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Tracing scientisation in the EU Commission's expert group system

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This study traces the sweeping claim of a "scientisation" of EU governance, that is a growing authority of research-based knowledge within modern policymaking, by zooming in on the EU Commission's expert group system, and its "high level groups" in particular. With new quantitative and qualitative data that cover the period between 2005 and 2017, the study assesses whether alleged scientisation pressures are translated into actual patterns of participation and into modes of committee governance, and how this has changed over time. The study does not find signs of a substantial scientisation of the membership structure and this contrasts with the numbers of the official expert group register. Nonetheless, the considerable authority of epistemic claims seems to leave its mark on the management of the expert group system, i.e. the groups' mandate framings, the selection of chairpersons and committee member labelling practices.

Keywords: Scientisation; expertise; policy advice; expert groups; EU Commission; high-level groups; committee governance

1. Introduction

Everyday policymaking at the EU level takes place to a considerable extent within the elaborate system of advisory committees that the Commission organises (Egeberg, Schaefer, and Trondal 2003; Metz 2015). While the Commission's well-known comitology committees assemble member state representatives and deal with issues of implementation, the Commission also maintains an extensive system of so-called expert groups that are composed of representatives of interest groups, academics and civil servants in variable proportions and provide advice in all stages of the policy process. Expert groups are defined by the Commission as consultative bodies set up for the purpose of providing the Commission or its departments with advice and expertise on legislation and implementation (European Commission 2016b). They constitute a central organisational model of channelling external knowledge and policy advice from a range of different sources into the policy process (Gornitzka and Sverdrup 2008, 2011; Metz 2013; Moodie 2016). The Commission stresses its dependence on the "technical information" provided by these groups for developing efficient policy solutions (European Commission 2016c; see also Holst and Moodie 2015) and, by deeming all members of this advisory system "experts", irrespective of their organisational affiliation or professional training, it cultivates a particularly open approach to expertise.[1]

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Yet, both from a perspective of democratic legitimacy that pays attention to the sources and justification of political authority and from a perspective of public policy and administration that is interested in modes of governance, it makes a difference who the experts are exactly, how they advise the Commission and how they are managed while generating expertise. For instance, while the input of interest groups may be useful for designing public policies that respond to real-world problems, it surely has a different status than evidence provided by researchers who are largely independent from political and financial interests and tend to follow systematic codes of scientific conduct. Similarly, whether administrative guidelines and codes of conduct of committees stress the balance of interests in expert groups or give recommendations about preferred methods of scientific inquiry (such as randomised control trials or behavioural evidence, for instance) potentially alters the status, nature and credibility of the generated expertise.

Recent research has brought us closer to getting an overview of the configurations and functions of the expert group system (see Gornitzka and Krick 2018; Gornitzka and Sverdrup 2008, 2011, 2015; Metz 2015; Tørnblad 2018). Yet, the bulk of research on the expert group system builds on data from the official register of expert groups, which is quite limited in scope and reliability because its entries are fed by the expert groups members themselves without being checked for accuracy by the Commission (Metz 2015; cf. also Greenwood and Dreger 2013, 143). What is more, we know very little about how the expert group system changes over time, for instance, in response to shifts in societal values and governance practices. One societal shift that is of particular interest when looking at the expert group system is the process of a "scientisation" of governance that is purportedly taking place in the area of EU governance and in many other contexts, i.e. a growing authority of research-based knowledge in modern policymaking (Christensen and Holst 2017; Kitcher 2011; Krick, Christensen and Holst 2019; Maasen and Weingart 2005; Rimkutė and Haverland 2015; Turner 2013; Weingart and Lentsch 2008).[2] In this study, we trace this claim that is often made in political and academic debate, but rarely examined over time within the system of expert groups. We want to know: Does the sweeping scientisation claim hold? How do scientisation pressures manifest themselves empirically? We examine the scientisation hypothesis by zooming in on Commission expert groups that run under the label "high level group" (HLG). With new data that cover the period between 2005 and 2017, we analyse whether and how alleged scientisation pressures are translated into actual patterns of *participation* and modes of committee *governance* – and how this has changed over time.

Since the expert groups system is a particularly flexible part of the administration, we expect it to be sensitive to societal pressures and bureaucratic needs, such as the increasing call for knowledge- and evidence-based policymaking. If scientisation pressures do leave their mark on the expert groups system, we expect to see that these groups increasingly include researchers – and thus crowd out other types of participants as regular group members and committee chair. Along these lines, the tasks of committees can be expected to be framed in a more scientific-technical way (rather than a manner of political coordination and interest mediation) and the guidelines governing committee use would increasingly emphasise academic credentials of committee members and scientific conduct in the course of policy advice production.

Our study goes in three ways mainly beyond existing research: we trace the scientisation claim empirically over time, we explore its different shadings and manifestations within the expert group system, and we substantiate existing knowledge of the expert group systems' patterns of participation.

In the following section, we outline the theoretical backdrop of our study – the assumption of a scientisation of modern governance as well as competing societal pressures, such as scepticism towards experts and the politicisation of claims to expertise. In Section 3, we describe research design, justifying our choice of indicators and operationalising them. Section 4 presents the data and Section 5 discusses the findings, refines the scientisation claim and suggests explanations for the mixed results with recourse to organisational theory, politics of expertise-approaches and EU governance research. In the conclusion, we summarise the value and contribution of our study, discuss limitations and point to the most important future research trajectories.

Our analysis does *not* find manifestations of the scientisation pressure where you would most expect them at first, i.e. the membership structure of advisory committees. Indeed, this has remained stable, although the official expert group register suggests otherwise. Yet, scientisation pressures express themselves in practices of committee management such as a scientised mandate framing, the appointment of researchers to chair positions and committee member labelling practices. We argue that these practices reflect how an organisation deals with divergent expectations from multiple audiences. They help to stress a rational, science-based approach to policymaking but leave the substance of the "multi-source, negotiated expertise" that the Commission requires from its expert group system unaffected.

