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ORIGINAL ARTICLE

The epistemic quality of expert bodies: from normative-theoretical concept to empirical measurement

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Abstract
The ubiquity of experts in contemporary policy-making has been met with enthusiasm in some quarters, but has also faced severe criticism. Beyond the democratic concerns regarding expert power, critics have raised worries about whether experts actually contribute to increasing the epistemic quality of policies, in line with normative expectations. Yet, so far, limited attention has been paid to the specific conditions under which experts involved in policy-making are likely to live up to such expectations. The article outlines a set of such conditions and empirically examines their fulfillment in the case of a real-world expert body. The article contributes theoretically to normative political theory about the proper role of expertise in policy-making; methodologically by linking normative theorizing and empirical analysis; and empirically through a longitudinal analysis based on large-n data of the extent to which the expert body under scrutiny satisfies a set of quantifiable empirical indicators of the proposed conditions.

Keywords Expertise · Policy-making · Democracy · Political theory · Indicators · Quantitative method

Introduction

Experts are ubiquitous in contemporary governance. From economic experts designing fiscal and monetary policies to virologists and epidemiologists advising on national responses to the coronavirus pandemic, modern-day policy-makers rely heavily on expertise. The promise of including experts in policy-making is that they will contribute to increasing the epistemic quality of policies: Under contemporary

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conditions of technical and societal complexity, experts are supposed to be the "filter" that ensures reasonable and "truth-sensitive" legislation and policy choices (Christiano 2012, p. 31, 41).

At the same time, "expertization" of policy-making has been criticized (Turner 2003). Critics see a substantial political role for experts as inimical to democracy. How can it be a "rule by the people" if policy-making is left in the hands of experts? (e.g. Urbinati 2014) Yet, there are also epistemic worries: Experts are hard to identify, may be biased and mistaken, and may fail to contribute to epistemic quality in governance. Expert involvement in policy-making is no guarantee against—and may even increase the likelihood of—poorer quality (e.g. Moore 2017, pp. 34–58, see also Christensen et al. 2022, Ch. 4).

The question of the proper place of experts in policy-making has been under scrutiny in recent scholarship in normative political theory (hereafter: "political theory"). Ongoing debates however have some limitations. First, to the extent that contributors are concerned with whether we should prefer democracy to "epistocracy"—a rule by experts (e.g. Estlund 2008)—or vice versa (e.g. Brennan 2016), the question of the role of expert bodies *in* democracies tends to be sidestepped.

Second, a predominant focus on democratic worries about the role of experts, and so on how to increase the democratic credentials of expert bodies (e.g. Fischer 2009; Brown 2009), has resulted in meager attention to the conditions under which expert involvement in policy-making is likely to increase the epistemic quality of policies.

Third, to the extent that contributions concentrate on the epistemic credentials of expert bodies, epistemic worries are either underplayed (by defenders of expertization), or regarded as pervasive (by critics), irrespective of the more detailed features and design of expert bodies. Either way, the implication is too little awareness of how the epistemic credentials of such bodies may vary, and which conditions that would need to be fulfilled for epistemic worries to be alleviated.

Fourth, resulting from this, neither defenders nor critics of expertization have showed much interest in whether conditions conducive to the epistemic quality of expert bodies are fulfilled in practice, or in how the fulfillment of these conditions could be studied in empirical research. This also reflects a general situation with limited exchange between normative theorizing and empirical political studies (e.g. Forst 2018; Herzog 2023). In corners of political theory there is a growing emphasis on the importance of providing political theorists' normative assessments with a firmer empirical foundation, but methodological questions raised by these ambitions remain under-scrutinized.

This article addresses these shortcomings in contemporary political theory by examining the following research questions: *(1) What are conditions for the epistemic quality of expert bodies? (2) How can the fulfillment of these conditions be measured in real-world expert bodies?*

In responding to these questions, the article makes three contributions. First, it makes a *theoretical* contribution by clarifying what it means for policies to have epistemic quality and the role of experts in ensuring it. This endeavor relies on and advances deliberative systems theory, a theory that recently has given focused attention to how expert bodies should be conceived of in the context of the broader set of functions and institutions of democratic politics (Mansbridge et al. 2012). It also

takes into account how policy-making involves both technical and value considerations, and requires different kinds of expertise. On this background, the article elaborates conditions for the epistemic quality of expert bodies, understood as conditions that need to be fulfilled if expert bodies are likely to contribute to increasing the epistemic quality of policies. The focus is on three such conditions, pertaining to expert behavior, expert judgements, and the organization of expert inquiry.

Second, the article makes a *methodological* contribution by linking political theory to empirical measurement. More specifically, it specifies a strategy for empirically examining the fulfillment of the spelled-out conditions for the epistemic quality of expert bodies by means of quantitative analysis of large-n data. This is a methodological improvement in the context of political theory where the interest in rigorous empirical testing of the fulfillment of normative criteria remains scant, and in the context of evaluative studies of expert performance, where scholarship has tended to focus either on rigged settings or on qualitative case analysis.

Third, the article applies this analytical strategy to a concrete expert body: advisory commissions in Norway. It makes an *empirical* contribution by tracing multiple indicators that are central to the fulfillment of our proposed conditions for epistemic quality over time, using a unique data set of Norwegian commissions that covers a period of nearly 50 years and includes over 1000 commissions. To our knowledge, this is the first large-scale empirical investigation of whether expert bodies fulfill criteria developed for the purpose of measuring epistemic quality.

The article is structured as follows: We start with a discussion of what it means for policies to have epistemic quality, and of what kinds of expertise that are needed to ensure it, with deliberative systems theory as our point of departure. We then list some democratic worries about the political role of experts, but also the epistemic worries that will be our main concern. The following section outlines the conditions under which expert bodies are likely to contribute to alleviating epistemic worries. We go on to present our indicator-based approach for examining empirically the degree of condition fulfillment. We thereafter zoom in on a subset of the indicators where quantitative measurement is illuminating, and examine their fulfillment through a longitudinal quantitative analysis, relying on data from Norwegian advisory commissions, an expert body with features that support our use of these indicators as measures of epistemic quality. The concluding section considers the contributions and limitations of the article.

Experts and the epistemic quality of policy-making

Lately, the question of the relative merits of "democracy" and "epistocracy" has achieved considerable attention in political theory (e.g. Brennan and Landemore 2021). This debate however tends to set aside the question about the proper role of experts *in* democracies (see also Moore 2017, p. 25). Hence, as our starting point for elaborating on the notion of epistemic quality in public policy, we instead take the recently developed "system" theory of deliberative democracy (Mansbridge et al. 2012; see also Christensen et al. 2022), and the instructive, but, we believe,

underspecified approach to the role of experts developed by contributors to this theory (Christiano 2012; see also Chambers 2017, Lafont 2019).[1]

The primary epistemic function of expert bodies

According to the theory of deliberative systems, public deliberations in democracies are supposed to fulfill three functions: the ethical function of promoting "mutual respect among citizens"; the democratic function of promoting "an inclusive process of collective choice"; but also the epistemic function of producing "preferences, opinion and decisions that are appropriately informed by facts and logic" (Mansbridge et al. 2012, p. 11)—or "truth-sensitive" (Christiano 2012, p. 41)—as well as "the outcome of substantive and meaningful consideration of relevant reasons", and so "reasonable" (Mansbridge et al. 2012, p. 11, 12). All functions are moreover equally decisive for the overall system to have normative legitimacy: For policy-making in a democratic polity to be justified, having only or mostly ethical, democratic *or* epistemic credentials is not enough. However, single institutions within the polity must not fulfill all three functions equally well. The idea is rather to develop an adequate division of labor where ethical, democratic or epistemic deficits in one part of the system can be compensated for in other parts of the system.

