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Making Trade-Offs Visible: Theoretical and Methodological Considerations about the Relationship between Dimensions and Institutions of Democracy and Empirical Findings

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Abstract

Whereas the measurement of the quality of democracy focused on the rough differentiation of democracies and autocracies in the beginning (e.g. Vanhanen, Polity, Freedom House), the focal point of newer instruments is the assessment of the quality of established democracies. In this context, tensions resp. trade-offs between dimensions of democracy are discussed as well (e.g. Democracy Barometer, Varieties of Democracy). However, these approaches lack a systematic discussion of trade-offs and they are not able to show trade-offs empirically. We address this research desideratum in a three-step process: Firstly, we propose a new conceptual approach, which distinguishes between two different modes of relationships between dimensions: mutual reinforcing effects and a give-and-take relationship (trade-offs) between dimensions. By introducing our measurement tool, Democracy Matrix, we finally locate mutually reinforcing effects as well as trade-offs. Secondly, we provide a new methodological approach to measure trade-offs. While one measuring strategy captures the mutual reinforcing effects, the other strategy employs indicators, which serve to gauge trade-offs. Thirdly, we demonstrate empirical findings of our measurement drawing on the Varieties of Democracy dataset. Incorporating trade-offs into the measurement enables us to identify various profiles of democracy (libertarian, egalitarian and control-focused democracy) via the quality of its dimensions.

Keywords

control-focused democracy; democracy; Democracy Matrix; egalitarian democracy; libertarian democracy; measurement of democracy; profile of democracy; quality of democracy; trade-off; Varieties of Democracy

Issue

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1. Introduction

One unresolved question of the measurement of democracy is the existence of trade-offs between dimensions, that is to say, whether their relationship is characterized by tensions and conflicting goals, which result in trade-offs between them. Even though newer indices of democracy (Democracy Barometer, Varieties of Democracy/V-Dem) mention the idea of trade-offs, they

are, however, not able to demonstrate trade-offs empirically. Giebler and Merkel (2016, p. 602) state, based on the Democracy Barometer data, that in contrast to the “traditional libertarian fear of a trade-off between freedom and equality..., we find that the two core principles of democracy (freedom and equality) possess a mutually reinforcing association”. Similarly, V-Dem mentions the idea of trade-offs in their conceptual paper (Coppedge, Gerring, Altman, & Bernhard, 2011), but they seem to

not be able to detect these trade-offs empirically, e.g. cases can be identified with the highest rating in the freedom dimension and in the equality dimension simultaneously (Coppedge, Lindberg, Skaaning, & Teorell, 2015, p. 9). Why is this the case?

We argue that there are at least two reasons: on the one hand, these measures lack a deep discussion of the conceptual foundations of trade-offs missing not only the detection of concrete realization of trade-offs but also their interconnectedness with different abstract conceptions of democracy. This means that current measures of democracy content themselves with only a short remark about trade-offs on the highest aggregated level (dimensions or principles) but do not consider these conceptual consequences for lower or mid-level components of democracies (institutions). In fact, no definite characterization or, to be more precise, definition of trade-offs has ever been made, even in the more theoretical discussions about the quality of democracy (see for a general discussion Diamond & Morlino, 2005). On the other hand, they lack an adequate empirical measurement strategy by not adapting their measurement and aggregation stage to capture the different “nature” of trade-off relationships. Current measures of democracy use unidimensional indicators to measure an actual two-dimensional relationship resulting in a blind spot concerning trade-offs. This article tackles these two conceptual and methodological problems: how can we understand trade-offs conceptually and how can we successfully incorporate them in a measurement of the quality of democracy?¹

Thus, to close this research gap, this article proceeds in three steps: firstly, we propose a new conceptual approach, which is able to define and distinguish between two different modes of relationships between dimensions (section 2): mutual reinforcing effects between dimensions and a give-and-take relationship (trade-offs). By introducing our measurement tool, Democracy Matrix, which combines three dimensions (political freedom, political equality and political and constitutional control) with five central democratic functions, we locate trade-offs. On the basis of these three dimensions, we propose three ideal typical profiles of democracy: libertarian, egalitarian and a control-focused profile of democracy.

Secondly, we provide a new methodological approach to measure trade-offs (section 3): two independent measurements are combined to assess the quality of democracy. While one measuring strategy applies indicators commonly used in other indices (such as Freedom House or Varieties of Democracy) relying on a unidimensional interpretation, the other strategy employs indicators which serve to assess trade-offs by incorporating and expressing the two-dimensional relationship

which is characteristic for trade-offs. We call the former type of indicators “quality measuring indicators” and the latter “trade-off indicators”.

Thirdly, we demonstrate empirical findings of our measurement drawing on the Varieties of Democracy dataset (section 4). Incorporating trade-offs into the measurement enables the identification of various profiles of democracy via the quality of its dimensions.

2. Conceptual Considerations: Quality and Profiles of Democracies

2.1. *The Democracy Matrix: A New Measurement Tool Which Combines Mutual Reinforcing Effects and Trade-Offs between Dimensions*

The Democracy Matrix is based on the 15-Field-Matrix (Lauth, 2004, 2015). The 15-Field-Matrix combines three dimensions with five central democratic functions: Whereas the dimension of freedom captures the extent of the free self-determination of the citizens based on civil and political rights, the equality dimension encompasses legal egalitarianism and the actual realization of those rights (input-egalitarianism). The control dimension takes into account the protection of the two other dimensions through legal control performed by judiciaries and political control performed by intermediary institutions, media and parliament. On the one hand, this democracy conception is primarily rooted in Dahl’s (1971) widely acknowledged distinction between “contestation” and “participation” which is resembled in the dimensions of freedom and equality. On the other hand, it adds a third dimension, control, to capture the deficient functioning of horizontal accountability and the rule of law.² This extension of the conception is due to the basic conviction that democracy is a type of limited rule. The analysis of third wave democracies, which often have shown significant deficits regarding horizontal accountability and rule of law (O’Donnell, 1994), demonstrates the relevance of this third dimension of control.

