



Enlightened Decision Making ***The Role of Scientists in EU Governance***

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Abstract

A key feature of democratic political systems is their ability collect, generate and disseminate information and thereby to improve policies and practices. Multi-lateral institutions in general, and the European Union in particular, are often seen as decision making systems where technocratic experts and scientists play a particularly influential role. Access and involvement of technocratic expertise is contested, sometimes it is regarded as an instrument for increasing legitimacy, but it is sometimes interpreted as technocratic rule antithetical to legitimacy. In this paper we examine empirically the degree of involvement of scientists in EU decision making. In addition, we examine a set of conditions that affects the likelihood for scientists to be involved in EU decision making. Our observations shows that scientists are involved in a large share of the expert groups under the European Commission (1/3), but scientists are rarely the only participants in such expert groups. We also show that access for scientists is affected by the stages in the policy cycle and by different institutional settings. In general, we find that scientists are more likely to be involved in tasks related to early stages of the policy making process, and in temporary and informal expert groups. Scientists are less likely to be involved in mature policy fields. Our findings suggest that scientists play an important but still confined role in EU decision making.

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Introduction

A key feature of democratic political systems is their ability collect, generate and disseminate information and thereby to improve policies and practices. In a recent article by Keohane, Macedo and Moravcsik (2009) it is argued that one of the reasons why domestic politics might benefit from engaging in multilateral institutions is that such participation widens the scope, increases the diversity, and expands the range and quality of information available to national politicians and publics. One of the mechanisms, they argue, is that multilateral institutions and networks offer forums in which problems, solutions, 'best practices' and experiences can be debated and discussed among competent experts in insulated forums often beyond national interest politics. One of the examples they use for underscoring their point is the strong involvement of scientists in global environmental assessments. They also argue that in the decision making system in the European Union one can observe 'extremely high levels of information, expertise and reason-giving - in large part precisely because discussions take place among competent experts in insulated forums' (p. 19).

In this paper we elaborate and examine this claim related to modes of governance in multilateral institutions. In particular, we examine the role of scientists in decision making in the European Union. Involvement of technical expertise and scientific knowledge is a crucial element in European governance and this is also central in the discussion on the normative and democratic quality of the EU (Radaelli 1999). Information and knowledge are important for enlightened decision making, but the informational foundation and potential bias is also contested. Some argue that a strong role for experts might lead to the scientification of politics, reducing politics and policy making to technical problem solving. Since access to decision making is a scarce resource, the inclusion of scientists also often implies that other legitimate actors and voices are excluded. Yet, the democratic organization of expertise is a generic question to any modern polity (March and Olsen 1995: 81-83) that concern the balance between demands for technical effectiveness and democratic representation.

The literature on European governance provides different descriptions and perceptions regarding the scale and scope of involvement by scientists, and whether the involvement is desirable or not. According to Keohane, Macedo and Moravcsik (2009) the involvement of experts in EU informal forums is high, and this is generally seen as sound. Majone (1996) also take a positive view on a strong role of experts. He argues that EU policy-making should be limited to regulatory policies aiming at efficiency. Such policies are

particularly suitable for discussion and negotiation in expert circle. If EU policies were made by 'majoritarian' institutions, they would cease to be Pareto-efficient. He thus fears that increased politicization, and thereby also less use of informal expert forums, would result in redistributive policies undermining rather than increasing the legitimacy of the EU. Others, view the EU governance system as technocratic, dominated by scientific and technocratic expertise, and view this as normatively problematic because it lacks a solid democratic foundation and it reduces the participation and involvement of politicians and laypeople (Eriksen 2009).

Our purpose is neither to engage in any discussion on the appropriate level of scientific involvement, nor the potential democratic gains and losses of such involvement.¹ Our purpose is simply to map out the scale of involvement of scientists, and to improve our understanding of some of the scope conditions, and dynamics affecting the likelihood that scientists are called upon to participate in EU decision making. Hopefully, such an analysis, in turn, can provide a factual basis for the normative assessment of EU governance.

Our empirical focus is on the expert groups under the European Commission. We provide a description of the involvement of scientists in all the expert groups under the Commission², and we present the results of a quantitative analysis of factors that affects the likelihood for scientists to be involved in EU decision making.

The idea of the paper is simple. We treat access by scientists in expert groups under the European Commission as an indicator of the role of science in EU governance. If scientists are ubiquitous and the predominant set of actors in the group, we interpret this as science playing a strong role in EU decision making. Conversely, if scientists are only involved in a small fraction of the groups, and in some specific fields or tasks, we see this as an indicator of a more limited and confined role for scientists in EU decision making.

The empirical observation provides a quite clear picture: First, scientists are involved in a large share of the expert groups, but scientists are rarely the only participants in the expert groups. The role of science in the Commission expert groups is closely linked to the co-production of policy between scientific

¹ See for instance Føllesdal and Hix (2006) and Radaelli (1999) for a more elaborated discussion on these topics.