Accordingly, from a system perspective, some institutions may have one of the functions as primary (Mansbridge et al. 2012, pp. 13–22), and for expert bodies—ranging from knowledge units within ministries or agencies to governmental expert committees and science advice mechanisms—the epistemic function is vital. Given the extensive "intellectual division of labor" in modern societies (Christiano 2012, p. 28), we need to rely on experts—knowledgeable specialists (Goldman 2011, pp. 114–115)—in policy-making, and experts fulfill their primary task in democracies when they contribute to discussions and decisions on policies that "filter" out claims and policies that lack sufficient basis in "fact and logic" and good "reasons" (Christiano 2012, p. 11, 12, and 31, 41 on experts as "epistemic filter").

This does not imply that the ethical and democratic credentials of expert bodies are irrelevant. An obvious requirement to expert bodies in a democracy is that they have their discretionary space delegated in accordance with democratic procedures (Mansbridge et al. 2012, pp. 13–17). This also implies that such bodies may operate on the basis of political mandates that are provided by the government and that may influence their focus and priorities (e.g. Hustedt 2018; Craft and Halligan 2020). However, as long as democratic delegation is ensured, and within the confines of their political mandates, a primary concern is how these bodies contribute to ensuring the epistemic quality of policies, in their technical considerations, but also in their value considerations. That is, policy-making involves "the questions of means to ends and the consequences of legislation", but also those of "the basic aims the society is to pursue", "all the non-instrumental values" (Christiano 2012, p. 33, 35).

[1] Hence, for the purpose of a focused discussion, this article leaves aside contributions which start out in other concepts of democracy. With this starting point, we grant also that democracy to be legitimate must be procedurally fair, but also have instrumental, including epistemic, value.

Christiano moreover contends that whereas experts have a significant role to play and should guide us in "instrumental and consequential deliberation", citizens and their elected representatives and governments must be "in the driver's seat" of the value considerations of policy-making (Christiano 2012, p. 33).

Value considerations in expert advice and the variety of policy expertise

We rely on this approach, which is generally sound, although underspecified. First, even if questions of is and ought are logically separable, technical issues and value considerations may be hard to distinguish in practice (see also Lafont 2019). This follows from arguments in philosophy of science against the ideal of value free inquiry (e.g. Douglas 2009), and anyone acquainted with the expert reports of real-world governance will have learnt that such reports seldom respect any strict demarcation between "means to end"/"consequence" concerns and the "aims of society"/"non-instrumental values" (Christiano 2012). Still, despite this, one can on many occasions come a long way in distinguishing factual from evaluative questions (Holst and Molander 2019): Certainly, estimations of effects of policies are impossible without normative standards, but once such standards and their political interpretation and ranking have been settled, measuring effects can often be made into a relatively technical question.

Yet, even when the is- and ought-issues of policy-making are disentangled (to the extent possible), questions of which standards and values to settle for and prioritize, and why, remain. Expert bodies are often explicitly asked, more implicitly expected or see themselves fit to enter the "kingdom of ends", and involve themselves in discussions of the proper distribution of rights, risks and resources (Littoz-Monnet 2020 on "ethics experts", see also Holst 2023). This raises questions of whether there can be such a thing as "moral experts" (Singer 1972) that could assist us in providing policies based on "relevant reasons" (Mansbridge et al. 2012), and of the extent to which the experts that advise us in policy making possess special competence in deliberating on aims and values. In what follows, we will assume—arguably, not too controversially—that expert bodies may legitimately involve themselves in such deliberations within the confines of democratically delegated mandates; that there generally may be normative arguments that are more well-founded than others; and that the quality of such arguments provided by the experts we seek advice from will affect the epistemic quality of policy-making.

Second, the competence that knowledgeable specialists of expert bodies should possess if they are to contribute to increasing the epistemic quality of policies, may be varied. There is a special relationship between expertise and science, since what normally counts as the most authoritative type of knowledge in modern societies is that which is regarded as validated according to scientific norms and procedures (e.g. Oreskes 2019). Accordingly, you often see the categories "scientist" and "expert" used interchangeably. Still, proper policy experts are not necessarily full members of scientific communities. Illustratively, the typical expert in many expert group systems is not a professor, but a civil servant with a higher academic degree (e.g. Gornitzka and Sverdrup 2011). There are, moreover, sources of policy-relevant

expertise other than scientific training, such as especially relevant practical experiences (Collins and Evans 2007). When experienced civil servants so often serve as experts in policy-making, it is also due to their practically gained regulatory expertise. Civil society actors and interest group representatives as well often contribute with practical field knowledge in modern-day governance, although not seldom combined with academic competence. Yet, expert bodies may also profit from input from non-professional citizens and stakeholders with first-hand experiential knowledge on the issue at hand (e.g. Krick 2021).[2]

Worries about the political role of experts: democratic, but also epistemic

There are obvious democratic objections to experts' governance role. For one thing, the delegation of experts' discretionary space may not be democratically mandated. However, even when a proper democratic mandate is in place, and the need for expert advice is granted for epistemic reasons, democratic critics may object that expertization goes too far. There is for instance the worry of too much delegation: When expert authority intrudes on democratic political authority based on majoritarian procedures in one policy area after the other, this implies a shift from elected to unelected power (Mair 2013). Another democratic worry is delegation to expert bodies of too many issues that involve significant value interpretation and priority. Even granted a certain scope for such bodies to make normative judgments, critics object that the scope has been enlarged to the extent that citizens are no longer in "the driver's seat" of political matters (Christiano 2012). These challenges also fuel other democratic worries about expertization; for instance, that it contributes to depoliticization, distorting the role of "opinion" in politics (Arendt 1968) and insulating policy-making from political debate and strife; "political alienation" among regular citizens (Dahl 1989); and a disrespectful treatment of the citizenry, when experts have elitist attitudes.[3]

As far as political theorists have scrutinized the role of experts in democracy, these and other democratic worries have been put center stage (Christensen et al. 2022). This has resulted in a focus on the extent to which expert bodies have features and are organized in ways that mitigate representative and participatory concerns (see also Jasanoff 2006 on "co-production"). Yet, however valuable, such efforts focusing on "democratizing" expert bodies (Maasen and Weingart 2006) not only leave unaddressed some fundamental democratic worries, for instance regarding the extent and type of delegation to such bodies; they also sidestep epistemic objections about expertization: Due to the nature and limits of expert knowledge,

[2] In short, expertise is not only scientific, professional, and bureaucratic expertise. Still, such types of expertise are key to the expert bodies we have in mind, even if such bodies may draw on lay and stakeholder expertise in addition. Importantly, citizens and interest group representatives participate in a range of bodies where expertise provision is a secondary concern, and where different non-epistemic functions may be more central than the epistemic one.

[3] In the vocabulary of the deliberative systems theory, this problem of disrespect could be classified as an "ethical" worry.

including experts in policy-making and relying on expert bodies may not contribute to increased epistemic quality, and even result in policies that are less "truth-sensitive" and "reasonable". If so, this is a principal concern, as the central rationale for having such bodies in the first place is their contribution to increasing the epistemic credentials of public policy.

The most fundamental epistemic worry is that non-experts often will have a hard time identifying the proper experts in some domain (see Goldman 2011 on the "lay person/expert problem"), and so need to trust the assessments of wider expert communities, including a varied set of knowledge organizations inside and outside government, to distinguish the "real" or "best" experts from second rate or non-experts. This creates the derived challenge for non-experts of distinguishing trustworthy from not so trustworthy expert communities and expertise providers—and the need to develop expert advice and bodies that non-experts have reason to trust.

In addition, there are different epistemic worries spurred by how experts may be biased and make mistakes. For one thing, expert judgements are more exposed to cognitive fallacies than we like to think (Kahneman 2012): Like non-experts, experts tend to make inferences based on heuristics or shortcuts which can lead astray and cause biases. Due to conformation bias, many experts also score disturbingly bad as forecasters (Tetlock 2005). Experts moreover tend to be one-eyed and too confident regarding their own competence, and on behalf of their discipline (Lamont 2010). Experts may be biased by their self-interests, whether they have direct ties to interested parties, or take an interest in certain conclusions to bolster their professional reputation; or by ideology, whether they have an outspoken normative engagement, or they let their political views influence their judgment in subtler ways (Rolin 2020). Experts may also have poor political judgement, for instance if they disregard feasibility in their political recommendations (Swift and White 2008), or exaggerate how the state of affairs constrains the space for political action (e.g. Habermas 2015 on "technocracy").