2. The scientisation claim and competing societal pressures

There are a range of societal developments underlying the expectation of a scientisation of public policymaking and of policy advice systems. As research on science, education and knowledge systems has shown, the last decades have been characterised by a sharp and steady increase of access to information, scientific knowledge production and availability as well as levels of education around the world (Krick, Christensen and Holst 2019; Meyer et al. 1997; OECD 2017). A global shift towards "knowledge societies" is also reflected in the increasing numbers of research institutions and the rise of independent expert bodies within governance systems (Olsen 2010; Vibert 2007). These shifts are likely to have contributed to changes in ideas about what constitutes "good governance" and to have pushed governance towards scientisation. Besides, there is a widely held belief in modern societies that a sound knowledge basis helps to ensure the quality of public policies. As Meyer et al. (1997, 152) observe, states "make valiant efforts to live up to the model of rational actorhood" and carry with it a certain understanding of scientific rationality. Some public organisations, especially at the international level, rely on being perceived as expertise-based as their primary source of legitimacy and power (Barnett and Finnemore 2004) and the EU has been described as a political order that is extraordinarily dependent on specialised knowledge (see e.g. Radaelli 1999). A special, policy-relevant role is attributed to *science* as society's main provider of information, expertise and evidence. Science builds its pronounced epistemic authority on the impartiality ideal, a high degree of specialisation, systematic and sceptical conduct, internal quality control procedures and a considerable degree of independence from financial and political interests (Weingart 2001).

While the relevance of scientific knowledge and a general rationality mandate for public policymaking may not be a new theme (Douglas 2009), some recent shifts have intensified these demands (Krick, Christensen and Holst 2019). For one thing, the management of contemporary high-pace technological change and the regulation of risks associated with it make scientific knowledge ever more indispensable (Christensen and Holst

2017). For another, the ongoing expansion of state functions, the subsequently growing complexity of policymaking and a concurrent tendency to minimise state administration have extended the demand for external, outsourced production and obtainment of policy advice. This together with the relatively recent emergence of a science-based policy advice market (Weingart and Lentsch 2008) can be expected to have accelerated scientisation tendencies during the last two decades and we expect this to be reflected in the policy advice structures of the last 15 years.

Assuming that these are convincing arguments for expecting a scientisation of policy advice, we want to know how it manifests itself institutionally. Is it reflected in the governance of policy advice bodies? Are they tailored more and more towards independent, science-based expertise and being used for information provision, as opposed to providing interest-based input and fulfilling political coordination tasks?[3]

Although the imperative of reason, rationality and professionalism in policymaking may be deeply institutionalised and while we probably need to acknowledge our dependency on scientific knowledge, there are also a range of societal counterforces to scientisation pressures. There is widespread scepticism towards a growing power of experts in public policymaking as well as to the reliability and impartiality of experts, indicated not least by the recent "post-truth" and "alternative-facts" debates. This scepticism partly responds to scientisation trends and is grounded in four key concerns. These concerns underline that the need for expert knowledge needs to be reconciled and blended with key democratic norms such as the will of the people, the representation of affected interests, accountability of political power and the rule of law.

The "technocracy" concern (see e.g. Gilley 2017) points out how the increasing delegation of powers to "unelected", de-politicised experts amounts to a democratic deficit. The "people are tired of experts" concern emphasises a general loss of trust in specialised knowledge and experts, be it policy professionals or scientists (see e.g. Forss and Magro 2016), sometimes amounting to reflections on expertise being thoroughly politicised. The "elitist-experts" concern emphasises a widening gap between the highly educated and the less well-educated in the access to policymaking arenas and political-administrative elites, implying a tension between meritocracy and democracy (Bovens and Wille 2009), and pointing to ways of opening up knowledge production to wider circles of input (Meriluoto 2018). Finally, the "biased-experts" concern stresses the frequent mistakes and false predictions, disagreements and even deception that science has been made responsible for (Holst and Molander 2017). With respect to EU governance, these four expertise-sceptic claims are blended with general EU-scepticism, especially the technocracy and elitism claims. But such claims are also intertwined with the overall debate on the state of transparency, accountability and democratic qualities of EU governance.

In sum, the current debates of the relationship between expert knowledge and democratic governance point to what looks like partly conflicting trends – growing reliance, dependence and institutionalisation of specialised, particularly scientific, expertise on the one hand and a growing contestation and scrutiny of the role of experts in democratic governance on the other. Yet, the two developments correspond to each other and the latter in parts answers to the power of science-based claims and the authoritative status of "experts". Who is recognised as an expert is by no means a given. What counts as expertise or evidence is usually the result of a conflict over epistemic and political authority (Straßheim and Kettunen 2014, 260) and ultimately a power struggle over who gets to raise their voice (Meriluoto 2018, 117). This has to do with the extraordinary authority of claims to expertise and evidence, which are widely acknowledged as resources for efficient, rational and even "impartial" problem-solving.

Societal shifts towards scientisation, as well as societal backlashes, responses and competing trends provide the theoretical background and general rationale for our study. The more modest aim of this analysis is however to trace organisational signs of scientisation, that is the growing authority and presence of researchers and evidence-based claims within the EU's expert group system.[4] We will return to the here-mustered lines of argument when we interpret the various shadings of scientisation we found.

3. Research design

We examine scientisation of the Commission's committee system empirically by analysing changes in the administrative guidelines governing the expert group system as a whole and changes in a subset of committees over a 10-year period. We choose the HLGs amongst the Commission's expert groups as our population. The focus on HLG provides us with workable numbers for our complex and qualitative analysis (45 committees and ca. 1000 committee members, whose academic track records and organisational affiliations were assessed). Since HLG are established throughout all policy fields, analysis of this subgroup promises cross-cutting insights into scientisation tendencies. There are no apparent differences in the composition and mandates of HLG as opposed to expert groups in general. The Commission does not specify the functions or status of these groups (and there is yet no research specifically on expert groups bearing the "high level group" label). In the only official statement on HLG we know of, the Commission merely states that expert groups with the supplement "high level" consist of particularly "high-ranking, more senior" participants (European Commission 2006). This implies that scientisation – if it occurs amongst HLG – is not taking place in an irrelevant part of the expert group system but more likely at the heart of the Commission's policy advice system, a part the Commission finds important enough to spotlight.