In addition, five central functions cut across these three dimensions concretizing the quality of democracy. The “procedures of decision” function analyzes the democratic quality of representative elections and direct democracy. The “regulation of the intermediate sphere” captures the democratic performance of interest aggregation and interest articulation by parties, interest organizations and civil society. “Public communication” evaluates the functioning of the media system and the public realm. The “guarantee of rights” function analyzes the democratic quality of the court system, whereas the last function, “rules settlement/implementation”, focuses on the democratic quality of the work carried out by the executive and legislature. This unfolds 15 matrix-fields

¹ We are not convinced that the theoretical assumption of the existence of trade-offs could be wrong, although we will stress this possibility in our discussion as well.

² In a sense, this third dimension reflects the binding or limiting mechanism of democratic rule, which Dahl (1956) highlights under the term Madisonian democracy.

which supports the analysis of the quality of democracy in an elaborate manner.

The Democracy Matrix enhances the concept of the 15-Field-Matrix by distinguishing between two basic types of relations between dimensions: mutual reinforcing effects and trade-offs. While the mutual reinforcing effects are already sufficiently captured by the 15-Field-Matrix, the inclusion of the concept and measurement of trade-offs is the additional feature of the Democracy Matrix. Figure 1 presents trade-offs inside the Democracy Matrix, which we have identified.

The idea of mutual reinforcing effects between dimensions can usually be found in all measures of democracy: The Variety of Democracy-project describes this type of relationship for freedom and equality by stating “that to some extent the contribution of one attribute depends on the presence of the other. If, say, oppositional candidates are not allowed to run for election, or the elections are fraudulent, it does not matter much for the level of electoral democracy that all adults have voting rights” (Coppedge et al., 2015, p. 6). The concept of the Democracy Barometer is based on “the assumption of necessary and sufficient conditions for being a member of the category democracy” (Merkel et al., 2016, p. 8). In addition, Diamond and Morlino (2004, pp. 28–29) suppose that the “dimensions are closely linked and tend to move together, either toward democratic improvement and deepening or toward decay”. This means that dimensions are not only necessary to understand democracy, but they are also mutually dependent. One dimension cannot exist without the other. The close relationship between freedom and equality has been emphasized by Dworkin (1996, p. 57): “So we have come, by different routes, beginning in different traditions and paradigms, to conceptions of liberty and equality that seem not only compatible, but mutually necessary”. Dahl (1971) emphasizes that a democracy (polyarchy) is only present if both attributes—contestation and participation—are fulfilled. In terms of democratic theory, freedom without a minimum level of equality is as difficult to conceive as equality without freedom. Control, which is required for their protection and enforcement, is checked by constitutionally-set standards of freedom and equality, thereby constraining the unlimited exercise of power. Campbell, Carayannis and Scheherazade (2015) refer to the three dimensions of freedom, equality and control, but add with “sustainable development” a fourth dimension to their *Quadruple dimensional structure of democracy*, which is likewise constructed in a reinforcing perspective.

This mutual reinforcing effect between the dimensions expresses the baseline concept of the Democracy Matrix: all dimensions and thus all 15 matrix fields must work to a sufficient degree for a country to be classified as a democracy. Insofar the Democracy Matrix shares the assumptions of the other indices, it differs in the way it conceptualizes and incorporates trade-offs. This conception implies—as it will be shown below—the combination of two procedures of measurement.

2.2. Conception and Identification of Trade-Offs

Despite the complementary relationship structure, potential tensions between dimensions are impossible to ignore according to political philosophy. Hidalgo (2014) speaks of antinomies within the democracy concept meaning a “contradictoriness of two propositions which both at the same time are reasonable, justified, and valid” (Hidalgo, 2014, p. 29, own translation). More generally but focused on freedom and equality as well, Berlin’s value pluralism claims that the “world...is one in which we are faced with choices between equally ultimate ends, and claims that are equally absolute, the realization of some must inevitably involve the sacrifice of others” (Berlin, 1969, p. 168). Diamond and Morlino (2004, p. 21) describe the idea of trade-offs within the realm of democracies: “it is impossible to maximize all [dimensions] at once. [Every] democratic country must make an inherently value-laden choice about what kind of democracy it wishes to be”.

Applied to our dimensional framework, relationships become increasingly strained, especially when a dimension is rigidly manifested. If we look at the features of the dimensions on a scale, a convincing case can be made for the following thesis: whereas in most parts of the scale the dimensions are mutually dependent and support one another, seeking the maximum value results in a trade-off. A choice for one side of the trade-off must be made. What is a trade-off and how can we understand a trade-off in democracies?

A relevant trade-off in democracies satisfies the following conditions:

- A trade-off is settled in the *political* sphere of *democracies*: just as democracy is solely defined in political and procedural terms (Munck, 2016, pp. 16–18), trade-offs are only relevant for the quality of democracy if they are in the political sphere. Thus, trade-offs in the economic sphere (e.g. between policy goals) are excluded.
- A trade-off occurs because *only one institution fulfills a specific political function in one dimension*. At the same time, however, this institution *produces necessarily opposed or inverse effects in another dimension linked to the same function*. This relationship means that a choice is forced between different institutional designs accepting the advantages but also the disadvantages of this specific realized institutional solution.
- *Contrasting but interrelated democracy conceptions* offer different institutional solutions for the same function: On the one hand, these conceptions carry equal normative weight, and can be reasonably justified. The same level of quality of democracy is accredited to them, which implies that they and their institutional choices are neutral in relation to the comprehensive quality of democracy. On the other hand, every democracy