However, to the extent that political theorists at all concentrate on the epistemic function of expert bodies, they tend either to be over-optimistic regarding how experts make policies more rational and evidence-based (e.g. Caplan 2007; Sunstein 2016), underplaying how experts may be biased and make mistakes, or to regard such worries as serious, yet largely invariable.

Conditions for the epistemic quality of expert bodies

We take a different approach, by concentrating on the epistemic credentials of expert bodies—decisive for their proper functioning in a democratic polity; by assuming that such credentials may vary; and by relying on relevant insights from political studies of expert bodies (e.g. Parkhurst 2017 on "good governance of evidence"), and recent research in political and social epistemology (e.g. Fricker et al. 2019; Herzog 2023) regarding the features of trustworthy expert communities. We spell this out as conditions for the epistemic quality of expert bodies (Holst and Molander 2017), and take it that something along these lines, is also what political theorists have in mind on occasions where they allude to the positive epistemic role of

properly institutionalized expert bodies (even if they seldom elaborate on what such bodies should look like; but see Moore 2017; Pamuk 2022).

The first condition pertains to expert *behavior.* Generally, in their inquiries trustworthy experts operate in accordance with sound epistemic norms, for example as we know them from the scientific ethos, or investigatory norm sets more tailored to the advisory context (e.g. Pielke 2007; Gundersen 2018). However, measures can also be taken. Investigatory procedures can be spelled out in laws and guidelines, stating that expert advice should be based on research and other validated knowledge, that experts should have a deliberative conduct, explicate and justify value considerations, be aware of cognitive, disciplinary and other biases, etc. There can also be procedures for sanctioning sloppy work, and for excluding experts with bad records or with vested interests in the matter from reassignment.

The second condition refers to the *judgements* of experts. To ensure epistemic performance, experts need to be held accountable by having their judgements put under review in different fora (e.g. Bovens et al. 2014). The most obvious forum for testing judgements and detecting fallacies and biases is the forum of immediate peers; economists being questioned by other economists, medical experts being scrutinized by other medical experts, etc. However, expert judgements and arguments should also be reviewed by relevant experts from other disciplines, who bring a different perspective to the problem and therefore may be able to spot biases and faulty assumptions.

Moreover, epistemic considerations may suggest review in more and broader fora, for instance in groups comprising bureaucrats who can test the soundness and feasibility of academic judgements against their administrative experience, or competent stakeholders with special insights in what works on the ground (Heclo 1974; Gornitzka and Sverdrup 2011), or even before the legislature or within the public sphere at large. In all these fora, the experts in question can be asked to account for critical assumptions and argumentative steps (Schlefer 2012, pp. 280–281). Importantly, demands can be put on them to explain the limits of their competence. For example, experts on engineering may have no special competence in law, and a technical expert in some area may lack insight into the evaluative dimensions of a problem.

The third condition pertains to the *organization* of expert inquiry and judgement. An obvious concern is the setup of the relationship between political principals and experts and how political control can pervert truth-seeking, for example when contracted experts are asked to work on mandates that are unduly narrow, or defer to political appointees driven by ideology and with limited relevant expertise (e.g. Hestvedt and Christensen 2023a). There is thus a need to ensure a scope for expert inquiries that are sufficiently autonomous (Oreskes 2019).

However, other features of how expert bodies are organized are vital as well. For one thing, experts reasoning alone are known to be exposed to confirmation bias and other biases, whereas deliberating groups are less prone to these fallacies, and may enlarge the pool of ideas and weed out bad arguments (e.g. Mercier 2011). However, the positive epistemic effects of deliberation depend crucially on diversity; without diversity, deliberation may just create groupthink (Koppl 2018). It is thus crucial to organize expert work along team and deliberative lines and to provide for necessary diversity and exposure to criticism from wider circles.

From normative theorizing to empirical measurement

Having spelled out these conditions, an important question arises of whether they are fulfilled in real-world expert bodies, and how to investigate it. In a situation where political theory and the empirical study of politics "have lost touch with each other and developed languages of their own" (Forst 2018, p. 2), there is luckily a rising interest in providing a firmer empirical basis for normative assessments in corners of political theory, moving beyond armchair philosophy. Still, the questions of method raised by the ambition to bridge political theory and empirical analysis often receive limited attention (e.g. List and Valentini 2016; Wolff 2018). We take it that a reasonable standard procedure for the empirical tracing of desirable features is, first, to develop *operational indicators*, meaning indicators that are both valid measures of these features and that can be traced reliably in empirical research, before pursuing *systematic empirical investigations* based on these indicators and adequate data and designs. Setting such a procedure as standard would advance political theory on the political role of experts, but also generally increase the rigor of the "non-ideal" branch of political theory (Valentini 2012).

Regarding the general question of the epistemic performance of experts, we have already referred to some of the many studies from rigged settings (e.g. Mercier 2011; Kahneman 2012). However, such studies obviously give us little insight into the varying epistemic features of particular expert bodies; this needs to be examined empirically either through qualitative studies of one or a few cases or through large-n studies based on quantitative data. Case studies potentially allow the researcher to give fine-grained assessments of whether an expert body fulfills conditions for epistemic quality and how this shapes the deliberations and conclusions of the body (e.g. Tellmann 2017; Heldt and Herzog 2022; Krick 2021). Yet, a major disadvantage is that case study findings cannot automatically be generalized to a larger setting. For instance, a study of one or a few expert commissions offers little insight into the full expert commission system that comprises tens or hundreds of commissions.

To examine the epistemic quality of expert arrangements in the aggregate, we argue, large-n studies offer a better alternative. While seldom relied on in the empirical endeavors of political theorists, quantitative studies have the distinct advantage that they allow us to investigate to what extent desirable features are satisfied beyond a single or a few cases. For instance, they allow us to assess to what extent conditions of the epistemic quality of a system of expert commissions are fulfilled, by examining how the population of commissions (not only single commissions) scores on indicators for these conditions. Converting conditions into quantifiable indicators inevitably involves simplification: the indicators will not capture the more qualitative aspects of these conditions, and they may in some cases pick up on features that are not directly relevant to the conditions. Yet, these are standard problems of conceptualization and measurement in the social sciences which cannot be eliminated but can be mitigated by careful and explicit operationalization of the concepts (Adcock and Collier 2001). Moreover, empirical studies have already used quantifiable indicators to study aggregate features of expert advice arrangements. For instance, Gornitzka and Sverdrup (2011) examine the type of information that goes

into EU decision-making by analyzing quantitatively the participation of scientists, interest groups and member state officials in more than 1200 European Commission expert groups. We believe that quantifiable indictors can usefully be employed also in our context, as measures of the fulfillment of conditions for epistemic quality.

Over the next pages, we follow this strategy for linking normative theorizing and empirical analysis. We first present a range of possible indicators for each of the three conditions for the epistemic quality of expert bodies. We then elaborate on a selection of indicators that we will investigate in our empirical study.

Indicators of the fulfillment of conditions for the epistemic quality of expert bodies

There is a range of possible empirical indicators for the fulfillment of each of the three conditions for the epistemic quality of expert bodies (see Table 1).

Our goal is not to examine all these indicators empirically, but rather to provide an example of how the fulfillment of our conditions can be assessed based on empirical indicators. To do so, we concentrate on a selection of indicators, which are all central to the epistemic quality of expert bodies and that are quantifiable and thus researchable based on the quantitative data available for our empirical case. The indicators we examine are the following:

1. *Substantial presence of scientists*. It is not only scientists who are capable of or committed to epistemic norms of truth-seeking and deliberation (condition 1). However, such norms are de facto central to the professional ethos of scientific experts (e.g. Gundersen 2018; Rimkute and Haverland 2015). And epistemic norms are more central for scientists than for other knowledge providers in policy advice, such as interest group representatives (whose primary commitment is to defend certain interests) or staff in think tanks or consultancy firms (whose commitment to epistemic norms may be compromised by ideological agendas or pecuniary interests) (e.g. Tellmann 2017; Christensen and Holst 2020). That scientists on average are more committed to epistemic norms of course presupposes that most scientists are not corrupted by other interests, such as when scientists are paid by companies to sow doubt about scientific findings or advocate specific policies or are appointed to expert groups to promote partisan agendas. While this assumption may be questionable in policy-making contexts that are highly politicized and polarized, such as in the U.S., it is plausible in consensual knowledge regimes where policy-making is less politicized and academia enjoys strong independence vis-à-vis private interests and political parties, such as in Northern European countries (Campbell and Pedersen 2014).