We compare the following variables between 2005 and 2017: the groups' participation patterns (committee members), their management and leadership (committee chairs), tasks (official committee mandates) and the administrative guidelines governing their use ("horizontal rules" in EU parlance). How can scientisation be observed with this kind of data? We trace the following expressions of a scientisation of the Commission's expert group system:

(1) increase of the overall share of *researchers as committee members;*
(2) increase of the share of *researchers in key positions*;
(3) increase of *scientific-technical mandates;*
(4) increase of governing guidelines emphasising the *epistemic quality of expertise*.

The data analysed comprises (a) the three versions of expert group administrative guidelines ("Horizontal rules", revised twice in the period under consideration), (b) the official committee mandates of the selected HLG, (c) membership data from the official register, (d) members' professional CVs provided on personal and professional websites and networks as well as in the official expert group register ("individual profile data") and (e) the participating organisations' self-portrayal in annual reports, the about-us sections on websites and mission statements ("organisational profile data"). On the mandate texts, the individual and organisational profile data and the administrative guidelines, we conducted theme-oriented content analyses, led by the indicators described below. These data were complemented by a descriptive statistical analysis of the quantitative membership data from the Commission's official expert group register covering the years 2005–2017.

There were high hurdles to data access, especially as regards the older groups and the names of individual members that were the precondition for the identification of members and research on their professional backgrounds and organisational affiliation. Data availability problems are, together with the quite time-consuming qualitative data analysis, the reason for the somewhat limited database. Through the register, some data on the more recent HLGs were available. Data on the groups' mandates that were not in the register were gathered through analysis of expert group publications and members' websites where applicable. Individual profile data on committee members were available through the register to a small extent. Yet, most information on committee members (both of individual members and participating organisations) was gathered through the respective organisations' websites, the individuals' professional websites and professional network databases. Once the list of names of individual and organisational members was compiled, background checks were conducted. Information on chairpersons was particularly difficult to obtain. It is not usually given in the expert group register and this made an intensive search for this information in expert groups' publications, and general web search necessary.

By choosing these indicators, we focus on some of the most obvious and unambivalent expressions of scientisation, yet there are other possible manifestations one could trace. For instance, recourse to science, evidence and research is not exclusive to academics. EU studies have shown how stakeholders use information as "access goods" in the policy process (Bouwen 2002) and how civil servants often behave like independent experts, especially in the expert group context (Egeberg, Schaefer, and Trondal 2003).[5] Reference to science and evidence is likely to generally characterise expert group interaction to a large degree and we consider this behavioural dimension a very interesting line of investigation for future studies that can substantiate and complement the one at hand.

3.1. *Participation patterns*

The dimension of participation patterns comprises three different indicators that complement each other but need to be distinguished.

Generally speaking, participation patterns of policy advisory committees are closely connected to a committee's governance function, policy influence and status, as Mayntz (1977) has shown (see also Färber 2005, 141; Gornitzka and Sverdrup 2011; Krick 2013; Metz 2013; Mitchell 1997; Veit, Husted, and Bach 2017). They are one of the main institutional parameters of political steer at the point of set-up and therefore often become an issue of political contestation (Färber 2005). Including certain representatives into an organisation signals that these perspectives are taken into account by the appointing authority (Bradbury and Kellough 2011). Dominant actor groups can be expected to shape a committee's decisions decisively and can be interpreted as an expression of the expectations the executive has towards the advisory committee. For instance, when a committee is mainly made up of researchers, it cannot be used for interest mediation as much as a stakeholder group. When it consists predominantly of politicians, it may not be deemed particularly independent but is likely to develop policy impact.

We speak of a scientisation of participation patterns if we observe an increase in researchers as members of expert groups. Our analysis of participation patterns is complex. It distinguishes between three different indicators: (a) the designations or labels of individual HLG members according to the official expert group register, (b) the proportion of actor groups according to our re-categorisation (operationalisation see below) and (c) the dominant actor groups shaping the composition of committees.

The first line of analysis of participation patterns relies on the membership categorisations that are found in the Commission's official expert group register. We base the analysis on those categories that indicate the background of a researcher or scientific expert, i.e. (1) the category of independent and public-interest-oriented individual experts appointed "in a personal capacity" ("independent expert" category or "A-members" in the register) and (2) those in the organisation category that identify as "universities, research institutes or think tanks" (research institutions or scientific "C-members" in the register).[6] An increase in members with these labels would certainly signal a strong authority of the independent expert. Yet, as mentioned above, these designations rely on self-declaration by the members themselves and may not always be accurate, and they are relatively broad. For instance, the "individual expert" category in the register comprises not only researchers, but also public consultants, business entrepreneurs etc.

Therefore, in a second line of analysis, numbers from the register are reviewed and substantiated by help of qualitative analysis of members' organisational affiliation and professional track record. Data sources were the individual and organisational profile data described in more detail above (i.e. personal CVs, organisational mission statement, annual reports etc.). Amongst those expert group members that self-categorised as "independent experts" within the expert group register, we distinguished "researchers" from three other categories of agents, namely "private business representatives", "state agents" and "practitioners". A "researcher" is understood as someone in an "academic position" at a "research institution". As "research institution", we counted higher education institutions, universities, think tanks, research centres or research departments that are primarily dedicated to conducting research, operate on a not-for-profit basis and enjoy independence from private business or political interests to a large extent. "Academic positions" are understood to be posts that involve research activity to a considerable extent (e.g. "professor", "researcher", "lecturer", depending on the respective system). Those holding such a position at a research institution at the point of recruitment to the expert group or up to 3 years before that point were categorised as researchers. A "private business representative" is somebody employed at a trade and business association, a corporate manager, entrepreneur or founder, judged by the online available CVs and the organisational affiliations found there. As "state agents", we count civil servants, public authorities, (former) ministers and heads of state as well as (former) MPs. This classification lumps together politicians of the higher ranks of a bureaucracy and non-political public servants who are often very highly specialised and can without doubt possess valuable expertise. There are of course major differences between these groups, but for the here-applied focus on scientisation that pays particular attention to the researcher category, these differences are secondary. A residuary category comprises "practitioners" such as athletes, teachers and farmers.