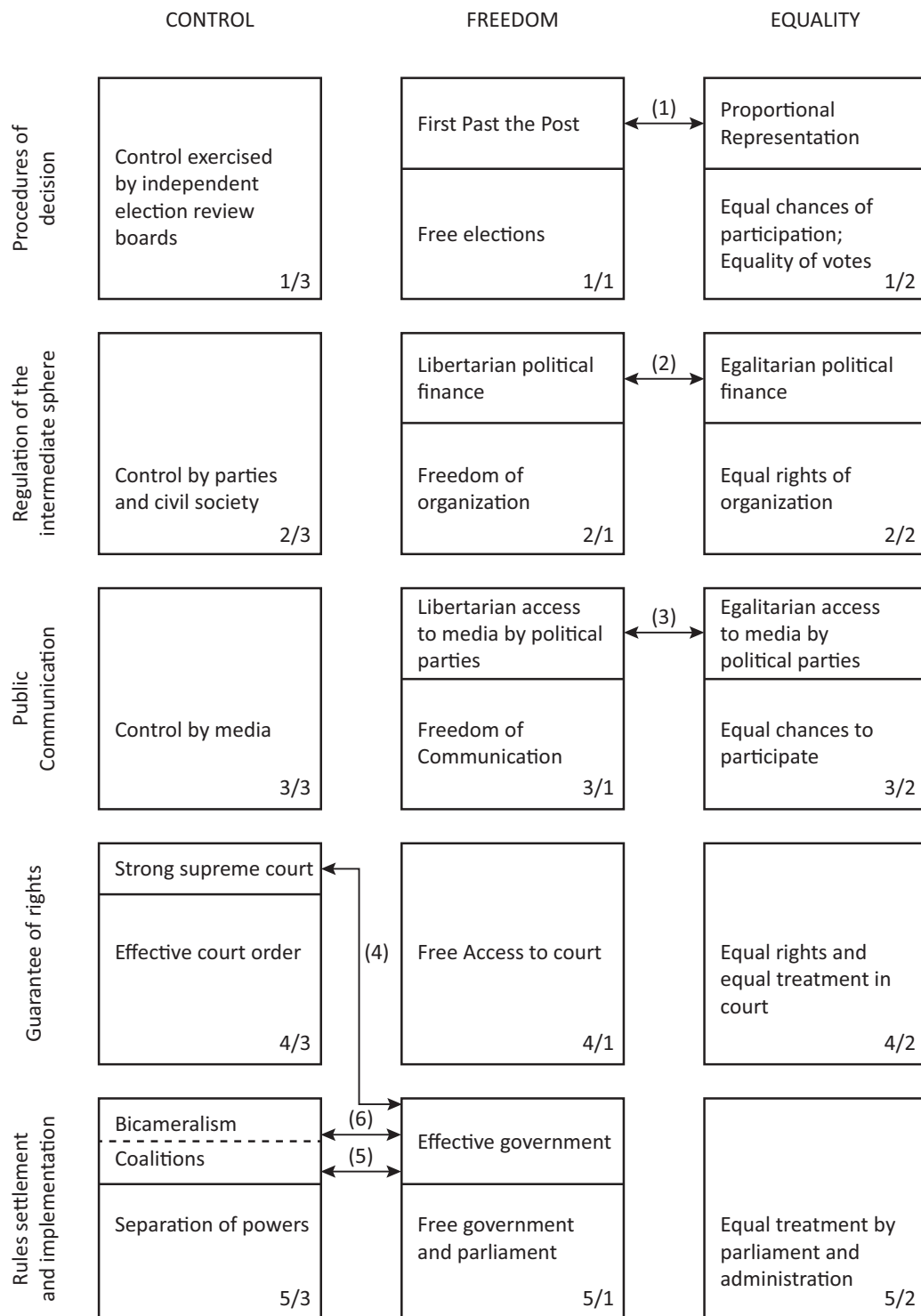


Figure 1. Democracy Matrix. The numbers in parentheses refer to the trade-offs described in the article, the arrows represent the connectedness in which an increase of one dimension determines a decrease of the related dimension. Source: Lauth (2004, 2015).

conception ultimately emphasizes different political values while disregarding others (e.g. freedom over equality). This means they stress a different structuring of the same democratic quality. Therefore, institutions due to their linkage to democracy conceptions highlight different democracy dimensions.

- If an institution overemphasizes one pole of a trade-off by neglecting the other pole completely, an *overstretching* of a trade-off occurs, which damages the baseline concept: between the two poles of a trade-off, there is a normative legitimate space described by the democracy conceptions, in which a democracy can place itself (Hidalgo, 2014). While

a trade-off accentuates dimensions differently, it still leaves the democracy dimension fully intact: we would not speak of a trade-off anymore when a democracy leaves this democratic space (e.g. overemphasizing the control dimension at the cost of the freedom dimension: a supreme court which acts as a super-legislature). In this case, it damages the baseline concept respective the mutual reinforcing effects between the dimensions.

These explanations distinguish two levels of abstraction: institutions and dimensions. The basic statement is that it is not possible to realize all three dimensions of the Democracy Matrix in comprehensive manner because they are unavoidably linked to trade-offs. This assumption does not mean, however, that each democratic conception as a liberal democracy or a republican democracy must show trade-offs themselves. The reason is trivial, such conceptions have already decided on their preferred dimensions. If you want to transfer the idea of trade-offs to different democratic conceptions, one must maintain that it is not possible to realize two different conceptions at the same time comprehensively. The narrow connection between institutions and dimensions allows the measurement of dimensional trade-offs. The tensions between the dimensions are manifested in institutional choices.

To sum up these considerations, a trade-off in democracies is defined as follows: a trade-off is an irresolvable connectedness between two inverse effects of one institution regarding two dimensions. This trade-off expresses two contrasting but normative, equally weighted democracy conceptions to which the selected institutions belong.

The next step is to identify the relevant trade-offs, keeping in mind that they exist between dimensions but are measured on the corresponding institutional level. We cannot discuss all the different conceptions of democracy in this article. Therefore, we consider as our starting point, the basic democracy principles, which are identified by V-Dem. They derive from six different fundamental conceptions of democracy from democracy the-

ory: liberal, participatory, deliberative, egalitarian, majoritarian and consensus democracy (Coppedge et al., 2011, 2015).³ These six conceptions are considered as normative equally justified. Thus, even though we agree that “no single conception can reasonably purport to embody all the meanings of democracy” (Coppedge et al., 2011, p. 253), we are convinced that with the help of the trade-off concept, it is possible to create a single, overarching and theoretical justified framework which is able to capture those different notions of democracy. Four concepts are especially helpful to discover relevant trade-offs on the institutional level.

