rules and the right of those in power ("the state") to issue commands and execute authority (Weber 1947: 328).¹¹ 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). The three dimensions capture the central functions of the state: legislative, judiciary and executive. These are represented by central institutions. While the first two functions are linked to parliament (rulemaking) and courts (rule control and interpretation), the executive is divided into the function of enforcement (military, police) and implementation (government and state bureaucracy).

The state's aggregated power rests on its ability to project and implement authority throughout its territory and to generate, maintain and execute law and legal order with hierarchical supremacy of formal state law. Furthermore, the state needs the infrastructural means necessary to govern the territory through bureaucracy and enforce its laws in view of resistance. The monopoly of law, violence and bureaucracy are essential manifestations of rule or domination, since they rest on the state's power to enforce that rules and commands "will be obeyed by a given group of persons" (Weber 1947: 324). The state is thus an institutional complex through which those in power can "formulate and implement distinctive strategies or policies" (Skocpol 1985: 21).

Stateness is thus 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 regime across its territory, possesses the means necessary to

¹⁰ 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): "As a state, political power is depersonalized and rule bound".

¹¹ 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.

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).

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.

State fragility describes a situation in which the state is not capable to uphold and enforce its monopolies. Fragility as a continuous phenomenon encompasses states with small defects (defective states), severe defects (highly defective states) and situations of institutional collapse (collapsed states), where (formal) stateness is de facto absent.¹² While some defective states display high stability, institutional efficiencies vary and can change over time. Furthermore, states do not display identical patterns of strengths and defects, both institutionally and in relation to challenges from within society and external forces.

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 concept stretching or minimalist definitions that exclude relevant attributes (Munck and Verkuilen 2002: 8). As a methodological rule of thumb, including too much or too little in a definition should be avoided (maximalist and minimalist definitions). For this reason, we neither apply a maximalist nor minimalist conceptualization, but one that is located on a middle range.¹³ The second level components of the concept – the dimensions as the defining features – are non-redundant,

¹² This definition takes an ex negativo stance: we define fragility in terms of what is missing in relation to our ideal type. It is thus the inefficiency or absence of institutions that constitute state fragility. And although this first step of our concept of fragility relates to a void (what is defect/missing?), our second step, the analysis of informal institutions, relates to “institutions on the ground” (what is there? Institutional or functional equivalence).

¹³ 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 overstretch nor limits and oversimplifies the institutional concept of the state (Lauth and Schlenkrich 2020).

distinctive features of the state: the monopoly of law, the monopoly of violence and the monopoly of administration.

Monopoly of Law

Drawing on theories of the German “Staatswissenschaft” (Heller, Kelsen), the “essence of the state” is the monopoly of law, visible in the state’s legitimate right to authoritative binding rulemaking, supported by the monopoly of violence to enforce laws (Mann 1984: 188). The monopoly of law is an integral part of authority and the defining component of the state in connection with the state’s monopoly of violence and administration within a confined territory (O’Donnell 1993). The monopoly of law combines legislation and application of law and the state’s legal order. All three components – legal order, implementation and application - are essential for the monopoly of law and find their equivalence in the subcomponents monopoly of law and monopoly of jurisdiction. Internal and external autonomy and sovereignty correspond to the first two components.

Furthermore, the monopoly of law connects to and establishes the state’s legitimate claim as the hierarchical supreme authority.¹⁴ The legitimacy of the state does not rest on normative conditions; rather it accentuates the legal-rational logic of order. Legality emphasizes how the state operates, that is through law and legal order (Legalism), anticipating a general obligation to obey.¹⁵ The rational component differentiates between the private and the public sphere – the state and its institutions and organisations belong to the public sphere of society.

States and their legal systems exist together with democratic and autocratic regimes. To avoid the aforementioned democracy bias, in our concept we use legal orders in a positivist understanding and not in the normative sense of 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

¹⁴ 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).

¹⁵ State institutions are also protected by the monopoly of jurisdiction and violence – if the state has the means to punish and sanction transgressions and defiance of rules.

“unconditionally” (Dusza 1989: 88): coercion includes the state’s ability to preserve its borders, avert internal and external “threats”,¹⁶ 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). For this, the state monopolizes the exertion of physical violence through its organisations (police, military) and means of violence that control and prevent civil violence and enforce 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 instance 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). 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). The monopoly of administration is intrinsically connected to the territorial and societal dimension of stateness, to penetrate and permeate the territory and inhabitants. 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) with its system of public offices.¹⁷

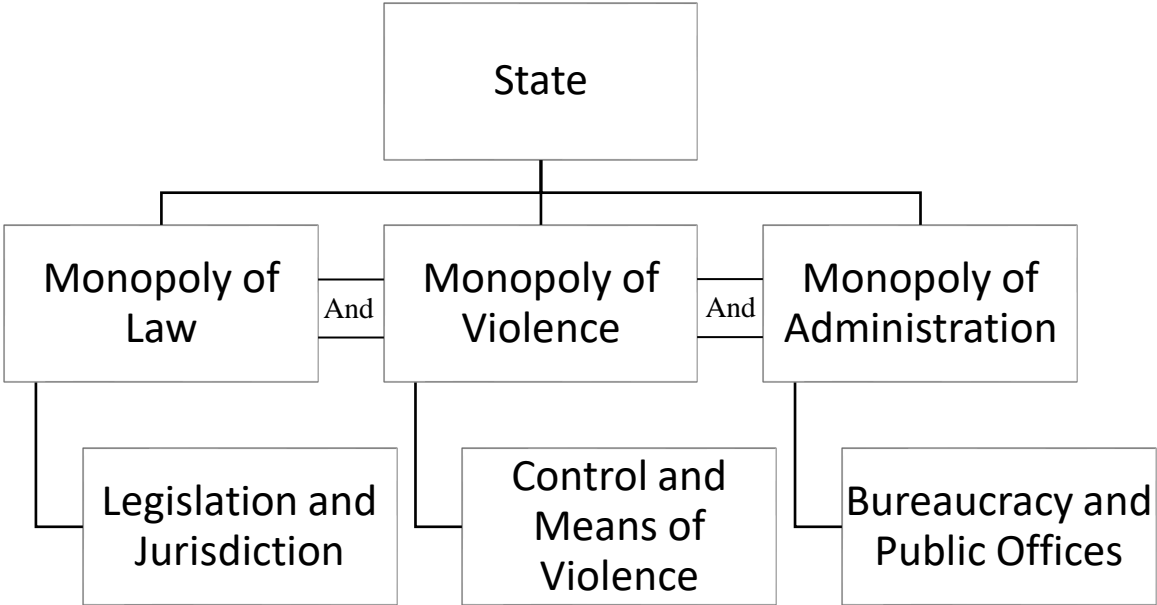
Together, the administrative and legal order claim binding authority over all actions within the state, the bureaucracy includes all organized activities of administration of the state order. A state thus possesses what Mann (1984: 189) calls “infrastructural power” as the ability to implement logistical 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. 2019: 5) and an official budget to finance programs. 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

¹⁶ Of course, what constitutes as a threat is negotiable and highly dependent on the regime.

¹⁷ The system of public offices consists of the hierarchical differentiation of the state administration from head of state down to communes and their political leadership.

institutionalized into authority of the institution authorized by law, independent from the personnel that work within the state’s bureaucracy.¹⁸

Figure 1: Conceptual organization and logical structure



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).

State law is endowed with hierarchical normative finality, that there is no normative order aside the state-formal order unless it is recognized as such, with “finality of judgment” as a property of state courts and administration (MacCormick 1997: 1058) and finality of punishment, that is the coercive enforcement of rules through state organizations, resting on the state’s monopoly of physical violence. These three components of the state ultimately constitute political and public authority through formal institutions and an obligation to obey formal rules and

¹⁸ 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.

procedures, irrespective of their content, while societal institutions are subordinate to the state's authority.

The three dimensions are mutually constitutive, supporting and interlinked, consequently, all three dimensions provide necessary functions of the state to assert authority over inhabitants within the state territory that cannot compensate each other.

2.3 Conceptual Enrichment - Informality

Formal and informal institutions shape every state. In recent years, attention has shifted from the sole analysis of formal institutions to what is de facto existent, i.e., the “institutions on the ground” (e.g., Kingston 2004; Spears 2004; Boege et al. 2008; Kraushaar and Lambach 2009; Lauth 2014).¹⁹

Overall, informal institutions interact with the formal institutions of the state. The assumption that the formal state replaces or incorporates informal institutions as a deterministic and linear path of “modernization” is empirically not observable. States have hardly succeeded in eliminating every occurrence of legal pluralism (MacCormick 1997: 1060).

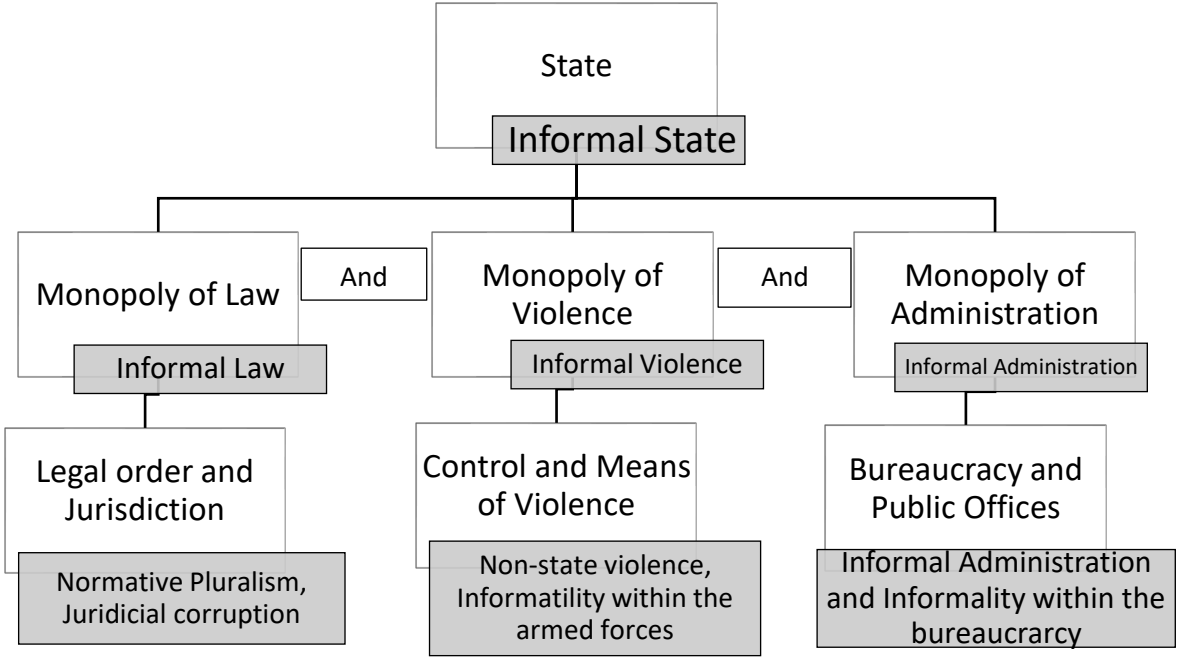
In fact, as Swenson (2018) asserts, only “high-capacity states” have gained control over societal forms of normative pluralism. And most (defective) states contain self-enforcing and self-regulating spheres of legal pluralism, organized along geographical, ethnical, or traditional lines, with “loosely joined and partly overlapping partial or fragmentary” societal segments (Galanter 1981: 22).