   Granted that this assumption holds, we can reasonably expect it to be conducive to adequate expert behavior if scientists participate in expert bodies and do so in ways and to an extent that allow them to have considerable influence on investigations and deliberations. As a consequence, it can be regarded as positive for epistemic quality if scientists are present on expert bodies (vs. not present),

Table 1 Possible indicators for the fulfillment of conditions for the epistemic quality of expert bodies

Expert behavior	Expert judgement	Organization of expert inquiry
Regulations/codes of conduct for expert and advisory arrangements that express an epistemic ethos	Mechanisms for review by peers from the same scientific discipline	Expert advice provided by teams/groups rather than individuals
Guidelines about conflicts of interest	Mechanisms for review by experts from other scientific disciplines	Participation from different scientific disciplines
Presence of scientists on expert groups	Mechanisms for review by other knowledgeable stakeholders, such as public officials or affected parties	Participation from different types of actors (e.g. scientists, public officials, affected parties)
Epistemic quality of the deliberations in expert groups		Match between the tasks at hand and the training and experience of experts
Conclusions and recommendations of advisory reports are research-based		
Transparency of the knowledge basis and of the relationship between technical and normative considerations		

if this presence is substantial (vs. marginal), and if scientists occupy leadership positions on these bodies (vs. positions as regular members).

2. *Disciplinary diversity of scientists.* The presence of scientific experts is, however, not enough. An important requirement for ensuring the quality of expert judgements (condition 2) is exposure to review and criticism from diverse perspectives, including from scientists with other disciplinary backgrounds. Moreover, the presence of different scientific disciplines, fields or epistemic cultures ensures cognitive diversity within groups, which counteracts cognitive biases, blind spots and groupthink (condition 3).

   To be sure, disciplinary diversity will only have epistemic benefits if the additional disciplines have relevant expertise about the problem at hand. But as long as this condition holds in a majority of cases, which seems a reasonable assumption, greater disciplinary diversity will on average be conducive to greater epistemic quality. Hence, from an epistemic point of view, expert bodies composed of members from multiple disciplines are preferable to bodies dominated by one particular discipline or profession.

3. *Co-participation of scientists and public servants*. Just as the epistemic benefits of a substantial scientific presence may depend on disciplinary diversity, it may also depend on whether scientific experts are flanked by public servants. In merit bureaucracies (where appointments are not based on political loyalty), public servants are normally bearers of key epistemic norms and a bureaucratic ethos that reflects a commitment to professional and technical concerns (condition 1) (Weber 1946; Christensen 2017). Across European countries, civil servants see

providing expertise and technical knowledge as one of their most important tasks (Steen and Weske 2016). Bureaucrats possess regulatory knowledge that is often vital for adequate policy formulation and that other actor groups cannot easily provide, and given their combination of competences, they contribute arguments and perspectives that differ from those of scientists and are so likely to increase the cognitive diversity that is central to deliberative and epistemic quality (conditions 2 and 3). All the spelled-out conditions for the epistemic performance of experts thus speak in favor of a presence of public servants alongside scientists on expert bodies.

Certainly, scientific and bureaucratic experts may not always be able to engage in genuine knowledge exchange (Caplan 1979). The two groups may have different goals: whereas scientists seek the best policy solution according to theory and available evidence, bureaucratic experts may be more focused on whether solutions are administratively feasible and politically acceptable. The two groups may also have difficulties communicating due to differences in culture and approach. Moreover, bureaucratic experts may seek to control the scientists, or academics may seek to use their epistemic authority to outpower bureaucrats. Yet, there are also many empirical examples of productive engagement between academic and bureaucratic experts (e.g. Christensen 2017). Hence, from an epistemic perspective, bodies that include both public servants and scientific experts are preferable to bodies with scientists only, and bodies made up of scientists and public servants are preferable to bodies composed of scientists and for example interest groups.

4. *Broadly composed groups.* Finally, exposing the arguments and assumptions of scientific experts to review in broader fora including competent stakeholders also contributes to holding experts to account (condition 2). Groups with such broad composition are also likely to increase cognitive diversity, which can counteract expert mistakes and biases (condition 3). Stakeholders may possess relevant knowledge and information about the various effects of policies which can enrich expert deliberations (e.g. Krick 2021). Thus, from an epistemic perspective, expert bodies with participation not only from scientists and public servants but also from stakeholders from relevant sectors are preferable to bodies that do not include stakeholders.

Empirical analysis

Empirical case: Norwegian policy advisory commissions

We assess the fulfillment of conditions central to expert bodies' epistemic performance in the case of Norwegian policy advisory commissions. Through a quantitative longitudinal analysis of these bodies, we trace developments over time on the four indicators listed above. Note that our goal is to *describe* changes over time in the extent to which these commissions satisfy the conditions for epistemic quality, not to explain these changes or to test empirically whether the fulfillment of these conditions leads to better epistemic quality of policies. Policy quality is generally

challenging to define and measure for many reasons, and even more so in large-n studies. Under these circumstances, the objective of examining empirically the fulfillment of conditions for epistemic quality is more defensible and feasible.

We examine a specific advice institution, namely ad hoc advisory commissions known as 'Norwegian Official Commissions' (*Norges offentlige utredninger—NOU*). These are temporary commissions appointed by Cabinet or a ministry to analyze a particular policy issue and provide policy recommendations. According to the official guidelines, the aim of these commissions is "to develop the knowledge base for policy and propose specific measures, such as new legislation" (Ministry of Local Government and Modernization 2019, p. 7), which highlights the relevance of both academic and regulatory knowledge to their work. Commissions should particularly be used to examine "complex areas characterized by scientific disagreement or dilemmas, value choices and conflicting interests" and issues that stretch across departmental boundaries (p. 11), which points to the importance of both disciplinary diversity and of exposing scientific arguments to review in broader fora.

The tasks of the commission are defined by the terms of reference written by the government, which identify the issues and questions to address. Commissions are made up of a chairperson and regular members appointed by government and are supported by a secretariat. Formally, Cabinet decides who to appoint, but in practice this task is in large part delegated to bureaucrats (Hesstvedt and Christensen 2023a). Commission members can be drawn from the public service, interest groups, universities and research institutes, private companies, political parties, etc. Commissions usually work for a year or longer and deliver their analysis and recommendations in the form of a public report.

The rationale for selecting this case is fourfold. First, policy advisory bodies constitute one of the main channels for the incorporation of expertise in policy-making (Campbell and Pedersen 2014). Second, ad hoc advisory commissions play a particularly important role in the formulation of public policy in the Nordic countries (Christensen and Holst 2017). The potential influence of these bodies makes it important to assess whether they fulfill conditions for epistemic quality. Third, the large number of commissions operating within the same institutional framework offers unique opportunities for comparison across units. This makes it possible to systematically trace developments on the indicators over time.

Fourth, Norway has a consensual governance system with low levels of politicization where the assumptions made in the development of our indicators are likely to hold. This includes an established merit bureaucracy where civil servants are recruited primarily based on specialized expertise, and where professional concerns and scientific arguments are in high regard (Christensen et al. 2018). Moreover, the Norwegian academic system enjoys considerable independence (Mangset et al. 2022), and it is rare that academics have direct ties to business or are active members of political parties. Furthermore, empirical research shows that while political concerns in some cases play a role in the selection of experts to advisory commissions, academics on these bodies are strongly committed to epistemic norms of independence and objectivity, and more so than other groups of participants (Hesstvedt and Christensen 2023a).