² Commission expert groups should not be confused with Council working groups and comitology committees, since only the expert groups are established and composed by the Commission. They formally serve a different role in the inter institutional decision making process. For studies of Committees in the Council, see Beyers and Dierickx (1998), Pollack (2003), Fouilleux et al. (2005), and Häge (2007).

assessment, producers and potential user groups. We find particular configurations of participation that are not random: Scientists are more likely to be involved when industries and enterprises are involved, while participation by national officials affects the likelihood for scientific participation negatively. Second, we find that access for scientists is affected by variation in tasks and institutional settings. In general, we find that scientists are more likely to be involved when the task is related to assisting the Commission in preparing legislation and providing expertise when drafting implementing measures, and less likely to be involved in tasks related to coordination between interests or monitoring the development of policies. In addition, scientists are more likely to be involved when expert groups are informal and temporary, rather than formal and permanent. In sum, these findings indicate that scientists play an important, but still a limited and confined role in EU decision making.

The paper is organized in the following way. First, we make some remarks on the relationship between science and politics in general, and its role in the EU in particular. We then turn to examine a set of organizational and political factors that might explain variation in participation of scientists. Since the European Commission, like national administrations, can be regarded as a collection of different services and units with different tasks, traditions, rules, norms and practices, we assume that there might be considerable variation between different Directorate Generals and policy sectors in the extent and mode of involving scientists. We develop and test a set of hypotheses and develop the underlying arguments that can account for the variation in the extent that different DGs grant access to scientists. In the third section of the paper we discuss issues related to our data and methods. We then turn to present the results of our analysis. In the conclusion, we make some remarks related to what this can tell us about EU decision making.

The relationship between science and politics

Science and politics are interwoven in a complex relationship. The issue of 'speaking truth to power' is an enduring theme in political science (Wildavsky 1979). Historically, scientific knowledge production has been institutionally differentiated into a distinct sphere, separating it from the sphere of executive government and politics. Yet, communication and interaction between the two spheres has mutually moulded them.

On the one hand, science is indispensable for informed decision making in a number of ways. It can serve as instruments for problem solving where information has a direct and decisive impact on choice of solution to a specific

policy problem and contribute to the epistemic quality of decisions, as surveying the developments in policy areas, and as legitimating policy positions. Scientific information thus serves both a substantiating and a legitimising role. Scientists can provide competence and information regarding the feasibility and different effects of various policy initiatives. Science can be an agenda setter when scientific discovery unveils conditions that are translated into politically salient issues most often with the aid of media attention (Nisbet and Huges 2006). It is therefore not surprising that the increase of complexity in society has been followed by the rise of science as an important element in governance (Ezrahi 1990; Jasanoff 2005a). This is especially prevalent in areas of risk, where policy makers turn to science to assess uncertainty regarding issues like environment policy and public health policies. Technological and scientific development have also created some of the most complex policy problems that political institutions have to grapple with – they are difficult precisely because they mesh issues of high technical complexity, uncertainty and risk, distribution of cost and benefits with ethical issues – as in the case of nuclear policy, biotechnology and for instance genetically modified food.

On the other hand, there are obvious risks and costs related to the involvement of science and scientists. Science can be biased, perverted, erroneous, providing ill advice, or perceived to be so, i.e. as when the mad-cow disease/BSE (Bovine spongiform encephalopathy) crisis was seen as precipitated by a lack of precise scientific information (Jacob and Hellström 2000). Alternatively policy-making can be hijacked by expertise communities that escape any ordinary means of public accountability as part of an opaque system of technocracy that distance the 'governors from the governed' (Jasanoff 2005b: 6), replacing political and value judgment of democratic institutions. The involvement of science can take place at the cost of other legitimate actors. Bureaucratic and/or political intrusion can also undermine the criteria of scientific knowledge production if truth, proof and scientific information are bent to exigencies of the bureaucrat or of politics. Financial dependence and group think between user and producers of information might taint the integrity of scientists. And there are claims that adversary use of science in political debate on high controversy issues, have reduced the authority of scientists as policy advisors (Maasen and Weingart 2005: 2; Nowotny et al. 2001). Similarly the scientization of public bureaucracies, as demonstrated by Marcussen (2006), may have blurred the boundaries between public administration and scientific institutions and hence demonopolized authority of academics.