Majoritarian and *consensus* democracy (Lijphart, 2012) are obviously contrary democracy concepts (see Table 1). The former focuses on majority rule, the latter on a vast system of checks and balances. Thus, while consensus democracy stresses multiple structures of veto points constraining the actions of governments (e.g. strong second chamber, federalism, coalitions), the ideal setup of majoritarian democracies favors structures with lesser control abilities. Consensus democracy can also be understood as a constitutional democracy which is characterized by a government decision-making that “mandates a system of checks and balances, that includes, as a key element, courts with the power of judicial review” (Munck, 2016, p. 14). The possible collision between freedom and control is clearly reflected in the regulation of constitutional control, that is the judicial review of the decisions of government and parliament—the constitutional limitation of political majority rule in the “constitutional debate” (Elster & Slagstadt, 1988). We describe these contrasting models as a trade-off: a constitutional court increases the values for the control dimensions in the function “guarantee of rights” and reduces the values of the freedom dimension in the function “rules settlement and implementation” (see Figure 1).

The second, and perhaps even more principal opposing set is the divide between *libertarian* and *egalitarian* conceptions of democracy which relate to the tension between freedom and equality (see Table 2). Whereas egalitarian democracy would highlight political equality, libertarian democracy would focus on political liberty. This

Table 1. Trade-off between majoritarian and consensus democracy. Source: Own presentation.

	Majoritarian Democracy	Consensus Democracy
Function	Effective government	
	High	Weak
Institution	Single party governments Unicameral system Unitarism No supreme courts	Oversized coalitions (5) Bicameral system (6) Federalism Supreme courts (4)
Dimension	Freedom	Control

³ Electoral democracy, another concept of democracy, is considered as a baseline concept by V-Dem and thus, is combined with the other conceptions.

Table 2. Trade-off between libertarian and egalitarian democracy. Source: Own presentation.

	Libertarian Democracy	Egalitarian Democracy
Function	Access to government; influence	
	Free	Equal
Institution	Plurality Voting Unregulated party finance Unregulated media access	PR (1) Equal party finance (2) Equal media access (3)
Dimension	Freedom	Equality

trade-off has triggered profound ideological and philosophical clashes (Dworkin, 1996). We can illustrate the trade-offs between the two dimensions (freedom and equality) by the following examples of institutions with different characteristics.

Electoral systems can be arranged along two “representation principles” (Nohlen, 2014, pp. 243–244). Proportional representation (PR) increases the chances of parties being represented in parliament. In parliamentary systems, this often leads to compromises in the formation of a government (coalitions), which would be less necessary in majority elections (plurality voting system or First Past the Post—FPTP). In the latter case, the electorate has a higher degree of freedom in determining the government than in PR-systems, where the coalition formation is mostly decisive. Beyond government selection, however, equal representation—as measured by the proportionality factor—is reflected most comprehensively in proportional electoral systems (Nohlen, 2014). While disproportional electoral systems stress the freedom dimension, proportional electoral systems emphasize the equality dimension.

A further trade-off can be found in the way of regulating political finance: “The way that political finance should be regulated needs to be the result of a country’s political goals....To put it differently, since there is no form of democratic governance that is preferred everywhere, there is no ultimate method of regulating political finance” (Ohman, 2014, p. 16). Two ideal types of political finance can be distinguished. Whereas the egalitarian model of political finance emphasizes equal opportunities between candidates and/or parties through public finance, the libertarian model of political finance has a “lack of restrictions on expenditure and contributions, market principles of access to the media [and] no public funding” (Smilov, 2008, p. 3). This type conceives donations to parties or candidates as a freedom of expression. Therefore, the libertarian political finance model strengthens the freedom dimension within the function “regulation of the intermediate sphere”, while the egalitarian political finance model focuses on the equality dimension.

Finally, the trade-off between libertarian and egalitarian media access follows the same considerations as the political financing of political parties. A libertarian media access “provides for market access to the media” (Smilov, 2008, p. 9) giving more economically powerful

actors more possibilities, while the egalitarian model provides free media time for candidates and/or parties. This trade-off concerns the “public communication” function and the dimensions of “freedom” and “equality”.

2.3. Profiles of Democracies: The Interplay of the Two Basic Relationships of Dimensions

The theoretical debate not only elucidates general trade-offs between all core dimensions of democracy; it also shows that they are interconnected and mutually supportive. By combining the mutual reinforcing effects with the trade-offs, we can obtain different profiles of democracy. Thereby, each basic relationship serves a specific task: the mutual reinforcing effects indicate the appropriate manifestation of a dimension. If a democracy is present, the trade-off-relationship becomes important, determining the final shape of the dimensions in the upper spectrum of a working democracy. In principle, democracy theory implies that an “optimal” or “perfect” democracy cannot be based upon the complete realization of all three dimensions, making the achievement of the highest level of democratic quality in every dimension impossible. Maximizing the quality of democracy on one dimension, necessarily sacrifices democracy quality in another dimension. The decision involving the preference given to which dimension(s) is a matter to be decided by the democratic sovereign, the people. They decide on which dimensions should be emphasized at the cost of others resulting in diverging profiles.

Based on the dimensional framework of the Democracy Matrix, three ideal typical profiles of democracies can be distinguished (see Figure 2): a libertarian profile of democracy, which maximizes the freedom dimension at the cost of the others, an egalitarian profile of democracy, which highlights the equality dimension and finally, a control-focused profile of democracy emphasizing the control dimension. Empirically, we will probably observe hybrid types with specific profiles (e.g. high egalitarian and control values combined with low freedom values).