Not all members of expert groups self-categorise as individuals, some register as an organisation. Those expert group members that register as "research organisation" in the expert group register were (re-)categorised by analysing organisational profile data of the respective organisations. We distinguish amongst those self-categorising as research organisation into (a) "research", which stands for an independent institution, dedicated to conducting research on a not-for-profit basis (see above), (b) "NGO", i.e. non-profit interest organisations, which are independent from public authorities and commercial interest organisations and (c) "business", which includes both private companies and professional, trade and business associations.[7]

As a third indicator of a possible scientisation of participation patterns, we typify the compositions of all HLG in terms of the dominant actor groups they represent. The

committee members were coded following the definitions in the Commission's horizontal rules and then merged into the categories "research", "NGOs" and "private business" (definitions see above) as well as state agents (EU "civil servants", "member state representatives"). The composition analysis follows the idea that those groups of agents, which numerically dominate a collective decision-making setting, will be able to influence the culture of deliberation and leave their mark on the result to a larger degree than scattered individuals without a bigger group behind them. Voices of detached individuals are likely to get lost in the committee, while actors from the same realm or subgroup of society will be interconnected by their own rules, values and norms, habitus and styles of deliberation and communicating, and a good share of common interests. This thinking along the lines of formations, composition and dominant actors corresponds to the ideal-typical distinctions that policy advisory studies draw between technical or scientific formations of policy advisory committees, corporatist or stakeholder compositions, political compositions (partisan, political-administrative or intergovernmental) and participatory compositions ("ordinary citizens" and the interested public) (see e.g. Brown 2008; Christiansen et al. 2010; Gornitzka and Krick 2018). In real-life policymaking procedures, expert groups will of course often be hybrids, while the pure form is the exception (Veit, Husted, and Bach 2017).

3.2. *Chairs of expert groups*

Secondly, with Bercovitch and Wells (1993), Egeberg (1981), Färber (2005) and Krick (2013), we assume that chairs of committees inhabit a key position in managing committee work and in shaping its outcome. Despite the organisation of committees as collegial bodies and their consensus-orientation, committee chairs are primi inter pares. Due to their resources, duties and tasks, chairpersons have superior influence. Apart from mediating the debate and making sure that every voice is heard, the chairperson, other than ordinary members, has authority to attribute and withdraw the right to speak and to enter into unilateral negotiations with possible dissenters and thus guide and sometimes even direct the debate. The chair of a committee is often primarily responsible for communicating with the public and through this channel can generate time pressure. He or she is also usually involved more than other members into work that may seem only administrative at first sight, but bears the potential of shaping the outcome considerably, such as the drafting of proposals, the set-up of agendas or the invitation of guests (Krick 2013). He or she has usually better access to information because of a direct connection to the appointing authority (Färber 2005, 141, 151). On the grounds of this imminent position, we take an increase in researchers in the position of chair as an indicator of scientisation amongst HLG. Typification follows the same scheme of categories and indicators as that of committee members described above (Section 3.2). Thus, based on information on the individuals' organisational affiliation and academic track record, the chairs of expert groups are grouped into the following three categories: individuals conducting research professionally at independent, not-for-profit research institutions (researcher), individuals in political offices or civil service on national or EU level (state agents) and individuals primarily engaged in a private business corporation (business agents).[8]

3.3. *Mandates of expert groups*

Concerning our third indicator, we assume with Weingart and Lentsch (2008) and with Veit, Husted, and Bach (2017) that the framing of an advisory committee's mandate

gives insight into what the appointing authority expects of the committee and of the message sent to the public as to how the advice is to be taken up. The mandate also provides a corridor for the deliberations of expert groups and thus influences its outcome. Advisory committee mandates have been described as being framed in an either technical-scientificor in a "political" manner (Mayntz 1977, 6; see also Veit, Husted, and Bach 2017, 93), the first emphasising information and data gathering, insight and guidance, problem analysis and solution, independent expert advice and research-based evidence, the latter stressing the expression, negotiation and mediation of different interests, consensus-building and coordination. Taken that this assumption of such a mutually exclusive, dualistic classification, which was developed within a national policy context, holds also for the Commission's HLG, we expect to see mandates that can be typified as either "scientific-technical advice" or as "political coordination". We take an increase in scientifically framed expert group mandates over time as an indicator of a growing authority of academic knowledge and evidence-based claims, hence scientisation.

The analysis relies on a keyword-based content analysis of the tasks and missions of HLG in 2007 and 2017. The "missions" of HLG are short descriptions of a group's mandate in ca. two sentences that are provided by the Commission's expert group register and that were searched for keywords that indicate: (a) provision of research-based advice through agents in the role of independent experts, participating "in a personal capacity" (*technical-scientific mandate*) or (b) a two-sided relationship of consultation, coordination, mediation and negotiation between different interests (the Commission and member states, associated countries and/or private stakeholders) (*political coordination mandate*). Keywords of a technical-scientific mandate were "research", "advice", "evidence", "data", "independent", "experts", "scientific advice", "technical guidance", "recommendations", "expertise", "assess", "monitor" (and derived forms). Keywords of a political coordination mandate are "coordination", "cooperation", "exchange", "debate", "discuss", "dialogue", "joint strategy", "share good practice", "ensure coherence", "between regions", "between national governments and the EU", "between member states and the Commission", "at EU and national level", "between national authorities and stakeholders". "Coordinate with Member States, exchange of views" amongst the expert groups' "tasks" in the register was taken as an additional indicator of a mandate of political coordination. If the texts contained keywords from both dimensions, this was marked as "hybrid". Mandates that did not contain any keywords were codified as "unclear".

3.4. *Horizontal rules on the creation and operation of expert groups*

Together with the composition of expert groups, the selection of chairs and their mandates, administrative rules governing set-up and operation can shape the performance and authority of an advisory committee (Färber 2005; Mayntz 1977; Weingart and Lentsch 2008, 130; for expert groups, see European Commission 2005a, 2005b, 2010a, 2010b, 2016a, 2016b) and we would expect a growing concern for knowledge-based decision-making to be reflected here. Such rules are yet another way for a sponsoring body to leave its mark on an expert group at the point of set-up and to direct its deliberations to a certain extent. They can attach more importance to the epistemic side of policy advice as opposed to democratic accountability, for instance. Scientisation would be indicated by an increase of provisions on scientific credentials of expert group members, political and financial independence of advisors, modes of committee-internal analysis (possibly specifying certain methods of scientific inquiry), quality assurance mechanisms, conditions and requirements for consulting further external expertise, etc (see UK Government Office

for Science (2011) for these criteria). We take an absolute increase of such knowledge-related provisions as an indicator of a growing authority of expert advice, but even more so an increase in relative terms vis-à-vis provisions that focus on other values that can be of relevance in committees' codes of conduct (such as transparency, accountability, inclusive procedures, balance of interest, expenditure or time-efficiency).