Two paradoxes form the nucleus of the problems of scientific expertise and policy-making. The first is the simultaneous scientification of politics and the

politicisation of science. This has potential destructive effects: the increased use of scientific expertise by policy-makers has not increased the degree of certainty; in fact it has delegitimated science. This gives rise to the second paradox: despite the loss of authority of scientific expertise, policy-makers do not abandon their reliance on existing advisory arrangements, nor do the scholars necessarily adapt their ideas on science and its relation to politics (Weingart 1999). In spite of these difficulties, most modern democracies cultivate the norm that sound democracy is linked to fact finding and critical independent knowledge production, and that taking the guidance from facts as a political ideal requires the use of the scientific information in contrast the ideology and particularism. This is exemplified in the spread of the so-called evidence movement: the institutionalisation of and desire to base policymaking and policy delivery on evidence and systematic reviews (Hansen and Rieper 2009). A clear expression of this optimism was observed when President Obama in one of his first speeches stated that: 'Year after year, decade after decade, we've chosen delay over decisive action, rigid ideology has overruled sound science, special interests have overshadowed common sense. For the sake of our security, our economy and our planet, we must have the courage and commitment to change.'³

In practice there are however striking variation in how the multi-modal science-politics relationship and science advice are organized in democratic polities. Variations reflect the historical legacies of research and academic institutions and how they have traditionally been linked to public bureaucracies as well as how the science advisory system - 'fifth branch' of government - has been organized and institutionalized (Jasanoff 1990; Kogan et al. 2006). Such variations also mirror and blend pure forms of democratic organisation of expertise. March and Olsen (1995: 81-82) distinguish two distinct forms: one based on public competition between contending experts, as in public hearings, and one based on a division of labour that leave experts to attend to 'means' and producing one 'expert opinion' and politicians and laymen to the attend to political values, In practice political systems rely on a blend of these two ideal types, as is also the case of policy making at the European level. Unlike member states the European polity did not dispose over a set of knowledge institutions that could serve directly as information providers and advisory bodies for European policy making.⁴ European

³ Obama, 26 January 2009,

<<http://www.timesonline.co.uk/tol/news/environment/article5594192.ece>>.

⁴ The notable exception is the Joint Research Centre that is part of the Commission services. The JRC was first established as part of the EURATOM treaty for research on nuclear energy but expanded to other fields important to policy making, such as life sciences, energy, security and consumer protection. Currently it describes itself as a customer-driven,

institutions have had to rely upon scientists located in the various member states. In general there has been considerable resistance among member states to create European level scientific institutions. Since a permanent organized system of European scientific institutions or organized, permanent links between research and EU decision making did not develop, EU policy making have relied on other science-to-policy models. The European Union research policy has, for instance, increased its resources and capabilities, and strengthened research on core European and transnational policy problems in areas such as environment, social cohesion, employment, health etc. Parallel to this, expertise structures outside the academic institutions have gradually been built up, for instance in the case of Eurostat and the range of specialized agencies, often with information gathering and systematising as their core remit. The EU institutions have in particular relied on ad-hoc arrangements as a way of funnelling scientific expert information into EU decision making, ranging from use of consensus conferences, seminars, commissioning of research reports, to the appointment of special advisors to the Commissioner⁵. It is in this context we should expect to see the extensive system of expert groups organized by the Commission⁶ as an important venue for scientists to access EU decision making.

We expect that the EU as a multi level governance system, and in particular the European Commission as its executive branch, will foster tight links with the world of scientific expertise for several reasons. First, we would expect the dominance of regulatory policy making in the EU where knowledge, rather than budget, is the critical factor (Radaelli 1999) to affect the propensity of the Commission to use scientists as experts. Also the policy problems and tasks that the Commission addresses are in core areas considered as transnational 'wicked problems' where there is high level of technical uncertainty and knowledge forefront is changing. Scientific experts' updated insights into highly specialized field will in relative terms represent the most attractive source of information for ensuring the epistemic quality of Commission proposals. Second, to the extent that the Commission bases its authority on expertise, it would prefer to interact with the scientific-technocratic segment. The Commission as non-majoritarian institution is also more likely than other EU institutions to systematically enlist the participation of scientists and academics in its information system. Drawing on scientists as the main

research-based policy support organisation in areas of relevance to EU policies (<http://ec.europa.eu/dgs/jrc/index.cfm?id=1370>).

⁵ Special advisors the Commission are appointed in their personal capacity to act as high level advisors to the each Commissioner, currently counting more than 40 that are by and large from the world of academia and science.

⁶ Scientific advice is organised into Council decision making through setting up Council Expert Working Groups.

information providers thus underlines and legitimizes the Commission's autonomous basis for action, independent of national, societal and partisan interests. For the Commission, bringing scientists in as experts will also often have the added attraction of being 'nation free'.