Data

The analysis is based on a dataset comprising the entire population of Norwegian Official Commissions that delivered a report from 1972 (when the report series began) to 2018 (Hesstvedt and Christensen 2023b).[4] The dataset contains information provided in the reports about the commission and its composition, including the name and affiliation of chairperson, members and secretariat. The analysis is limited to commissions that are temporary and have a policy-preparing function, i.e. that examine and provide recommendations about policy questions. The analysis includes 1073 commissions and 9561 commission members. The number of commissions and commission members per decade and overall is displayed in Table 2.

Operationalization

In the analysis, we examine various aspects of the composition of commissions. Based on their organizational affiliation, commission chairpersons and regular members are classified into nine categories: scientists, public servants, interest groups, etc. (see Table 3). Furthermore, scientists are classified according to their scientific field: law, economics, other social sciences, etc. (see Table 4 for classification). The categories are mutually exclusive.

Analysis

In the following, we trace changes over time in Norwegian Official Commissions on each of the four indicators of the fulfillment of the conditions for the epistemic quality of expert bodies. We first examine the trends in the *participation of scientific experts* on commissions. Figure 1 displays the share of commission members from different categories in different decades. The denominator is the total number of commission members in a given decade.

Figure 1 shows that the share of scientific experts on commissions increased markedly over time, from 7 in the 1970s to 30% in the 2010s. The share of scientists thereby easily surpassed the share of interest group representatives on commissions. It also approached the share of public servants on commissions, which dropped over time. Public servants did however remain the largest group of commission members. This group largely consists of civil servants from the appointing ministry and other relevant ministries and agencies.

Another measure of the participation of scientists is whether or not commissions had at least one scientific expert among its members. Figure 2 shows the share of commissions that had at least one member from a given member category. Unlike in Fig. 1, the denominator is the total number of commissions (rather than commission members) in a given decade.

[4] All commission reports are publicly available and were collected from the websites of the National Library of Norway (www.nb.no) and the Norwegian government (www.regjeringen.no).

Table 2 Number of commissions and commission members

	1972–1979	1980–1989	1990–1999	2000–2009	2010–2018	Total
Commissions	352	299	185	142	95	1073
Commission members	2840	2359	1734	1421	1027	9561

Policy-preparing commissions. Commissions are classified according to the year in which they delivered their report

Table 3 Classification of organizational affiliation

Category	Operational definition
Scientists	Academic staff at universities and researchers at independent research institutes
Public servants	Civil servants employed in ministries and agencies, as well as other public servants such as doctors, teachers and policemen. (Although academics at public universities are formally also public servants, they are classified as scientists.)
Interest groups	Representatives of interest groups such as labor unions, business associations, professional associations and other non-governmental organizations
Private sector	Representatives of private firms
Judges	Judges in national and sub-national courts
Private lawyers and consultants	Lawyers in private practice and employees of consultancy firms
Politicians	Members of parliament (including deputy members), politicians at the regional and local level, under-secretaries of state, political advisors
Other categories	For example, foreign members, priests, members of other public commissions, artists and authors, fishermen, etc
Unknown background	Information on affiliation is unavailable or ambiguous

Table 4 Classification of scientific fields

Category	Operational definition
Economics	Economics, business economics
Other social sciences	Political science, sociology, social anthropology, human geography, etc
Law	Legal studies
Humanities	Philosophy, history, linguistics, literature, religion, etc
Education sciences	Education studies, pedagogics
Medicine and health	Medicine, nursing, dentistry, veterinary science
Natural sciences	Mathematics, physics, chemistry, biology, etc
Technology and engineering	Civil engineering, computer sciences, other technological sciences
Other/missing	Other scientific field, or information on field is unavailable or ambiguous

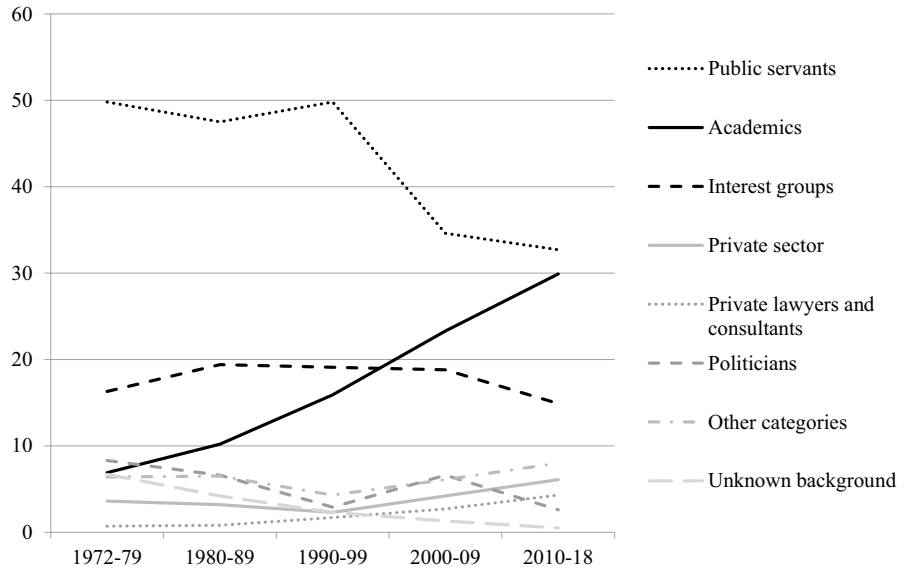

Fig. 1 Affiliation of commission members. Percent of all commission members in a given period

The figure shows a steep increase in the share of commissions where scientific experts were present. In the 1970s, one third of commissions included a scientific expert; after 2000, scientists were present on nearly 90% of commissions. We also see that public servants were present on nearly all commissions throughout the whole period, despite their falling share of members (cf. Fig. 1). The share of commissions with interest group representation was considerably lower, varying between 55 and 65%.

A third measure of the participation of scientists is to what extent scientific experts occupied leadership positions on commissions. Table 5 displays the share of commission chairpersons from different categories over time.

We see that scientific experts also made up a growing share of commission chairs. The share of chairpersons drawn from the academic world increased from 12 in the 1970s to 41% in the 2010s, surpassing public servants as the largest group. The share of commissions headed by public servants decreased over time.

The empirical analysis thus shows an increase in the presence of scientific experts on advisory commissions on all three measures.[5] Scientists came to participate on commissions in substantial numbers and influential positions, likely allowing them to have a real impact on commission investigations and deliberations. If it is true that scientists are more committed to epistemic norms of truth-seeking and deliberation

[5] There may be various reasons for growing academic participation, including a greater need for academic expertise due to more complex and specialized policy issues, calls for evidence-based policy-making or New Public Management reform models (see Christensen and Holst 2017). However, explaining this shift is outside the scope of the article.

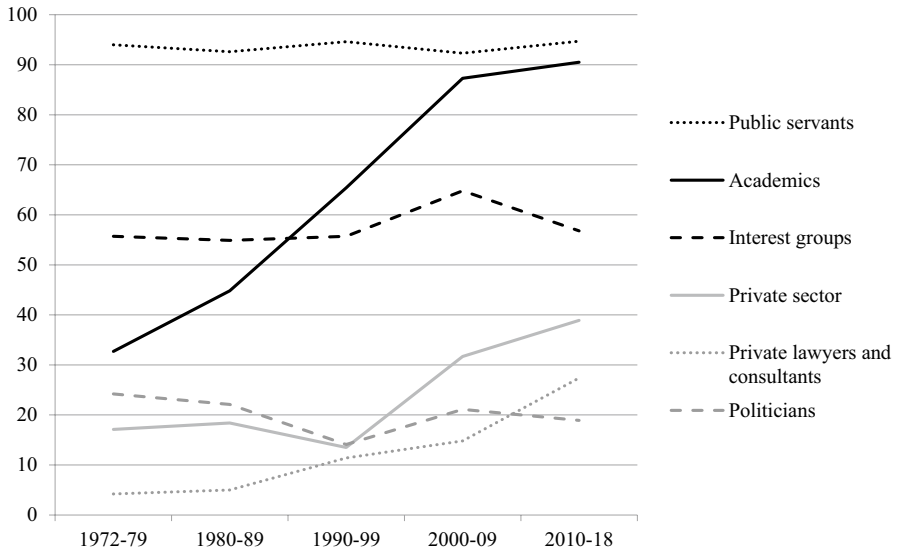

Fig. 2 Participation on commissions (at least one member from a given category). Percent of all commissions in a given period