3. A New Measurement Strategy: Quality Measuring Indicators and Profile Measuring Indicators

Despite the lack of a deep theoretical discussion of trade-offs by current measures, another problem, which is nei-

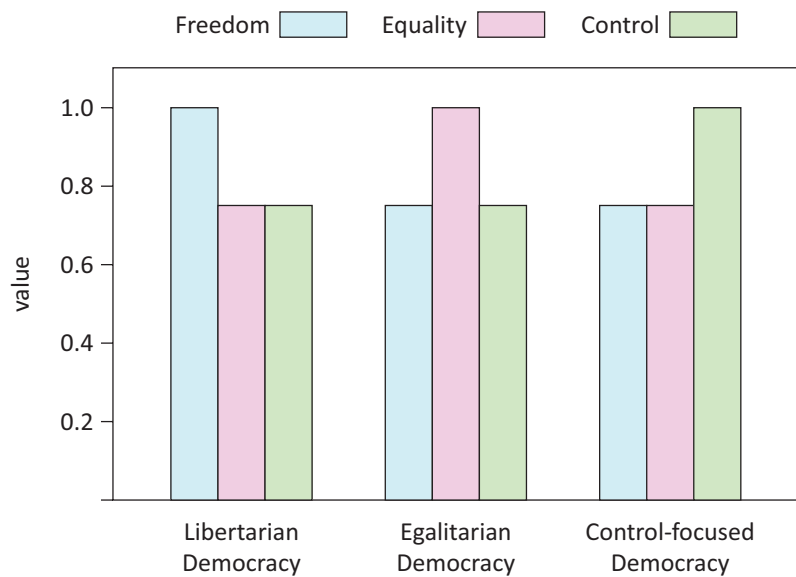


Figure 2. Three profiles of democracies Source: Own presentation.

ther discussed nor resolved, exists on the methodological level. If tensions among the dimensions exist, they need to be accounted for at the indicator-level as well. No approach of measuring democracy discusses trade-offs in its methodological foundation. The consequences of this oversight are reflected in the creation of indicators. As no inherent relationships between indicators vis-à-vis the tensions among dimensions are considered, the indicators are not a valid measurement of trade-offs. On the contrary, they systematically ignore them, because it is not possible to measure a two-dimensional give-and-take relationship with unidimensional indicators. Therefore, no current measurement of democracy can detect trade-offs. Recognized measurements—such as Polity and Freedom House—present findings in which all the indicators show the highest value (10 by Polity, 1 by Freedom House). Even the findings of the newer approaches (Democracy Barometer, V-Dem) are no exception.

The main problem lies partly in the selection of indicators, but also in their use—or more precisely, in the interpretation of the relevant indicators. The solution consists in the use of one indicator for the measurement of two dimensions, but to evaluate it differently with regard to each dimension. This procedure will now be explained.

First and foremost, we have to differentiate between two categories of indicators (see Table 3). The first cate-

gory includes the usual indicators which are commonly found in the discipline (such as free elections). We call this kind of indicators “quality measuring indicators”. The second category captures the realization of the trade-offs via a two-dimensional interpretation. They express the degree of tension between two normative equal conceptions of democracy by assessing the structural arrangement of a specific function (e.g. PR or plurality voting for the electoral system). These are neutral in the aggregate, but sensitive to the differentiation of the dimensions. The inherent tensions of these indicators are due to their contradictory preferences with regard to the dimensions: If one indicator allows the highest grading in a particular dimension, it necessarily prevents the highest grading in the corresponding dimension. We call this type of indicators “trade-off indicators”.

The next task is to measure this difference with the trade-off indicators. In order to do so, collected data must be transformed in order to measure democracy, as is necessary with many other indicators (Lauth, 2016). The starting point of our consideration about election systems is that both election systems satisfy the criteria of a working democracy, even if they emphasize different priorities (e.g. freedom vs. equality). For that reason, the transformation of the data must take the threshold of a working democracy into account. In our concept, this

Table 3. Two types of indicators. Source: Own presentation.

Quality measuring indicators	Trade-off indicators
Mutual reinforcing relationship of dimensions	Conflicting relationship of dimensions
Universal: scale captures autocracies and democracies	Only democracies
Gradual differences in the quality of democracy	Equivalent differences in quality of democracy
Unidimensional interpretation	Two-dimensional interpretation
<i>Level of the quality of democracy</i>	<i>Extent of trade-off</i>

threshold is at 0.75, the data of the (dis)proportionality should be transformed into a scale from 0.75 to 1. This difference of 0.25 is sufficient to illustrate the hypothetical trade-offs in the empirical research.

For the final assessment of the democratic quality of elections, these values are multiplied with ratings from the commonly used indicators for measuring elections set at a 0 to 1 scale.⁴ The multiplication strategy is necessary to respect the assumption that trade-offs are mainly pronounced in the higher areas of the dimensions. The multiplication of both variables shows the highest difference in the profiles (0.75–1.0) when the quality of democracy has the highest degree (1.0). The lower the degrees of the quality, the less pronounced the profile is. The effect, however, is also remarkable in the middle ranges. This is due to the fundamental decision about the institutional foundation of the profiles.

The proposed research strategy therefore combines two measurements, one of regime rating and one of trade-offs. Together they make it possible to assess the quality of democracy and the shaping of its dimensions. The main instrument is the dual interpretation of one indicator in relation to two dimensions. An additional methodological instrument is the setting of thresholds. By using both instruments together and linking them with conventional assessments, it is possible to construct a method of measuring democracy that accurately takes trade-offs into account. In applying this method, it is not possible for all empirical cases to be rated with the highest values in every dimension. Lower values, however, do

not represent democratic deficiencies, but different profiles within the area of working democracies.