4. The status of researchers and scientific expertise in EU expert groups

4.1. *Participation patterns*

The quantitative analysis of the research-related membership categories ("independent individual experts" and "research institutions") within the Commission's expert group register indicates a slight increase in these HLG members between 2005 and 2016 (Figure 1).

When we check and re-categorise the register's research-related committee members, drawing on analysis of expert group members' professional track records and organisational affiliation as expressed in individual and organisational profile data, we can say that the share of research organisations and researchers in HLG at the two points in time has in fact *not* risen, but amounts to 9.6% in 2007and to 10.3% in 2017 (see Figure 2). Interestingly, the group has also vividly diversified internally: while in 2007, those registering as "independent experts" were almost exclusively researchers, and even full-time University Professors (90%), these kinds of high-ranking academics only amount to 56% of all experts of the A-category in 2017.

When we look at participation patterns through the lens of *compositions*, the picture further broadens: a clear majority of HLG at both points in time includes member state representatives to a considerable extent, and around 50% of HLG are purely made up of those agents. Yet, the share of these pure member state-HLG has decreased slightly since 2007 (cf. Table 1). The same applies to committees made up purely or largely

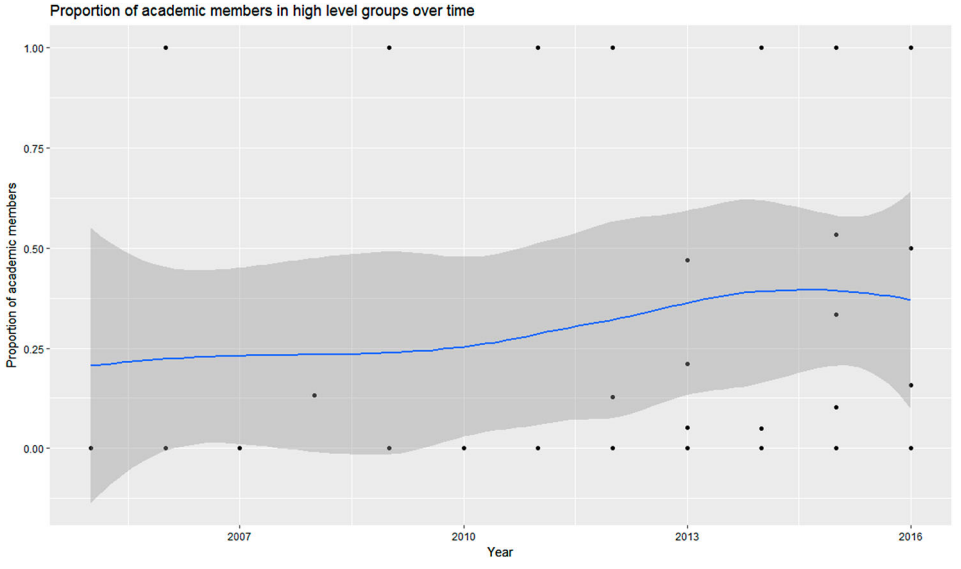

Figure 1. Research-related members in HLG according to official register (2005–2016; $n = 5578$). *Note*: This figure relates to all A-members in the official registers as well as those C-members that belong to the subcategory 'research institutions, universities and think tanks'.

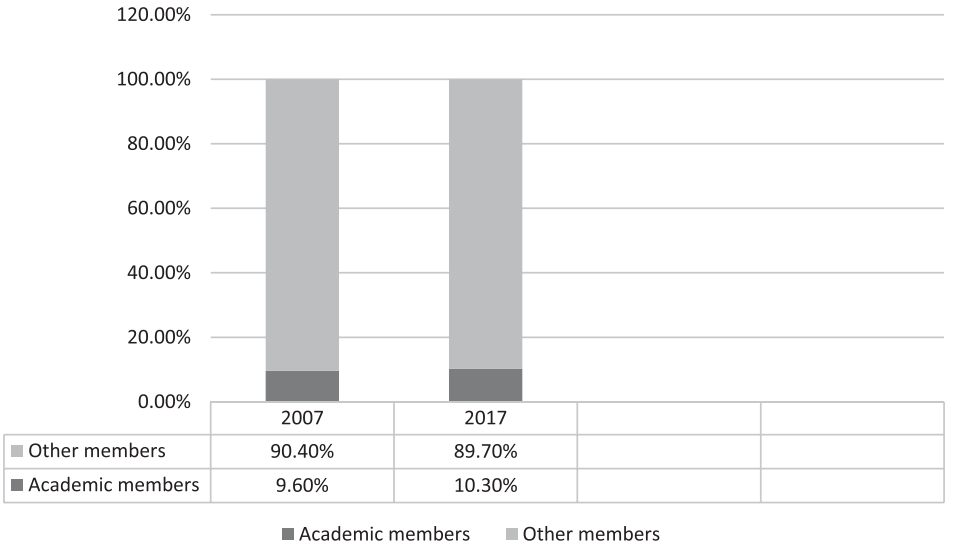

Figure 2. Proportion of researchers amongst HLG members 2007 ($n = 261$) and 2017 ($n = 814$).

by researchers, whereas private business participation has increased strongly. Business agents (i.e. representatives of trade and business associations as well as private companies) were only amongst two of the mixed HLGs active in 2007, whereas in 2017, a whole 42% of HLG included business agents to a considerable extent, and 10% of HLG were purely made up of private companies. Thus, in terms of dominant actor groups, the weight of researchers has actually decreased, while private business participation in HLG has increased. When we compare formations of HLG in 2007 and 2017, there are tentative signs of diversification and hybridisation: in 2007, HLG consisted either of researchers or of member state representatives, while in 2017, a large range of member types are gathered in the committees, and the pure type became the exception. These patterns by themselves have to be interpreted carefully since the composition analysis relies on the relatively small numbers of existing HLG as units of analysis.