Table 5 Affiliation of commission chairpersons

	1972–1979	1980–1989	1990–1999	2000–2009	2010–2018	Total
Scientists	11.8	15.3	29.4	38.3	41.1	224
Public servants	63.5	55.5	45.1	26.4	35.8	515
Interest groups	2.5	4.6	2.2	6.4	6.3	39
Private sector	4.4	3.9	0.5	5.7	1.1	34
Judges	3.8	7.1	7.1	8.5	5.3	62
Private lawyers and consultants	1.2	1.1	3.8	2.8	3.1	23
Politicians	8.6	8.2	6	7.8	1.1	76
Other categories	0.9	2.9	4.9	3.6	6.3	37
Missing	3.5	1.4	1.1	0.7	0	20
Total	340	281	184	141	95	1041*
Percent	100	100	100	100	100	

Percent of all commission chairpersons in a given period

*32 commissions did not have a chairperson

than other actors—an assumption that we have argued is plausible for Norwegian advisory commissions—the growing share of scientists among commission members and chairpersons and the declining share of commissions without scientific experts indicate an increase in the epistemic quality of the work of these commissions. This conclusion is also supported by findings from other empirical research, which shows a sharp increase over time in the amount of references to academic and

Table 6 Field of scientist commission members

	1972–1979	1980–1989	1990–1999	2000–2009	2010–2018	*N*
Economics	18	15.1	30.1	27.2	30.6	341
Other social sciences	13.9	16.3	17.4	23.3	28	280
Medicine and health	16.9	13.8	14.1	10	5.5	156
Law*	7.6	9.3	13.8	11.8	9.5	145
Natural sciences	18	19.4	6.5	4.8	5.9	137
Humanities	6.7	15.1	9.4	9.7	7.8	134
Education sciences	3.6	2.7	4	7.6	8.5	76
Technology and engineering	10.3	4.3	2.5	4.5	2.3	60
Other/missing	5.1	4.7	2.2	1.2	2	38
Total *N*	195	258	276	331	307	1367
Percent	100	100	100	100	100	

Percent of all scientist members in a given period

*Academics from the legal field are strongly represented in law-drafting commissions, which are not part of our analysis

other knowledge in Norwegian commission reports, suggesting greater and more transparent use of expertise (Christensen 2018).

Second, we examine developments in the *disciplinary diversity of scientists* on commissions. We first look at the aggregate numbers on the disciplinary background of scientists on commissions. Table 6 shows the share of scientist members from different fields, as a share of all scientist members in a given period.

These aggregate numbers show a decrease over time in the disciplinary diversity of scientific experts who participated on commissions. Scientist commission members in the 1970s and 1980s hailed from a broad range of fields, including the natural, medical and engineering sciences, economics and other social sciences. Yet, over time, economists and other social scientists became increasingly dominant, accounting for nearly 60% of scientist commission members in the most recent period. This shift was only to a limited extent driven by changes in the topics studied by commissions (see Hesstvedt 2022, pp. 9–11).]

If we examine disciplinary diversity at the level of the commission, the picture is different. In Table 7, commissions are classified according to the number of scientific fields represented among the scientist members of a commission. The table displays the share of commissions where, respectively, 0, 1, 2 and more than 2 scientific fields were represented. (0 means that there were no scientists on the commission.) The denominator is the total number of commissions in a given decade.

The interpretation of this table is complicated by the strong increase over time in the overall share of commission members who were scientific experts (see Fig. 1). Of course, the likelihood that two or more scientific fields are represented depends on the total number of scientists on the commission. The table is, therefore, only meant to illustrate the extent to which commissions were multi-disciplinary in different periods.

Table 7 Number of scientific fields* represented on a commission

	1972–1979	1980–1989	1990–1999	2000–2009	2010–2018	*N*
0 fields	67.3	55.2	34.6	12.7	9.5	493
1 field	24.4	32.1	35.7	44.4	30.5	340
2 fields	7.1	10	21.6	26.2	34.7	165
> 2 fields	1.1	2.7	8.1	17	25.5	75
N	352	299	185	142	95	1073

Percent of all commissions in a given period

*Economics, other social sciences, law, humanities, medicine and health, natural sciences, technology and engineering, educational sciences

We see that in the 1970s, when there were fewer scientist members overall, commissions with more than one scientific field represented were rare (8% of commissions). Yet, the share of multi-disciplinary commissions increased steadily thereafter, reaching 60% in the 2010s. The fact that three out of five commissions included scientists from two or more different fields can be seen as a considerable degree of disciplinary diversity.

The implications of these empirical patterns for epistemic quality are mixed. On the one hand, the increasing participation of scientific experts on commissions was accompanied by a growing share of commissions with participation of scientists from multiple disciplines. Of course, these numbers do not tell us whether the scientific disciplines involved were the ones with the most relevant expertise about the topic. But the greater number of disciplines included does increase the chance of a match. This disciplinary diversity partly satisfies two important conditions for the epistemic quality of expert bodies, namely that expert arguments are exposed to review and criticism by experts from other fields and that groups are cognitively diverse enough to overcome cognitive biases and groupthink. On the other hand, these advantages were limited by the increasing dominance of economic and other social-scientific expertise, which meant little exposure to expert thinking and arguments from outside the social sciences.

Finally, we look at changes over time in the *co-participation of scientists, public servants and other stakeholders* on commissions, corresponding to our last two indicators. In Table 8, commissions are classified according to their member configuration. We focus on the three main member categories—public servants, interest groups and scientists—and whether each of these groups were represented on a commission or not. (Members from other categories are not considered.) This gives rise to eight possible configurations: (1) scientists + interest groups + public servants; (2) interest groups + public servants; (3) scientists + public servants; (4) scientists + interest groups; (5) scientists only; (6) interest groups only; (7) public servants only; (8) none of the three categories represented. The table displays the share of commissions with each of these configurations of members.

The table shows that the growing share of scientific experts on commissions to a very limited degree translated into scientist-only commissions. Commission with only scientists accounted for 3–5% of all commissions throughout

Table 8 Participation on commissions—different configurations of members

	1972–1979	1980–1989	1990–1999	2000–2009	2010–2016	*N*
(1) Scientists, interest groups, public servants	12.8	19.7	33.0	52.8	45.3	283
(2) Interest groups, public servants	42.3	32.4	21.6	7.7	9.5	306
(3) Scientists, public servants	15.6	20.4	28.1	28.2	40.0	246
(4) Scientists, interest groups	0.0	1.3	0.5	2.8	2.1	11
(5) Scientists only	4.3	3.3	3.8	3.5	3.2	40
(6) Interest groups only	0.6	1.3	0.5	1.4	0.0	9
(7) Public servants only	23.3	20.1	11.9	3.5	0.0	169
(8) None	1.1	1.3	0.5	0.0	0.0	9
N	352	299	185	142	95	1073
Percent	100	100	100	100	100	

Percent of all commissions in a given period

the period. Instead, scientific experts were nearly always accompanied by public servants. The share of commissions made up of scientists and public servants (without interest groups) increased sharply over time, from 16 in the 1970s to 40% in the 2010s. Broadly composed commissions—i.e. composed of scientists, public servants and interest groups—also made up a growing percentage of commissions, accounting for about half of commissions after 2000. By contrast, commissions composed of scientific experts and interest groups (without public servants) were rare.