4. Empirical Findings: The Empirical Manifestations of Profiles of Democracy

In this section, we illustrate our new approach by presenting the results of a cluster analysis and, in addition, we show long-time developments of profiles for single countries. The Democracy Matrix uses the V-Dem dataset (Version 6.2, Coppedge et al., 2016) to measure every single matrix field and the trade-offs (see Figure A1 in the Annex for further details). We performed a hierarchical cluster (Ward’s method) analysis with 94 cases (working democracies)⁵ resulting in six clusters (see Figure 3). We find strong evidence for a control-focused profile (cluster 2 and with a somewhat lower quality of democracy cluster 3; e.g. The United States, Australia and Switzerland) and a libertarian profile (cluster 4: United Kingdom, New Zealand and Ireland). We find less evidence for a genuine egalitarian democracy type but there are two clusters with high equality values (cluster 1 and 5): while cluster 1 has high values for the equality and control dimension (e.g. Sweden, Norway and Germany), cluster 5 combines slightly higher values for the equality dimension than the control dimension (Austria, Belgium and Netherlands). Therefore, both clusters seem to be a mix between an egalitarian and control-focused democracy profile. Lastly, cluster 6 represents a profile which balances all three dimensions.



Figure 3. Results of the cluster analysis. Cluster size: 19 (1), 17 (2), 15 (3), 10 (4), 21 (5), 12 (6). Source: Own calculation based on the V-Dem-Dataset (Version 6.2; Coppedge et al., 2016).

⁴ For example, the quality measuring indicators show for both countries (A and B) the highest democratic quality for all dimensions (1). Country A has a FPTP voting system emphasizing the freedom dimension over the equality dimension, but country B uses a PR electoral system highlighting the equality dimension in contrast to the freedom dimension. This trade-off indicator shows for country A the values 1 (freedom dimension) and 0.75 (equality dimension), this is vice versa for country B. Multiplying the quality measuring and trade-off indicators gives the values 1 (freedom dimension) and 0.75 (equality dimension) for country A and the opposite result for country B, showing the different structuring of the same quality of democracy.

⁵ To increase the sample size and the varieties of profiles, we pooled the data for 1970, 1990 and 2010. Thus, some cases are included in the analysis more than once.

We now show the empirical development of profiles for single countries and contrast the results from the quality-measuring indicators alone with our combined measurement approach using trade-off-indicators as well. Excluding clusters 3 and 6 due to the somewhat lower quality of democracy, we selected those cases which are prototypical for the other four clusters (Germany, United States, United Kingdom and Belgium). The left side of Figure 4 shows the results of the quality measuring indicators alone, whereas the right side shows the results of the trade-off indicators multiplied with the quality measuring indicators. The difference between the left and the right side is noticeable: Overall, we gain only small differences between the dimensions using the quality measuring indicators alone (left side). The United States and, since 1990, the United Kingdom seem to be an exception showing considerably lower values for the equality dimension. When we add the trade-off indicators, we are able to gain more profound profiles of democracy (right side). Whereas high values in every dimension of the quality measuring indicators can be achieved; trade-offs are only visible using our new measurement strategy.

For example, Germany combines high control and equality values with lower values for freedom (mixed type of an egalitarian and control-focused democracy). This profile has not changed since 1950. The United States combines high control and freedom values with lower values for equality (mixed type of a libertarian and control-focused democracy). This profile is constant throughout history, but there was a short time increase of equality between 2000 and 2010. Compared to the left side of Figure 4, the control dimension of the United States reaches higher values than the freedom dimension, emphasizing that the differences on the left side are differences in the quality of democracy rather than “real” trade-offs between dimensions. The democracy profile of the United Kingdom consists of high values for freedom combined with lower values for control and equality (libertarian democracy). Since 1990, we can detect a significant increase of the control dimension for this case, which is congruent to the findings of qualitative studies (Strohmeier, 2011). Lastly, Belgium’s profile consists of higher values for equality with intermediate values for the control dimension and low values for the freedom dimension (mixed type between egalitarian and control-focused democracy). Belgium changed to this profile since the 1980 by increasing the equality dimension.

5. Conclusions

This article shows that the differentiation between a mutual reinforcing relationship and a conflicting relationship between dimensions is fruitful: the former type of

relationship expresses the interdependence of the dimensions, so that one dimension cannot exist without the other. The latter relationship captures the idea that not all dimensions can be maximized simultaneously: “ramping up” a dimension to the highest degree possible taking a loss in another dimension. This means that every democracy has to choose between a precarious balance of contentious dimensions.

To detect the relevant trade-offs, the starting point of our discussion are fundamental conceptions of democracy, mainly embedded in the Democracy Matrix. We propose a set of trade-offs for libertarian vs. egalitarian, and majoritarian vs. consensus conceptions of democracy. Finally, we construct three ideal types of profiles of democracy on the basis of the trade-offs: a libertarian, an egalitarian, and a control-focused profile.

We introduce a new measurement and aggregation strategy justified by a conceptual foundation. The two types of relationships are operationalized using on the one hand quality-measuring indicators and on the other hand trade-off indicators. While quality-measuring indicators follow a unidimensional interpretation—the current standard in this research field, the additional measurement with trade-off indicators uses a double evaluation linked to different dimensions. Using the V-Dem dataset, we showed preliminary empirical findings of our new measurement tool, the Democracy Matrix. These findings indicate that we can empirically discover our proposed ideal typical democracy profiles but that there is a wide variety of hybrid profiles as well.

This result differs from the findings of the Democracy Barometer and the Varieties of Democracy which both are not capable of detecting trade-offs. The choice of the theoretical conception as well as the measurement strategy matters. Whereas the Democracy Barometer proposes one specific type of democracy as being the benchmark for the quality of democracy (the liberal democracy in the form of the embedded democracy),⁶ V-Dem offers several types. But in contrast to the Democracy Matrix, it lacks a comprehensive meta theory of trade-offs which not only recognizes those types as normative equal but focuses on their interwoven relationship as well.