4.2. *Chairs of expert groups*

There are slight (and preliminary) indications of a decreasing prevalence of the civil servant as chairperson, as opposed to researchers as committee chairs (see Table 2). Representing 10 out of 12 HLG chairs in 2007, and 21 out of 34 in 2017, the (pure) state agent/civil servant is the most common type of committee chair, and a clear majority of this type comes from the EU civil service at both points in time. The share of committees with at least a part-time researcher in the position of chair almost doubled between 2007 and 2017. Chairs that are at least part-time affiliated with a private company rose from 0 to 5 within the last 10 years. There are also tentative signs of a diversification and a hybridisation of backgrounds: amongst the 2007 set, all chairpersons were either full-time researcher or full-time state agent. Amongst the 2017 set, the vast majority (85%) still belonged clearly to one category, while the rest represented mixed professional backgrounds (such as "business/researcher").

Table 1. Composition of HLG 2007 ($n = 13$) and 2017 ($n = 31$).

	Member states (MS)		MS and associated countries		Researchers		Private business (companies)			
2007	5	42%	2	15%	4	31%	0	0		
2017	9	29%	5	16%	4	13%	3	10%		
	Researchers and private business (companies)		MS and private business (trade and business associations)		Civil servants and private business (trade and business associations)		Researchers and NGOs		State agents, researchers and private business (companies)	
2007	0	0	2	15%	0	0	0	0	0	0
2017	2	6%	5	16%	1	3%	1	3%	1	3%

Table 2. Chairs of HLG 2007 ($n = 12$) and 2017($n = 34$).

	State	Researcher	Business	Researcher / business	Researcher/state	Business/state
2007	10	2	0	0	0	0
2017	21	7	1	3	1	1

These numbers have to be taken with a pinch of salt and alone do not signify scientisation, due to the weak shifts and the small case numbers that are particularly vulnerable to codification decisions. Together with our other parameters, they may, however, represent another piece of a larger puzzle.

4.3. *Mandates of expert groups*

The analysis shows that political coordination mandates are most common at both points in time, yet their share vis-à-vis technical-scientific mandates has dropped slightly (see Table 3). The keyword analysis was relatively straight-forward. Only one case did not contain keywords of any of the two dimensions ("unclear") and three cases contained keywords of both dimensions to the same degree ("hybrid"). The other 40 cases clearly stood for only one of the framings, with the vast majority exclusively comprising keywords from one dimension, and very few cases containing one "outlier" keyword in an otherwise clear-cut mandate. Given the small number of cases, particularly for 2007, these values, again, should not be overinterpreted but need to be included into a larger picture.

4.4. *Horizontal rules on the creation and operation of expert groups*

The general tendency between 2005 and 2016 has been to regulate the use of expert groups more densely. First, there are considerably more texts designated to this. The horizontal rules have grown from 23 pages in 2005 to 33 pages in 2010 over to 58 pages in 2016. Second, ever more advisory bodies have become subject to the rules and third, codification has generally intensified. Ever more precise definitions of key terms such as "conflicts of interests", "NGOs" and other membership categories were given in the revised guidelines of 2010 and 2016, which may facilitate a coherent, comparable and trustworthy self-declaration of members and reduce room for interpretation and loopholes. During the last decade, requirements for data allocation, information access and declarations of interests have grown considerably. In 2005, the section on transparency in the guidelines was short and showed more concern for the protection of data and confidentiality of deliberations than commitment to public scrutiny, while now the key concern is disclosure and transparency of information. Two official databases were established: the joint transparency register of the EP and the Commission, which discloses professional backgrounds of all those representing a societal interest in EU Politics and the Commission's public register of expert groups that has continuously been extended. Moreover, recruitment of

Table 3. Mandates of HLG 2007 ($n = 13$) and 2017 ($n = 31$).

	Political coordination	Hybrid	Technical-scientific advice	Unclear
2007	8	1	4	0
2017	16	2	12	1

expert group members through calls for application has become the standard procedure for all kinds of members in 2016 with the exception of member state representatives and it became the preferred method in 2010, whereas it used to be one option for individuals appointed in a personal capacity in 2005.

Yet, the requirements for selecting individual committee members changed slightly: in both 2005 and 2010, a stronger emphasis was placed on professional merits of the candidate, while the focus in 2016 was on conflicts of interest and transparency. There are very little provisions targeting the quality of the expertise and they also remain static, i.e. they have not developed recently. Commitment to the public interest and independence are only mentioned as requirements with regard to "A-members", although even here, a personal interest is not considered a criterion for exclusion of the respective expert. There is very little on the nature of qualifications, on competences and experiences of the experts and nothing on procedural quality assurance or scientific methods in the rules.

The main changes of principle in the last decade relate to enhanced transparency of the organisational backgrounds and interests of the involved experts and on the selection procedures. In relative terms, the emphasis on transparency and conflicts of interests has thus clearly grown, because these kinds of provisions were extended while the ones on the "cognitive dimension of politics" (Radaelli 1999) remained rather thin and formulaic. Therefore, we do not see scientisation reflected in the development of the horizontal rules for expert groups.

5. Dealing with divergent expectations from multiple environments – the EU Commission, expertise and the public

When taking an overview, do we see signs of a scientisation of the expert group system, and of the subgroup of HLG more specifically? Our results are certainly mixed and need to be discussed. While the indicators at first sight seem to draw into different directions, the picture becomes clearer when we distinguish between substantial and less substantial factors:

Two factors that tentatively support the expectation of a scientisation – the committees' mandates and the chair positions – do this very weakly, since the degree of variation over time is minor and since they build on a small number of cases, especially for 2007.

The analysis of membership labels in the official register relies on larger numbers and signifies a strong authority of scientific expertise in society, because more and more committee members self-categorise as such and thus enhance the "neutrality" and legitimacy of the policy advice they provide. Yet, we counterchecked these labels with the "real" organisational background of all HLG members of 2007 and 2017and showed that there is in fact *no increase of researchers* amongst HLG members. The increase that the register indicates rather *signifies a certain labelling practice*.

In our view, the participation patterns that appear when members' track records and organisational backgrounds are analysed are particularly substantial in theoretical terms. They are most likely to have policy impact, while the framing of mandates, the appointment of chairs and the (self)-categorisation in the register (which all point into the direction of scientisation) could also be interpreted as "cheap talk".