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 for the de facto “making of public authority” as a dynamic and even contested process in the realm of the state (Lund 2006: 679).²⁰

¹⁹ 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).

²⁰ This differentiation accounts for the proposal of Erdmann and Engel (2006) that classify the relation and outcome of state-centred formal and formal 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 potential for mutual reinforcement or substitution between the formal and

Figure 2: Concept layers: Formality and Informality



The common denominator of formal institutions is its origin and base – the state.²¹ 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 legal regulator of the creation and implementation of the legal order (Kelsen 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;²² 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).²³ Informal

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”).

²¹ “Not all law is state law, but all those norms that are enforced by some [state] agency are ‘law’” (Dusza 1989: 88).

²² The transpersonal aspect of authority divides legal-ration 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).

²³ Informal institutions do not necessarily emerge because formal institutions are dysfunctional or “weak” – they might just produce undesired outcomes. Thus, formal institutional effectiveness “is not a proper variable to

institutions are rules that are not unique, not optional, or dispensable, 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 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. Furthermore, we distinguish between state-centred and societal informality, although both are not mutually exclusive. In the first case, the nucleus of informality originates from and is located within the "political system" – the regime and state. In the second case, informality originates from the social domain with non-state actors being the centre of authority (Lauth 2000: 28).

State-centred informality is implemented within the state and executed by state agencies and officials top down. Powerful and relevant informal institutions that are generally binding and effective develop within the state institutions and are closely linked to state organs. Power of position thus becomes decisive for the allocation and distribution of resources to personal networks. The centre of informality is inside the state, without putting rules, procedures, and activity into the official vesture of the state by formalising them. The state and its agency then do not solely utilize formal institutions and organizations to accomplish their objectives. Elites strategically manipulate the boundary that separates the state from the private domain (Ganev 2007: 70), i.e., bend and undermine the logic of legal-rational order of the state. Such informal rules interact and distort formal law or build a second order that filters the formal legal order of the state.²⁴

In contrast, *societal* informality is a bottom-up process within self-enforcing and self-regulating spheres based on differing legal communities, either as a collective form of self-help or in active defiance to the formal state ("Para-Statehood"). Societal informal institutions are based on

discriminate between different types of informal institutions" (Kiss 2020: 15), which would constitute an explanatory typology (Collier et al. 2012).

²⁴ State-centred informality is not identical to arbitrariness but rather constitutes an additional set of informal institutions as binding rules that guide and regulate the behaviour and actions of state officials, their relationship to each other and the broader population. Besides, defiance from these informal institutions implies losses for rule-breaking (Lauth 2022), yet the transgression from state-centred informality is not legally revisable by formal courts. Although the rules are not formally included and codified into law, they still possess some of the sanctioning power of formal institutions making disobedience expensive and oftentimes virtually impossible.

various sources like customary law, religion, tradition etc. and applied by the reference group themselves beyond the formal state. Societal informal institutions originate from and apply to the community, whose members follow the informal rules, processes, and modes of decision-making.²⁵

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; Swenson 2018; Kiss 2020), 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, deviant²⁶ (“decoupled”) or competing informal institutions can either increase or decrease the performance of formal institutions (undermining and competition) (Kiss 2020; Helmke and Levitsky 2006; Lauth 2000; Grzymala-Busse 2010).²⁷

Both formal and informal institutions are “a possible but not necessary response to a problem, as one contingent solution amongst several possibilities” (Michaels 2019: 358). And both are self-referential orders²⁸ that sustain their validity through reference to normative and factual power, that are inextricably intertwined to political authority,²⁹ both formal and informal.

The generalization of differing impacts – substitutional, competitive, combative, undermining, conflicting, deviant, accommodating, complementary, support – to name the most common, is aggravated by complexity, ambiguity, contrariness and dynamical³⁰ nature of effect. The fact that the effect of informal institutions in country x is “complementary” does not mean the effect will be the same in country y, even if the informal institutions are functional equivalents to each

²⁵ Societal informality is oftentimes an adaption to the void of the state; inhabitants rely on their societal community to provide stateness or on informal organizations like militias, warlords, gang leaders, tribal and clan structures. But societal informality also can form as active insurgency against the state that antagonistically and actively challenges of the state as the supreme authority.

²⁶ Violation of formal rules and simultaneous compensation for shortcomings of formal institutional functioning (Kiss 2020: 18).

²⁷ The constellations are identical to Swensons (2018) archetypes of legal pluralism: combative, competitive, cooperative, and complementary.

²⁸ “It is a property peculiar to the law that it governs its own creation and application” (Kelsen 1982: 73)

²⁹ Although e.g., Mafias are initially economic actors, they engage in a rule producing function to influence markets. Hence, the mafia is setting *the rules of the game* in its territory (Champeyrache 2018).

³⁰ Oftentimes, only a situation of open contestation and conflict reveals different capacities between state and non-state law, e.g., if the formal legal order is ignored and openly disobeyed, the limited authority of the state comes to light. Furthermore, the “free floating” typologies lack explicit anchoring in dimensional thinking, i.e., they are built on not mutually exclusive categories, making it extremely hard to classify cases (Collier et al. 2012: 225).

other and to formal institutions. The impact formal and informal institutions have on each other varies significantly in conjunction to structural variables (e.g., regimotyp, statetyp, colonial past etc.), and dynamic variables. For example, an otherwise complementary effect can become conflicting in times of change or if corresponding authorities become entrenched in conflict or competition. It is thus not solely a question of compatibility but of cooperation vs. contestation of state authority and its legal order.

The effect is, as noted by various authors, “double-edged” (Helmke and Levitsky 2006: 17)³¹: informal institutions can stabilize, change, or destroy formal institutions (Söyler 2013). In short, the impact of informal institutions is so ambiguous because it depends on a multitude of factors like prevalence, autonomy, role, and authority of non-state legal orders, which in turn vary across contexts, institutional settings, and dynamic factors.³²

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. In fact, informal institutions do not necessarily have a negative impact on formal stateness but can also stabilize formal institutions and reinforce the legal-rational order of a state (Lauth 2004; Erdmann and Engel 2007; Spears 2004; Clements et al. 2007; Boege et al. 2008; Kraushaar and Lambach 2009; Stawski 2022). In fragile states, “hybrid models which genuinely blend or combine traditional and modern norms and practices are more likely to deliver effective, functioning and legitimate outcomes, precisely because they build on the hybridity and multiplicities of existing political orders” (Clements et al. 2007: 48).

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.

³¹ E.g., Clientelism is a mutually beneficial but asymmetrical exchange relationship between a patron and a client (Clapham 1982). 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).

³² 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 deposit of adversary actors of the state and regime. The dynamic constellations depend on the arrangements between formal and informal actors/elites and ultimately on the empirical case.

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).³³

This understanding is also not identical to a measurement of state stability, which we do not pursue.

3. Measurement and Indicators

Having defined concept and components, we now turn to measurement as the second step of index construction. This includes the selection of indicators, data transformation, aggregation, and weighting in line with the methodological conceptual groundwork and organization of components. We base our Stateness Index on the Varieties of Democracy Dataset (V-Dem 12). In addition to its extensive country and year coverage, V-Dem is based on expert-coded indicators and a sophisticated measurement model that uses "information about cross-coder agreement, coder characteristics, responses to vignettes, and self-reported uncertainty to reduce biases and assess the reliability (Moller and Skaaning 2021: 3). V-Dem relies on more than 3.500 country experts that support the process of data collection by providing expert coding through online surveys. Three fifths of the experts coding a particular country are either nationals of or reside in the country in question, thus providing "a local source of expertise and knowledge" (McMann et al. 2016: 14). To attenuate problems resulting from expert-coded data, V-Dem relies on the "Bayesian Item-Response Theory" (Pemstein et al. 2018) that incorporates measurement uncertainty. In comparison to other datasets, V-Dem offers yearly updated disaggregated indicators and continuous quantitative data.

3.1 Selection and Description of Indicators

The process of indicator selection depends on the conceptual groundwork and its deviated components. 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). But measurement always requires a compromise between concept and operationalization, i.e., between conceptual fit (validity), measurement precision (reliability) and availability (country and time coverage) (Ziaja et al. 2019: 305). Scientific pragmatism in

³³ 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); either de facto authorities that legislate and enforce informal institutions work with or against the state.

the construction of a composite index then requires transparency of the analytical and methodological compromises.

As a latent concept, stateness and its underlying dimensions is not directly observable but can be measured through a range of indicators that relate to the three dimensions of stateness presented above. Furthermore, to include the informal sphere into our measurement of stateness, we must solve the problem of latent variables of informality.³⁴ Hence, we must examine the causal structure of variable and indicator: here, the latent variable – informality – causes the indicator (Goertz 2019: 35). This form of conceptualization is based on the “disease–symptom approach” (Goertz 2019: 34): In this sense informality in its negative interactions with the formal state is the “disease”, the observable symptoms are of the disease, e.g., corruption, clientelism, legal or normative pluralism.

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). Although we expect our operationalization to represent our concept, dimensions, and components, it is still an approximation of stateness. For lack of better options, we consider this set of indicators to be the “best” fit with sufficient country and year coverage. We discuss the conceptual fit of available indicators as well as their relationship below.

Monopoly of Law

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 concurrent jurisdiction (legal pluralism).

Given that existing indicators that relate to the monopoly of law predominantly measure aspects of regime types (rule of law and democracy), this monopoly is exceptionally difficult to operationalize. To circumvent a democratic bias, we opt for a minimalistic and positivistic definition of law that does not entail normative or substantial requirements for law to be law or to demand obedience. As defined, law is state law as far as it is formal in its creation and promulgation.

³⁴ “The possible list of indicators has no end: there is no need to have a complete list of indicators number of indicators is indeterminate and pretty arbitrary. One can add or subtract without fundamentally changing anything” (Goertz 2019: 35).

We operationalize the monopoly of law through three indicators and two cross-cutting indicators: for the first sub-dimension 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. For the sub-dimension of jurisdiction, 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”³⁵ to examine if judges are disciplined when they are found responsible of serious misconduct.

We include the dichotomous indicator (4) “Regime interregnum”³⁶ as a proxy that indicates whether a state can implement laws enacted by an existent regime (Andersen et al. 2014: 1208).³⁷ 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.

We considered some indicators that would theoretically be fruitful for our analysis of the Monopoly of Law in the V-Dem Dataset³⁸ but have a strong connotation to the use of arbitrary power with regards to the *content of rules*, hence we could not use them. E.g., “Transparent laws and predictable enforcement”³⁹ that focuses on transparency and predictability of the law, but also includes the aspect of coherence, i.e., internal consistency of laws (legal system).⁴⁰ The exercise of arbitrary and repressive political power in terms of content is understood to be an autocratic attribute (Cassani and Tomini 2018: 277). It does not adequately distinguish between the usage of formal (following standing procedures and norms) or informal institutions (without state codification) to exercise authority; consequently, we do not include indicators for the judiciary that we consider to be regime or content related.

³⁵ “When judges are found responsible for serious misconduct, how often are they removed from their posts or otherwise disciplined?” (Coppedge et al. 2021).

³⁶ 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 often the case also during civil wars) is sufficient for a 0 score” (Coppedge et al. 2021).

³⁷ 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).