New research questions consist in the further theoretical and empirical examination of the different profiles of democracy: On the theoretical level, it seems that all trade-offs involve the freedom dimension. Why is the freedom dimension so significant in this regard? Is it more relevant than the other two dimensions? On the empirical level, we can analyze the change of profiles throughout time in countries (e.g. Belgium’s change to more egalitarian values since the 1980s) and their respective causes. Another question concerns the interplay of democracy profiles and governance structures as well as policy-outputs (similar to Lijphart, 2012). Does the control-focused profile have a higher risk of a reform grid-

⁶ Similar to the Democracy Barometer, Munck’s (2016) well informed reconceptualization of the quality of democracy ranks one specific democracy model higher than the others. He proposes a majoritarian democracy—mixed with PR elections—as a benchmark for the quality of democracy. This seems, however, highly problematic.

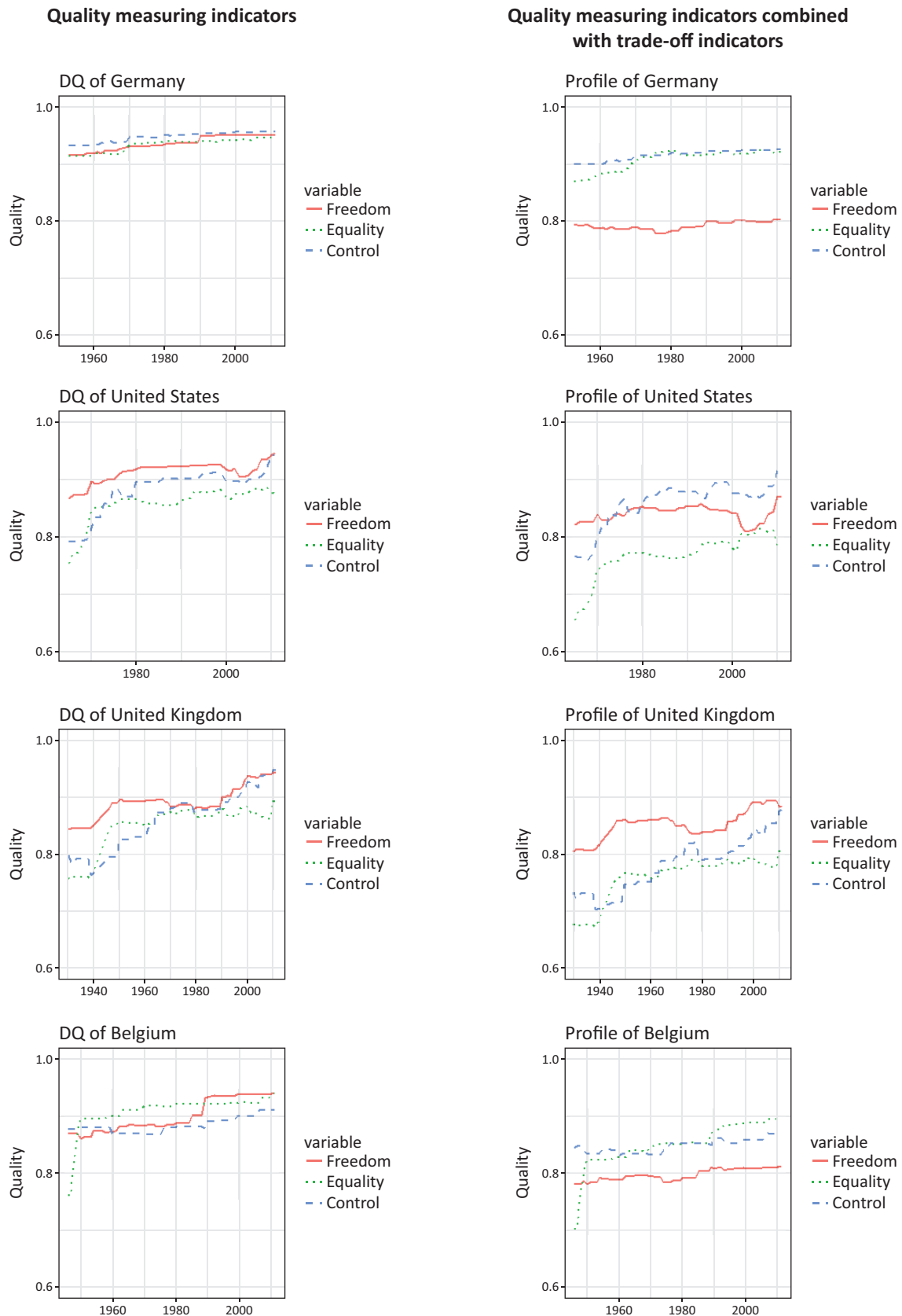


Figure 4. Empirical results. Source: Own calculation based on the V-Dem-Dataset (Version 6.2; Coppedge et al., 2016). The left side shows the results for the quality measuring indicators; the right side presents the findings of the new measurement approach which combines the quality measuring and profile measuring indicators. The colors are as follows: red = freedom dimension, blue = control dimension, green = equality dimension.

lock? Does the egalitarian profile coincide with a strong welfare state? These research questions are opened up by the conceptualization and measurement of trade-offs and should be approached in future research projects.

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Conflict of Interests

The authors declare no conflict of interests.

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Annex

1. Aggregation Method of the Democracy Matrix

1.1. Aggregation Method for Quality Measuring Indicators

Here, we use a very similar aggregation technique as V-Dem (Coppedge et al., 2016).

- The lowest parts of our concept trees (indicators: V-Dem relative scale): mean;
- CDF of the mean (normal distribution with mean 0 and standard deviation 1) resulting in a value between 0 and 1;
- We use the following formula (see V-Dem) for aggregation up to the matrix field level:

$$Component_A * Component_B * 0.5 + Component_A * 0.25 + Component_B * 0.25$$

The left side of this formula ($Component_A * Component_B * 0.5$) incorporates the necessary condition (no compensation) whereas the right part of the formula ($Component_A * 0.25 + Component_B * 0.25$) allows some compensation. If our concept demands a strict necessary condition, we weight the left part of the formula more heavily (> 0.5) in contrast to the right part (< 0.5). If our concept does require a “softer” necessary condition, more weight to the right part is given (> 0.5) at the cost of the left part (< 0.5). In addition, the right side of the formula allows for a precise weighting of the different components;

- Dimensions (transformational status): multiplication of the related matrix fields to the power of (1/5):

$$Dim_{qual} = (Field_{qual1} * Field_{qual2} * Field_{qual3} * Field_{qual4} * Field_{qual5})^{(1/5)}$$

1.2. Aggregation Method for Profile Measuring Indicators

- We use only a subset of the V-Dem-Data: every country which has a value > 0.5 in every matrix field measured by the quality measuring indicators is included;
- For each trade-off indicator the empirical minimum is set to 0.75, empirical maximum to 1;
- Dual use of these indicators, e.g. libertarian party finance models gain a 1 in the freedom dimension and a 0.75 in the equality dimension; egalitarian party finance models gain 0.75 in the freedom dimension and a 1 in the equality dimension;
- If more than one trade-off is located in a matrix field, weighting applies.