Explaining variation

Although scientific expertise is important at a general level in the European governance, it is likely that there might be considerable variation across policy fields and institutional settings. The Commission services, like national ministries, are specialized according to sectoral and functional terms, are conducting different tasks, and operate in different environments or organizational fields (Curtin and Egeberg 2008). Studies have also showed that some DGs use expert groups much more extensively than others (Gornitzka and Sverdrup 2008; Larsson 2007). It is likely that some parts of the Commission are more likely to bring in scientists than others. In the following, we develop a set of expectations (or hypotheses) regarding the scope conditions that are likely to affect the likelihood for providing access to scientific expertise. Below we develop three sets of arguments: one set that sees the variation in the policy domain as conditioning the access of scientists, the second set picks up on the idea that the characteristics of the EU venue itself that leave more or less room for scientific participation, and the third set take into account that certain parts of the policy cycle are more conducive to the participation of scientists than others. We start with the latter:

Policy cycle

A standard mode of describing decision making in political system is to separate the policy making process into various stages. Different typologies have been created regarding the policy cycle, and most of them separate between agenda-setting, policy formulation, decision making, implementation and evaluation (Brewer and DeLeon 1983; Lasswell 1956; May and Wildavsky 1978). Although several studies of actual decision making have showed us that there often is no natural sequence, or clear distinction between the different stages, and that these stages are simplifications (Jann and Wegrich 2006), the concept is still analytically helpful for grasping some of the complexities in decision making.

One of the key observations from the literature on policy cycles is that different actors are involved in different stages of the policy cycle. This corresponds well with studies of use of research in public policy making. Rather than an instrumental use of research, where research provides the solution to the predefined policy problem, research is often used in early

stages of the policy cycle, for instance in exploration of a policy terrain, providing surveillance and understandings of new possibilities (Weingart 1999; Weiss and Bucuvalas 1980). Scientists often bring to the table much more information than is actually used, and far more informational slack than assumed by a rational model of information search and use (Rich and Oh 2000).

Hyp 1: We expect that scientists should primarily involved in the parts of the policy making cycle that is related to providing expertise and assisting the Commission with collection of information in the early stages of policy making. If we, in addition, find that scientists are actively involved in expert groups related to the other stages of the policy cycle, for instance, decision making or implementation of policies, we interpret this as an indicator a stronger and more thorough, role played by science and scientists in the EU.

In order to test this relationship we use data on the tasks specified for the different expert groups. We separate between the following tasks: 'Assist', that is, groups assisting the Commission in the preparation of legislation or in policy definition, 'Providing expertise', that is, groups that provide expertise to the Commission when drafting or implementing measures, i.e., before the Commission submits these draft measures to a comitology committee, 'Coordinate', that is, groups that coordinates with member states and promote the exchange of views between actors, and 'Monitoring', that is, groups that monitor the development of national policies and the enforcement of EU policies. According to our hypothesis we expect scientists to primarily participate in groups engaged in 'Assisting' and 'Providing expertise'.

Table 1 Type of expert group tasks. Frequency distribution. N=1236.

Type of task	Count	% of all Expert groups
Assist Commission	537	43 %
Provide expertise	191	15 %
Monitor	136	11 %
Coordinate with member states	755	61 %
EG with more than one task	309	25 %

We treat all of these four different task variables as dichotomous, (Yes= 1, No =0) and each expert group can be engaged in each of the different tasks. The frequency distribution of these four types of tasks among Commission expert groups is shown in Table 1. The most frequent task for expert groups is to coordinate with the member states and exchange views. However, over 40 percent of the groups have tasks related to other stages in the policy cycle. A quarter of the expert groups have multiple tasks.

Institutionalization of the expert groups

The nature of science and the role of science in democratic system are often naturally limited to specific and confined policy areas and issues: Scientists are often ad-hoc partners brought in for consultation on specific topics. Science and scientists, are as such, not part of the established and institutionalized 'line' in the established hierarchical order of an administration, nor is it necessarily an affected party or interest group that would have a legitimate claim in routinized access to expert groups. Scientists also often take part in expert groups in their personal capacity, rather than as a representative of the institution he or she is based in, which is more likely to be the case of other types of actors present in expert groups⁷. The status of national government officials or presentation from social interest groups as experts is more defined ex officio and less dependent on personal qualifications.

We therefore assume that access by scientists can be affected by the degree of institutionalization of the expert group. By the term institutionalization we mean processes of structuration and routinization, the development of some degree of standardization of codes of meanings, as well as the gradual building and binding of resources to values and worldviews (Olsen 2007: 95-96). The level of institutionalization increases as co-operation become more formalized and permanent, while activities that are informal and temporary can be regarded as less institutionalized.

Hyp 2: We expect that the involvement of scientists is more likely in expert groups that have a low degree of institutionalization. By contrast, if we also observe that scientists are granted rights for participation in the more institutionalized groups, we interpret this as science playing a more prominent role in EU governance.

In order to examine this hypothesis we separate between expert groups that are formal and informal, as well as permanent and temporary. What we label as 'Formal groups' are expert groups established by a legal act by the Commission or the Council, whereas 'informal groups' have no such legal foundation. In addition we separate between different degrees of permanence. The category 'Permanent groups' are defined as expert groups that are designed to be lasting or have lasted for more than five years, whereas 'Temporary groups' are designed in order to work for a limited time period. Both variables are dichotomous (Yes =1, No = 0).