³⁸ E.g., Judicial reform, Judicial purges, Access to Justice or High Court Independence.

³⁹ “Are the laws of the land clear, well publicized, coherent (consistent with each other), relatively stable from year to year, and enforced in a predictable manner?” (Coppedge et al. 2021).

⁴⁰ This is an attribute of democratic legal orders; in autocratic legal orders laws can be incoherent or outright contradictory. For this reason, we choose not to include this indicator.

Table 1: Indicators Monopoly of Law

<i>Concept</i>	Monopoly of Law	
<i>Components</i>	Autonomy of Law and Legislation	Jurisdiction
<i>Indicators</i>	Domestic autonomy, International autonomy	Judicial accountability
	<i>Crosscutting:</i> Regime interregnum; Legislature closed down or aborted	

Weighting: Domestic autonomy (1.5); International Autonomy (1.5); Judicial accountability (0.5); Regime interregnum (none); Legislature closed down or aborted (none).

Aggregation: Weighted geometric mean.

Scale: 0-1 (worst to best).

Informality Indicators Monopoly of Law

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 besides formal institutions of the state, erode the integrity of the legal-formal monopoly of law by bending it to informal rules.

Legal pluralism describes a situation in which “two or more legal systems coexist in the same social field [i.e. state]” among various subgroups in a society (Merry 1988: 870). While the state-centric approach views the state as supreme and monolithic lawmaker, legal pluralism highlights the multitude of partially autonomous and self-regulating social fields that also produce law (Dupre 2007). We understand legal Pluralism as a situation in which two or more sets of legal orders and associated judiciaries co-exist. Non-state rules as informal institutions legislate and enforce collectively binding rules on members of society through local tribal and community councils that have oftentimes existed prior to centralized system of jurisdiction (Koehler and Zürcher 2003; Tamanaha 2014: 1). These informal institutions are rooted in communal tradition and societal power and thus are not legally recognised as part of the official law canon or judicature but operate outside of the state apparatus (Lund 2006; Tamanaha 2014: 2). While the co-existence of formal and informal legal orders can be beneficial (substitutive or complementary relation), we only include informal institutions that indicate a conflicting situation of formal and informal rules.

By using two proxy indicators (1) “HOS control over” and (2) “HOG control over” we incorporate the occurrence of non-state public authority that have customarily to be consulted prior to making important decisions on domestic policies, namely a tribal or ethnic council.⁴¹

⁴¹ 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 for a fragile monopoly of law if officeholders (embodiments of “the regime”) need the approval of powerful groups within society prior to legislation.

The more pronounced the influence of ethnic or tribal councils, the weaker the monopoly of law of the state.

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. The constitution stands at the “top of the pyramid of the norm of each legal order” (Rachuonyo 1987: 416), it is the norm of positive law and “postulated ultimate rule” (Rachuonyo 1987: 417). Hence, if the executive violates the constitution, it basically violates its own legal authority and legal validity of the legal order of a state.⁴²

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. Our chosen proxy indicator – (4) “Judicial corruption decision” – measure the exploitation of public power for private gain.⁴³ The fifth indicator (5) “Legislature corrupt activities” captures if members of the legislature abuse their position for financial gain.

Table 2: Informality Indicators Monopoly of Law

<i>Concept</i>	Monopoly of Law	
<i>Components</i>	Societal Legal Pluralism: informal legal orders with authoritative impact	State-centered informality: Corruption
<i>Indicators</i>	HOS control over (v2exctlhs_6), HOG control over (v2exctlhg_7), Executive respects constitution	Judicial corruption decision (v2jucorrdc) Legislature corrupt activities (v2lgcrrpt)

Weighting: None.
Aggregation: Arithmetic mean.
Scale: 0.7-1 (changed polarity, Worst to Best).

⁴² 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.

⁴³ 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, that can be formal or informal.

Monopoly of Violence

The Monopoly of violence reflects the state's ability to uphold territorial sovereignty and the state's resources/means to do so. If a state cannot successfully repress or prohibit non-state violence within its territory it is thus defective. We use three indicators to measure the state's authority and control within its territory and the quality of the armed forces.⁴⁴ We use the indicator (1) "State authority over territory"⁴⁵ that 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 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). In line with our concept of the state, recruitment and salary of the armed forces should be based on merit and qualifications (as opposed to personal or political connections and payment through bribes or personal relations) to uphold the principle of impersonal rule.

We also considered including "Battle related deaths" and "Intentional Homicide rates" from the World Bank, which are frequently used indicators to measure the monopoly of violence. However, both indicators do not cover comparable time series to be useful for our index. The indicator "Intentional homicide rates" starts in 1990 with data for 99 countries and ends in 2018; "Battle related deaths" starts at 1989 with 39 countries and ends in 2021 with 61 countries. Given our intended timeline between 1950 and 2021, the divergence in coverage, and the potential correlation of availability and validity bias (Ziaja et al. 2019: A9), led us to reject these two indicators.

⁴⁴ 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 sufficient number of years with yearly actualization.

⁴⁵ 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. But given the percentage scale of the indicator that is prone to divergence of coding (Marquardt 2020), we assign equal weights to all indicators. Hence, we assume some compensation between levels of control over the state territory and quality of the armed forces. e.g., low quality of military forces can be compensated by high levels of control over the state territory.

Table 3: Indicators Monopoly of Violence

<i>Concept</i>	Monopoly of Violence	
<i>Components</i>	Territorial Sovereignty	Armed Forces
<i>Indicators</i>	State authority over territory	Criteria for appointment decisions in the armed forces, Remuneration in the Armed Forces

Weighting: State authority over territory (2); Mean: Criteria for appointment decisions in the armed forces & Remuneration in the Armed Forces (1).

Aggregation: Weighted geometric mean.

Scale: 0 to 1 (Worst to Best).

Informality Indicators Monopoly of Violence

Our measurement of informal institutions among the monopoly of violence is again separated into societal and state-centered informality. First, we include 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).⁴⁶ We draw on the proxy 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.

Unfortunately, no valid indicator for the degree of state-centred informality within the armed forces exists.⁴⁷ Two roughly fitting indicators “Executive bribery and corrupt exchanges” and “Executive embezzlement and theft” have a narrow focus on the head of state, the head of government, and cabinet ministers, or their agents (Coppedge et al. 2022). We still get some information about the level of informality within the armed forces through the first level indicators that distinguish between personal and official remuneration and appointment decisions, i.e., the lower the values, the higher the likelihood that the armed forces are penetrated by informal rules and practices.

Table 4: Informality Indicators Monopoly of Violence

<i>Concept</i>	Monopoly of Violence	
<i>Components</i>	Limited formal control over territory and challenges through non-state violence	Corruption within the armed forces
<i>Indicators</i>	Political violence, State of Emergency	-

Weighting: None.

Aggregation: Arithmetic mean.

⁴⁶ For this reason, proxies like “battled related deaths” or “homicide rates” are oftentimes used to measure the monopoly of violence (e.g., Ziaja et al. 2019).

⁴⁷ Indicators that measure corruption within the public sector explicitly exclude the military.

Scale: 0.7-1 (changed polarity, Worst to Best).

Monopoly of Administration

The monopoly of administration represents the state's capability to implement policies and govern inhabitants throughout the state territory. This includes a basic infrastructure of civilian administration and an official budget to finance programs. Our operationalization is based on 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). Again, impartial rule should be the guiding principle of recruitment and salary of the administrative personal based on formal civil service regulations. Thereby we choose indicators that reflect minimalist requirements of the state administration, including the application of the legal-rational order of the state and impartiality as the guiding principle of administrative processes. We do not include proxy-indicators that measure infrastructural capacities (e.g., public good "Health" – infant mortality rate) since these do not accurately correspond to our institutional conception of stateness and, among other factors, depend on the regime and its willingness to provide goods to its population.

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 for state defects stemming from unequal depths of state penetration throughout the entire state territory.

The operationalization of financial capacities of a state suffers from theoretical ambiguity, available data, or insufficient years of data. The most fitting proxy-indicator "State fiscal source of revenue" provides information about the primary source of revenue to finance state activities, i.e., the extent to which the state is able to fund itself through taxes.⁴⁸ If we consider taxation to be a "pivotal part [...] to assume public authority", that "entail[s] processes of recognition of the authority" (Hoffmann et al. 2016: 1435 f), it is more than just financial extraction, but part

⁴⁸ Other indicators that are frequently used to measure finances include tax ratio. But fragile states can have a high tax ratio and resource-rich functioning states oftentimes have lower tax ratios than other states, since they do not depend on taxes as a source of revenue, thus this indicator can be misleading. Furthermore, fragile states often do not publish reliable data on taxation (Fabra Mata and Ziaja 2009: 17).

of a broader contract with society. Furthermore, taxes are “more administratively complex, requiring higher levels of record-keeping, transparency, and a more sophisticated bureaucratic apparatus than other revenue sources” (Hanson and Sigman 2020: 11). Hence, states that do not exclusively rely on the extraction and exploitation of natural resources to finance themselves oftentimes “do better” in terms of stateness⁴⁹ in the long run. Unfortunately, the indicator contorts revenue based on taxes in comparison to revenue based on the direct control over economic assets, creating a negative bias towards Petro- or Rentier states. Thus, we decided against its inclusion in our measurement.

Table 5: Indicators Monopoly of Administration

<i>Concept</i>	Monopoly of Administration	
<i>Components</i>	Bureaucracy	Territorial reach of public services
<i>Indicators</i>	Criteria for appointment decisions in the state administration, Bureaucratic remuneration,	Access to public services distributed by urban-rural location

Weighting: Mean: Criteria for appointment decisions in the state administration & Bureaucratic remuneration (1), Access to public services distributed by urban-rural location (2)
Aggregation: Weighted geometric mean.
Scale: 0-1 (Worst to Best).

Informality Indicators Monopoly of Administration

An attribute of formal stateness is the exertion of public authority through an impersonal administrative bureaucracy based on legal-rational order. 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 (Erdmann and Engel 2006).⁵⁰ In neopatrimonial orders neither regulated legislation nor impersonalism or professionalism are predominant logics of procedure. Neopatrimonial rule thrives within the framework of legal-rational bureaucracy: although formal rules exist, the separation of the private and public sphere is not maintained. The legal-ration order of bureaucracy and the patrimonial order of personal relations permeate each other, and the patrimonial sphere penetrates the legal-rational order and twists its logic, functions, and effects (Erdmann and Engel 2006: 18). Informal institutions based on personal or political connections undermine formal civil service rules, even if formal

⁴⁹ Examples for the destructive potential of natural resources include the “dutch disease” and “resource curse”, as well as violent conflicts about stationary resources of a territory. But: the relation between state fragility and resources is not inevitable. Negative impacts are minimized if a state transforms resources into investments and generates non-resource sector growth (NRGI 2015).

⁵⁰ A patron-client relation is a “vertical dyadic alliance, that 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). 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.

rules are in place to determine employment and recruitment of the state bureaucracy (Grzymala-Busse 2010: 331).

We use two indicators to measure the extent of informality within the state administration⁵¹: (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. 2021). The second indicator aims at uncovering if public sector employees steal, embezzle, or misappropriate public funds or other state resources for personal use. No indicators exist that measure the societal based sphere of informality along the monopoly of administration.