Finally, the horizontal guidelines for expert groups draw into an alternative normative direction and increasingly emphasise transparency in conduct, not research- and evidence-based policymaking.

These mixed results can be read as an example of how an organisation deals with inconsistent demands from its environment and tries to maintain its legitimacy in the light of divergent expectations from multiple audiences (Carpenter 2010; Gilad, Maor, and Bloom 2013; Goffman 1959). It does so by using alternative communication channels to signal appropriate responses to different audiences.

By calibrating the official committee mandate in a more scientised fashion, appointing more researchers to the chair position of the particularly visible HLGs, and, to some extent also by constructing the expert group register in a fashion that allows generous self-categorisation into categories that radiate impartiality, independence or a common-good-orientation (such as "researcher" or, to some extent, "NGO"), the Commission appears in a more rational, neutral and evidence-based light. Because of the value attached to making informed political decisions, evidence and expertise are embedded in highly symbolic social norms (Feldman and March 1981) and can potentially boost the legitimacy and survival as an organisation (Meyer and Rowan 1977). This does not imply that the use of science-oriented mandates and the use of academics as chairs of HLG have to be "merely" symbolic. The "ceremonial worth" that is intrinsic to expertise (Meyer and Rowan 1977) might just as well be combined with substantial effects, in the form of a researcher in the chair position nudging group members with different backgrounds towards scientific norms of conducts. This can come in addition to the Commission securing legitimacy of its policymaking in a knowledge democracy and demonstrating its fitness. It would also be a bit rash to interpret the organisation of the official register one-dimensionally as a deliberative attempt by the Commission at manipulating the appearance of expert groups, because, after all, members are not categorised by the Commission, but they do so themselves. Nonetheless, the broad and partly overlapping categories are established by the parent organisation and it is up to the Commission to leave classification to the expert group members.

On a different channel, the horizontal rules of committee operation, the Commission responds to the attentive public's concerns by adopting their assessment criteria and building a reputation of an ever more transparent and accountable institution. Yet, the Commission responds to only parts of this audience's claims while being less attentive to others such as the loudly raised public concerns of a "corporate bias" in expert groups. Although it has provided organisational and financial support to public interest groups in some cases (Mahoney and Beckstrand 2011), it has not taken up further suggestions for "positive discrimination" that could counterbalance the different endowment structures of business interests and many NGOs advocating "weaker interests". For instance, those campaigning for a better balance of interests in expert groups suggest special allowances for public interest groups, the reduction in the overall numbers of expert group members or the introduction of inner steering circles of each expert group to allow public interest groups with limited resources to participate on a par with economic interests (Corporate Europe Observatory 2016). Instead of taking up these suggestions, the Commission clearly asserts its interest in the resources and so-called technical expertise of sectoral professionals from interest groups and, most importantly, national authorities (European Commission 2016a, 2016b, 2016c). By sending not very costly, relatively empty signals of responsiveness but essentially maintaining the participation patterns, the Commission ensures that the foundation of the expert group systems can remain untouched for the time being. It secures its access to the multi-source, "negotiated expertise" (Krick 2015) it appreciates, i.e. the kind of policy-related expertise that is the result of coordination between different perspectives and interests, is likely to ensure compliance and reduce risks during implementation (Moffitt 2010, 883) and can be deemed particularly "socially embedded", "usable" and

"policy-relevant" (Haas 2004; Krick, Christensen and Holst 2019). This use of the expert group system reflects the Commission's limited in-house capacities that makes it extraordinarily dependent on external input as well as its exceptional need for intra-national coordination that stems from a unique necessity to adapt regulations to varying national legal, administrative and economic conditions (Metz 2013; Moodie 2016; Tørnblad 2018). To be sure, the "expertise" rhetoric adopted by the Commission also has the advantage of elevating the involved perspectives to a more neutral level, where they are less likely to be subject to scrutiny and open power struggles.

The diversification of the expert group structures that we observe ties in with the Commission's multi-pronged approach to the expert groups system and echoes similar findings on the pluralisation and hybridisation of national advisory systems (see e.g. Pattyn et al. 2019; Veit, Husted, and Bach 2017).

6. Conclusion

One of the key contributions of our study is the exploration of different manifestations of scientisation pressures. We go beyond the share of researchers amongst committee members as the classic indicator of shifts in policy advice systems (Metz 2015; Veit, Husted, and Bach 2017) and explore further expressions of a growing dependence of governance on expertise, such as the scientisation of advisory committee management (see also Christensen and Holst 2017). Second, we substantiate the few existing studies of membership structures of the EU's expert group system that rely on data provided by the official expert group register (Gornitzka and Sverdrup 2008, 2011). As those studies concede and we confirm, the validity of the EU's register data is limited since it relies on self-declaration by the committee members and is not scrutinised by the Commission (Greenwood and Dreger 2013, 143; see also Metz 2015). Therefore, by assessing participants' CVs and the organisations they are affiliated with, we look behind the quantitative data of the register and reveal the more fine-grained participation patterns. Third, we trace the scientisation claim empirically *over time*, with all the limitations that come with a study that mainly builds on qualitative analysis and a limited number of cases. Yet, although we do not fulfil statistical validity criteria on the majority of our indicators, by combining six different indicators, we believe to be able to substantiate (and challenge) the available quantitative data, draw a richer, more nuanced picture of committee governance and explore different manifestations of the scientisation pressure.