⁷ This distinction is made explicit in the Law regulating US Federal Advisory Committees that separates between different type committee members classified as *experts* in terms of their professional competence, while they assess those classified as *representatives* in terms of their political interests (Brown 2008).

In addition; we examine the effect of venue specialisation, as another characteristic on the composition of the expert group. By venue specialisation we mean whether an expert group have developed sub-groups. Many expert groups have one or more sub-groups working on specific issues or tasks. Such sub-groups often deal with technical and specialized issues. We assume that expert groups that have established sub-groups have 'outsourced' the scientific activity to these sub groups and that consequently scientists will be less likely to participate in the expert groups that have sub-groups.

Maturity of a policy field

Expertise, information and knowledge are used by political systems in order to reduce uncertainty regarding problems, solutions and casual understandings. Some uncertainties are related to substantial issues, like for instance the consequences of introducing GMO in European agriculture, or the consequences of pandemics or introducing distinct types of financial regulations. However, some of the uncertainties are related to institutional issues and the search for policy solutions that are likely to be supported by the different institutions and actors in, and around the policy making processes in the EU. Studies of the Commission have repeatedly showed that Commission is often seeking consensus for its proposals, and reluctant to put forward initiatives or suggestions that are likely to be blocked by the Council, the European Parliament or the member states (Koenig 2008). We might assume that over time, as policy fields are maturing, disputes and actor constellations are settled, regarding for instance allocation of legal competence, thereby reducing uncertainties.⁸

Hyp 3: We expect that scientists are less likely to be included in expert groups in mature policy fields than in less mature fields. By contrast, if we also observe that scientists are involved in policy fields that are involved in mature areas and thus a lower level of uncertainty, we take this as an indicator of a sustained, stronger, more routinized role for scientists in European governance.

In our model we use two variables as proxies for the maturity of a policy field, policy age and the level of legal competencies held by the EU. 'Policy age' is measured as the age of the portfolio that the expert group is linked to (Data from Broscheid and Coen (2007)). The variable 'Legal competence' indicates the degree of allocation of competence from the member states to the EU in the

⁸ Also substantial uncertainty of a policy domain one can assume will be reduced over time – although such uncertainty is also affected by technological change and innovations irrespectively of how long the EU has had institutions present to manage a policy area. There are no data that can serve as a reasonable indicator of substantial uncertainty of a policy domain so this aspect cannot be modelled here.

policy field in which the specific expert group is working (Data: coding based on the treaties). Areas where the EU holds exclusive competence are considered as most mature.

Data and methods

In order to study the patterns of participation in the expert groups we have created a database of the Commission expert groups. Our database provides information on key properties of these groups such as the lead services in the Commission, policy area and composition of the group. It classifies the participants in broad categories (scientists, academics, practitioners, industry, NGOs) but it does not contain information on individuals.

When constructing the database we have used information from the Commission's register of expert groups. Information was downloaded from the register, coded and entered in our data base in January 2007.⁹ Times series data is not yet available. The register is updated regularly and it only contains active groups, although data on meeting frequencies is lacking. Failure to report data on the expert groups will result the European Paymaster's Office denying the reimbursement of expenses connected to a group.

We run two different analyses on scientists in European Commission expert groups. First, we examine the configuration of expert groups, that is, we examine how different sets of actors are co-participating in expert groups. For this purpose we use a simple bivariate correlation analysis, examining the likelihood that other types of actors, such as officials from national governments, national agencies, industries, consumers, NGOs, Social partners, etc. participate in expert groups where scientists participate. Secondly, we turn to examine the institutional factors that affect the likelihood for including scientists in expert groups. For this purpose we use a linear regression model, with the participation of scientists as dependent variable, and the above mentioned variables as independent (policy cycle, expert group institutionalization, venue specialization, and maturity of the policy field).¹⁰

⁹ It does not cover all expert groups and committees that are linked to the Commission. The following broad categories of entities are not included in our data base: 1) independent experts charged with assisting the Commission in the implementation of R&D framework programmes; 2) Sectoral and cross-industry social dialogue committees, whose work is particularly aimed at the conclusion of agreements implemented by the Council. There were about 70 such committees in 2004; 3) Comitology committees (about 250 committees in 2004). 4) Joint entities arising from international agreements (170 joint entities in 2004). See: <<http://ec.europa.eu/transparency/regexpert/faq.cfm?aide=2>>.