The fact that scientific experts were nearly always flanked by public servants on advisory commissions can be seen as positive from an epistemic perspective, given that the presence of public servants on advisory bodies can help ground scientific input in the subject-matter expertise, administrative knowledge and experience of bureaucrats. This seems plausible given that the public servants present on Norwegian commissions were mostly specialist civil servants from relevant ministries and agencies. These numbers do not, of course, tell us whether this actually led to genuine knowledge exchange between scientists and bureaucrats, or whether this process was distorted by mutual incomprehension or power asymmetries. Yet, existing qualitative evidence suggests that these scientist-bureaucrat interactions in many cases (though not always) are productive in formulating solutions that are grounded in both scientific and administrative concerns (Christensen 2017). The very modest number of scientist-only commissions and scientist-cum-interest group commissions can for the same reasons be evaluated positively.

Furthermore, that scientific experts were frequently part of broadly composed commissions is arguably promising, to the extent that this ensures greater cognitive diversity within groups that may mitigate expert mistakes and biases. The interest groups that participated on these broad-based commissions were typically labor and business organizations, professional associations, and other affected parties—which

may all contribute relevant knowledge about the problem at hand that is not available to scientists or bureaucrats.

Conclusion and precautions

Based on recent exchanges in political theory and informed by scholarship on the features of expert reasoning and communities, this article has clarified the conditions under which expert involvement in policy-making is likely to increase the epistemic quality of policies. Furthermore, it has discussed how the fulfillment of these conditions can be examined empirically in real-world expert bodies and provided an illustration of how indicators for these conditions can be traced based on quantitative data.

The article has made three main contributions. It has, *first*, contributed to discussions in political theory of the proper role of experts in democratic politics by advancing a notion of epistemic quality of policies and the idea of expert bodies' primary epistemic function derived from deliberative systems theory. On this background, the article has identified specific conditions for the epistemic quality of expert bodies, that is, conditions that need to be fulfilled if expert bodies are likely to contribute to increasing policies' epistemic credentials. The conditions concern expert behavior, expert judgements, and the organization of expert inquiry, and take into account that relevant policy expertise is varied, and that policy-making also involves value priorities and interpretation.

Yet, our theoretical intervention has some limitations. For one thing, we have left aside the discussion of how to mitigate the democratic worries about the political role of experts. Still, expert bodies which satisfy our spelled-out conditions for epistemic quality will also tend to have considerable democratic credentials, for instance to the extent that accountability fora have broader participation and go beyond peers, and the cognitive diversity among experts is ensured by means of increased representation.

More broadly, our idea that it makes sense to talk about the epistemic quality of expert bodies in terms of conditions that are likely to contribute to better epistemic quality of policies, raise several questions that deserve further scrutiny. For instance, our talk of improved epistemic quality of public policy suggests, controversially, that there ultimately may be an identifiable "best" policy. A better way to put it, even if we cannot expand on it here, is that our outlined conditions for the epistemic quality of expert bodies decrease the chance of policy-making that is insensitive to "truth" and "relevant reasons", and so of policies of poor epistemic quality (see Elster 2013 on "misrule"). Generally, it must be emphasized that even in cases where the conditions for epistemic quality of expert bodies are largely fulfilled, and this results in recommendation of policies with stronger epistemic credentials (or policies with fewer epistemic flaws), politicians may decide to opt for other policies (e.g. Boswell 2008).

Second, the article contributes methodologically by linking a normative-theoretical concept of epistemic quality to empirical measurement. We have proposed a standard procedure for the tracing of features identified by political theorists as

desirable, contributing to other efforts in contemporary political theory to bridge the unfortunate gulf that has opened between normative theorizing and empirical political studies. In line with this procedure, we have formulated operational indicators for our proposed conditions for the epistemic quality of expert bodies, preparing for systematic empirical studies, and while recognizing the merits of qualitative case studies of the epistemic credentials of expert bodies, we have had our focus on the important additional role of quantitative analysis of large-n data. We have thus concentrated on some of the under-scrutinized questions of method that are raised by attempts to give the normative assessments of political theory a more rigorous empirical grounding, and left aside a range of other discussions regarding the relationship between normative and empirical analyses of politics (e.g. Swift and White 2008; Valentini 2012).

Third, the article has made an empirical contribution through a longitudinal quantitative analysis of whether a real-world expert arrangement satisfies conditions for epistemic quality, zooming in on some quantifiable indicators. The empirical analysis has shown that developments in Norwegian advisory commissions have several features which we can reasonably expect to be conducive to epistemic quality: scientific experts were increasingly present on commissions but were nearly always flanked by public servants, often part of broadly composed commissions, and increasingly accompanied by scientists from other disciplines. Other developments offer cause for concern, such as the increasing dominance of economic and other social-scientific expertise. Certainly, these results are limited to a specific expert arrangement in a specific national context and cannot be used as a basis for a general verdict concerning the epistemic quality of expert bodies. Yet, non-trivially, our analysis provides an assessment of some essential epistemic features of an expert advice system that constitutes a key pillar in Nordic governance.

The analysis also offers a template for studies of the epistemic credentials of expert bodies in other settings. To be sure, our indicators rest on specific assumptions about the knowledge provided by scientists, bureaucrats and other experts, and about the interaction within expert bodies. These assumptions will hold in some polities more than others. Still, we believe our indicators are rather robust across contexts with relatively well-functioning political systems, governance structures and academic institutions.

With this caveat, the indicators may be applied to assess the epistemic quality of a broad array of expert arrangements. They may also be applied in different types of research designs—not only to assess developments over time within a single institution but also to compare the epistemic credentials of expert bodies across countries or policy areas. Another promising extension is to investigate quantitatively which factors explain variation in the fulfillment of conditions for epistemic quality.

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Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

References

Adcock, R., and D. Collier. 2001. Measurement Validity: A Shared Standard for Qualitative and Quantitative Research. *American Political Science Review* 95 (3): 529–546.

Arendt, H. 1968. Truth and politics. In *Between Past and futuRe. Eights Exercises in Political Thought*, ed. H. Arendt. New York: The Viking Press.

Boswell, C. 2008. The Political Functions of Expert Knowledge. *Journal of European Public Policy* 15 (4): 471–488.

Bovens, M., R.E. Goodin, and T. Schillemans. 2014. Public accountability. In *The Oxford Handbook of Public Accountability*. Oxford: Oxford University Press, 1–19.

Brennan, J. 2016. *Against Democracy*. Princeton: Princeton University Press.

Brennan, J., and H. Landemore. 2021. *Debating Democracy: Do we Need More or Less?* Oxford: Oxford University Press.

Brown, M.B. 2009. *Science in Democracy: Expertise, Institutions and Representation*. Cambridge: The MIT Press.

Campbell, J.L., and O.K. Pedersen. 2014. *The National Origins of Policy Ideas*. Princeton: Princeton University Press.

Caplan, N. 1979. The Two-Communities Theory and Knowledge Utilization. *American Behavioral Scientist* 22 (3): 459–470.

Caplan, B. 2007. *The Myth of the Rational Voter*. Princeton: Princeton University Press.

Chambers, S. 2017. Balancing Epistemic Quality and Equal Participation in a System Approach to Deliberative Democracy. *Social Epistemology* 31 (3): 266–276.

Christensen, J. 2017. *The Power of Economists Within the State*. Stanford: Stanford University Press.

Christensen, J. 2018. Economic Knowledge and the Scientization of Policy Advice. *Policy Sciences* 51 (3): 291–311.

Christensen, J., and C. Holst. 2017. Advisory Commissions, Academic Expertise and Democratic Legitimacy: The Case of Norway. *Science and Public Policy* 44 (6): 821–833.

Christensen, J., and C. Holst. 2020. How do Advocacy Think Tanks Relate to Academic Knowledge? The Case of Norway. *Scandinavian Political Studies* 43 (3): 223–239.

Christensen, T., M. Egeberg, P. Lægreid, and J. Trondal. 2018. *Sentralforvaltningen: Stabilitet og endring gjennom 40 år*. Oslo: Universitetsforlaget.

Christensen, J., C. Holst, and M. Molander. 2022. *Expertise, Policy-Making and Democracy*. London: Routledge.

Christiano, T. 2012. Rational deliberation among experts and citizens. In *Deliberative Systems: Deliberative Democracy at the Large Scale*, ed. J. Parkinson and J. Mansbridge, 27–51. Cambridge: Cambridge University Press.