Table 6: Informality Indicators Monopoly of Administration

<i>Concept</i>	Monopoly of Administration	
<i>Components</i>	Bureaucracy	Territorial reach of public services
<i>Indicators</i>	Public sector corrupt exchanges (v2excrptps), Public sector theft (v2exthtps)	-

Weighting: None.
Aggregation: Arithmetic mean.
Scale: 0.7-1 (changed polarity, Worst to Best).

3.2 Transformation of Data

Transforming data is needed to align different measurement units to a coherent measurement scale of identical polarity to make indicators comparable. It is therefore necessary to transform indicators to the same standard and turn them “into pure, dimensionless, numbers” (Mazziotta and Pareto 2013: 70/71). The objective is that an increase or decrease of the normalized indicators reflects an increase or decrease in the composite index.

Separate indicators that are based on differing scales must be transformed into a certain range of values through data transformation. The original values of the indicators are transformed to a fixed range of numbers in concordance with the scale of the index. This step is also decisive to achieve cross-time comparability: If values for standardization (e.g., mean, variance, standard deviation) are calculated on a year-to-year basis, values may vary between years

⁵¹ 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.

(relative time comparison). Then all calculated values depend on possible value changes, making comparisons between years imprecise.⁵² Absolute time comparability is achieved when the composite index depends on exogenous parameters such as fixed minimum and maximum values. This requires the definition of fixed “benchmark-values” independent from the data. In addition, absolute comparison with subjective weighting – as in our Index – requires a Min-Max transformation with minimum and maximum values independent of the distribution (Mazziotta and Pareto 2013: 73). The min-max Transformation that normalises indicators to an identical range [0,1]. Each indicator x_{qc}^t for a generic country c and time t is transformed in

$$I_{qc}^t = \frac{x_{qc}^t - \min_c(x_q^t)}{\max_c(x_q^t) - \min_c(x_q^t)} \text{ (Nardo et al. 2008: 85).}$$

We include all independent countries (cross-cutting indicator: v2svindep) that possess the de Jure acknowledgement as an autonomous state.⁵³ First, we standardize the values for the indicator “State authority over territory” using a z-transformation that converts indicators to a common scale with a mean of zero and standard deviation of one (pooled data). The rest of the selected V-Dem indicators already exist in the format of z-scores, although the values do not necessarily follow a normal distribution (Coppedge et al. 2021).⁵⁴

To correct skewed data, we use a modification of the log transformation (log-Modulus Transformation, John and Draper 1980).⁵⁵ The modulus transformation implements a generalisation of the Box-Cox transformation and is applicable to data with both positive and negative values. Furthermore, this symmetric transformation spreads the variance of the data while preserving the sign of the data on both the positive and negative tails of the distribution.⁵⁶

⁵² For a discussion about cross-country time comparison based on relative positions see Kaufmann et al. 2010.

⁵³ This step is necessary to reduce the number of missing values that strongly correlates to the de Jure independence of a state (Missing Not at Random), i.e., if a state does not possess international acknowledgment as an autonomous state, values for e.g., state authority over territory are coded as “NA”. And although the measurement and analysis of local stateness and public ownership are relevant in understanding state fragility and/or de facto stateness and stability, we limit our measurement on the national state level.

⁵⁴ In addition, we “clean” the data by removing observations of outlier countries like Iceland, Solomon Islands or Costa Rica that do not have an independent military and thus achieve the lowest scores among the monopoly of violence in “Remuneration in the Armed Forces” and “Criteria for appointment decisions in the armed forces” (“encoding error”).

⁵⁵ $L(x) = \text{sign}(x) * \log(|x| + 1)$

⁵⁶ Another possibility would be winsorization or to truncate selected indicators to pre-defined lower bounds, i.e., curtail or trim the distributions outside certain percentile scores, so that values lower than fixed percentiles are raised to match these benchmarks, to partially correct for outliers and to avoid having extreme values sway the aggregation algorithm (Nardo et al. 2008: 84).

As a final step, we normalize⁵⁷ our data: to achieve comparability over time, we choose time invariant normalization based on absolute terms (Min-Max transformation), independent from the time of reference (Mazziotta and Pareto 2017: 969).⁵⁸ We transform all raw data to an identical range from 0 to 1, with higher values indicating better performance.⁵⁹ The sole exemption affects the dichotomous indicator “Legislature aborted or closed down” that is rescaled to 0.7 (yes) and 1 (no). Hence, even if the legislature is closed down, e.g., through a coup d’état, we consider this a mild rupture within the monopoly of law, because elected legislatures are oftentimes replaced, e.g., through a military junta.

The scale of the indicators that measure informality are transformed to a range from 0.7 to 1, with lower values representing high informality and high values representing limited informality (we inverted some indicators to adhere to a worst-to-best scale). As a consequence of the transformation technique, when data for new time points become available, the values have to be re-calculated, since minimum and maximum values may be affected (Nardo et al. 2008: 85). Finally, we change polarity if necessary to align all indicators to depict a scale from worst to best performance.

Table 7: Transformation of indicators

Dimension	Indicator	Transformation
Monopoly of Law	Domestic autonomy	Log, min-max (0-1)
Monopoly of Law	International autonomy	Log, min-max (0-1)
Monopoly of Law	Regime interregnum	None (0/1)
Monopoly of Law	Judicial accountability	Log, min-max (0-1)
Monopoly of Law	Legislature closed down or aborted	Dichotomous (0.7/1)
Monopoly of Law	Societal Legal Pluralism	Mean, min-max (0.7-1)
Monopoly of Law	Judicial Corruption	Log, min-max (0.7-1)
Monopoly of Law	Legislature corrupt activities	Log, min-max (0.7-1)
Monopoly of Law	Executive respects constitution	Log, min-max (0.7-1)
Monopoly of Violence	State authority over territory	z-score, log, min-max (0-1)
Monopoly of Violence	Criteria for appointment decisions in the armed forces	Log, min-max (0-1)
Monopoly of Violence	Remuneration in the Armed Forces	Log, min-max (0-1)
Monopoly of Violence	National state of emergency due to an armed conflict/war	Log, min-max (0.7-1)
Monopoly of Violence	Political Violence	Log, min-max (0.7-1)
Monopoly of Administration	Criteria for appointment decisions in the state administration	Log, min-max (0-1)
Monopoly of Administration	Bureaucratic remuneration	Log, min-max (0-1)

⁵⁷ A variety of methods to normalize data exists: ranking, re-scaling (or min-max transformation), standardization (or z-scores) and indicization (distance to a reference) (Mazziotta and Pareto 2013: 70/71).

⁵⁸ The downside of this transformation is that outliers can distort the transformed indicators.

⁵⁹ Min-Max normalises indicators to have an identical range [0, 1] by subtracting the minimum value and dividing by the range of the indicator values. This normalization procedure rescales values between a minimum and a maximum value that represent the possible range of each variable for all time periods and for all units (Mazziotta and Pareto 2017: 969).

Monopoly of Administration	Access to public services distributed by urban-rural location	Log, min-max (0-1)
Monopoly of Administration	Public sector corrupt exchanges	Log, min-max (0.7-1)
Monopoly of Administration	Public sector theft	Log, min-max (0.7-1)

3.3 Weighting

Weighting reflects the relative importance of the indicators and thus also has a significant effect on the composite score (Nardo et al. 2008: 31). Although no objective way to determine weights exists, the process of weighting has to conform to the goal of index construction according to concept and structure of components (Nardo et al. 2008: 33).⁶⁰ Weighting reflects both the “explicit importance” attributed to all indicators in a composite index and “implicit importance” of the attributes and components in the aggregation process (Greco et al. 2019: 64), i.e. “[g]reater weight should be given to components which are considered to be more significant in the context of the particular composite indicator” (OECD, 2003: 10). Since “weights are essentially value judgements” (Nardo et al. 2008: 31), the decision of the relative importance of indicators influences dimension-scores and the overall aggregated score of the performance of a state. Although we do not generally argue against the option to determine weights based on statistical methods,⁶¹ our time-constant weights are theoretically based in accordance with the theoretical and methodological framework as well as the validity of indicators: indicators that we consider to be more relevant or meaningful than others will be assigned greater weights (relative importance) (Fabra Mata and Ziaja 2009: 19).

Monopoly of Law

We give greater weights to the first two indicators – Domestic autonomy and International Autonomy – that measure the internal and external sovereignty of a state, and a lower weight to the third indicator – Judicial accountability. The cross-cutting indicators “Regime interregnum” and “Legislature closed down or aborted” are dichotomous without weights.

⁶⁰ For a comprehensive summary of statistical methods and their critical reflection see Greco et al. 2019.

⁶¹ Correlation Analysis, Multiple Linear Regression Analysis, Principal Component Analysis and Factor Analysis or Data Envelopment Analysis.

Monopoly of Violence

A core component of stateness is the state's ability to claim and uphold a monopoly of force over its territory under its jurisdiction – to reflect this importance, the indicator “State authority over territory” receives the highest weight. The mean of “Remuneration of the armed forces” and “Criteria for appointment decisions in the armed forces” receives a weight of 1.

Monopoly of Administration

We assign a weight of 1 to the mean of “Criteria for appointment decisions in the state administration” and “Bureaucratic remuneration”. We give the highest weight (2) to the indicator “Access to public services distributed by urban-rural location”.

Table 8: Dimensions, Indicator and assigned weights

Dimension	Indicator	Theoretically based assigned weight
Monopoly of Law	Domestic autonomy	1.5
Monopoly of Law	International autonomy	1.5
Monopoly of Law	Regime interregnum	None
Monopoly of Law	Judicial accountability	0.5
Monopoly of Law	Legislature closed down or aborted	None
Monopoly of Violence	State authority over territory	2
Monopoly of Violence	Mean: Criteria for appointment decisions in the armed forces & Remuneration in the Armed Forces	1
Monopoly of Administration	Access to public services distributed by urban-rural location	2
Monopoly of Administration	Mean: Bureaucratic remuneration & Criteria for appointment decisions in the state administration	1

3.4 Aggregation

As indicator selection, transformation of data and weighting, aggregation is not separate from the conceptual groundwork. Aggregation has to be “in synch” with the structure of the concept and its levels (Goertz 2019: 195). In line with the basic conceptual framework and the structure of components we derive methods of aggregation, between and within levels.⁶² 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 complementary or

⁶² 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).

compensatory. We logically combine the defining features of the formal measurement with the latent variable approach of informality measurement (Goertz 2019). Hence, the structure of our index consists of necessary and sufficient conditions on the formal level (AND) and substitutability on the context level (OR).

We 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 compensation⁶³ between dimensions (high values in one dimension cannot compensate for low values in other dimensions). The composite index is based on our theoretical framework: We use multiplicative aggregation (weighted geometric mean⁶⁴) 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 (Greco et al. 2019: 79 ff):⁶⁵ “a low score on any of the component indices thus suppresses the value of the overall index” (Teorell et al. 2019: 81).⁶⁶ 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 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 since 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

⁶³ 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).

⁶⁴ The weighted product method is formulated as $CI_i = \prod_{j=1}^n I_{ij}^{w_j}$, $i = 1, 2, \dots; m$.

⁶⁵ 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).

⁶⁶ As a result, the distribution can be skewed towards zero (Teorell et al. 2018: 81).

dimension result in an overall score of or close to zero, indicating insufficient performance of stateness.