If we take a step back from this study's immediate contribution to the state of the art, what is the relevance of the findings from a perspective of (good) governance and (democratic) legitimacy? Does it matter for society at large or political steering whether expert groups are becoming scientised and in what way a public organisation uses scientisation strategies? We hold that it does make a difference whether the Commission's expert group system is getting more scientised because, first, these committees represent an important auxiliary governance structure through which societal input and expertise claims enter the EU policy process. Knowing who these experts are that advise policymakers behind closed doors and how they go about generating expertise that guides law-making is crucial because these actors exert political influence even if they have not been delegated formal decision-making authority. Second, although one can indeed argue, as the Commission does, that a large range of different actors, and not just researchers, can contribute with valuable information to policymaking, different kinds of expertise differ in terms of the knowledge sources and the validity standards they build on. This can affect the reliability, credibility and possibly the usefulness of this information as well as

the quality of public policies that build on this input. Science and research are widely considered particularly reliable and independent sources of expertise, dedicated to systematic and verifiable modes of conduct (see Weingart 2001), while the sectoral expertise of stakeholders, for instance, may be more policy-relevant and "usable" (Haas 2004) at times, but at the same time more directly intertwined with special interests. Third, tracing scientisation pressures over time, as we did, adds to our understanding of the modes and dynamics of governance because it indicates how sensitive policy advisory systems and executives more generally are to larger shifts in societal values and governance practices. Finally, what exactly scientisation strategies entail and how transparent this is for the observer are highly relevant normative questions. The authority of science and research can boost the image of an organisation dedicated to rational, evidence-based decisions and this is likely to facilitate law-making short-term. Yet, if reliance on science in policymaking is not to a similar extent reflected by participation patterns, this can undermine the credibility of policy advice and in the long run damage the reputation of the organisation as a whole. It is noteworthy that civil society groups see an element of delusion in an expert group register, for instance, that is supposed to facilitate scrutiny of policy advice and lobbying practices, but allows consultancies to register as research institutions and all kinds of interest groups as NGOs, although this latter category is in fact meant to be a rather narrow one according to the horizontal guidelines.[9]

Of course, there are a range of limits and limitations to this study. Apart from the lack of statistical significance of mainly qualitative medium-*n* studies and the obvious deficiencies of time series that are based on only two points in time, our analysis only spans the last 15 years, while expertisation and scientisation have been described to be going on for much longer. Yet, as we argued above, recent societal and technological developments are very likely to have accelerated the process and warrant this focus on the most recent period. Of course, however, it would be very interesting to widen the search for scientisation and expertisation effects historically. What is more, we have focused on organisational parameters that are chiefly in the hand of the appointing authority and thus give an indication of an administration's governance intentions. Yet, there are other valuable organisational indicators of a scientisation of committee governance that have not been included in the present analysis, such as committee recruitment procedures, and there are further dimensions where a growing authority of science-based claims can manifest itself, which deserve more fine-grained analyses over time. The behavioural dimension of scientisation is a particularly interesting and unexplored dimension and the citation analysis of committee documents a particularly valuable source of insight into practices of committee-internal sense- and decision-making (see e.g. Christensen and Holst 2017; Krick, Christensen, and Holst 2019). Besides, the analysis conducted here should be expanded to further empirical observations and linked up to existing studies of scientisation in other advisory bodies. To be sure, the expert group system is by far not the only input channel for policy-relevant knowledge and it is not the only site of policy development where a scientisation of EU governance could show. One likely place where such a pressure could unfold is system of independent "decentralised" agencies, another are EP standing committees. Such a systems perspective is important to account for spillover and drift effects – if research-related expertise loses ground within one arena, it may have emigrated to other arenas.

Notes

1. Such an open approach to the relational notions of 'expert' and 'expertise' corresponds to current debates on the policy–knowledge nexus in political science and STS (Gornitzka

and Krick 2018; Haas 2004; Holst and Molander 2017; Maasen and Weingart 2005; Straßheim and Kettunen 2014). This study adopts a similarly broad understanding of 'expert' as an authoritative social status that is attributed to a person on the grounds of being considered knowledgeable in a certain domain (Holst and Molander 2017). 'Expertise' is the specialised knowledge or advice of such experts. It can build on a variety of knowledge sources, not just research, and since it means to guide and direct action, it is of particular relevance in the policy context (Gornitzka and Krick 2018; Maasen and Weingart 2005).

2. We use 'knowledge' as an umbrella term for the multitude of epistemic notions indicating reliable statements (such as information, facts, expertise, evidence) as well as know-how (such as training, competence, skills, experience). In this broad sense, the term is here simply used to point to the *epistemic* dimension of claims-making, distinguishing validity and competence claims from, for instance, claims based on entitlement and preferences. We do not, in this text, evaluate the quality or 'truth degree' of claims to knowledge or validity (see, however, Gornitzka and Krick 2018; Haas 2004; Weingart and Lentsch 2008), but we are very aware that epistemic notions are 'honorary titles' that are relational in nature, subject to interpretation and can easily be politicised.
3. For analyses of the different political and epistemic functions of the EU's expert group system, see Metz (2015) and Tørnblad (2018).
4. Our conceptions of 'scientification' and science are not based on a narrow understanding of science as natural sciences, but cover the broad spectrum of scholarly disciplines and are used nearly synonymously with 'research' here (see also Section 3.2).
5. Yet, although stakeholders provide information, refer to science and themselves conduct studies to feed into policymaking, this is done with the rationale of advocating a certain perspective, and this differs from the impetus of the average independent researcher. Similarly, while 'non-political' expert civil servants surely hold a high degree of specialised, valuable knowledge in their policy field, their status differs from researchers, not least in terms of their reputation. Besides, public administration studies have shown that not only in comitology committees or Council working groups, but even in the particularly 'supranational' expert group context, only 33% of member state representatives are perceived as behaving like independent experts by their colleagues, as opposed to 45% in the role of government representatives and 22% with mixed roles and identities (Egeberg, Schaefer, and Trondal 2003, 32).
6. Categorisations of member types have diversified over time with the changes of expert group regulations (horizontal guidelines). In the newest guidelines (2016), independent experts are covered by the A-category and research institutions are one specific subtype of C-members.
7. These categories were developed inductively and they cover all cases. In other words, there were no members that did not fit into any of these groups. The categories closely correspond to the wide definitions provided in the classification form that expert group members fill out (European Commission 2016b, Annex I, p. 18). Our last category (business), however, merges several of the official ones, and the first category (research) excludes 'schools' from the definition of a research organization.
8. Again, this typology is exhaustive and covers all empirical cases.
9. In the horizontal rules of the expert group system, the category of an NGO is clearly distinguished from other interest groups such as trade unions and business associations and it corresponds to the widespread understanding of an NGO as a public interest group. The category is defined as a non-profit organisation that typically advocates public interests such as health, environmental or consumer affairs and is independent from public authorities and commercial interests (European Commission 2016a, 36).

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