FSW / FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF PUBLIC ADMINISTRATION

MASTER INTERNATIONAL PUBLIC MANAGEMENT & POLICY
2010/2011

MASTER THESIS

THE COORDINATION OF RESEARCH AND INNOVATION ACTIVITIES WITHIN THE EUROPEAN UNION:

TOWARDS CONVERGENCE OF NATIONAL R&I POLICIES?

THE CASE OF PUBLIC PROCUREMENT OF INNOVATION

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Date: 31 August 2011
Word count: 27962

ACKNOWLEDGMENTS

My acknowledgments go to Frans Van Nispen, for his flawless support, his availability and his highly appreciated supervision for leading this research.
Special thanks go to my fellows Agne Petraviciute, Julia Wengert, Jeanette Van Eijk and Stefan Harkema for their constructive remarks and support, as well as Robyn Webster for her kind proof reading.
I want to express my particular gratitude to interviewees and my colleagues from the European Commission, who helped me a lot during the writing of this research.
Finally, many thanks to my nearest and dearest, who know this topic by heart now…

SUMMARY

Due to growing globalization and economic crisis, fostering Research and Innovation (R&I) activities caught European political leaders' attention for making the EU more competitive and sustainable. For reaching such an ambitious target, coordination between national R&I policies, and then policy convergence, is strongly needed. This research aims to analyze the impact of those coordination efforts on convergence of national R&I policies. To these ends, the focus has been put on one policy instrument for raising R&I, public procurement, and particularly public "procurement of innovation".
A large amount of literature has been scanned in order to establish an appropriate theoretical framework, referring to the fusion theory combined with the Policy networks approach.
Three hypotheses have been formulated for answering the research question, each referring to different concepts: the Europeanization of this issue in national political arenas, the increase of interdependencies and more sharing of responsibilities. This led to the building of an analytical framework, consisting of one antecedent variable (the Europeanization of national political arenas), one main independent variable (observance of Open Method of Coordination rules), and two intervening variables (specificities of national political systems and national policy preferences). Two indicators per variable have been selected for operationalisation, and two observations per indicator have been scrutinized for measurement.
The results of this analysis will help to pin point which factors undermine and which items which items foster the reach of a policy convergence outcome as well as allowing the drawing of recommendations for improving those efforts.

LIST OF ABBREVIATIONS:

ERA	European Research Area
EU	European Union
GDP	Growth Domestic Product
OECD	Organization of Economical C Development
OMC	Open Method of Coordination
PCP	Pre-Commercial Procurement
PPI	Public Procurement of Innovative goods, services and processes
R&D	Research and Development
R&I	Research and Innovation
WTO	World Trade Organization

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CHAPTER 1: INTRODUCTION

1. Introductory remarks

"*Isaac Newton famously said "If I have seen further, it is by standing on the shoulders of giants."* […] *I am convinced that* […] *scientists, standing shoulder to shoulder with their European colleagues, will continue to see further and go further, for the benefit of everyone in society*".

Máire Geoghegan-Quinn, European Commissioner for Research and Innovation, Speech to The Royal Society, London, 7th February 2011.

As Commissioner Geoghegan-Quinn argues, making scientists work together constitutes one of the main challenges faced by European Research and Innovation. Indeed, the coordination of R&I activities in the EU are what the European Council is for a Presidency: necessary, highly complex and challenged by national interests. Nevertheless, since the creation of the European Economic Community by the Treaty of Rome in 1957, European Research and innovation policy became a priority in the political agenda, pushed by effects of globalisation, considerably altering the Economy and accelerating the growth of emerging countries. Thus, such developments urge a "moment of transformation" (European Commission 2010a), to cope with these major challenges, as well as an exit from the recent global crisis in the best way possible. Focusing on Competitiveness and innovation (European Commission 2010a), the priorities of the European Union require a comprehensive research and innovation strategy, and consequently a high level of coordination between national policies is needed in order to optimise the EU's action in this field. Indeed, in the streamlining of the Lisbon agenda in 2000, the recent EU 2020 strategy that was set in 2010 strengthened the idea of an enhanced EU research policy, in order to stimulate innovation and competitiveness in the European Union, and reach the 3% objective of GDP devoted to R&I. That is why Research and innovation constitutes one of the main issues in the current and future EU budgets. Indeed, R&I policy field gained importance due to the enforcement of the Lisbon Treaty, reminding us that Research is one of the main objectives of the Union. In addition, the recent development of new institutional frameworks (European Research area, European Research Council, European Institute for innovation and technology) also brings some evidence of a greater involvement of the EU in the issue of

Research and innovation. This tendency goes further and further towards deeper integration, as the recent statement of some European Commissioners show: indeed, Michel Barnier stated on 10th June 2010 that EU Research funding would be “Europeanized”, as "*what we did for agriculture*", arguing that "*In big agricultural countries, there is no national agricultural budget anymore. We should have the same ambition for the Research area*" (EU Observer 2011). In sum, this trend clearly highlights that Research and innovation will gain importance over the following years in the EU agenda, and that is why analysing the impact of European coordination efforts on national policies merits some attention.

2. Aim

Academic relevance.