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. This aggregation is unidimensional with redundant indicators that are highly correlated and substitutable (Goertz 2019: 120/121).⁶⁷ We use a simple arithmetic mean to calculate the overall occurrence of informality within each state dimension.⁶⁸

The third level of aggregation allocates formal and informal institutions for each dimension. An agnostic position about the interaction of formal and informal recognizes informality not just as a pragmatic response to state defects (Roninger 1994:10), but also as an intrinsic element of formality.⁶⁹ Informal stateness can stabilize a state and produce de facto stateness. But it also undermines the formal state - the effect is ambiguous,⁷⁰ and ultimately an empirical question.

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).

⁶⁷ The underlying logic is that if these are all indicators of the same thing; they should be highly correlated.

⁶⁸ The logic of substitutability has an effect of missing data: if values are missing, we take the value of the available data.

⁶⁹ This accounts for states that combine formal legal-rational rule and informality, i.e., neopatrimonial states. Power relations are personal while the formal distinction between private and public exists, informality is symbiotically connected to the legal-rational framework of the state. Formal and informal institutions become mutually reinforcing, in a “mutually constitutive cycle of reproduction” (Erdmann and Engel 2006: 105).

⁷⁰ This approach attenuates the dichotomy between neopatrimonial states and the Weberian ideal type by acknowledging positive possibilities arising out of the interaction of formal and informal institutions (Kraushaar and Lambach 2009: 11).

Table 9: 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 – Formal and Context	Multiplicative function without weights, Malus

Typology of Stateness

After the calculation of scores for each dimension and the composite index score, we categorize types of stateness. This reduces the complexity of dimensionality by grouping similar cases together in accordance with their performance to reflect the gradual nature of stateness. Categorization divides contingent scores into predefined sections along time invariant thresholds and groups individual observations into qualitative classes (Fabra Mata and Ziaja 2009: 20; Nardo et al. 2008). Accordingly, the number of functioning, defective or collapsed states can vary over time in dependence to the development of performance. Furthermore, our thresholds are primarily and pragmatically designed to distinguish between functioning and defective states (basic types). We do acknowledge the existence of a “grey zone” of defectiveness (diminished subtypes), like anomic states, violence deprived states or states that display defects mainly among the monopoly of administration, although our thresholds do not intend to classify those.

We divide the continuum into three segments: positive pole, defective states, and negative pole. The positive pole is the extreme of the underlying continuum. The negative pole – a collapsed state – is, conceptually speaking, *not* symmetrically the negation of the positive pole, but rather a type of state with defining features and attributes that are not present in the positive pole (Goertz 2019: 44 ff). The negative pole is its own concept: a collapsed state is not just the absence of “the (formal) state”. It is rather a fragmented conglomerate of de facto states and polypolies that provide stateness within their authoritative reach. What collapsed states “lack” is a functioning and *coherent state* with a functioning and *coherent steering centre*. By including the informal dimension into our concept, we can display these asymmetries.⁷¹

⁷¹ This has mainly consequences for causal explanations: what causes a state to collapse is not the inverse mechanism that cause a state to be highly functioning (causal asymmetry).

Our thresholds to distinguish between functioning and diminished subtypes⁷² of stateness are theoretically grounded. The first threshold (0.7) separates the “full” presence of components and attributes in line with the root concept of a functioning state from empirical patterns that, although not completely corresponding to the concept of stateness, fulfil criteria in an equivalent manner with some minor deficits, i.e., moderate functioning states.

To differentiate between functioning and defective states as diminished subtypes of stateness we set three thresholds: The first threshold is located between moderate functioning and defective states at 0.5. The second 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. Both defective and profound defective states are not characterised by the complete absence of the attributes of the ideal type, but varying degrees of defects of defining attributes that are still sufficiently present (Lauth et al. 2021: 4). The third 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).

To classify differing types of stateness in accordance to varying degrees of stateness we use a weakest link approach: the classification is determined by the lowest value among dimensional values (i.e., monopolies of law, violence, and administration). This approach prevents compensation and accommodates for the logical structure of necessary components of each dimension of a state.

Table 10: 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

⁷²Diminished subtypes do not share all the defining attributes and are characterised by the incomplete presence of their characteristics (Lauth et al. 2021: 4).

3.5 Missing data

A final challenge in index construction is if values of the indicators of interest are not measured in the sample, i.e., missing data. One option is to delete missing observations; however, this technique deprives the index of important information. To sustain a sufficiently large sample another option is to impute missing data by estimating missing observations through statistical models.⁷³

The pattern of missing values indicates a missing not completely at random, i.e., missing data depend on the unobserved data (see Appendix). The missing data occur across certain variables, e.g., 365 missing cases intersect on both criteria for appointment decisions and remuneration within the state administration. Based on these patterns, we decided against the imputation of missing values: “The missing data pattern influences the amount of information that can be transferred between variables. Imputation can be more precise if other variables are non-missing for those cases that are to be imputed” (van Buuren 2018).

Our aggregation (Chapter 3.4) attenuates some effects of missing data: for the calculation of the context measurement, we use the arithmetic mean across the second level indicators. 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; if one value is missing, we take the available indicator.

Table 11: Missing Values

Dimension	Indicator	N Missing
Monopoly of Law	Domestic autonomy	Missing: 0
Monopoly of Law	International autonomy	Missing: 0
Monopoly of Law	Regime interregnum	Missing: 22
Monopoly of Law	Judicial accountability	Missing: 0
Monopoly of Law	Legislature closed down or aborted	Missing: 0
Monopoly of Law	Judicial corruption decision	Missing: 34
Monopoly of Law	Legal Pluralism (v2exctlhg_7 & v2exctlhs_6)	Missing: 0
Monopoly of Law	Executive respects constitution	Missing: 0
Monopoly of Law	Legislature corrupt activities	Missing: 902
Monopoly of Violence	State authority over territory	Missing: 0
Monopoly of Violence	Criteria for appointment decisions in the armed forces	Missing: 508
Monopoly of Violence	Remuneration in the Armed Forces	Missing: 477

⁷³ Which possibly affects the accuracy of the composite indicator, especially if the extent of imputation undermines the quality of indicators regarding coherence over time even if it improves the timeliness of data (Nardo et al. 2008: 48).

Monopoly of Violence	Political Violence	Missing: 120
Monopoly of Violence	National state of emergency	Missing: 44
Monopoly of Administration	Criteria for appointment decisions in the state administration	Missing: 473
Monopoly of Administration	Bureaucratic remuneration	Missing: 473
Monopoly of Administration	Access to public services distributed by urban-rural location	Missing: 111
Monopoly of Administration	Public sector corrupt exchanges	Missing: 0
Monopoly of Administration	Public sector theft	Missing: 0

4. Analysis: Results, Robustness, and sensitivity

Following the guidelines of quality (Nardo et al. 2008: 44 ff) for a composite indicator, several aspects must be considered that relate to the quality of raw data and the soundness of the procedures used in Index construction. In the following section, we focus on expert error, content validity and convergent and discriminant validity.

V-Dem Dataset and Expert Error

First, expert error in the V-Dem dataset must be discussed concerning variation in expert scale perception and reliability (Marquardt 2020).⁷⁴ Overall, McMann et al. (2016: 19 ff) identify three sources of difficulty that can lead to expert error or coder-level disagreement: 1) coding historical data, 2) coding cases with little independent information and 3) coding the intermediate levels of an indicator (in comparison to extreme cases) (Teorell et al. 2019: 85).

(1) It is arguably more difficult to code historical data “when experts cannot rely as much on their academic and lived experience” (Teorell et al. 2019: 85) and information is limited. Our measurement begins in 1950, thereby excluding differing historical concepts of a “state” and narrowing the difficulties that arise from coding historical data with limited information.⁷⁵

(2) To circumvent the challenge of coding cases with little independent information, V-Dem selects its coders based on an individual’s expertise in the country(ies) and thematic surveys they are assigned to code (three out of five coders should be nationals or permanent residents of that country) (Coppedge et al. 2023). Although Teorell et al. (2019) find a tendency among

⁷⁴ Except for “State authority over Territory” all our indicators are coded using a five-point scale and then converted to interval by the measurement model or need dichotomous answers (yes/no) of experts.

⁷⁵ Although V-Dem states that their data collection “provides time-series ratings that reflect historical changes as precisely as possible” (Coppedge et al. 2022); see also Pemstein et al. 2022.

native coders to provide a more positive assessment than non-native coders,⁷⁶ this bias is to be expected in every dataset. Furthermore, V-Dem expects varying levels of reliability and bias among coders and correct this through patterns of cross-rater (dis)agreement to estimate variations in reliability and systematic bias. The V-Dem dataset contains several versions of variables e.g., Model Estimates, Model Estimates Measure of Uncertainty, Original Scale etc. We use the Model Estimates version for our index that provides country-year point estimates from the V-Dem measurement model (Coppedge et al. 2022). The measurement model aggregates the ratings provided by multiple country experts and produces a probability distribution over country-year scores on a standardized interval scale. The point estimates are the median values of these distributions for each country-year; this procedure enhances accuracy.

Still, “there is almost certainly variation in the degree to which these coders are knowledgeable about their cases and concepts” (Marquardt 2020: 694). E.g., “State authority over territory” requires “an assessment of the areas over which it [the state] is hegemonic, e.g., where it is recognized as the preeminent authority and in a contest of wills it can assert its control over political forces that reject its authority” (Coppedge et al. 2022). Experts estimate the size of the territory that the state has effective control over, as a percentage (%) of the total territory that is officially part of the country. The clarifications specify that

“[d]uring civil wars the claim of the state to rule is effectively neutralized by insurgent groups (e.g., the Tamil Tigers in Sri Lanka). There are also situations in which criminals or warlords exert control in contravention of state authority (e.g., opium growers in parts of Indochina). There are also cases of failed states where the central government cannot assert control over a share of its territory (e.g., contemporary Somalia).”⁷⁷

Surprisingly, only in the historical data (Papal States 1798/1799) the value of zero percent is given. Even more surprisingly, current Germany (2021) receives 90% control over territory—the same value given to e.g., Kenya (2009), Egypt (2011) or Nicaragua (1990). For 2022, the value for Germany is more plausible at 99.7 %.

(3) Lastly, coding the intermediate levels of an indicator can be challenging because experts vary in their perception of question scales, that can cluster by cases. For example, the V-Dem administration indicator “Rigorous and impartial public administration (v2clrspct)” asks expert if public officials are rigorous *and* impartial in the performance of their duties. The discrimination between the answers “weakly” (1) and “modestly” (2) that capture the degree of the legal-rational logic of administration may lead to the report of different values between

⁷⁶ Concerning the coding of democracies, at least.

⁷⁷ Unfortunately, if the country has not received international independence, the value is set to zero which restricts analysis of “de facto states” like Puntland.

experts, although they perceive the same level of rigour and impartiality. V-Dem states, that “differences in item functioning may manifest across countries, or between coders within the same country” (Pemstein et al. 2022: 4) (difficulties in generating ordinal ratings). Hence, we decided against the inclusion of ordinal indicators and rely on the model estimates, that allow for a more fine-grained differentiation than the ordinal versions of the indicators.

Overall, we find these challenges not to be unique to the V-Dem Dataset, i.e., they apply to every measurement model based on expert ratings. V-Dem excels other measurement models in their transparency of data collection, transformation and coder error management.