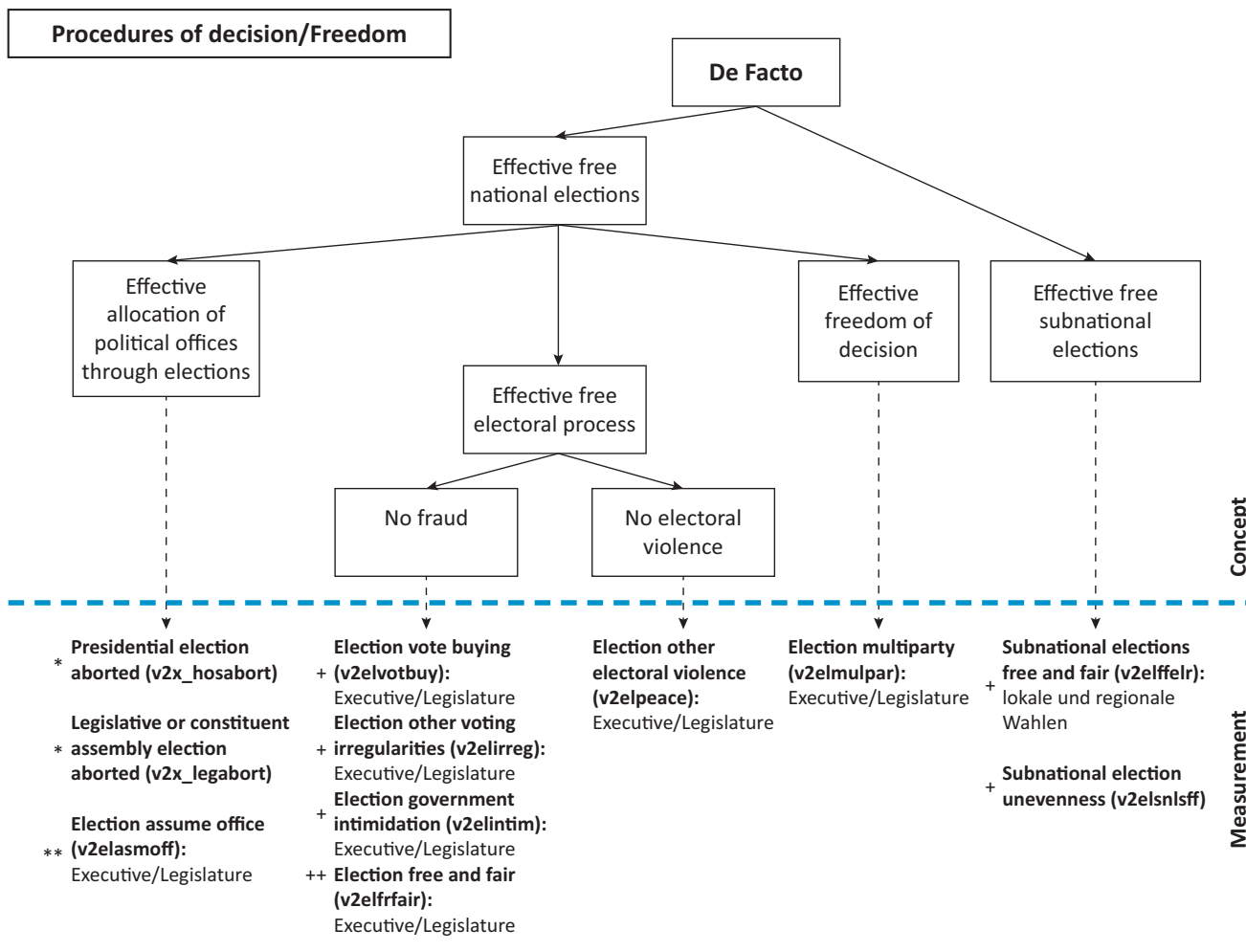
1.3. Combining Quality Measuring and Profile Measuring Indicators

- The empirical results of the matrix fields measured by the quality measuring indicators are multiplied with the related trade-offs:

$$Field_{profile} = Field_{qual} * trade_off$$

- Dimensions (Democracy profiles): Multiplication of the related matrix fields to the power of (1/5):

$$Dim_{profile} = (Field_{profile1} * Field_{profile2} * Field_{profile3} * Field_{profile4} * Field_{profile5})^{(1/5)}$$



Free procedures of decision include national and sub-national elections (i.e. regional and local elections). Local elections only if such a level in the political system exists and has appropriate decision-making powers. Both are necessary and together sufficient conditions, the weighting follows the strength of the relative decision-making power between these levels. National elections can be classified as free, if three necessary and sufficient conditions are met: first, effective allocation of political offices through elections in the sense that an election winner can actually take office. Second, effective freedom of decision must be present, i.e. that citizens can actually select from different parties. Finally, the electoral process must be free, so that neither serious fraud nor electoral violence occur. The first two conditions are very important: an election is not free in which the winners are hindered to take offices. Even an election in which only one party / candidate can be elected is not free as well.

Figure A1. Concept tree for matrix field “Procedures of decision/Freedom”. Source: Own presentation; the indicators can be found in the V-Dem-Codebook (Coppedge et al., 2016).

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