¹⁰ Since the dependent variable is dichotomous, using ordinary linear regression is usually considered problematic and logistic regression a more appropriate alternative. However, as

Before turning to the analysis, some clarifications and reservations regarding expert groups are in order. Formally, an expert group is a consultative entity comprising external experts advising the Commission in the preparation of legislative proposals and policy initiatives as well as in its tasks of monitoring, coordinating and cooperating with the member states. The composition of the group reflects the choices made by the Commission, most of them at the level of Directorates General (DGs). An expert group is created by the Commission itself, and the legislature cannot establish an expert group.¹¹ The composition of expert groups is subject to choice where the DGs invite actors in the environments. This is a part of EU decision making that is not regulated by formal legal rules that specifies participation rights and role that such groups are supposed to play. Expert groups are also numerous. In 2007 the Commission had 1237 such groups or forums, making it the largest organized information system in the EU. The political significance of the expert group system is also recognized by the other EU institutions. The European Parliament has actively pushed for information about Commission expert groups as a key issue of EU governance transparency.¹²

We make no attempt to cover the full spectre of scientific involvement or the role of science in EU decision making, but focus solely on the expert groups in the Commission. When examining access and patterns of participation, we should keep in mind that access does not necessarily equal influence. Our data does not allow us to examine the dynamics within these groups, or the relative influence of the advice provided by the expert groups on policy making and implementation. Nor can we examine the role played by the individual members. We assume that there is a link between institutional affiliation, and the type of expertise and information they represent, for instance, actors from scientific institutions are assumed to act as scientists. But, since roles might be blurred and since participants might operate with mixed allegiances (Egeberg

argued by Hellevik (2009), the statistical arguments against linear analysis of dichotomous dependent variables are overstated. The use of a linear regression model is to be recommended even in such cases, since results are practically identical and the interpretation of results are much more intuitive. Having conducted both types of analyses we found little difference in results. For reasons of simplicity and transparency we report on the OLS regression results.

¹¹ In general, expert groups are created in two ways: 1) by a Commission decision or other legal act 2) by a Commission service with the agreement of the Secretariat General. Most of the groups are of the latter kind.

¹² According to 'Framework Agreement on relations between the European Parliament and the Commission' (art 16) 'The Commission shall inform Parliament of the list of its expert groups set up in order to assist the Commission in the exercise of its right of initiative. That list shall be updated on a regular basis and made public.' See full agreement here: http://ec.europa.eu/dgs/secretariat_general/relations/relations_other/docs/framework_agreement_ep-ec_en.pdf.

et al. 2003), for instance scientists acting as bureaucrats, we should be cautious about making claims about the actual behavior or impact on decision making.

Findings

Let us now turn to the empirical data. Let us first consider some of the descriptive statistics. Expert groups that consist *only* of scientists are rare. Only 64 out of 1236 groups are composed purely by scientists. Ten out of 29 DGs have no such groups, and seven DGs have more than one expert group with only scientists participating, such as the DGs for regional policy, information society, environmental policy, health policy and employment. Only DG Research and DG Education have more than ten 'pure science' groups, 22 and 11 respectively, and in these two policy areas academics can also be considered as affected parties.

However, scientists participate frequently in expert groups together with other participants. Scientists participate in more than 400 groups, or around every third expert group. Very few DGs leave out scientists in their set of expert groups. Notable exceptions are the areas of taxation and customs and DG for trade (see also table in appendix 1). The extent to which scientific expertise is included in the expert group system is unevenly spread across the various DG as illustrated by the frequency distribution displayed in Figure 1.

These data clearly underscores the point that the involvement of scientists in EU decision making is closely linked to the notion of interplay between various actors and relevant parties. There is a clear element of co-production of knowledge and policy where forums create a platform for exchanging views, and that science and scientific knowledge is just one out of several elements in the information that is considered relevant and appropriate.

Our data also allows us to examine whom scientists operate together with in the Commission expert groups. Any causal interpretation of the findings is of course difficult but what we can see is how the participation by one kind of actor affects the likelihood that other actors are included. Table 2 is a display of a patterned co-production of policy.