Collins, H., and R. Evans. 2007. *Rethinking expertise*. Chicago: The University of Chicago Press.

Craft, J., and J. Halligan. 2020. *Advising Governments in the Westminster Tradition*. Cambridge: Cambridge University Press.

Dahl, R. 1989. *Democracy and Its Critics*. New Haven: Yale University Press.
Douglas, H. 2009. *Science, Policy and the Value-Free Ideal*. Pittsburgh: University of Pittsburgh Press.
Elster, J. 2013. *Securities against Misrule*. Cambridge: Cambridge University Press.
Estlund, D. 2008. *Democratic Authority: A Philosophical Framework*. Princeton: Princeton University Press.
Fischer, F. 2009. *Democracy & Expertise: Reorienting Policy Analysis*. Oxford: Oxford University Press.
Forst, R. 2018. *Normativity and Reality: Thinking Politically About Politic*s. ECPR Plenary Lecture, Hamburg, Forst_Normativity_and_Reality_ECPR_2018.pdf (uni-frankfurt.de).
Fricker, M., et al. 2019. *The Routledge Handbook of Social Epistemology*. London: Routledge.
Goldman, A. 2011. Experts: which ones should you trust? In *Social Epistemology: Essential Readings*, ed. A. Goldman and D. Whitcomb. Oxford: Oxford University Press.
Gornitzka, Å., and U. Sverdrup. 2011. Access of Experts: Information and EU Decision-Making. *West European Politics* 34 (1): 48–70.
Gundersen, T. 2018. Scientists as Experts: A Distinct Role? *Studies in History and Philosophy of Science: Part a.* 69: 52–59.
Habermas, J. 2015. *The Lure of Technocracy*. Cambridge and Malden: Polity Press.
Heclo, H. 1974. *Modern Social Politics in Britain and Sweden: From Relief to Income Maintenance*. New Haven: Yale University Press.
Heldt, E.C., and L. Herzog. 2022. The Limits of Transparency: Expert Knowledge and Meaningful Transparency in Central Banking. *Government & Opposition* 57 (2): 217–234.
Herzog, L. 2023. *Citizen Knowledge. Markets, Experts, and the Infrastructure of Democracy*. Oxford: Oxford University Press.
Hesstvedt, S. 2022. Partisanship and Science Advice: Do the Right Prefer Economists and the Left Social Scientists? *Party Politics* (early view).
Hesstvedt, S., and J. Christensen. 2023a. Political and Administrative Control of Expert Groups—A Mixed-Methods Study. *Governance* 36 (2): 337–357.
Hesstvedt, S., and J. Christensen. 2023b. Norwegian Public Inquiry Commissions Dataset. *Sikt*. https://doi.org/10.18712/NSD-NSD2971-V2.
Holst, C., and A. Molander. 2017. Public Deliberation and the Fact of Expertise: Making Experts Accountable. *Social Epistemology* 31 (3): 235–250.
Holst, C., and A. Molander. 2019. Epistemic Democracy and the Role of Experts. *Contemporary Political Theory* 18 (4): 541–561.
Holst, C. 2023. Worries About Philosopher Experts. *Res Publica* (Online First).
Hustedt, T. 2018. Policy design and policy advisory systems. In *Routledge Handbook of Policy Design*, ed. I. Mukherjee and M. Howlett. London: Routledge.
Jasanoff, S. 2006. *States of Knowledge. The Co-Production of Science and the Social Order*. London: Routledge.
Kahneman, D. 2012. *Thinking, Fast and Slow*. London: Penguin Books.
Koppl, R. 2018. *Expert Failure*. New York: Cambridge University Press.
Krick, E. 2021. *Expertise and Participation*. London: Palgrave.
Lafont, C. 2019. *Democracy Without Shortcuts*. Oxford: Oxford University Press.
Lamont, M. 2010. *How professors think*. Cambridge: Harvard University Press.
List, C., and L. Valentini. 2016. The methodology of political theory. In *The Oxford Handbook of Philosophical Methodology*, ed. H. Cappelen, T.S. Gendler, and J. Hawthorne. Oxford: Oxford University Press.
Littoz-Monnet, A. 2020. *Governing Through Expertise*. Cambridge: Cambridge University Press.
Maasen, S., and P. Weingart, eds. 2006. *Democratization of Expertise? Exploring Novel Forms of Scientific Advice in Political Decision-Making*. Dordrecht: Springer.
Mair, P. 2013. *Ruling the void: The hollowing of western democracy*. London: Verso.
Mangset, M., et al. 2022. *Ytringsfrihet i en ny offentlighet*. Oslo: Universitetsforlaget.
Mansbridge, J., et al. 2012. A systemic approach to deliberative democracy. In *Deliberative Systems: Deliberative Democracy at the Large Scale*, ed. J. Parkinson and J. Mansbridge, 1–26. Cambridge: Cambridge University Press.
Mercier, H. 2011. When Experts Argue: Explaining the Best and the Worst of Reasoning. *Argumentation* 25 (3): 313–327.

Ministry of Local Government and Modernization (Norway). 2019. *Utvalgsarbeid i staten: En veileder for ledere, medlemmer og sekretærer i statlige utredningsutvalg*. Oslo: Ministry of Local Government and Modernization.
Moore, A. 2017. *Critical Elitism. Deliberation, Democracy, and the Problem of Expertise*. Cambridge: Cambridge University Press.
Oreskes, N. 2019. *Why Trust Science?* Princeton: Princeton University Press.
Pamuk, Z. 2022. *Politics and Expertise: How to Use Science in a Democratic Society*. Princeton: Princeton University Press.
Parkhurst, J. 2017. *The Politics of Evidence. From Evidence-Based Policy to the Good Governance of Evidence*. London: Routledge.
Pielke, R.A. 2007. *The Honest Broker: Making Sense of Science in Policy and Politics*. Cambridge: Cambridge University Press.
Rimkute, D., and M. Haverland. 2015. How Does the European Commission Use Scientific Expertise? Results from a Survey of Scientific Members of the Commission's Expert Committees. *Comparative European Politics* 13: 430–449.
Rolin, K. 2020. Values in Science: The Case of Scientific Collaboration. *Philosophy of Science* 82 (2): 157–177.
Schlefer, J. 2012. *The Assumptions Economists Make*. Cambridge: Harvard University Press.
Singer, P. 1972. Moral Experts. *Analysis* 32 (4): 115–117.
Steen, T., and U. Weske. 2016. Understanding elites: Values, attitudes, motivations and role perceptions of top public sector executives in Europe. In *Public Administration Reforms in Europe*, ed. G. Hammerschmid, et al. Cheltenham: Edward Elgar Publishing.
Sunstein, C.R. 2016. The Most Knowledgeable Branch. *University of Pennsylvania Law Review* 164: 1607–1647.
Swift, A., and S. White. 2008. Political theory, social science, and real politics. In *Political Theory Methods and Approaches*, ed. D. Leopold and M. Stears, 49–69. Oxford: Oxford University Press.
Tellmann, S.M. 2017. Bounded Deliberation in Public Committees: The Case of Experts. *Critical Policy Studies* 11 (3): 311–329.
Tetlock, P.E. 2005. *Expert Political Judgment: How Good Is It? How Can We Know?* Princeton: Princeton University Press.
Turner, S. 2003. *Liberal Democracy 3.0*. London: Sage.
Urbinati, N. 2014. *Democracy Disfigured*. Cambridge: Harvard University Press.
Valentini, L. 2012. Ideal vs. Non-ideal Theory: A Conceptual Map. *Philosophy Compass* 7: 654–664.
Weber, M. 1946. Bureaucracy. In *From Max Weber: Essays in Sociology*, ed. C. Wright Mills and H.H. Gerth, 196–244. New York: Oxford University Press.
Wolff, J. 2018. Method in ethics and public policy: applied philosophy versus engaged philosophy. In *The Routledge Handbook of Ethics and Public Policy*, ed. A. Lever and A. Poama. London: Routledge.

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