Content Validity Assessment

The next paragraph focuses on validity of our index.⁷⁸ “In sum, measurement is valid when the scores [...], derived from a given indicator [...], can meaningfully be interpreted in terms of the systematized concept [...] that the indicator seeks to operationalize” (Adcock and Collier 2001: 531). According to McMann et al. (2016: 8 ff), this assessment of validity of a measure includes six properties:

1. Resonance: a measure should reflect how the underlying concept is used;
2. Domain: a measure should capture the meaning for the relevant audiences;
3. Differentiation: a measure should exclude irrelevant meanings of the concept;
4. Fecundity: a measure should be comprehensive and distinguishing while being parsimonious;
5. Consistency: a measure should capture the same meaning in multiple contexts;
6. Causal utility: a measure should be useful in testing causal relations.

Overall, StIx resonates with the academic usage of the terms “state” and “stateness”; it enhances the established dimensions monopoly of violence and monopoly of administration with the dimension of the monopoly of law, that is a novum in current research (exception Lambach et al. 2015). Hence, our Index also covers the established domain, i.e., the meaning of state and stateness as discussed by scholars. By including both formal and informal institutions, StIx captures varied layers of stateness within the domain, which strengthens the index’s content validity, making it also broadly applicable and less restricted across contexts.

StIx includes relevant dimensions of stateness – monopoly of law, monopoly of violence, monopoly of administration – but also excludes irrelevant ones, such as the rule of law, by differentiating e.g., between regime and state, that are oftentimes mixed in existing indices that

⁷⁸ Following McMann’s et al. (2016) “Strategies of Validation”.

measure stateness or fragility (see Bethke 2012; Lambach and Bethke; Stawski 2021; see discriminant validity below, see Chapter 2.).

Furthermore, both minimal and maximal conceptualizations are not an ideal (or at least not a well-suited ideal type for measurement); hence the middle-range concept of StIx is most promising for analysis. An index is consistent if it captures the same meaning in multiple contexts across place and time; but, as Goertz (2020: 48) noted, “contextualization is not a good idea”, i.e., it is not constructive to use a conceptualization of state and stateness relative to a given historical period. In fact, only an ideal type conceptualization will reveal differences in historical and spatial relativity. StIx includes every country in the dataset, avoiding the bias in datasets of a subset of countries. By applying the same concept for each country and each year, StIx allows over-time and cross-country comparisons of stateness. The possibility to conduct panel analysis is an important contribution to the research-field since existing indices do not reach the country and year coverage that StIx achieves.

Finally, it is vital that a concept offers causal utility. By offering different levels of aggregation, StIx is useful for researchers interested in causal interferences. And - because in a different context, the concept might play a causal role - StIx can be used for testing causal connections, both as the dependent and independent variable. Furthermore, the parsimonious operationalization of StIx reduces the risk of endogeneity, making it suitable for analysis of causality.

Convergent Validity

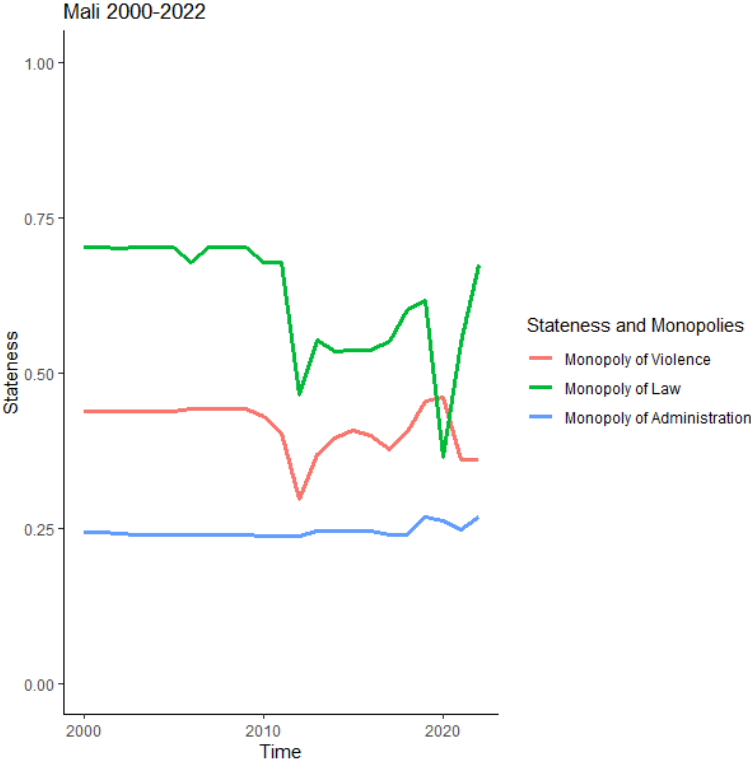
Convergent validity assesses the degree to which different instruments that measure the same concept match. Ideally, the correlation is high, but the precise conformity depends on both conceptual assumption and quality of data. To perform convergent validity checks, scientists must answer the guiding question: “To what extent do the data to validate correspond to existing knowledge?” (McMann et al. 2016: 19). McMann et al. (2016: 19 ff) propose three techniques: comparison of the data to existing case studies, statistical analysis to compare coder evaluation, statistical analysis in comparison to other measures. We focus on the first and the last aspect.

Convergent validity testing with case studies

To assess if our measurement accurately captures cases, we use short case studies of three countries: Mali, Cyprus and Thailand (2000-2022). Thailand is a representative case of an autocratic regime (that has become more autocratic in the last years) with a moderate functioning state; Mali is a representative case of a (profound) defective states. Cyprus is a

deviant case (of measurement), that is not accurately classified by other measurement instruments, like the Fragile States Index.

Mali:



Between 2000 and 2022, Mali is a profound defective State. As a former French colony, Mali struggles with its colonial past and the reconciliation of long-lasting identity⁷⁹ conflicts between the north - home to the semi-nomadic group of Tuareg - and the south. After its independence, the state was directly challenged by Tuareg and Arab communities, while the political regime promoted a path of “aggressive unity” and the political, social and economic marginalisation of the north (Chauzal and van Damme 2015). The internal conflicts were aggravated by foreign countries like Libya and Algeria, that sought to build their influence in the north of Mali. Simmering conflicts led to four Tuareg and Arab uprisings: in 1963, 1991, 2006 and 2012. Peace agreements and demobilisation programs failed to normalise the long-lasting grievances of the ethnic Tuareg minority.

Today, the state has yet to recover from the multidimensional crisis of 2012: The impact of Al-Qaeda in the Islamic Maghreb that operated on Malian territory since 2007 increased after the downfall of the Gaddafi regime (Libya) in 2011. This in turn precipitated a Tuareg rebellion at

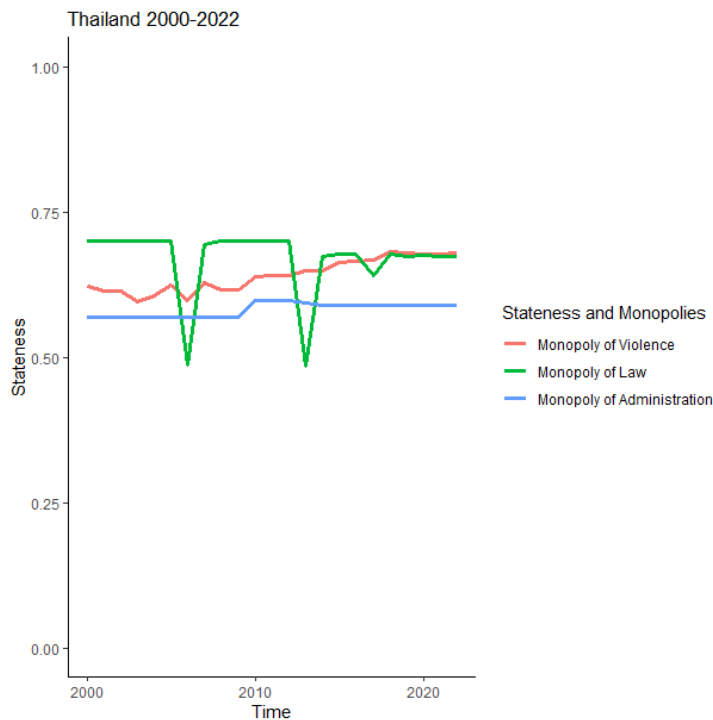
⁷⁹ Mali is among the top-10 of the most artificial states in the world according to the partition index: a degree to which international borders split ethnic groups (Ananyev and Poyker 2023: 3).

the beginning of 2012 which eventually led to a coup d'état to “restore order” in March of 2012 in the already profound defective state. Despite the Military Coup, two-thirds of Mali’s territory fell under the control of different organisations, while the Islamist Movements used the period of instability to install state entities under non-state authority in northern Mali. The conflict of 2012 spread from the north to the centre of the state, local conflicts between various groups intensified and became entangled with the conflict between the Malian state and Islamist groups, increasing the conflict to the brink of a civil war. These events in turn exhilarated the proliferation of armed militias and an overall spread of oligopolies of violence. After a peace deal and the restoration of democracy (2014-2018) followed a short period of marginal improvement of stateness, before it again deteriorated. Protests formed after the parliamentary elections of 2020 that led to a military intervention, the resignation of the president and an interim government, that was eventually discharged by the military in 2021.

These two military coups in less than a year in 2020 and 2021 took place in the already autocratic regime, putting Mali – the former posterchild of democratization – on the list of “top autocratizers”. But the exercise of power is limited to the state-controlled territory and does not include those areas that are under the authority of non-state groups that occupy various regions of the state. The state is profoundly fragile, while jihadist groups, militias and separatist have gained in strength, exercising their authority, laws and monopolies of violence in the occupied regions. The state is no longer capable to deter or curtail the prevalent use of violence by non-state actors and the central authority of the state and its legitimate claim remain disputed.

StIx data show corresponding declines of stateness from 2012 to 2018 among the monopolies of law and violence while the monopoly of administration remains on a profound defective level beneath the threshold of 0.3.

Thailand:



Thailand differs from the previous example in both stateness (moderate functioning state) and regime quality (closed autocracy). Since the beginning of democratization in the 1990s, Thailand was marked by political conflict between pro-democracy forces and anti-democracy forces. Among the later, unelected veto-actors particularly the military and the monarchy have continuously interfered with the transformation to democracy. This resulted in numerous coups to dispose of elected governments and support the monarchy. The military interventions in Thailand were instigated from within the state to capture state power and abolish democracy. By concentrating state power and limiting pluralism, Thailand's regime change did not have negative effects on the state; both before and after the regime breakdown Thailand is classified as a moderate functioning state.⁸⁰

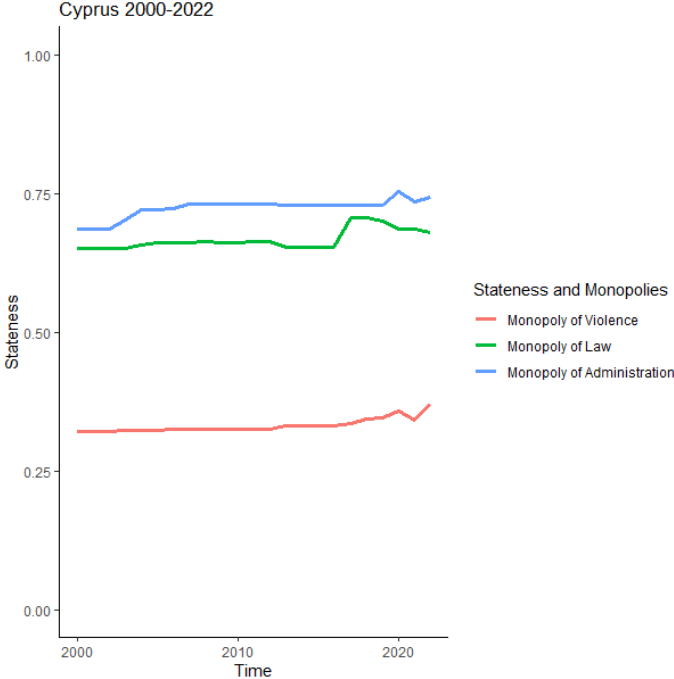
The dissolution of the legislature leads to temporary classifications of a defective state in 2006 and 2013. After the Military Coups in 2006 and 2015 the Monopoly of law – overcoming a short disruption resulting from the dissolution of the legislature – saw a strengthening through the formation of military courts. Although the state's monopoly of violence in the South continues to be challenged by an ethnoreligious insurgency of the Malay-Muslims, the

⁸⁰ the Fragile States Index places Thailand at Rank 86, with low values for State Legitimacy, Factionalized Elites, Security Apparatus, and Human Rights.

centralization of power proved effective in restoring autocratic rule, repress civilian protest and to strengthen the state overall.

