Reforms of National Innovation Policies in Europe: Coordinating Sensemaking across Countries

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Abstract[1]

This paper examines the EU-level coordination of sensemaking among civil servants across national borders in the area of innovation policy, and asks how this process has been characterized, and the extent to which it has had an influence on national debates relating to ongoing reforms. The analysis focuses on Denmark, Sweden, Germany, and France, all of which have introduced important national reforms in innovation policy. This comparative study is an example of institutional change based on prospective and high-intellect processes of sensemaking, as the EU's Lisbon Strategy aimed at synchronizing national reforms by the "open method of coordination" (OMC), a mechanism for learning from the mutual experiences of national civil servants of EU countries. The findings show that the process gave an overview to participants and created international networks of influence; to a lesser degree it upgraded national knowledge competences and developed common concepts and approaches. The findings also point to the fact that the EU-level coordination of national civil servants' sensemaking has had some influence on the national debates depending on the organization of national public administration, the timing of political attention, and the technical nature of the topic. The concluding section reflects upon these findings and discusses the process of sensemaking in complex settings like innovation policy reforms.

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1.- **Introduction**

National innovation policies were subjected to considerable reforms in the decade 2000-2010, a decade in which the political currency of the discourse on the "knowledge-based economy" put innovation policies at the center of public action for enhancing competitiveness and growth. In Europe this thrust towards reform has been basically on a national level, with widespread discussions and debates about the pillars of competitiveness. However, this debate has also been related to political initiatives at the EU level in the context of the Lisbon Strategy, an EU-level strategy applied from 2000 to 2010, the aim being to foster and to stimulate a series of reforms at the national level. The mechanism used to stimulate those reforms has been the "open method of coordination", bringing together national civil servants in a series of topic-specific meetings. This open method of coordination aims at synchronizing national reforms by creating a common language and learning from mutual experiences among national civil servants. The focus of the open method of coordination on the sharing and learning from national experiences, and its emphasis on analysis and forward-looking approaches to national reforms render this method a good example of an organizational mechanism willing to promote a forward-looking and analytically-based sensemaking process across national borders. In other words, it provides an excellent case for studying the cross-national dimension of sensemaking in the context of national institutional reforms, and how prospective and high-intellect-based processes of sensemaking operate.

This chapter studies the features of coordinating sensemaking at the EU-level, and the conditions under which this had an influence on national debates on national reforms. In particular, it examines the civil-servants' sensemaking of national reforms in four countries with very diverse traditions in innovation policy-making and types of socio-economic innovation systems. With this in mind, this chapter compares the reforms undertaken in four European countries, namely, Denmark, Sweden, Germany, and France, and studies the sensemaking process of their respective civil servants during the reform period and in the context of EU-level coordination. The civil servants of these four countries actively participated in EU-level "open method of coordination" (OMC), which aimed at synchronizing national reforms by creating a common language and by providing a platform for learning from their mutual experiences. Hence, the main research questions that this chapter addresses are: what features characterize the coordination of the sensemaking process of national civil servants in a cross-national setting, and the extent to which this has had an influence on the national debates about national reforms.

The findings show that the process gave an overview to participants, and created international networks of influence; and to a lesser degree it upgraded national knowledge competences and

developed common concepts and approaches. The findings also point to the fact that this had some influence on the national debates depending on the organization of national public administration, the timing of political attention, and the technical nature of the topic. The concluding section reflects upon these findings and discusses the process of sensemaking in complex settings like innovation policy reforms.

2.- Sensemaking, National Reforms and EU-level Coordination

Theories of institutional change have repeatedly underlined the predominance of gradual change over radical change, and the tendency that change is largely dependent on past events. There is now extensive recognition that these traits are particularly evident in the changes of national institutions of the capitalist economies, as a high level of institutional complexity is believed to reinforce these gradual, path dependent, and structurally shaped changes. Recent theoretical advances in institutional and organizational theories have started to consider a somehow disregarded element of change processes, namely, the role of ambiguity. Interestingly, however, they have done so in a different way. From the perspective of institutionalism studies, the different degrees of ambiguity of institutions tends to generate a sort of 'open space' within which agents-of-change operate by triggering/stimulating specific types of institutional change (Mahoney and Thelen 2010). Here ambiguity can be seen as an opportunity structure that is utilized intentionally by agents who seek power and change. From the perspective of organizational studies, ambiguity is somehow different in that it refers to the inherent inconclusiveness of the experience of the individual organization (March 2010). Experience never provides unidirectional or clear-cut lessons for change, and therefore the lessons of experience are difficult to grasp and require an intellectual effort.