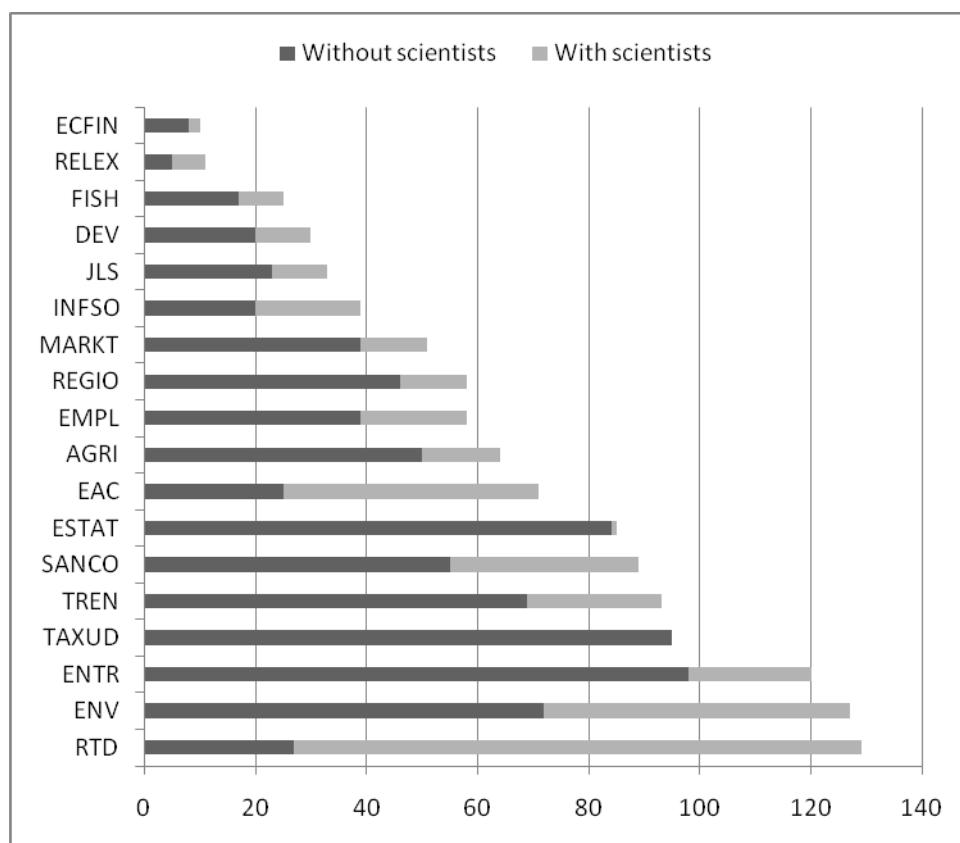


Figure 1 Participation of scientists in Commission expert groups by DG. (Only DGs with 10 or more expert groups included). Count.

Table 2 Configuration of participants in Commission expert groups. Pearson's r bivariate correlations

Participation of	Participation of scientists in Commission expert groups
National Administration	-,183**
Competent National Authorities	-,014
Regional and Local Administration	,048
NGOs	,173**
Social Partners/Unions	-,057*
Industry and Enterprise	,223**
Practitioners	,225**
International Organizations	,071*
Consumers	-,005
<i>N</i>	1236

** p<0.01, * p<0.05

First of all, committees where officials from member states ministries are represented are significantly less likely to bring in scientists. Participation by officials from regional and sub-national levels of government (national agencies) is positively related to scientific participation, but this correlation is not statistically significant. In general it seems that scientists are most likely to be paired with non-governmental actors. Second, we also observe that an

expert group is a venue where science meets business and practitioners. For scientists, actors on the production side are more likely policy making bedfellows than actors in the consumer side (correlation with consumer participation is not statistically significant). We also note that the participation of scientists does not thrive in the company of formally organized societal interest groups, in particular what in the EU are referred to as the social partners. In conclusion we find that the patterns of co-participation partially supports the idea of a division of labour between science and politics in the sense that scientific input tend to be channeled *separately* from the member states governments, and scientists tend not to be present in arenas with direct representation of contending social partners. On the other hand, scientists tend to be present in venues where input to the policy process is produced *together* with stakeholders of policy in business and among practitioners.

Table 3 shows the results of the linear regression regarding the institutional factors. The dependent variable is participation of scientists, where groups with scientists participating = 1 and groups without = 0. The results are clear and suggest that the combination of policy cycle factors, institutionalization of the expert groups and characteristics of the policy area is relevant for predicting the incorporation of scientists into EU policy making.

The first observation is that the policy cycle matters to the participation of scientists. Two types of tasks – assisting the Commission and providing expertise - increase significantly the likelihood of scientists' access to expert groups. As expected we find a negative effect of task related to coordination of member states view, while there is no significant relationship between scientific participation and the task of monitoring.

The two factors that we have taken as indicator of expert group institutionalization are also significant. The results point clearly in the direction that less formalized and less institutionalized settings are more conducive to scientists' participation in EU decision making.

Somewhat surprisingly, the idea that organizational specialization affects scientific involvement negatively does not meet with support. Groups that develop an under structure of sub-groups are significantly more likely to include scientists than others. The significant positive relationship could for instance be understood as a measure of task complexity and suggests that the areas where policy problems are deemed so complex that they require further sub-specialization of ad-hoc groups are in particular the kinds of setting where scientists are called upon to participate also in the 'mothergroup'.