StIx data for Thailand match these dynamics: our data can capture an increase or decrease of stateness within a short period of time (2006; 2013). The measurement also mirrors these patterns but also outperforms other indices, that suffer from democracy biases. Although Thailand is categorized as a closed autocracy, it is still placed in the category of moderate functioning states (high levels of corruption and abuse of office for private gain led to a downgrade of Thailand for the context measurement; Thailand is high functioning state on the core measurement).

Cyprus:



Cyprus is an island state with less than 1.5 million inhabitants. Since its independence in 1960, the formation of the Republic of Cyprus as a new state was designed to minimise escalation between Greece and Turkey. The division of municipalities through the “Green Line” was established in the 1960 constitution and is – in terms of international law - a ceasefire line, that is manned by military personnel from both sides (Demetriou 2005).

This failed to reconcile the animosity between the constituencies – in 1974, after the Greek military staged a coup d’etat against the Cypriot government, the Turkish military invaded the country and seized 36% of the territory. The turkish Cypriots then established the Turkish

Federated State of Northern Cyprus and declared its independence in 1983. Since then, while the Republic of Cyprus has de jure sovereignty over the entire territory, the northern area is under the control of the self-declared Turkish Republic of Northern Cyprus, that is recognized only by Turkey.

In comparison to other Stateness measurements, e.g., the Fragile States Index that places Cyprus within the well performing countries, StIx assessment of Cyprus' Stateness is more accurate. Although the Cypriot state has a monopoly on the use of force throughout the entire territory under its control, this excludes the Turkish occupied territories. The Monopoly of Law reflects the dependencies on Greece and Turkey, beneath the threshold of a high functioning state. The Monopoly of Administration is highly functioning.

Convergent and Discriminant Validity:

Convergent validity supports construct validity if a correlation with related constructs exists. If scores converge between two measurement models that claim to measure the same phenomenon, then the same concept is measured. Discriminant validity on the other hand tests if a measure designated to measure a different concept does not correlate with the measurement instrument.

“Two measures intended to measure distinct constructs have discriminant validity if the absolute value of the correlation between the measures after correcting for measurement error is low enough for the measures to be regarded as measuring distinct constructs” (Rönkkö and Cho 2022: 11).

Discriminant validity is present if measures of concepts that are theoretically not highly related are statistically found not to be highly related. If the correlation between two divergent concept measurements is close to 0, then the two instruments measure different concepts. If the correlation is close to 1, then they measure similar concepts.

Measures comparable to StIx's dimensions - the World Governance Indicators (WGI – Political Stability and Absence of Violence), Fragile States Index (FSI- Security, Public Services) and Bertelsmann Transformation Index (BTI – Monopoly of Violence, Basic Administration) - do not (explicitly) allow for comparison over time and include considerably lesser timepoints than StIx. Thus, we assess aggregated convergent validity for the year 2022. As shown in Table 3 (Appendix), the highest correlation is found between the StIx Monopoly of Administration and the BTI Indicator “Basic Administration” (0.81) resp. the FSI Indicator “Public Services” (0.83). The correlation between StIx Monopoly of Violence and FSI “Security Apparatus” of

0.68 is lower than the correlations with WGI or BTI (0.76) – this could be attributed to the inclusion of aspects such as “proper use of force” or “police brutality” in the FSI measurement. Countries like North Korea, Russia or Thailand receive moderate to high values among the StIx Monopoly of Violence, but significantly lower points from the FSI Security Apparatus. On the other hand, the FSI places Cyprus with 3.2 (of 10)⁸¹ on the upper end of the scale – StIx places Cyprus’ Monopoly of Violence in the category of defective states. The correlation between our measurement for the monopoly of law with democracy indices – V-Dem’s Rule of Law Index and Liberal Democracy Index is 0.6 resp. 0.5 – the highest correlation is found between the monopoly of administration and democracy (see discussion below). These results overall indicate convergent validity concerning the measurement of stateness and discriminant validity to democratic regimes.

To further test for discriminant validity, we examine patterns of stateness in conjunction with the regime type.⁸² If our measurement is a distinct construct from the form of authority – the regime – then StIx presents discriminant validity.

From the 174 countries included in 2022, 43 States are classified as highly functioning states (context measurement). Among those 43 states, only one regime is categorized as a closed autocracy (United Arab Emirates). One highly functioning state, namely Singapore, is an electoral autocracy. With a total Index value of 0.93 Singapore leads the 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 to fulfil its jurisdictional functions to enforces 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 with conviction.

12 robust states are electoral democracies, and 29 highly functioning states are liberal democracies. These states are capable to uphold their internal and external sovereignty and exercise their authority throughout their entire territories by applying their monopolies and means of law, violence, and administration.

34 states are classified as moderate functioning states. Among those states, no regime is classified as a liberal democracy – hence, all of those states fall into the category of electoral democracies (17), electoral autocracies (9) or closed autocracies (8). The latter includes China,

⁸¹ FSI Scale 0-10, with low values indicating good performance.

⁸² Using V-Dem’s Regimes of the World (RoW).

Cuba, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, and Thailand. These closed autocracies that are also moderate functioning states show mixed pattern among the state's monopolies: while the monopoly of law and monopoly of violence (except for Thailand) lie above the thresholds of a functioning state, the monopoly of administration shows minor shortcomings, indicating that autocracies rely on personalism and clientelism within the state administration to uphold both regime and state. Nine moderate functioning states are electoral autocracies: Albania, Benin, Hungary, Kazakhstan, Malaysia, Russia, Serbia, Tanzania, and Turkey. Again, the main deviations from the ideal type are found within the monopoly of administration, except for Malaysia and Tanzania.

Most states – 52 – fall into the category of defective states. One country – Cyprus – is also classified as a liberal democracy, which we have discussed above. 21 states are also electoral democracies; Cape Verde, Ecuador, Ghana, Guyana, Sao Tome and Principe, South Africa, and Zambia display unbalanced patterns of state fragility that mainly affects the monopoly of administration. The patterns of the remaining defective states are more balanced with defects among at least two or all three monopolies. 22 defective states are electoral autocracies, and eight defective states are closed autocracies, including Eswatini, Iran, Laos, Morocco, North Korea, Turkmenistan, Uzbekistan, Vietnam. Apart from Iran and Laos, the main defects of stateness of these closed autocracies again cumulate among the monopoly of administration, however, the monopoly of violence and monopoly of law also show signs of fragility.

35 states are profound defective states in 2022, like Afghanistan or Venezuela. Only four of these – Liberia, Malawi, Nepal, and Niger – are electoral democracies, the majority falls into the category of autocratic regimes. The profound defective states show different patterns of fragility, with all three monopolies being defective to varying degrees.

Lastly, four countries are collapsed states: Libya, Papua New Guinea, South Sudan, and Yemen. Papua New Guinea is the only country that shows a mixed profile of state collapse, with the defects among the monopoly of administration exceeding the defects among the monopoly of violence and law by far. In fact, Papua New Guinea is given the worst value for the indicator “Access to public services distributed by urban-rural location” within the dataset. Libya, South Sudan, and Yemen fall beneath the threshold of 0.1 on at least two monopolies, indicating that stateness is de facto absent.

Although it is reasonable to speak of an advantage of democratic regimes regarding our ideal type of a state based on legal-rational authority that impacts the performance among the monopoly of administration, we consider these findings to indicate discriminant validity from

the regime concept. Our findings are an indication for discrepancies between democratic and autocratic regimes regarding their employment of the state bureaucracy: although both regime types rely on bureaucrats as agents of policymaking (principal-agent), the strategic use of corruption to receive and sustain political support is more common among autocratic regimes (Carothers 2023).⁸³Corruption then is a mechanism of co-optation of strategically-relevant actors, which enable rule “by and through a close network of direct and indirect ties to subordinate actors” (Gerschewski 2013).

Furthermore, these defects among the monopoly of administration are an embodiment of an urban bias: state resources including state administration are inconsistently distributed between rural areas and urban cities. This includes but is not limited to the concentration of state infrastructure to cities, most of the public investment in infrastructure and public services towards urban cities, low supply and quality of education within rural areas, the overtaxation of agriculture while foreign aid is concentrated on non-agricultural sectors, low food prices and subsidies for certain food products, and the conscious favouritism of urban areas (Blomqvist and Lundahl 2002).

The combination of both - informality within state administration and an urban bias – reinforce state defects: clientelistic networks are necessary to reach into the periphery, the transactions are completed on the local level. Although clientelism is functional for system-maintenance and a functional alternative to the legal-rational order and procedures of the state, it is also a by-product of the urban-bias:

“[...] when governmental structures fail to extend beyond the confines of a relatively narrow perimeter, usually the capital city, and where the scope of governmental activity is equally restricted, no amount of structural differentiation at the center can prevent the development of clientelism on the periphery” (Lemarchand and Legg 1972: 162).

5. Conclusion

This paper on the Stateness Index “StIx” presents a new option to operationalize, measure and categorize states according to their performance 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

⁸³Although the reliance on corruption to sustain an autocratic regime can be double-edged, leading to a “corruption dilemma”: corruption helps with creating political support, but it can also cause public discontent. Additionally, if state officials engage in bribery and theft, the state apparatus becomes defective (Carothers 2023).

administration throughout a given territory and 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 exceeds existing indices to measure stateness both in number of years and soundness of measurement. Through the differentiation of first and second level indicators we include informal institutions that embed and influence the formal institutions of a state, resulting in a more realistic measurement of stateness overall, represented by the context measurement. Our approach is based on both rigorous methods and valid indicators resulting in a transparent index and typology that is open to usage for scientist, policy makers and people without knowledge on the subject.

Subsequent questions we wish to answer using StIx concern the development of stateness over time, the in-depth analysis of the state-regime-nexus and the connectivity and occurrence of informal and formal institutions in differing types of stateness.