This chapter takes the point of departure that these agent-based and ambiguity-based approaches offer important and complementing venues to examine different outcomes of institutional change. However, these previous studies have somehow disregarded the fundamental issue of how agents engage in building up meaning when defining courses of action. 'Building up meaning' refers to the cognitive and interpretative process by which agents induce institutional change. This is what the introductory chapter identified as "sensemaking", a key process in the construction of decisions that inform institutional change. From this perspective, the process of institutional change is one where agents of change make sense of the existing institutions and of their general experience. Therefore, sensemaking is a process where goals and means are constantly exposed to multiple forms of interpretation and re-interpretation through different agent interaction mechanisms. The introductory chapter provides an analytical framework that differentiates the types of sensemaking

processes based on on whether they are retrospective or prospective (looking backwards justifying past actions, or looking ahead defining future actions), and whether the intellectual process is 'low' or 'high' (when actors involved in the sensemaking collect specific forms of knowledge sources in their process of making sense).

The 'sensemaking' approach to institutional change is a particularly interesting theoretical framework in which to analyze cross-national differences in institutional reforms of innovation policies in European countries in the first decade of the 2000s. These salient national reforms (Borrás 2009) have been strongly linked politically to some emblematic efforts for institutional reforms in Europe, namely the Lisbon Strategy 2000-10 (continued under the name Europe 2020). The Lisbon strategy is a governance architecture defined by a set of ideational components (discourses) and a set of organizational components (open method of coordination, OMC) (Borrás and Radaelli 2011). Its overall goal is to provide a strategic and coordinated venue for policy reform at the national level. However, ambiguity has tended to dominate much of this governance architecture. The ambiguity refers to the hybrid and somehow undetermined nature of a reform agenda that encompasses an ample repertoire of open-ended discourses (such as 'competitiveness' 'knowledge-based economy'), and to the constantly tinkering and informal nature of its organizational aspects, such as the coordination procedures and the role of the European Commission (Borrás 2009).

Since 2003, the Lisbon Strategy attempts to coordinate national reforms in the field of research and innovation policy have been taking place through a series of open method of coordination (OMC) cycles. During each cycle, CREST (the advisory committee with national top civil servants in this policy field) agree on a limited set of policy issues and install specific working groups of national representatives to discuss these. At the end of each cycle, working groups report back to CREST which draws some general conclusions and, where appropriate, formulates some policy recommendations. From 2003 to 2010 there were four completed cycles of the OMC. However, in spite of these efforts, there are still diverse views on the effects of the OMC. Some authors argue that the coordination of national research and innovation policies through the OMC has been a failure as it has not reached its goals (Shaw and Laffan 2007) (Kaiser and Prange 2005), whereas other authors are more positive about the overall convergence trends and national attitudes towards reforming national research policies more generally (Gornitzka 2005) (Morano-Foadi 2008) (Mcguinness and O'Carroll 2010).

There are several reasons for such a diverse response to the Lisbon Strategy call for national institutional reforms. Authors in the literature have argued that the voluntary nature of this open coordination does not generate the incentives for national change (Schäfer 2006). The lack of

obligations and legally-binding rules means that there are no possibilities of sanctions from the EU-level, and hence, no real 'shadow of hierarchy' (Scharpf 1999) to force non-compliers. This might be an interesting argument when it comes to regulatory policy areas (typically associated to the single market), but it is far less so for expenditure-related policies like research policy. Other authors in the field of Europeanization point to the hypothesis of the pre-existing 'goodness of fit' to explain variation; namely, those countries whose national institutional frameworks are closer to the institutional solutions proposed at the EU level are those whose change is most likely, as the costs of enforced change are relatively low (Radaelli 2000).

These previous accounts of the factors that determine institutional change and reform in the context of cross-national coordination in the Lisbon Strategy are valuable and rich in empirical evidence. However, taken together, they suffer from two explanatory limits. The first limit is the analytical failure to acknowledge that the ideational and organizational nature of the Lisbon Strategy is intrinsically ambiguous. Most of the studies have focused on the 'strength' or 'softness' of the organizational dimensions in the implementation of the Lisbon agenda; namely, its voluntary nature and lack of binding regulatory requirements. However, the ideational nature of the same agenda is equally important (Schmidt 2010), as the ambiguous nature of the Lisbon strategy has left open considerable leeway for different national responses, questioning whether coordination attempts are actually working. The second explanatory limit has to do with the underestimated role assigned to agency and actors as forces for change. Gwiazda is one of the few studies that put the role of agency at the analytical upfront, and help to balance the eminently structural accounts from previous studies (Gwiazda 2011). However she focuses only on one type of agent: the political color of the government in power. While this is naturally a very important aspect, the role of national stakeholders and civil servants as agents of change is an understudied factor.

Taken together, these two blind spots indicate that the previous literature on the Lisbon Strategy coordination of national reforms has tended to have a rather simple top-down approach to institutional change at the national level, disregarding not only the intrinsic ambiguity of the Lisbon Strategy both in organizational and ideational terms, but also the relevance of agents of change at the national level beyond the color of the government in power. Willing to bring the role of agency back into the equation, as well as having an eminently bottom-up approach to institutional change in the national context, this chapter studies the processes of sensemaking among national civil servants participating in the cross-national coordination exercises, and the influence of these processes on their respective national reforms of innovation policy.

3.- The Cases, the Data and the Analysis

This study concentrates on four European countries: Denmark, Germany, France and Sweden. They represent different traditions in innovation policy, as well as different varieties of capitalism. Following Ergas' distinction in his seminal work (Ergas 1987), France and Sweden have traditionally followed a mission-oriented approach as their governments have had a strong hand in innovation processes, by actively selecting specific technologies, supporting large industrial efforts, and organize research through large public institutions. In contrast to this, Germany and Denmark have been more diffusion-oriented, as the state has not been actively involved in specific technological areas, but has paid more attention to indirectly promoting intermediary organizations bridging science and industry, and upgrading knowledge competences in a more distributed manner in the economy. These four countries also come under the typology related to the literature on varieties of capitalism, as Germany and France are considered to be coordinated market economies (CME) (Hall and Soskice 2001), whereas Denmark and Sweden correspond to 'hybrid' models in between coordinated and liberal market economies (Campbell and Pedersen 2007). The four countries are world-leaders when it comes to levels of innovation performance in the economy, and are actively involved in EU-level policy-making and policy discussions on such issues.

Table 1: Features of the four countries under study

	Coordinated market economy	**Nordic/ hybrid market economy**
Mainly diffusion oriented	Germany	Denmark
Mainly mission-oriented	France	Sweden

As indicated above, the focus of this chapter is on national civil servants' view on the open method of coordination as a process put forward by the EU's Lisbon Strategy to coordinate sensemaking across boundaries. With this purpose in mind, the chapter has two overall goals: to study how prospective and high-intellect-based processes of sensemaking operate, and to study the cross-national dimension of sensemaking in the context of national institutional reforms. Hence, the first step in this research design is to define how to approach the study of sensemaking. This paper uses 38 interviews carried out in 2008 with national civil servants who were involved in the open method of coordination (10 in Sweden, 10 in France, 8 in Germany and 10 in Denmark). The interviews were conducted by national experts who produced summary reports with some analytical remarks on the interviews. These 4 summary reports have been also used in the analysis, as they contain interesting material from the expert. All in all, 42 interviews are used. For more details regarding

these interviews, please see Appendix 1. The analysis is not based on the exact formulation of words and sentences, but on the overall messages and ideas of the respondents. In other words, this chapter does not conduct a narrow text analysis of concrete sentences or words, but an analysis of the overall concepts provided by respondents.

The research design of the analysis is based on three steps. The first step is a succinct description of the major national reforms in the corresponding national innovation policy. This serves as the background to grasp the nature and the extent of national reforms, and the issues at stake when national civil servants attend meetings in Brussels on these matters. The data on this, which is essentially of a secondary nature, is based on accounts of national reforms by the existing literature. The second step of the analysis examines the views of the national civil servants on two crucial aspects that deal with the two research questions; namely, the features of the OMC as a process of coordinating sensemaking, and conditions under which this has had an influence on the national debates on national reforms. The technique used to obtain this data is to code the responses into patterns following their similarities. The responses regarding "Open Method of Coordination as sensemaking process" are clustered into 4 distinct coding items: the upgrading of national knowledge competences of national civil servants, providing an overview of other countries' initiatives and activities, the development of common principles and approaches across countries, and the creation of international networks of influence. The responses concerning "conditions for influence of OMC process in national debates" are coded into three items: the timing of political attention at the national level, the technical nature of the topic under debate, and the administrative organization at the national level.

After these national-focused analyses in steps 1 and 2, step 3 examines these elements in a comparative manner[2]. The description of national reforms give some general clues about the respective nature of the reforms, indicating the extent to which it is worth noting changes of direction in the type of innovation policy (mission–oriented or diffusion-oriented). The final analysis gathers these together, and examines comparatively national civil servants' overall views on the features of OMC as a cross-national sensemaking process, and on the conditions under which OMC influences national debates on reforms.

[2] Steps 2 and 3 of the analysis are based on data from the 42 interviews mentioned above, which has been coded and analyzed using the software NVivo 10. It is important to keep in mind that the data of this paper is qualitative in nature, and that issues of statistical significant are not to be applied here.

5.- Denmark

Although the institutional reforms of innovation policy in Denmark during the decade 2000-10 were quite extensive, they were mostly addendums and adjustments rather than path-breaking changes(Lindgaard Christensen, Gregersen et al. 2008) (Aagaard and Mejlgaard 2012). These largely concerned three big items. The first one was the addition of new strategic and technology-focused research instruments, mainly the creation of 3 new research funds or councils[3]. Parallel to this, the traditional research council was slightly re-organized as the Council for Independent Research (formed by 6 scientific-discipline-oriented councils), which together with the National Research Foundation (Grundforksnings fond, 1991), are the backbone of independent and curiosity-driven research funding mechanisms in Denmark. These reforms were essentially a process of adding new instruments of strategic nature than true reforms of existing ones (Aagaard and Ravn 2012). This is probably the reason why recent voices are pointing to a certain exuberance in the research policy instruments' portfolio in Denmark (Lundvall 2008) (Monday_Morning 2012) (ERAC_expert_group 2012).

The second big transformation in Danish innovation policy was the reform of universities and public sector research organizations, which was perhaps the most deep-going reform in the Danish innovation policy landscape during the first decade of the 2000s. In 2003 the university law[4] introduced deep-going transformations in their governance structures. Furthermore, in 2007 virtually all the sector-oriented state-owned public research organizations were absorbed by universities, and at the same time several universities were merged[5]. The third reform was the transformation of the structures related to knowledge transfer. Danish policy-makers have been concerned with Denmark's relative low levels of patenting ratios. The Danish diffusion-oriented policy has very successful bridging institutions like the GTS centers[6], supporting knowledge transfer to SMEs. The new law of technology transfer has abolished the traditional university "professors' privilege" principle[7], granting patent ownership to the university rather than to the individual professor. Yet, since then, universities have struggled to make that work, due to their lack of experience in technology transfer activities (Lissoni, Lotz et al. 2009).

[3] The Council for Technology and Innovation (2001), the Council for Strategic Research (2002), and the Advanced Technology Foundation (2004).
[4] "Lov om universiteter (universitetsloven)", Law no. 403, law adopted 28 May, 2003.
[5] " Bekendtgørelse om ændring i styrelsesregler for en række universiteter som følge af sammenlægning med andre forskningsinstitutioner", Statutory order no. 280, adopted 21 March, 2006.
[6] "Godkendte Teknologiske Serviceinstitutter".
[7] The Professor's privilege principle allows him/her to claim ownership of the patents based on their research results and their work at the university. This was abolished in 1999 in Denmark by the Act on innovation at public research institutions "Lov om opfindelser ved offentlige forskningsinstitutioner", no 347, adopted 2 June, 1999.

This chapter examines this EU-level coordination of the sensemaking process among civil servants across national borders in the area of innovation policy, asking how this process was characterized, and the extent to which it had an influence on debates relating to ongoing national reforms. When asked about the features characterizing the OMC, the 10 Danish respondents emphasized issues of knowledge upgrading at the national level, the importance of expertise of the chairmen of the OMC groups in terms of being able to create a common language through concepts that could be shared in the group, and the fact that the OMC induced the creation of a cross-national network of civil servants that has been active since those meetings. A Danish senior civil servant remarked that "at the beginning it was difficult to find out what to talk about, because the concepts are different in Europe; the groups need to create a common language and basic understanding". Another senior Danish civil servant stated, "OMC is not only a process inducing learning from others, it is also a process that is an advanced continuous training for junior and senior experts."

Regarding the conditions for influencing the national debate, Danish respondents seem to have emphasized the timing of political attention. One of the respondents indicated that "The timing of the topic explains why some OMC topics are more diffused than others, and there is more awareness than with other topics. For example: we were very interested in the 'internationalisation' working group because Denmark was about to develop its own strategy towards China. We used the work and ideas in the working group actively". As for the administrative organization at the national level, the Danish respondents showed that this seemed to be relevant in terms of limiting the influence of OMC results in national debates: "The difficulty is that there is no clear procedure about what will happen at national level once the report is finished. In Denmark we try to use it to inspire the internal leaders of the ministry. But in general it is important that there is a political leadership that channels the process for making the most of the reports and work of the OMC-CREST within the member states". Likewise: "There is a very rapid circulation of personnel inside the Danish ministry and across ministries, so they do not have the time to go deeply into the issues." Or as another respondent put it: "There is a sharp division of labour in Denmark between departments that are in charge of EU matters and those that are not". The technical nature of the topic in the debates seems to be important as well, and here one of the respondents gave a clear example of the fact that this affected the debate at the national level positively because it was in the hands of a few experts: "Intellectual Property Rights: there is relatively few people in the ministry that follows this topic, and they were involved in the working groups". The important reforms of this particular area in Denmark (as mentioned above) indicate that this expertise was influential in the political debates at the national level.

6.- **Sweden**

The Swedish innovation system also experienced some changes during the 2000-2010 decade. However, those changes were the addition of some new elements, and consolidation of pre-existing trends rather than transformation of the system as such. Most of the efforts of institutional reform have been justified in terms of addressing the paradox that Sweden has a high level of expenditure in R&D activities but a relative low ratio of innovation outcomes (Bitard, Edquist et al. 2008). This paradox is relative, though, as Sweden continues to be one of the most innovation-strong countries in the world. The traditional structure of the Swedish innovation system is based on strong universities, large firms conducting R&D, and a small sector of user-oriented sectorial research organizations. These features of the innovation system have been in the spotlight ever since Sweden needed to consider innovation not only in technology and R&D university-based knowledge production, but in non-technological innovation as well (Thorslund Granat, Elg et al. 2005) (OECD 2012).

The introduction of the innovation system approach in Swedish policy-making resulted in several reforms during the period examined, the most relevant of which are first, the creation in 2001 of VINNOVA, which is a continuation and expansion of the remit of the previous agency NUTEK. An important part of VINNOVA's goal is to fund and foster collaborative activities between universities, firms, and research organizations, but its budget is smaller than similar agencies in other countries. Second, the creation in 2001 of Vetenskapsradet as a major research funding agency composed of different sub-councils. The council is the result of a merger of previously existing organizations, and is today the most prominent funding agency for basic and academic research in the country. And third, the creation in 2004 of the first national innovation strategy[8], an all-encompassing document with specific goals for a coordinated policy directed towards the improvement of economic competitiveness. It is worth noting that this strategy is strongly linked to the multi-annual financial commitment of the "Research and Innovation Bill" approved by the Parliament. Despite these reforms, Sweden has some features that do not seem to have changed as profoundly during the period 2000-10, for example the structure of universities (Lundvall 2008). Furthermore, in contrast to most European countries, Sweden has not abolished the "professors' privilege" at universities, the so-called "lärarundantaget", presumably due to the traditional strength of the academic community (Magnusson, McKelvey et al. 2009).

It is important to keep in mind that Sweden is a leading country in levels of innovation performance, and it has played an important role in EU-level discussions regarding the Lisbon

[8] Government of Sweden (2004): *Innovative Sweden – A strategy for growth through renewal.* Ds 2004:36 http://www.sweden.gov.se/sb/d/2026/a/32551

Strategy and innovation policy measures in particular[9]. Sweden's presence in Brussels' research and innovation policy debates is remarkable, particularly given its small size. Moreover, Swedish civil servants were actively involved in the Lisbon Strategy, and particularly in the open method of coordination cycles in the field of research and innovation policy. For that reason, it is worth looking at the way in which Swedish civil servants view this OMC process, and the extent to which they believe this has exercised some influence on the national reform debate in Sweden.

The interview data with Swedish civil servants is unfortunately not very strong, and the richness of the qualitative data is limited. Taking this into account, we can see that the number of responses is relatively lower than the other countries. Regarding the issues about the features of the OMC as a sensemaking process, Swedish civil servants seem to have emphasized the OMC as a process providing an overview, in combination with their views that the process has created international networks of influence. As one respondent mentioned: "There has been a lot of learning from these groups. This is coming through participation, not from documents." And: "These groups are in the core of the Union. Working together, creating networks, sharing experiences. Really updating your skills and competencies and creating new possibilities."

Turning to the conditions for influencing the national debate, the content and the technical nature of the topic were the most relevant item mentioned. Here are some of the respondents' views: "Not all the working groups, but some have spread [their results] and been discussed in Vinnova because the content is interesting". "Some of the topics given (from the action plan) were very focused like the Tax refunds and IPR. Others were very broad. We managed to further identify some good topics for our group".

7.- France

The 1999 Innovation and Research Act ("Loi Allègre")[10] was the starting point of a sweeping reform and political attempts to induce a profound transformation of the French innovation policy in the decade 2000-10. Behind this law was the concern that the French system was too rigid and underperforming in terms of getting public research outcomes to benefit innovative activities of

[9] One example of this is the Swedish Presidency in Spring 2009 successfully putting forward the notion of "grand societal challenges" to guide EU and national research and innovation policies, complementing the traditional principles of advancing human knowledge and economic growth that have traditionally guided public support to basic and applied research.

[10] Loi n° 99-587 du 12 juillet 1999 sur l'innovation et la recherche", initiated by Claude Allègre, Minister of Research at that time.

firms, and that there was the need to create incentive conditions for public researchers' initiatives in these innovation-oriented activities (Llerena, Matt et al. 2003). Ten years after, however, the high ambitions of the law have not been entirely fulfilled, as there continue to be obstacles, particularly cultural obstacles with public researchers giving priority to academic activities rather than collaboration with industry, even if the number and operations of incubators seem to be quite successful (Academie_des_Sciences 2010). Nonetheless, the innovation law was a fundamental step in three crucial aspects: bridging the traditional gap in France between the extensive public research sector and industry, focusing on start-ups and SMEs in contrast with the traditional focus on large firms, and creating horizontal mechanism other than the traditional industrial sectoral focus of much of the French system since WWII (Muller, Zenker et al. 2009).

Each of these three aspects was also extended in a series of subsequent reforms and strategic initiatives that followed shortly after, in what can be considered the building blocks for a major turnaround of the French system. The 2006 Research Programme Act[11] and the 2007 Universities Freedom and Responsibility Act [12]introduced an increased degree of autonomy to universities and governance structures, the explicit "third mission" task for universities, a regulatory framework for university ownership of patents, and the possibility of creating foundations for professionalized partnership with firms. Another important goal of this reform was to cut public spending in the area. This university reform also introduced the so-called 'Pôles de recherché et d'enseignement supérieur' (PRES)[13], aiming at creating further interactions between universities, grandes écoles, and Public Research Organizations (CNRS, etc) in order to create critical mass in some specific areas of public research (Laperche and Uzunidis 2011).

Three further significant novelties in the French research and innovation system were the creation of the ANR, the French research council, in 2005 (followed by a substantial increase in the amount of research funding that is based on competition), the new scheme for research-industry collaborative activities funded under the "Instituts Carnot" scheme and the creation of Oséo in 2005 (providing support to innovation activities in SMEs, by bringing together ANVAR (French innovation agency for the regions) and BDPME (SME development bank). Another three crucial factors in the public research-industry relations in the French system were the expansion of the "industrial PhD" scheme (CIFRE) created in 1981, the creation of the "Pôles de competitivité" at regional level in 2005, and the expansion of the regional "Centres d'innovation et de Transfert Technologique" (CRITT). This denotes an important change in the state of mind of the actors in the system in terms of public research-industry relations.

[11] "Loi n° 2006-450 du 18 avril 2006 de programme pour la recherche"
[12] "Loi n° 2007-1199 du 10 août 2007 relative aux libertés et responsabilités des universités"
[13] PRES was introduced in the 2006 Research Programme Act.

All in all, the French system is in a process of experiencing profound changes, and the intention is to introduce a more horizontal approach to research and innovation policy, in contrast to the vertical and academic approach since the 1950s. Reforms in France seem to be aimed at making the system more similar to other European countries (Thèves, Lepori et al. 2007). The reforms have resulted in expanding the number of actors, and in increasing the funding and flexibility; but they have also increased the complexity of the system. Critical voices regarding problems of coordination and planning were directed at the creation of the National Research and Innovation strategy in 2009 (SNRI)[14]. It is also important to underline that, in spite of introducing multiple diffusion-oriented instruments bridging the gap between academic science and industry (Robin and Schubert 2012), the French innovation policy continues to be eminently mission-oriented, as it still has a preference for supporting specific scientific and technological areas, and is implemented by means of a hands-on approach from central state authorities (Robin and Schubert 2010).

French civil servants were actively involved in the Lisbon Strategy in general, and in particular in the OMC process in research and innovation policy during the period under study. This active involvement was evident during the interviews with the French respondents, and the fact that many senior high-level civil servants were participating in these OMC meetings. This was not the case in other countries, which tended to send more junior civil servants to those meetings. Regarding the OMC as a sensemaking process in a cross-national context, the French respondents emphasized that the process was providing them with an overview and learning. The international networking was also of importance for these respondents. Several respondents put this in different ways: “The peer review process is very useful to open minds and learn from other national contexts”. A similar view: “The participants had a shared expectation: to exchange experiences and avoid repeating errors. The fact that the participants had different types and history of experiences was a very fruitful element of the exchanges.” Or “The dialogue was frank and free, and the learning was good.” Another remark in this vein was: “In the first phase, the work was analytical and it was expert work. The profiles of participants were quite different; this was useful to produce a rich report. The report involved a comparative analysis of policy instruments, an identification of “good” and “bad’” policy tools and how a government could choose the ‘good’ tools, i.e. the right tool for the right objective. In the second phase, the work was more of a political nature. The profile of the participants was more of an institutional type rather than experts”. Another remark: “This group was a ‘group of influence’ to advance some proposals and inspire future Community proposals”.

[14] ”Stratégie nationale de recherche et d'innovation”

As observed above, the French innovation policy underwent very important reforms during the period in which the OMC was unfolding. French respondents seemed to be particularly positive as to the influence that this OMC process exercised on the reform debates in France. Hence, regarding the condition for the influence on national debate, these respondents tended to emphasize the timing of the political attention, as well as the administrative organization at the national level (but not always in a positive way). A respondent said: "A difficult point is that a [OMC] report, to get an audience, should come at the right time with respect to the policy agenda". With regard to national administration: "There is little absorption capacity and little diffusion of European documents. One reason lies in the fact that they are generally not very concrete, not oriented towards operational questions. They are often not in line with the national subjects of interest". And again, "There is a lack of strategic watch units on EU matters, composed of people who understand both the national context and EU developments. The absorption and diffusion rests on very few people who take the decision to pay interest and diffuse this work or not". Nonetheless, in spite of these individual remarks, the OMC process had a clear influence on the French reform debate, both in terms of timing and the active participation of senior-level civil servants in the Brussels meetings.

8.- **Germany**

The German research and innovation policy has also experienced important changes, which are more than the usual adaptation but less than a substantial transformation. Some observers point out that some of the novelties introduced by policy reforms in the 2000-10 period were characterized by a strong emphasis on mission-oriented innovation policy instruments (Frietsch and Schubert 2012).This is noteworthy as the German system has traditionally focused on fostering collaboration between industry and academia. One of the most significant novelties in innovation policy was the creation in 2006 of the High-tech Strategy, which has been recently re-launched as High-tech Strategy 2020. The main objective of this strategy is to focus on industry-science collaboration as well as on the commercialization of research results. It has enhanced the cross-ministerial coordination, brought together several policy instruments, and created new target-oriented ones (like the "cluster competition" initiative focusing on some thematic clusters). Another important initiative is the "Excellence initiative" of 2006, which has granted universities the possibility of applying for additional funds to create excellence graduate schools, excellence-based collaborations, all of which have basic science and excellence at universities as the main focus. Germany has also reformed the funding of the research conducted at universities, which is today mainly funded by competition-based external sources rather than basic government endowment to the universities. This is somewhat similar to other countries' trends (Lepori, van den Besselaar et al. 2007). Likewise, the new law in 2002 on university patents abolished the "professor's privilege"

and granted universities the right to obtain intellectual property rights (IPRs), although this has had limited effects so far on the system (von Ledebur, Buenstorf et al. 2009).

Germany is one of the largest research and innovation countries in Europe, and it has a particular weight in political discussions in Brussels. This is clearly reflected not only in the traditional side of EU R&D and innovation policy at the supranational level, but also in the OMC process of cross-national coordination under the open-ended Lisbon Strategy. German civil servants are generally well experienced, and the size of the country means they have a critical mass of highly specialized as well as generalist civil servants. The large size of the country may also make some civil servants in Germany more sceptical about the need to coordinate, and to share experiences on a cross-national level, than in other smaller and less science-technology intensive countries which are more dependent on knowledge sources from abroad. The German civil servants were those respondents who were more aware of these differences among participants in the OMC sensemaking process, but they were generally positive when describing the features of the process in terms of providing overview and creating international networks of influence. As one respondent put it: "What all countries shared in the group was to get an overview of what kinds of methods and instruments exist, how they function, why they are employed in specific contexts, and how success is measured in different countries". Along similar lines: "The discussion was very active, and did not come to a standstill; all were very involved and active. The aim was to deliver common ideas". And also, "I would even go further and characterise the group as having a kind of scouting function".

Something similar can be found among the German respondents' views on the conditions for influence at national level. Here the emphasis was on diversity and the importance of the technical nature of the topic under discussion in the cross-national context. "We have taken note of some of the [OMC] reports because we try to match our own policy recommendations and research activities with these policy recommendations". And in regard to the differences across national civil servants: "The expectations were very diverse due to many different backgrounds and starting positions. Example: Romania, Bulgaria and other new countries are not advanced enough to be able to talk about excellence in science. Their expectation is to learn the basic elements of evaluation methods, get best-practice examples and collect experiences from other countries".

9.- Coordinating National Reforms and Sensemaking

Processes of institutional reform are complex and tend to involve many different actors. This is the case of the extensive reforms in innovation policies during the decade 2000-10 in the four countries

examined. Virtually all of them perceived the need to introduce some novelties and structural changes in their innovation systems as a way to improve the competitiveness and productivity of their national economies. This chapter does not examine the extent to which this has been achieved or not, as it corresponds to other types of analyses evaluating impact and results. Instead, this chapter examines the way in which some of the most prominent actors involved in the reform processes have viewed those processes in the context of the cross-national EU-level interactions among civil servants. The open method of coordination under the overall EU-level Lisbon Strategy provided a platform for the interaction of civil servants involved in these important institutional reforms at the national level. To a large extent, these EU-level civil servant interactions and informal open coordinations were taking place simultaneously with the national-level processes of institutional change. The forward-looking and analysis-based interactions of these national civil servants' meetings in Brussels indicate that the open method of coordination was designed as a process for mutual learning. This provides a unique opportunity to study the way in which prospective and high-intellect based processes of sensemaking operate in a cross-national context where institutional reforms are taking place during the same time span.

A total of 42 qualitative interviews with national civil servants in France, Denmark, Sweden and Germany were coded and clustered around two large issues: the views of the respondents on how the open method of coordination process was characterized as a processes of sensemaking, and the views of the respondents on whether the open method of coordination at EU-level influenced the national debates during the institutional reforms. The two tables below summarize the frequency with which national respondents pointed to some specific associated items. These figures do not reflect a systematic quantitative outcome of qualitative data. Instead, they reflect the frequency of respondents' associations to some specific items, when asked generally on their views on the process they were part of.

Table 2: Number of references indicating codes referring to the OMC process as sensemaking, by nationality of respondent

	Wrong premises	Upgrading knowledge competences at national level	Providing overview	Developing common principles and approaches	Creating international networks of influence
Danish respondents		2	2	1	2
Swedish respondents		1	2		1
German respondents	2	2	5	1	2
French respondents		2	12	2	4

Table 3: Number of references indicating codes referring to respondents' views on the influence of OMC process in national debates

	Timing political attention	Technical nature of topic	Administrative organization at national level
Danish respondents	7	5	5
Swedish respondents		5	
German respondents		3	
French respondents	4	2	8

The results in table 2 show that the open method of coordination (designed as a platform for cross-national sensemaking processes among national civil servants) gave participants an overview, and created international networks of influence. To a lesser degree it seems that this also contributed to upgrading national knowledge competences among national civil servants, and to developing common concepts and approaches across different countries. Regarding the issue of influence on the national debates, the findings in table 3 above show that the EU-level coordination of national civil servants had some influence, but that this was related to national-level features like the organization of national public administrations and the timing of political attention. The technical nature of the specific topic discussed was also relevant in this regard, because the more technical the nature the less the influence of EU-level sensemaking processes on the national debates.

Apart from these tables, the previous sections on Denmark, Sweden, France and Germany have shown the differences in the reforms introduced by the national innovation policies, as well as the different views and perceptions from national civil servants who took part in the EU-level open method of coordination. The cross national differences are remarkable, not only in the nature of the reforms, but also in the views and understanding of how this EU-level induced process of sensemaking across national boundaries was characterized and influenced national debates.

With these results in hand, it is worth turning back to the definition of sensemaking provided in our introduction. This book sees sensemaking as a key process in the construction of decisions that inform institutional change, reflecting and transforming related socio-economic discourses, and therefore a necessary element in the construction of social knowledge. The open method of

coordination under the Lisbon Strategy provided a platform for this process to take place among national civil servants in the period 2000-10. More concretely, it provided a platform for the prospective and high-intellect processes of sensemaking that were forward-looking and analysis-based. From the findings in our study on civil servants' views on this process, it is possible to conclude that these types of forward-looking and high-intellect sensemaking processes are related to some important "external" patterns in which the process of sensemaking is ultimately embedded. These external patterns refer to the knowledge bases of the participants and the environment from which they come, the differentiated national-level political timing of the discussions, and the administrative organization at national level where such cross-national sensemaking processes are to have an influence. Likewise, the way in which prospective and high-intellect sensemaking processes are conducted is somehow related to the features of the topic at hand, meaning that the technical or less technical nature of the topic does have a different context for the sensemaking processes, and for their effect outside the circle of participants. One of the most significant findings of this study is that the participants interviewed indicated that the development of common principles and approaches (a common language) within the group was not an easy or automatic task. In other words, even in contexts of high-intellect and prospective sensemaking processes among experts this was not as easy as one might expect at first sight. National differences in terms of conceptual frameworks and levels of expertise among participants were visible and represented a challenge for this sensemaking process in a cross-national setting. Asymmetries among participants' national traditions and levels of expertise were behind those challenges. Taken together, these remarks indicate the complexity of cross-national processes of sensemaking, even when they take place in contexts of specialized policy areas related to specific socio-economic institutions, or high-intellect and prospective-oriented sensemaking processes.

Appendix: The interviews

The data of this chapter is based on 38 personal interviews with civil servants in 4 EU member countries (Denmark, Sweden, France and Germany) and on 4 reports conducted by national experts who conducted the interviews. These were conducted by the European Commission in 2008 in the context of an evaluation of the Open Method of Coordination in innovation and research policy areas under the Lisbon Strategy. The interviews were based on a series of **semi-structured qualitative questions** formulated in a specific and homogeneous interview questionnaire. **The questionnaire** consisted of 17 questions and took approximately 1 hour for each respondent. The questionnaire was also pilot tested in different national contexts in order to make sure the questions were understandable and suitable in different national and administrative contexts.

The data collected is qualitative and based on the personal opinions of the respondents concerning different aspects of the CREST-OMC. For obvious reasons, this data is treated anonymously, and does not represent official views of the countries. **The sample of respondents** was selected carefully and had one main profile, namely national civil servants who have been participating in the OMC process. Regarding **the reliability of the data**, it is important to note that it is based on the personal opinions of the respondents and there are no reasons to believe that respondents, knowing the anonymity of the interview, have not answered in an honest way. Regarding the **representativeness of the data**, it is very important to underline here that the data gathered in the interviews is representative only in the sense that it comes from approximately 10 different respondents in each country. This is to say that there is no statistical representativeness in our data, but a set of fixed criteria that allow a degree of certainty that we have been able to collect the widest possible spectrum of qualitative data regarding opinions related to the phenomenon under study, given that only a selected number of national civil servants regularly attend OMC meetings and activities in the field of research and innovation policy.

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