Table 3 Linear regression model of participation of scientists in Commission expert groups

		B	Standard error	Beta	t	Sig .
Constant		,775	,057		13,552	,00
Policy cycle	Provide Expertise	,070	,037	,054	1,923	,05
	Assist	,107	,029	,112	3,692	,00
	Coordination	-,139	,029	-,144	-4,769	,00
	Monitoring	-,018	,041	-,012	-,454	,65
Institutionalization of expert group	Formal - informal	-,153	,032	-,139	-4,820	,00
	Permanent - Temporary	-,183	,027	-,194	-6,734	,00
Venue specialization	With vs. without Sub groups	,125	,039	,087	3,218	,00
Maturity of policy area	Policy Age	-,007	,001	-,188	-7,057	,00
	Legal Competence	-,023	,013	-,047	-1,741	,08
N		1127				
Adjusted R ²		,14				

The idea that scientific participation is not only affected by the institutionalization of the expert group as an organizational entity, but also by the maturity of a policy field within which such groups operate is also supported by the findings. There is a rather clear pattern here that corroborates the idea the nexus between science and policy making is particularly developed in areas where the public administrative units operate in less established policy areas and with low legal orientation, as would be the case for the Commission in policy areas where the EU has low degree of formal-legal competence.

Conclusions

A key element of contemporary democratic governance is the relationship between science and politics. Decision making in multi-lateral institutions is often seen as relying to a particularly high extent on informal forums where experts can meet and exchange views and opinions, often beyond national interest groups or national debates. The European Union is no exception to this. In fact, the EU is often regarded as having a particularly elaborated system of informal forums promoting and cultivating exchanges between technocratic and scientific experts. These forums are important in providing information and reducing uncertainty in EU decision making. However, as we have pointed to, the strong role of expertise and the importance of informal forums are also one of the central elements in the discussion on the democratic qualities of European governance.

In this paper we have examined the role of science in the Commission expert groups, which is the largest and most elaborated kind of forum in European governance. We have examined the scale of involvement by scientists, and identified a set of scope conditions that affects the likelihood for scientists to be involved. Regarding scale, our findings show that scientists are frequently brought in by the Commission as a relevant and attractive partner. About one out of three expert groups have scientists as participants. However, as we have seen, scientists are rarely the only partners or the exclusive partner. The overall pattern of participation of scientists does not support the contention that EU decision-making is hijacked by a techno-science, in the sense that they are the exclusive provider of information. Scientists are definitely a significant group of actors that has access policy making in the Commission, but they most often participate in conjunction with other actors. We thus observe what we label a co-production of policy, not scientification, of political decisions. The broad notion of 'expertise' and the many different partners that are brought into the early stages of decision making demonstrates that the Commission is concerned with collecting different kind of information and to balance different concerns. As such our observations fit well with the argument presented by Keohane, Macedo and Moravcsik (2009), arguing that domestic politics might benefit from engaging in multilateral institutions because it might widens the scope, increases the diversity, and expands the range and quality of information available to national politicians and publics. However, as we have seen, although the Commission expert groups is an important meeting place for national government officials, as well as for scientists, these two sets of actors rarely meet each others in the same expert group.

Regarding scope, we have observed that scientists are more likely to be involved in some DGs than others, and they are also more likely to be involved when business interests are involved, and less likely to be involved when national officials participate. We find strong support for the notion that involvement of scientists is related to different stages in the policy cycle. Scientists are most likely to be involved in tasks related to providing expertise and assisting the Commission in the early stages, in, whereas scientists are less likely to be involved in the tasks related to coordinating national policies or monitoring the implementation or compliance of policies. These findings are not surprising, but they indicate that science is playing a more confined role, and that there is no ubiquity of scientists in EU decision making.

A particularly striking observation concerns the importance of organizational factors. The composition of actors present in the forum is strongly affected by the degree of institutionalization of the expert group. Scientists are more likely to be involved in informal groups and in groups that are temporary, rather than in the formal and permanent expert groups. Again, these observations are consistent with the view of science as an ad-hoc partner in decision making, in contrast to interest groups, societal actors and national governments that often are concerned with formal and permanent participation and access to decision making situations. Scientists are also more likely to be included in policy fields that are new and less mature. There is an increased likelihood for involving scientists in newer policy fields and in policy areas where the EU holds more limited legal competences. These observations supports the argument that the Commission are concerned with bringing in scientific expertise in order to increase its legitimacy, reduce uncertainty and avoid conflicts and secure support for its initiatives and activities in such areas.

Appendix 1:

<i>Service</i>	<i>Without scientists</i>	<i>With scientists</i>	<i>Total</i>
RTD	27	102	129
ENV	72	55	127
ENTR	98	22	120
TAXUD	95	0	95
TREN	69	24	93
SANCO	55	34	89
ESTAT	84	1	85
EAC	25	46	71
AGRI	50	14	64
EMPL	39	19	58
REGIO	46	12	58
MARKT	39	12	51
INFSO	20	19	39
JLS	23	10	33
DEV	20	10	30
FISH	17	8	25
RELEX	5	6	11
ECFIN	8	2	10
COMP	5	2	7
TRADE	7	0	7
ADMIN	6	0	6
AIDCO	3	2	5
BEPA	1	4	5
OLAF	5	0	5
SG	3	2	5
BUDG	2	1	3
JRC	1	2	3
COMM	1	0	1
ELARG	1	0	1
Sum	827	409	1236

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