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Appendix

Table 1: Summary Statistics Core Measurement, First Level Indicators (V-Dem 13):

Countries: 178; Years: 1950 – 2022						
Dimensions and Indicators	N	Missing	Mean	Median	Max	Min
Cross-cutting: Independent states	10707	0	1	1	1	0
Monopoly of Law						
Domestic autonomy	10707	0	1.239	1.439	2.258	-2.981
International autonomy	10707	0	1.222	1.393	2.415	-2.959
Regime interregnum	10685	22	0.9931	1	1	0
Judicial accountability	10707	0	0.5474	0.5490	3.8040	-2.7640
Legislature closed down or aborted	10707	0	0.02027	0	1	0
Monopoly of Violence						
State authority over territory	10707	0	91.27	95.00	100.00	33.40
Criteria for appointment decisions in the armed forces	10199	508	0.1379	0.0190	2.9790	-3.1820
Remuneration in the Armed Forces	10230	477	0.4827	0.5930	1.7430	-3.6580
Monopoly of Administration						
Criteria for appointment decisions in the state administration	10234	473	0.3979	0.3590	3.4740	-2.9280
Bureaucratic remuneration	10234	473	0.9118	1.0020	2.1770	-4.3010
Access to public services distributed by urban-rural location	10596	111	0.2936	0.3005	3.4550	-2.7940

Table 2: Summary Statistics Context Measurement, Second Level Indicators (V-Dem 13):

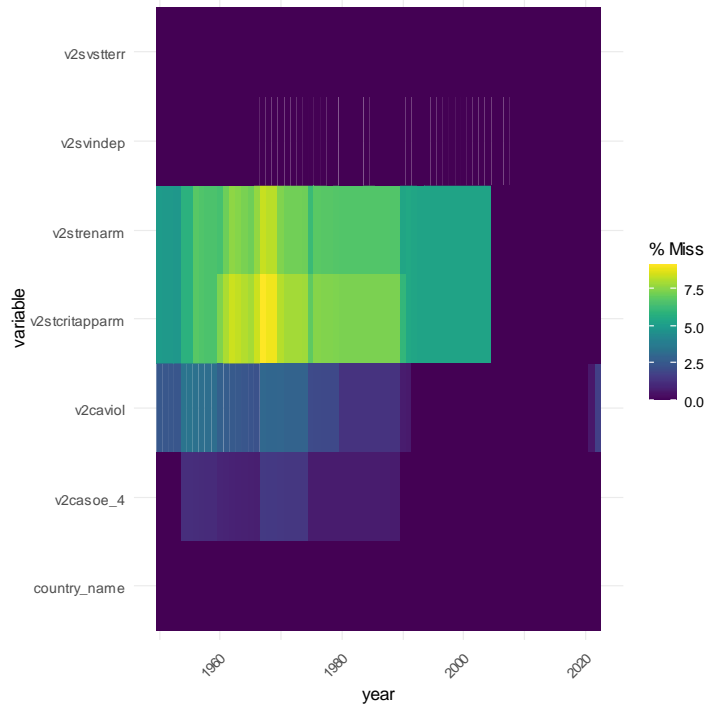
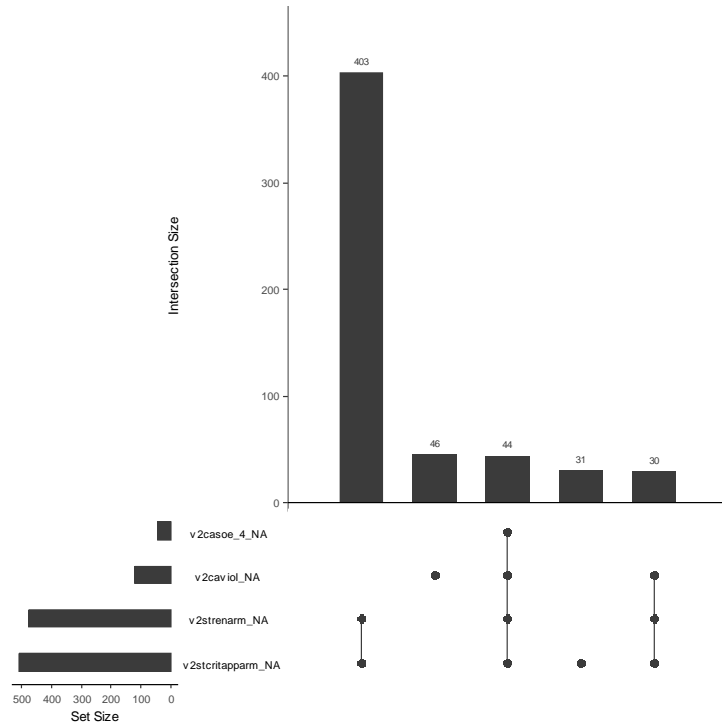
Countries: 178; Years: 1950 – 2022						
Dimensions and Indicators	N	Missing	Mean	Median	Max	Min
Monopoly of Law						
HOS control over (tribal or ethnic council)	10707	0	0.03541	0.00000	0.87500	0.00000
HOG control over (tribal or ethnic council)	6487	4220	0.023	0.000	0.750	0
Judicial corruption decision	10673	34	0.2488	0.0810	3.6720	-3.2490
Legislature corrupt activities	9805	902	0.0501	-0.0360	3.8060	-3.3560
Executive respects constitution	10707	0	0.3711	0.5600	3.4950	-3.5320
Monopoly of Violence						
Political violence	10587	120	-0.403	-0.6090	4.1100	-3.4690
State of Emergency due to an armed conflict/war	10663	44	0.07532	0.00000	1.00000	0.00000
Monopoly of Administration						
Public sector corrupt exchanges	10707	0	-0.0265	-0.2100	4.1270	-3.2110
Public sector theft	10707	0	0.1113	-0.1330	3.6310	-3.6390

Table 3: Correlation Monopolies StIx with FSI, BTI, WGI, V-Dem 2022

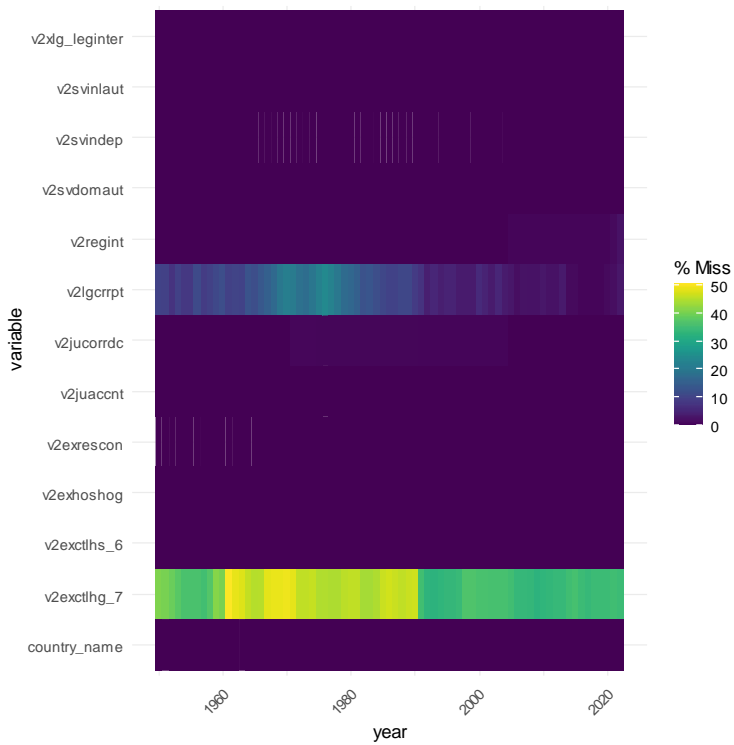
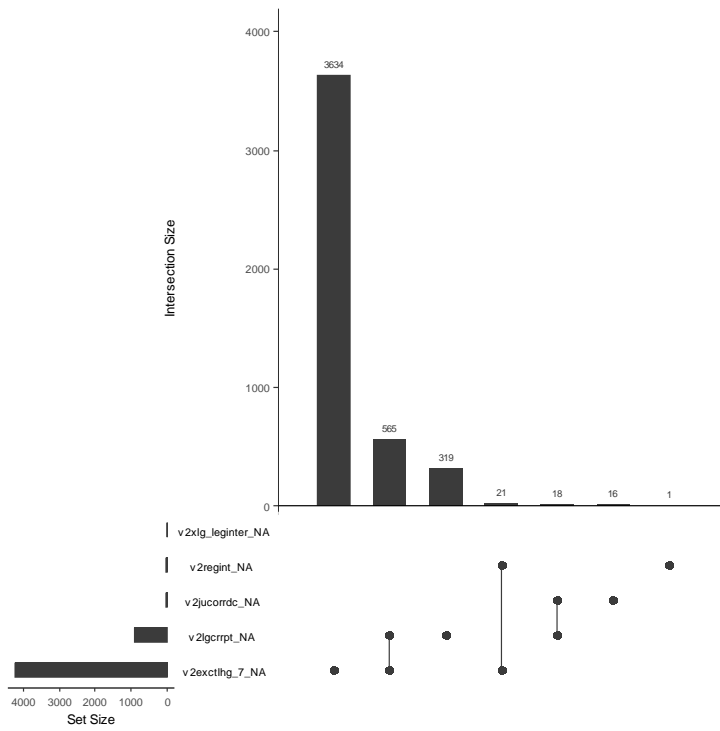
	StIx: Monopoly of Law	StIx: Monopoly of Violence	StIx: Monopoly of Administration	V-Dem: Liberal Democracy Index	V-Dem: Rule of Law Index	FSI: Security	BTI: Basic Administration	WGI: Political Stability and Absence of Violence	BTI: Monopoly of Violence	FSI: Public Services
StIx: Monopoly of Law	1	0,65462205	0,50374803	0,5498936	0,60491684	0,54917385	0,51450395	0,62496181	0,53709658	0,46322421
StIx: Monopoly of Violence	0,65462205	1	0,65354042	0,59002225	0,62933313	0,68394437	0,7406535	0,76503384	0,76814232	0,68296653
StIx: Monopoly of Administration	0,50374803	0,65354042	1	0,6520192	0,7353198	0,734495	0,81051921	0,70771657	0,59488873	0,83831883
V-Dem: Liberal Democracy Index	0,5498936	0,59002225	0,6520192	1	0,91372799	0,65178517	0,53239285	0,67859337	0,34030019	0,58798074
V-Dem: Rule of Law Index	0,60491684	0,62933313	0,7353198	0,91372799	1	0,70948471	0,63771269	0,7321319	0,44922685	0,64395514
FSI: Security	0,54917385	0,68394437	0,734495	0,65178517	0,70948471	1	0,73476043	0,87466008	0,76868317	0,78771561
BTI: Basic Administration	0,51450395	0,7406535	0,81051921	0,53239285	0,63771269	0,73476043	1	0,7556941	0,71163918	0,85246059
WGI: Political Stability and Absence of Violence	0,62496181	0,76503384	0,70771657	0,67859337	0,7321319	0,87466008	0,7556941	1	0,83369813	0,72682193
BTI: Monopoly of Violence	0,53709658	0,76814232	0,59488873	0,34030019	0,44922685	0,76868317	0,71163918	0,83369813	1	0,64050364
FSI: Public Services	0,46322421	0,68296653	0,83831883	0,58798074	0,64395514	0,78771561	0,85246059	0,72682193	0,64050364	1

Missing Data:

Monopoly of Violence:



Monopoly of Law:



Monopoly of Administration:

