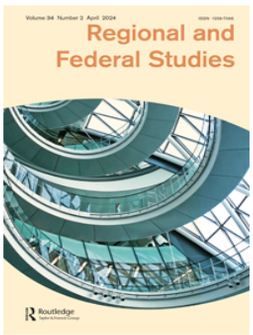

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To protect or not protect? Comparing nature conservation policies in the German federal states

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ABSTRACT

With the federalism reform in 2006, the German *Länder* gained the competence to deviate from the nationwide standard legislation in various areas. In this study, we focus on nature conservation policies and see that some *Länder* are raising their regulative standards while others are lowering them. Based on an original dataset that measures this direction of policy change, our empirical analysis shows that the party-political composition of the state governments, and particularly the presence/absence of Green parties, plays a crucial role in explaining the variation. Moreover, we find that the strength of nature conservation associations and geographical conditions are relevant, too. In sum, our findings contribute to the growing literature on both the policy effects of the German federalism reform and the partisan effects on public policies, as well as the question of responsive decision-making in multilevel settings.

KEYWORDS Federalism; subsidiarity; policy analysis; Qualitative Comparative Analysis; Germany; regional responsiveness

Introduction

At least since the seminal work by Oates (1972), decentralization and federalism have been discussed as superior ways to deliver public goods because they enable subnational levels of government to take into account the characteristics of regional entities and their citizens (Duchacek 1970; Kincaid 1995).[1] Following the idea of subsidiarity, subnational entities may serve as 'laboratories of democracies' where policymakers better address the specific needs of a region and experiment with different policy solutions (Wiseman and Owen 2018). Adhering to this principle, the 2006 reform of German federalism aimed to overcome the alleged inefficiency of the 'entangled' version of German federalism (*Verbundföderalismus*) by reducing

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the extensive veto of the Bundesrat in federal legislation (Stecker 2016, 603; Scharpf 2009, 75), and, at the same time, giving more leeway to the *Länder*, encouraging policy innovation and experimentation at the subnational level (Behnke and Kropp 2016, 591; Scharpf 2008, 513).

In this article, we add to the literature that empirically assesses the latter impact of the 2006 reform by investigating *in what direction nature conservation policies were changed in the years after the German federalism reform and how the direction of these deviations can be explained*. This question addresses an interesting research puzzle by exploring the degree to which the *Länder* made use of their newly gained competences. We focus on nature conservation policies because they are part of the newly introduced deviation legislation (*Abweichungsgesetzgebung*), where the federal government has a general legislative prerogative from which the *Länder* can deviate (new Art. 72 (2), (3) of the Basic Law).[2] Deviation legislation has been hitherto rather neglected (see Hildebrandt and Wolf 2016a) as most studies have focussed on the exclusive competences of the *Länder* (Jeffery et al. 2014; Dose and Reus 2016; Dose and Wolfes 2016; Hildebrandt and Wolf 2016b; Kaiser and Vogel 2017; Reus and Vogel 2018; Rowe and Turner 2016). Moreover, the few existing studies on nature conservation policies (see Töller and Roßegger 2018, 672–676) miss to assess the direction of these policy reforms, which is why we do not know whether the *Länder* did actually use their new competences to pass stricter or more lenient regulation.

To address this gap, we draw on theories of comparative public policy to examine under what conditions subnational governments deviate from the legislative status quo and regulate nature conservation policies more or less strictly. While such research examining policy variance between subnational entities has flourished in the US (Erikson, Wright, and McIver 1989; Brown 1995; Caughey and Warshaw 2016), the case of Germany has been tackled to a more limited extent – although there has always been more variation on the regional level in Germany than usually acknowledged in the literature (Jeffery et al. 2016, 167; Sack and Töller 2018, 606–607). Hence, our research does not only contribute to studies of German federalism but also has wider implications as it sheds light on the dynamics that drive subnational policy-making.

Using the federalism reform as a starting point allows us to analyze our research question in an ideal and empirically rare setting: First, the influence of path dependencies on legislation is minimized, as the *Länder* only recently obtained the right to deviate from the national standard via the reform. Second, comparing the German *Länder* also enables us to zero in on several crucial driving forces for subnational variance while controlling for others in line with the rationale of a most-similar systems design (Snyder 2001).

Empirically, we constructed a unique dataset that captures the direction of all adopted changes regarding nature conservation legislation on the *Länder*-

level. To examine the conditions under which legislative change occurs, we employ a Qualitative Comparative Analysis (QCA; Ragin 2008; Schneider and Wagemann 2012). Our results show that the different policies adopted by the *Länder* can be explained by the composition of the regional governments, the strength of nature conservation associations and the geographical specificities of the regions. Linking this result back to the idea of decentralized policy delivery, these findings confirm that – at least in the area of nature conservation – the federalism reform seems to have lived up to the initial idea 'to increase the capacity for autonomous political action' (Scharpf 2008, 513). Moreover, adhering to the idea that parties do matter (Schmidt 1996), we find that the presence or absence of the Green party in government plays a strong role in influencing the direction of nature conservation legislation. This supports the idea that federalism enables regionally responsive policies by allowing regional representation (see Wenzelburger, Wurster, and Siewert 2020).

Theoretical considerations: How to explain the direction of policy change?

The promise of federalism and the emergence of policy diversity

To theorize the conditions that may affect change in nature conservation policies, we join two theoretical literatures: Federalism theory and policy theories. While federalism theory explains the reasons for policy diversity at the subnational levels, we need policy theories to derive expectations in which direction *Länder* governments would use their competences.

Theories of federalism argue that decentralized decision-making is preferable because it allows for more efficient and more responsive policy delivery (Duchacek 1970; Oates 1972; Kincaid 1995).[3] For Germany, however, this argument has often been questioned – partly because competition and performance were not politicized on the *Länder* level which is why governments did not see an electoral advantage in pushing for increased benchmarking (Auel 2010, 242; Benz 2007, 431). Moreover, due to the specific structure of German *Verbundföderalismus* with the *Länder* and decreasing room to engage in actual competition (partly due to a high fiscal dependence from the federal state (Benz, Detemple, and Heinz 2016; Benz and Lehmbruch 2002)), it was questionable whether such competitive dynamics could actually emerge.

The main goal of the 2006 federalism reform was to disentangle the complexity of the German *Verbundföderalismus* via 'a clearer separation of tasks between the *Land* and the federal level […] and a significant reduction of the *Bundesrat's* veto power' (Stecker 2016, 610; see also Burkhart, Manow, and Ziblatt 2008; Scharpf 2008, 2009; Behnke and Kropp 2016; Benz 2016;

Schmidt 2016). This was mainly done by adapting the respective consent triggers in the Basic Law. In order to compensate the *Länder* for their loss of influence, the reform extended the exclusive competences for *Länder* governments in various domains, e.g. in criminal justice and including a 'cooperation ban' in education policies.[4] Additionally, it newly introduced a right to deviate from federal legislation in several policy fields such as hunting, spatial planning or nature conservation (see Art. 72 (3) of the Basic Law). Following the 'lex-posterior'-rule, it is the most recent law that prevails – be it federal or regional.[5]

In general, by allowing deviation, the idea was to introduce more elements of competition – an aim that was, however, only partially reached in the end (Scharpf 2009, 117). If we take this theoretical idea seriously, we would expect *Länder* governments to use their room to manoeuvre and attune their policies to the specificities of their region. For nature conservation policies, the comparative public policy literature on environmental policies (Knill, Debus, and Heichel 2010) offers relevant insights on how this may play out. First, problem pressure – conceptualized as economic development on the one hand, and deteriorating environmental conditions on the other – has been expected to increase the number and strictness of environmental policies. Second, party politics have been found to affect policies. If parties represented in government emphasize environmental protection, this should lead to more protective policies. Third, institutional constraints may hinder policies from being adopted in general, and also in the realm of the environment. Fourth, economic integration and internationalization has been highlighted, although the direction of the effect is disputed (see Bernauer 2007). And, finally, a fifth driver has been more recently added – namely the impact of environmental lobby groups pushing for more protection (Pacca et al. 2021; Binder and Neumayer 2005; Jahn 2016, 175–184).

Applying these arguments to the *Länder* level, we must consider whether the theorized relationship developed in a cross-national setting can be sensibly applied to the German subnational context (Snyder 2001). Institutionalist arguments are, for instance, less convincing since the German *Länder* are institutionally rather alike (Freitag and Vatter 2008). Similarly, the economic argument from the problem pressure approach does not travel well, as it has been mainly developed for international comparisons of nations with different levels of economic development.[6] Moreover, while fiscal pressures have been shown to affect policymaking at the *Länder* level for policies with strong budgetary repercussions (Wenzelburger 2013; Wolf 2006), nature conservation policies are more regulative in character and have weaker budgetary effects. Also, the internationalization and economic integration argument should have minor relevance on the subnational level, as the *Länder* are exposed to a similar environment. Hence, we focus on three major approaches to theorize in what ways regional governments can be

expected to change nature conservation policies: (1) the condition of partisan politics, (2) the strength of environmental organizations, and (3) the state of environment. We elaborate on these conditions in the following.

Analytic framework

Policy responsiveness to the societal demands in subnational entities is a core promise of federalism. In fact, empirical studies have repeatedly shown that regional responsiveness is observable (on the US: Pacheco 2013; Caughey and Warshaw 2017; on Germany: Jeffery et al. 2014, 2016; Sack and Töller 2018). Theoretically, these considerations fit well with the literature on subnational policymaking and the *importance of political parties* (Schmidt 1980; Brown 1995), which holds that the ideological stance of the *Länder* governments affects its policies ('parties-matter-hypothesis'). Moreover, numerous studies have shown that political parties consider the position of their electorate when they propose and adopt policies (e.g. Bischof and Wagner 2020). According to mandate theory (Klingemann, Hofferbert, and Budge 1994; Dalton, Farrell, and McAllister 2011), citizens will vote for party programs according to their preferences – and these aggregated preferences will eventually be reflected in government participation of political parties, and rather clearly so in proportional representation (PR) systems like in Germany. If, once in government, parties adopt policies following their pledges – which they mostly do according to recent studies (Naurin, Royed, and Thomson 2019; Thomson 2017) – partisan differences in policy-making and policy diversity will result.

In the area of nature conservation policies, the Green party is the most relevant player in German party competition. While it is true that issues related to environmental policies have entered mainstream politics and also play a role for the Christian Democrats (CDU) or the Social Democrats (SPD), the Greens are seen as most competent in environmental issues and show the highest commitment on both the national and regional levels (Bräuninger et al. 2020, 58). Moreover, existing studies have shown that the presence of Green parties in government is correlated with more protective policies (Bernauer and Koubi 2009; Knill, Debus, and Heichel 2010; Neumayer 2003). Hence, a strong presence of the Green party in a region is not only an indication that citizens in this region care a lot about environmental issues[7] but also an important driver for more protective nature conservation policies.

Political parties and governments are causally most proximate to legislative decisions and we can expect them to play a crucial role for initiating policy change. But societal demands for certain policies can reach the political level not only via elections and parties, but also through *interest group pressure*. Following power resource theory (Korpi 1983), scholars have argued that a higher degree of corporatism may lead to more environmental

protection (Crepaz 1995; Scruggs 1999). However, as the causal chain is difficult to establish given that material interests of workers are not necessarily in line with more protective environmental policies, other studies have highlighted that it 'is probably a myth to believe that corporatism is good for the environment' (Neumayer 2003, 219). Instead, this line of research indicates that the presence of strong environmental non-governmental organizations (so-called ENGOs) is more crucial. Binder and Neumayer (2005) have found that stronger ENGOs are associated with lower air pollution levels and Bomberg (2007) has discussed their influence on the European level. Following this reasoning and given that ENGOs have gained considerable influence on policy-making in Germany – notably through the consultation process where nature conservation associations are heard during the policy process – their strength can also be expected to affect policy changes on the *Länder* level (Engels 2006; Böcher and Töller 2012, 121–135).

Finally, previous studies have shown that the effects of parties and ENGOs depend on additional conditions being in place (Bernauer, Böhmelt, and Koubi 2013; Jahn 2016, 198). When it comes to nature conservation policy, *environmental protection areas* can be thought of as such a contextual factor as it is plausible to assume that the pressure on a regional government to adopt stricter laws ought to be related to the actual state of the environment in the respective *Land:* If nature reserves (say, coast lines, the Alps, or the Black Forest) are seen as important to be conserved in a *Land,* the respective government should feel particularly obliged to adjust a general federal legislation to such regional specificities. Böcher and Hubo (2011) have shown that the presence of nature reserves leads to positive policy feedback and pushes governments to adopt stricter regulation to conserve these reserves. It is therefore conceivable that the existence of protected areas in a region may, for instance, instigate ENGOs to be more influential given that there are a lot of reserves to be protected.

Hypotheses concerning the direction of policy change

Taken together, what hypotheses can we derive for the analysis of policy change towards more protective and more permissive nature conservation policies? Focusing first on plausible explanations for change towards *more protective policies*, it is reasonable to assume that the involvement of the Green party in government is a crucial factor affecting the direction of policy change. However, as other parties might also prioritize environmental issues and as societal interests may also be pushed by ENGOs, we do not expect the presence of the Greens in government to be a necessary condition for a policy change towards stronger environmental protection. Hence, we formulate the hypothesis:

H1: *Neither the presence of the Green party in government nor well-organized ENGOs nor large nature reserve areas are necessary for policy change towards more protective nature protection policies*.

This, however, does not mean that the conditions do not play an important role for the analysis of policy change. Instead, we expect them to function as INUS-conditions (Ragin 2008, 154; Schneider and Wagemann 2012, 79–80), i.e. conditions which are not necessary but essential parts of a combination which is sufficient for either protective or permissive policy change. Here, we first expect that whenever the Greens are part of the government, we will also observe a push for more protective legislation in the respective *Länder*. Whether this alone is sufficient is an open question, since this push might only be successful in combination with the presence of well-organized ENGOs and/or large nature reserve areas. On the other hand, we can reasonably hypothesize an alternative path, namely that in the absence of Green party involvement in government, the presence of well-organized ENGOs alone or in combination with large nature conservation areas is sufficient for the introduction of stricter nature policy conservation policies. From this, we can formulate the following hypotheses:

H2: *The presence of the Green party in government alone or in combination with either the presence of well-organized environmental organizations and/or large nature reserves is sufficient for more protective policy change in nature conservation policies*.

H3: *In absence of Green party involvement in government, the presence of well-organized environmental organizations alone or together with large nature reserves is sufficient for more protective policy change in nature conservation policies*.

Turning to *permissive policy change* in nature conservation, there is no strong theoretical reason to presume that having only a few areas of nature conservation or less well-organized environmental organizations is essential to cutting back on environmental standards. Neither of the two conditions should hence be necessary for permissive policy change. For the partisan condition, however, the Green party will most probably act as a decisive veto player and will do everything to block more permissive regulation when they are part of the government – resulting in status quo. Thus, we expect:

H4: *The absence of the Green party from government is necessary for policy change towards more permissive nature conservation policies because of its role as a decisive veto player*.

This does not mean that governments without the Greens will automatically enact more permissive legislation. Instead, we assume that they will relax nature conservation policies only if other conditions are conducive. In the context of our study, this means that nature conservation standards can be

expected to be lowered in *Länder* which exhibit non-Green governments together with the absence of large nature reserve areas since there is no immediate necessity to protect the environment, or in combination with the absence of strong ENGOs, which would otherwise serve as a backstop against a softening of nature protection policies or organize resistance against such attempts. This leads us to the hypothesis:

> H5: *The combination of governments without Green party involvement with either less well-organized environmental organizations OR few nature reserve areas is sufficient for permissive policy change in nature conservation policies*.

Measuring the direction of policy change

To assess the direction of policy reforms in nature conservation policies, we start from the state of the art (Töller and Roßegger 2018) and identify the number of changes adopted at the *Länder* level as compared to the federal baseline and count all sections of the Federal Nature Conservation Act (FNCA) for which the *Länder* deviated in regional acts – in sum 241 changes.[8] As Figure 1 shows, there is much variation between the *Länder*: Whereas Schleswig-Holstein introduced by far most deviations from the FNCA with 94 changes, followed by Baden-Wuerttemberg (34), Bavaria (22), and Hamburg (19), no changes were made in Brandenburg, Bremen, Saarland and Thuringia. This pattern meshes well with the general diversity in the use of the newly acquired competences (Reus and Vogel 2018). Moreover, three *Länder* have adopted legislation deviating from the FNCA at various points in time: Hamburg in 2010 and 2011/2013, Schleswig-Holstein in 2010/11 and 2016, and Saxony-Anhalt 2010 and 2015. As these deviations were adopted during different legislative sessions, we treat each of them separately. The units of analysis in this study are therefore not the *Länder* as such, but distinct episodes in which a legislative change occurred.

While the number of deviations indicates to what degree the Länder used their newly gained competences, we do not know whether these changes are more or less restrictive than the federal law. Therefore, we have built a new dataset and differentiated between *protective nature conservation policy,* i.e. stricter regulations than the national law, and *permissive nature conservation policy*, i.e. loosening regulatory measures of the national act or measures that make nature protection more difficult. Examples of *protective measures* would be requirements for special protection for certain areas like the Alps in addition to the national guidelines. *Permissive measures* are, for instance, a reduction of distance regulations for construction works along shorelines (from 50 to 10 m), or exceptions that allow interventions in protected areas. We coded the direction of policy change by comparing the content of the relevant paragraphs of the FNCA with the deviations in the nature

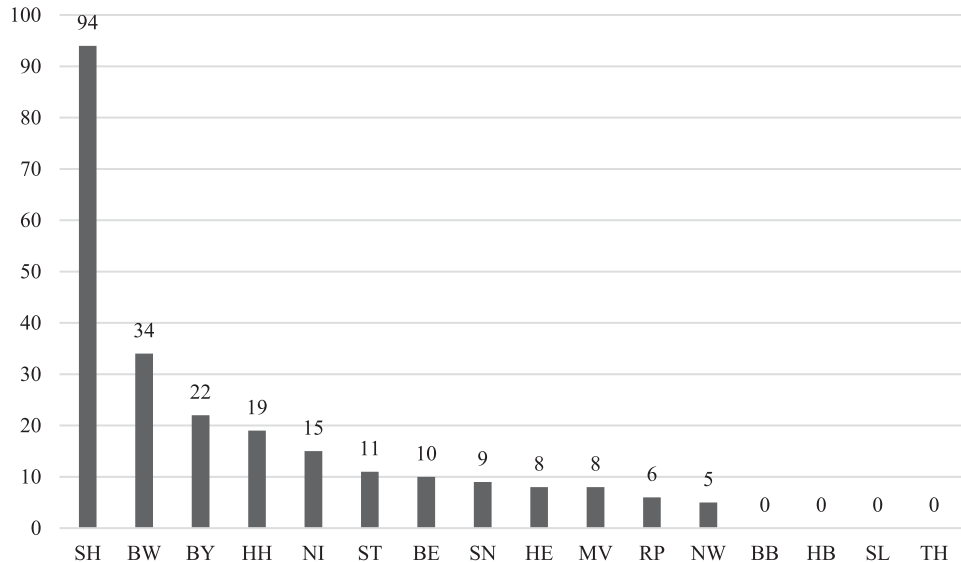

Figure 1. Total number of deviations from the Federal Nature Conservation Act documented in the Federal Law Gazette (from March 2010 to January 2020); by Bundesländer: SH: Schleswig-Holstein; BW: Baden-Wuerttemberg; BY: Bavaria; HH: Hamburg; NI: Lower Saxony; ST: Saxony-Anhalt; BE: Berlin; SN: Saxony; HE: Hesse; MV: Mecklenburg-Western Pomerania; RP: Rhineland-Palatine; NW: North Rhine-Westphalia; BB: Brandenburg; HB: Bremen; SL: Saarland; TH: Thuringia.

Table 1. Extent and direction of *Länder* deviations from the Federal Nature Conservation Act; by *Bundesländer* (BE: Berlin; BW: Baden-Wuerttemberg; BY: Bavaria; HH: Hamburg; HE: Hesse; MV: Mecklenburg-Western Pomerania; NI: Lower Saxony; NW: North Rhine-Westphalia; RP: Rhineland-Palatine; SN: Saxony; ST: Saxony-Anhalt, SH: Schleswig-Holstein).

Cases	Total Number of Deviations	Number of Protective Deviations	Number of Permissive Deviations	Protectiveness-Permissiveness Score
BE	10	6	1	5
BW	34	28	2	26
BY	22	6	9	−3
HH 10	16	11	6	5
HH 11/13	3	2	0	2
HE	8	3	4	−1
MV	8	2	2	0
NI	15	1	12	−11
NW	5	4	1	3
RP	6	6	0	6
SN	9	3	4	−1
ST 10	7	1	3	−2
ST 15	4	1	3	−2
SH 10/11	50	16	23	−7
SH 16	44	21	6	15

Note: The total number of deviations does not correspond to the sum of more protective and less protective deviations, since the total number also includes those deviations that are either only of a formal nature or contain neutral changes.

conservation laws passed by the *Länder* (see Appendix B for more information on coding and examples).[9] As can be seen in Table 1, the variance in the direction of policy change is substantial. While Berlin has passed six protective and one permissive deviation (protectiveness-permissiveness-score: 5), Lower Saxony and Schleswig-Holstein in the legislative period of 2010 and 2011 can be classified as highly permissive in terms of their outcome. To explain this variance is the main goal of our empirical analysis.

Method and data

To analyze our hypotheses, we used Qualitative Comparative Analysis (QCA; Ragin 2008; Schneider and Wagemann 2012), which allows for a systematic comparison of the conditions under which *Länder* adopt more protective or permissive legislation. QCA aims at isolating conditions which make a difference across cases, and therefore might be causally relevant, from those which are redundant (Baumgartner 2015, 2; Schneider and Wagemann 2012, 105).[10] In the context of our study, the method offers a promising avenue since it enables us to explore (i) what conditions, individually or in combination with others, are consistently linked to the extent to which *Länder* pass more permissive or protective policies; (ii) whether there are

multiple, equifinal configurations explaining different sets of cases; and (iii) whether conditions associated with permissive policies are the mirror image of explanations for protective policies or whether relations are indeed asymmetric as we assume. Appendix A provides a short introduction to QCA where we outline the main analytic steps of QCA and explicate key decisions as well as the choice of our approach to QCA.

QCA requires the transformation of raw data into sets via calibration (see Ragin 2008, 71–105; Schneider and Wagemann 2012, 24–31). In this study, we calibrate the data into four-level fuzzy sets where cases can be fully in (1.0) or fully out (0.0), with partial set memberships of 0.75/0.25 in-between. Table 2 offers an overview of our calibration decisions and explains the main choices. Appendix B.3 provides additional information on the data collection and calibration and discusses alternative calibrations. We present extensive robustness test below and in Appendix D.

Empirical analyses

This section presents the results of the QCA and examines the linkage between the composition of governments, the strength of ENGOs, and the geographical specificities in each *Land* concerning (i) the adoption of predominantly protective policies and (ii) the adoption of predominantly permissive policies. For each analysis, we discuss what conditions, or combinations thereof, can be interpreted as necessary and/or sufficient based on the strength of underlying set relationship with the respective outcome. Finally, we check the robustness of our findings. These tests show that results are highly robust and deviations minor. We used the package QCA (Dusa 2019) and SetMethods (Oana and Schneider 2018) in RStudio. In addition to the Appendix, we provide a detailed Rscript and the raw and set data to replicate our analyses.

Analysis of protective change

Starting with *necessary conditions* for protective change, our analysis (see Appendix Table C.1 for the results) reveals that no condition individually approaches the consistency threshold of 0.9. Considering OR-combinations, having either a government with Green party involvement or large nature reserve areas passes this benchmark. However, we refrain from a substantive interpretation for two reasons: first, Green party involvement or few nature reserve areas also exhibits a similarly high consistency – a fact which stands in contradiction to the previous finding; second, there is no apparent overarching concept linking Green party involvement and the size of nature reserve area which would allow us to interpret the two conditions as mutually substitutable (see Schneider 2018, 248–49).

Table 2. Description of the calibration for the outcome and the conditions, including calibration rationale and data sources. For more information and tests of alternative calibrations, see Appendix B and D.

Sets	Calibration rationale
Outcome Protective / Permissive Policy Change	**1.0** if a state has a protectiveness-permissiveness score of 7 or higher; **0.75** if a state has a protectiveness-permissiveness score between 1 and 6; **0.25** if a state has a protectiveness-permissiveness score between −1 and −6; **0.0** if a state has a protectiveness-permissiveness score of −7 or lower. *Länder* with a protectiveness-permissiveness score of 0 are individually assessed and coded based on additional information. *Calibration rationale:* The definition of the 0.5 cut-off point – which is most important – is straightforward as cases with a positive score have passed more protective regulations in the field of nature conservation, whereas cases with a negative score have predominantly moved towards more permissive standards. Since there is no theoretical guidance to define the upper and lower set boundary, we do so empirically by looking for gaps in the data distribution. This strategy is frequently applied in research contexts where there is no conceptual benchmark for what counts as fully in or fully out (Schneider and Wagemann 2012, 35–37; De Block and Vis 2019, 505–506). *Data source*: Own content analysis of the deviations by comparing the content of the relevant paragraphs of the Federal Nature Conservation Act with the deviations in the nature conservation laws passed by the Länder
Condition Green Party Involvement (GOV)	**1.0** if government is led by the Green Party; **0.75** if Greens are junior partner in a coalition; **0.25** any type of coalition between CDU/CSU, SPD, and Left Party; **0.0** if the Liberal Party (FDP) is part of the government coalition. *Calibration rationale:* The presence of the Greens determines the 0.5 cut-off point whether a government is coded in or outside the set. In addition, we capture the variation of different types of coalitions as follows: If the Green party is the junior party in government, we code it as partially in (0.75) to differentiate it from coalitions where they are in the majority. According to the literature on the German party system, the Liberal party largely favours deregulation and is sceptic towards environment protection because it may harm the economy (Anan 2017, 282) – an argument that recent data on the party position of the FDP on environmental issues confirms (Bräuninger et al. 2019, 111, Volkens et al. 2019). We therefore code coalitions with FDP involvement as being fully out (0.0), and all remaining coalitions between the CDU/CSU, SPD, or Left Party (as well as smaller parties) as being partially out (0.25). *Data source*: Government composition based on internet search.
Condition Strong Environmental Associations (ORG)	**1.0** if the ratio members in the Bund für Umwelt und Naturschutz Deutschland e.V. (BUND) and Naturschutzbund Deutschland e.V. (NABU) in a given *Bundesland* is more than 50% above the national average; **0.75** if the proportion is between 0% and 49,9% above the national average; **0.25** if the share is between 0.01% and 49.9% below the national average; **0.0** if the ratio is more than 50% below the national average. *Calibration rationale:* We calibrate the condition based on the difference of each state's membership ratio to the national average. Whether the degree of organization lies above or below the national average is used as the qualitative 0.5 anchor – a rather straightforward benchmark. Since there is no

(*Continued*)

Table 2. Continued.

Sets	Calibration rationale
	theoretical guidance to define the upper and lower set boundary, we again look for empirical gaps in the data distribution (Schneider and Wagemann 2012, 35–37; De Block and Vis 2019, 505–506). *Data source*: Own calculations based on information from the official webpages and annual reports of the regional and national branches of the BUND and NABU.
Condition Large Nature Reserve Areas (GEO)	**1.0** if the share of nature conservation area is more than 50% above the national average; **0.75** if the share is between 0% and 49,9% above the national average; **0.25** if the share is between 0.01% and 49.9% below the national average; **0.0** if the ratio is more than 50% below the national average. *Calibration rationale*: The crucial decision is setting the 0.5 anchor; this can be done in a straightforward manner as we calibrate *Länder* whose proportion of protected areas lies above the national average as being more in the set, and as more out if it is below the average, respectively. To define the upper set boundary, we choose them again based empirical gaps in the data distribution (Schneider and Wagemann 2012, 35–37; De Block and Vis 2019, 505–506). *Data source*: Own calculations based on information from the Federal Office for Nature Conservation.

We next examine *sufficient conditions* for more protective policies. The truth table in Table 3 presents all logically possible configurations together with the consistency parameter; in addition, it assigns all cases to the respective configuration and highlights for which configuration there is no empirical information available (limited diversity). We display the set relations for

Table 3. Truth table for protective and permissive policy change. Configurations that pass the consistency level of 0.8 are treated as sufficient conditions (marked light grey). Cases in *italics* show a predominantly permissive policy change. The last row is a so-called logical remainder since no empirical reference case displays this configuration.

			Statement of Sufficiency				
			Protective Policy Change		Permissive Policy Change		
GOV	GEO	ORG	Cons	PRI	Cons	PRI	Cases
1	1	0	1.000	1.000	0.538	0.000	North Rhine-Westphalia, Schleswig-Holstein 16
1	1	1	1.000	1.000	0.400	0.000	Hamburg 10, Rhineland-Palatine
1	0	1	1.000	1.000	0.625	0.000	Baden-Wuerttemberg
0	1	1	0.833	0.600	0.750	0.400	Hamburg 11/13
0	1	0	0.714	0.200	0.929	0.800	*Schleswig-Holstein 10/11*
0	0	0	0.571	0.182	0.905	0.818	Berlin, *Saxony, Saxony-Anhalt 10, Saxony-Anhalt 15, Mecklenburg-Western Pomeriana*
0	0	1	0.533	0.000	1.000	1.000	*Bavaria, Hesse, Lower Saxony*
1	0	0	---	---	---	---	---

Table 4. Results for the sufficiency analysis of protective policy change based on the parsimonious strategy. ●:presence of a condition; ○: absence of a condition. Deviant cases in *italics*. The parsimonious solution displayed here makes use of the logical remainder (GOV*∼GEO*∼ORG).

Model fit: consistency: 0.929 | PRI: 0.882 | coverage: 0.897		
	Term 1	Term 2
Conditions		
GOV	●	
GEO		●
ORG		●
Parameters		
Consistency	1.000	0.882
PRI	1.000	0.800
Coverage raw	0.724	0.517
Coverage unique	0.379	0.172
Cases covered	North Rhine-Westphalia, Schleswig-Holstein 16; Baden-Wuerttemberg; Hamburg 10, Rhineland-Palatine	Hamburg 10, Rhineland-Palatine; Hamburg 11/13

protective and permissive policy change alongside each other (enhanced truth table); in doing so, we can immediately see that the set relational patterns are clear-cut and distinct and spot problematic simultaneous subset relations.[11] We apply a consistency cut-off of 0.8 which means that all combinations of conditions above that threshold are deemed sufficient for the respective outcome, in this case protective policy change. The four configurations that pass the consistency threshold are then further minimized to discern relevant conditions from redundant ones.

Table 4 presents the results: The first term highlights that governments with the Greens as coalition leader or junior partner are strongly associated with a *Land* making use of its rights to deviate from the federal legislation and moving towards more protective policies. But more protective policies can also be adopted irrespective of green governments, as shown by the second term. Here, protective policy change occurs in *Länder* characterized by large nature reserve areas and strong ENGOs. The solution has a very high model fit (overall consistency is 0.929 i.e. only 7,1% of the data deviates from the subset relation, coverage is almost 90%).[12] Together, the two terms account for six of the seven *Länder* which adopted more protective nature conservation policies, with Berlin being the only unexplained case. Moreover, the solution includes no deviant case, i.e. a *Land* for which we would expect protective nature conservation policies but observe the opposite.

Analysis of permissive policy change

Turning to permissive policy change, the analysis reveals one *necessary condition* (see Table C.3 in the Appendix). Reducing nature conservation

standards only occurs when the Green party is not part of the government (see Figure 2). This finding is particularly interesting because the same condition was not necessary for protective reforms. However, this asymmetric relation makes perfect sense if we consider the status quo bias inherent in policy-making (Tsebelis 2002). If Greens participate in government, they have veto power and can therefore block more permissive legislation that would contradict their core ideas.[13]

Based on Table 3, three configurations are deemed *sufficient* and thus further minimized. Table 5 presents the results which consist again of two terms: Since the absence of the Greens from government is a necessary condition for the passage of permissive policies, it must be part of every sufficient term. In the first term, Green's participation goes together with a small proportion of natural reserve areas. Alternatively, the combination of weak ENGOs and governments without Greens are also sufficient for lowering nature conservation standards. The overall solution performs again extremely well with a consistency of 0.906 (i.e. less than 10% deviance) and a coverage of 93% including all *Länder* that enacted permissive policies. Yet, it also includes the deviant case of Berlin, where we would expect the lowering of standards but do observe that standards were raised – a fact which we address below.

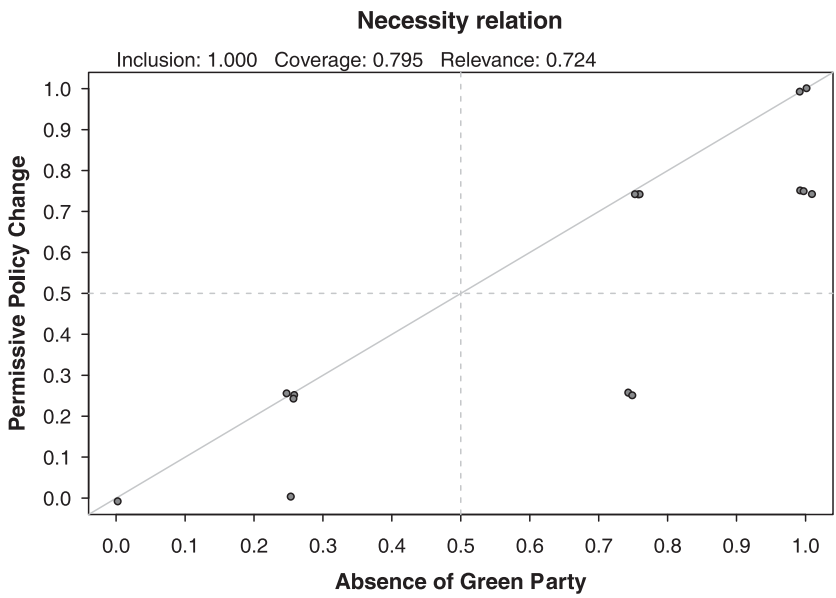

Figure 2. XY-plot displaying the necessity relation between the absence of the Green party from government and the adoption of permissive policy standards.

Table 5. Results for the sufficiency analysis of permissive policy change based on the parsimonious strategy. ●: presence of a condition; ⚬: absence of a condition. Deviant cases in *italics*. The parsimonious solution displayed here does not include any logical remainders; it is hence identical to the results from the complex and intermediate strategy.

Model fit: consistency: 0.906 | PRI: 0.857 | coverage: 0.935		
	Term 1	Term 2
Conditions		
GOV	⚬	⚬
GEO	⚬	
ORG		⚬
Parameters		
Consistency	0.929	0.880
PRI	0.882	0.800
Coverage raw	0.839	0.710
Coverage unique	0.226	0.097
Cases covered	Bavaria, Hesse, Lower Saxony; *Berlin*, Saxony, Saxony-Anhalt 10, Saxony-Anhalt 15; Mecklenburg-Western Pomerania	Schleswig-Holstein 10/11; *Berlin*, Saxony, Saxony-Anhalt 10, Saxony-Anhalt 15, Mecklenburg-Western Pomerania

Robustness tests

We perform a series of robustness tests across a range of alternative model specifications. Specifically, we test for the effects of reasonable alternative calibration decisions in the outcome and those conditions which capture the strength of ENGOs and the state of nature reserve areas. In addition, we probe whether alternative consistency and case thresholds have an impact on our findings and their interpretation (see Appendix Table D.1 and D.2).

From the ten robustness checks, six produce the exact same findings for protective policy change while the other four all agree on the importance of the partisan condition; for permissive policy change, nine out of ten tests show the exact same result. Especially, none of the alternative calibration decisions influences the results. Concerning the analysis of protective change, where there is a difference, it calls into question whether the presence of the Green party in government alone is sufficient or whether either well-organized ENGOs or the presence of large nature reserve areas also play a role. This, however, is unproblematic since it is known that the parsimonious strategy detects the causal core conditions, i.e. conditions which definitely have to be considered if the aim is to derive at causal inferences; yet, it might be the case that the parsimonious strategy wrongly eliminates a condition based on the counterfactual treatment of logical remainders (Baumgartner 2015; Schneider 2018). But even the most unstable tests confirm the major role of the partisan condition. For permissive policy change, the absence of Green party involvement turns out as necessary and sufficient, whereas it is either the inclusion of the Green in government

or large nature reserve areas which are associated with protective policy change. In sum, we conclude that the results are highly robust.

Discussion

While the QCA allows us to reveal set-theoretic relationships in the data, it is important to inspect our cases qualitatively to see how the set relations relate to policy decisions. We first turn to the adoption of *protective reforms*. Here, the first solution term highlights the importance of Green parties in government. Qualitative evidence from the cases clearly supports our findings in states such as North Rhine-Westphalia or Schleswig-Holstein 2016 where Greens pushed for more protective legislation. Particularly instructive is the case of Schleswig-Holstein: Here, a government led by the CDU and the Liberals adopted a very permissive nature conservation policy in 2010/11. When the Social Democrats and the Greens took office in 2016, they partly revised the previous act and adopted a far more protective reform with the Greens implementing their goals of promoting biodiversity and nature conservation. The then Minister of the Environment Robert Habeck describes that the Greens found compromises with other concerns, such as road construction, coastal and flood protection measures, modern agriculture, and tourism (MELUR SH 2016). The case of North Rhine-Westphalia, another example of the first solution term is instructive to illustrate why the Greens alone are sufficient for the protective outcome. In this case, the reform seems to be a genuinely political project that should appeal to the electorate, as the Greens claim to be mainly responsible for protective deviations in their Nature Conservation Act (Fraktion Bündnis 90/Die Grünen 2016). Instead, according to an expert interview with an involved association, ENGOs do not seem to be included in policy-making beyond their formal role of issuing a statement[14], which is why they complained about draft law (Landesbüro der Naturschutzverbände NRW 2016). Hence, political considerations dominate the first solution term.

The second solution term points to the joint presence of large nature reserves and well-organized ENGOs. This can be qualitatively illustrated by two cases: The reforms in Hamburg and the reform in Rhineland-Palatinate. In Hamburg, the protective reforms in 2011 and 2013 have been adopted even though the Greens were absent from government. A closer look clarifies why the solution term fits this case: First of all, the reforms of 2011 and 2013 were not politically salient. They included a new forest function plan to secure, promote and protect forests – goals supported by a large coalition of parties. Second, the amendment of the State Forest Act, in which the Forest Function Plan is embedded, was discussed and accepted by the Working Group for Nature Conservation in Hamburg, of which Naturschutzbund Deutschland e.V. (NABU) is a member (Senat der Freien und

Hansestadt Hamburg 2013). Hence, although ENGOs did not initiate this forest function plan, they had a say during a policy process that was not politicized. Another representative case to be discussed is Rhineland-Palatine, where both term 1 and term 2 explain the protective legislation passed in 2015. The influence of ENGOs can be seen quite clearly in a statement on the revision of the law. Here, NABU and the Bund für Umwelt und Naturschutz Deutschland e.V. (BUND) criticized a few points, but overall, welcomed the reform (NABU Rheinland-Pfalz & BUND 2015). According to an expert interview, this outcome also had to do with the fact that the ENGOs had 'good connections' to the Ministry of the Environment and were invited to discuss the law. Moreover, and interestingly, the interviewee also indicated that such direct discussions would probably have also occurred with ministers from other parties, but that the ENGOs had more informal access as the ministry was held by the Greens.[15] This is a strong indication that, indeed and as proposed by solution term 2, ENGOs do have a say in the policy process even when Greens are absent from the government.

When considering the *permissive reforms*, the absence of the Greens in cabinet is a necessary condition for deviation legislation, but needs to be combined with one of the other conditions to account for permissive policy change. As the first solution term shows, few protected areas are sufficient for permissive deviations only in combination with the absence of the Greens from the cabinet. This path is occupied by the typical cases of Bavaria, Hesse or Lower Saxony. The case of Hesse provides a qualitative illustration of the political dynamics. In fact, the Greens in parliament criticized the government for not responding to the proposals for more far-reaching nature conservation measures put forward jointly by the Greens and ENGOs (Bündnis 90/Die Grünen Hessen 2010). It therefore seems that the lack of political support at the government level was key. Evidence that the proportion of nature reserves had an impact on the outcome could not be found in this case. For the permissive outcome, the decisive factor remains the absence of the Greens in government, which is the necessary condition for the permissive outcome anyway.

Regarding the second solution term, weak ENGOs in combination with the absence of the Greens are a sufficient condition. A good example is Schleswig-Holstein 2010/11. Regarding the 2010 reform, a regional newspaper reports that NABU in Schleswig-Holstein was unable to reach an agreement with the government on several nature issues. Whether the reasons for the low level of agreement and collaboration are to be found in the size of the organization or in the conservative government (or both) is not clear from qualitative evidence. However, public statements of NABU, in which they sharply criticize the CDU/FDP-government for lowering the standards of nature protection, illustrate that the political resistance seems indeed to have been important (Gehm 2011).

The case of Berlin stands out as the sole deviant or unexplained case. Here, a government without Greens together with a below-average number of protected areas and weak ENGOs did not lead to an expected permissive, but rather to a protective reform. How can we make sense of this case? Qualitative evidence suggests a rather straightforward explanation: Our analysis seems to underestimate the impact of ENGOs in Berlin. In fact, the reform was drafted in close cooperation with a nature conservation umbrella organization. Hence, although the largest ENGOs in Berlin – BUND and NABU – do not have many members, they nevertheless seem to have considerable lobbying influence through the umbrella organization. When a draft of the act was discussed in a public hearing, Manfred Schubert of the Berlin State Working Group for Nature Conservation described that, from a nature conservation association's point of view, a lot has been enshrined in the law after all and also explained that it was an extremely focused and constructive participation process (Abgeordnetenhaus von Berlin 2013, 3f.). Similarly, State Secretary in the Senate Department for Urban Development and Environment Christian Gaebler (SPD) said that the cooperation between ENGOs and the Senate was much more intensive than in other *Länder* (Abgeordnetenhaus von Berlin 2013, 7).[16] This strengthens the assumption that Berlin has a positive outcome due to the close cooperation with ENGOs.

Conclusion

Proponents of federalism often argue that a major advantage of decentralized decision-making is the fact that policy-making at lower levels of government enables subnational governments to respond to the specific needs and demands of a region and its citizens. In this paper, we explored whether this promise of federalism is actually kept in a case where subnational governments have obtained new competences to adopt deviating legislation by looking at nature conservation policies in Germany. Based on an assessment of each deviation of a German *Land* from the federal baseline legislation, we find that the German *Länder* have widely used their newly gained competences by introducing alternative provisions which deviate from the federal standard. Moreover, we showed that the direction of policy change, i.e. whether more protective or permissive standards were passed, varied in a systematic manner – and that this variation can be explained by theoretical approaches from comparative public policy research. Our empirical analysis highlights that nature protection rules are only relaxed when the Green party is not in government – this necessary condition for permissive change underscores the relevance of party government. On the other hand, more protective measures are passed with Green coalition governments or where the geography of a region is characterized by many nature reserves and environmental associations are strong. The existence of this

second path points to the relevance of intermediary organizations other than parties that also transmit citizens preferences into the political system as well as the relevance of structural differences of regions (here: geography) that necessitate regionally attuned policy responses.

With these results, our study contributes to three strands in the literature. First, it closes a gap in the research on policy effects of the German federalism reform, which has overlooked the changes in deviation legislation. The introduction of the *Länder's* right to deviate from the federal standard was an important point in the federalism reform. Indeed, our results show that the 'lex-posterior'-rule has opened new possibilities for regional governments. We do neither find the case of 'ping-pong-legislation' that had been predicted by some critics of the reform, nor a 'race to the bottom' in nature conservation legislation as feared by the federal Ministry of the Environment (Scharpf 2009, 100–101). Hence, from the perspective of federalism theory, one could argue in favor of even more possibilities of deviation because it allows regional governments to respond to subnational demands – a possibility that the federal government does not seem to want to circumscribe with new federal laws (although it could). While the case of Germany has been informative as it allows us to study over-time variation due to the federalism reform, it would clearly be promising to see whether such dynamics of increasing subnational policy-variation could be achieved in other federations with a more centralized structure, such as Austria (Bußjäger 2015).

Second, our results show that parties do, in fact, play a key role in environmental politics at a subnational level – at least in the context of nature conservation. This finding adds to a growing literature of partisan effects on public policies, which are sometimes said to become less relevant. And thirdly, our study points to the significant role of federalism to ensure responsive decision-making at the subnational level. Admittedly, the strong evidence of partisan effects may also be unrelated to citizen's preferences but given that empirical data indicates that Green voters are also most concerned with nature conservation issues, our results at least indicate that such a regionally attuned transmission belt may exist. This finding can therefore be a starting point for a more fine-grained analysis about responsiveness of subnational policies in Germany and in other federal states – a question, which has hitherto mainly been examined for the US states (Lax and Phillips 2012; Caughey and Warshaw 2017; Simonovits, Guess, and Nagler 2019).

Notes

1. Theoretically, federalism and de-centralization are two different concepts and the efficient provision of public goods at the local level may also be possible in unitary states (Biela, Hennl, and Kaiser 2013). However, the politico-institutional framework of federalism is often linked to decentralized structures

(Keman 2000) and federalism itself has also been ascribed positive economic effects (Weingast 1995).

2. However, this deviation can be overruled by new federal law and regional laws – while the most recent law adopted prevails (Scharpf 2009, 99–101).
3. It is true that this simple idea gets more complicated when we introduce the differentiation between the de-centralization of resource allocation and taxes on the one and federalist decision-making on the other hand (Biela, Hennl, and Kaiser 2013).
4. In practice, however, this 'ban' did not survive for a long time given that the Länder needed financial support from the federal government (Kropp and Behnke 2016, 675).
5. Art. 72.3 GG further states that 'federal laws in these areas come into force at the earliest six months after their promulgation, unless otherwise determined with the consent of the Bundesrat.' This leaves the Länder with a certain time horizon to adapt their regulation and prohibits quickly changing regulations. A complete list of the policy areas and the respective changes can be found in Scharpf's excellent review of the reform process and outcomes (Scharpf 2009, 106–107). We thank the anonymous reviewer his/her clarifying comments.
6. While it is true that the budgetary situation differs between the richer (e.g. Bavaria) and poorer states (e.g. Saarland), these differences are moderated by the equalization system and specific subsidies, which is why economic differences are minor as compared to cross-national comparative studies (e.g. Renzsch 2010). Moreover, environmental policies, and nature conservation policies in particular, are regulative in nature and should therefore be less affected by smaller differences in the economic situation.
7. While we do not test whether voters of Green parties for indeed prefer protective nature conservation policies, survey data indicate that this expectation is not far-fetched: In the Politbarometer surveys in 2019, around 49.6 percent of the respondents who said that nature conservation is an important issue also intended to vote for the Greens at a federal election – followed by 21.6 percent for the CDU/CSU and 11.6 percent for the SPD (Forschungsgruppe Wahlen 2020).
8. The data comes from the website 'buzer' which provides a searchable juridical database which documents all national laws and links the deviating regional laws for the respective paragraph. This database is well-established in juridical-scientific circles within Germany and is considered reliable because it is regularly cross-checked with the Federal Ministry of Justice's texts for quality assurance purposes. Previous studies in the context of deviating nature conservation law also used this platform (e.g. Böcher and Töller 2016).
9. We only consider *Länder* which made use of their right to deviate from the federal standard, i.e. Brandenburg, Bremen, Saarland and Thuringia, are excluded. Moreover, we did not opt for any qualitative weighting that may account for the content of the deviation, as this would involve making (even) more qualitative choices along different analytic dimensions. Unweighted indices are common in the absence of strong a-priori-reasons for weighting (e.g. Hooghe, Marks, and Schakel 2010). As shown by the robustness tests of our outcome calibration (see Appendix D), adjusting the calibration does not lead to major changes of the results.
10. Similar to correlations, set relations *per se* are not causal which is why the plausibility of any assumed causal relationship should be corroborated through additional evidence from the underlying cases (Schneider 2018, 253).

11. The configuration representing Hamburg 11/13 exhibits similar levels of consistency for protective and permissive policy change. Including it into both analyses would pose a contradictory statement since the same combination would be used to explain protective and permissive policies. We only include it into the former based on three reasons: i) the consistency value for protective policy change is higher than for permissive policy change, with the latter being below 0.8 and at the lowest end of what is usually deemed sufficient; ii) the PRI parameter is higher for protective than permissive policy change; and iii) Hamburg 11/13 itself shows protective policy change. We test for the effects of alternate decisions in our robustness tests (Appendix D).
12. We use the parsimonious strategy which is driven by the objective to produce minimally sufficient conditions and therefore includes all logical remainders that lead to more parsimonious results (Baumgartner 2015; Schneider 2018). In the Appendix we also present the results of the complex and intermediate strategy. Since our data contains only one logical remainder, the differences between the chosen strategies are at the margins (see Appendix C).
13. In addition, having either small areas of nature reserve or weak environmental associations also turns out as a consistent superset. However, we again do not interpret this substantively because i) the relevance parameter points towards empirical trivialness with a score close to 0.5, and ii) the conditions cannot be integrated into an overarching concept.
14. Expert interview, 3.9.2021.
15. Expert interview, 7.9.2021.
16. We are aware that these are political and not factual statements.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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