Such a study fits easily within the existing body of knowledge on public administration, and more precisely European governance. Indeed, analysing the governance of the European Union requires focusing on its multi-level structure, in which downstream and upstream inputs constantly shape and change balance of power between actors form every level. Following on from that point, a significant amount of literature has been produced on policy convergence, mostly focusing on the conditions and the factors explaining such an outcome, notably by developing the fusion theory (Holzinger and Knill 2005; Wessels 2004; Linsenmann, Meyer .and Wessels 2007; Rometsch and Wessels 1996), whilst some scholars rather focus on particular features of coordination, such as the OMC problem (Borràs and Jacobsson 2004; Prange and Kaiser 2005; Morano-Foadi 2008). Lately research and innovation appears to have been addressed through those theoretical aspects, and focuses on the conditions necessary for reaching policy convergence (Bresci and Cusmano 2004), as well as the causes of non-convergence (Banschoff 2002 ; Bonaccorsi 2007 ; Edler, Kuhlman and Behrens 2003). In consequence, this research project would fit with the existing body of knowledge, in the sense that the purpose of this study is to establish whether EU coordination efforts lead to a policy convergence of national R&I strategies. It could indeed be highly relevant to analyse how rules produced at the European Level interact with national policies in this field.

Social relevance.

Research such as this will help to highlight what can be improved in the governance of one of the most important current strategies of the European Union, the challenge of making a Europe that is both competitive and innovative, that is able to evolve and develop to confront the major changes in society that have emerged from the globalization. More precisely, by focusing on the analysis of the effects of EU coordination efforts on the convergence on

national policies, the findings from this research aims at underline what are the difficulties faced by the Commission and the Member States in synchronizing their actions, and what can be improved for combining all the skills for the benefit of the whole European Society.

3. Problem analysis

Effective development of a EU-wide policy for Research and innovation requires convergence which implies an effective coordination. In order to understand the main features of this problem, a brief analysis should be focused on past and recent developments of coordination efforts made by the EU institutions.

The intergovernmental origins of coordination of R&I in Europe.

If the Treaty of Rome capacitated the Community (the former Union) to act in the field of Research, the first initiatives for cooperation emerged from the will of National Governments. Indeed, the COST initiative can be considered as the first major coordination attempt in the field of Research and Innovation: in order to challenge the gap between US/Japanese and European R&D, synergies between research activities became one key Priority in Europe. However, such an initiative was undertaken only by national governments. In consequence, the resulting governance for such cooperation is highly intergovernmental, meaning that reaching consensus requires unanimous positions, and that there are quite a number of veto players , which can possibly undermine coordination efforts.
As well as COST, EURAKA is also an initiative from Member States, that was formed after a conference of ministers on 17 July 1985, followed by the Declaration of Hanover in the same year. This network aimed at fostering common projects in the field of Research and innovation. The European Union is also part of the project, although it is not the coordinator.
To sum up, it can be observed that the first attempts of coordination of national research and innovation policies used to be quite intergovernmental, without active role of supranational institutions such as the European Commission. However, those projects encouraged this latter institution to move coordination activities towards the supranational level, with convergence as an expected outcome.

The rise of EU-Level coordination: from programme-based to policy-based approach.

As long as the European integration strengthened the legal provisions of the European Community, the Commission tried to get more of a grip on several policy areas, including research, technology and development (RTD). Indeed, Research and innovation is a shared competence of the EU (art. 4§3 TFEU), meaning that the Institutions can only act in this field according to the principle of subsidiarity. A preliminary attempt to lead joint research initiatives were launched with the Treaty of Rome through EURATOM, consisting in building a common nuclear energy policy, cooperation program which was confronted to several crises in the 1960s (Grande and Peschke 1999: 45). In addition to this first endeavour, the Commission extended its range of actions by elaborating a new type of programme besides that of structural funds. Fostered by business interests in the field of R&D (Hix 2005: 296), the Commission thus launched the ESPRIT programme in 1982; with a €3,8 billion budget. This programme was replaced later on by series of "framework-programmes" from 1987, by which the Commission grants joint research projects from partners coming from different Member States, whilst innovation activities were subject to another funding scheme, the Competitiveness and Innovation Programme (CIP). The idea behind those programmes was of course to strengthen the coordinating role of the Commission. That is why those programmes enjoyed sharp increases in their budget, from €5,4 to 50,521 million for the last Framework Programme. Here then are the foundations of EU R&D policy, which developed through the setting up of a framework of rules and procedures, through the last 5th, 6th and 7th Framework Programmes for Research and Technological Development. However, one step has been overcome with the setting of a new strategy for research.

Following this successful undertaking of the Commission, Europe is one step closer to an integrated Research and innovation policy thanks to the Lisbon strategy of 2000. Aimed at making the EU the world leader in terms of Competitiveness and innovation, this scheme launches a new mode of governance (NMG), the Open Method of Coordination (OMC). Then, from this, a renewed dynamics for EU action in Research emerges, leading to a policy-based approach, strengthened by recent statements from the Ljubljana Process and the EU2020 strategy, succeeding the Lisbon one. Finally, the Lisbon treaty confirms this trend, through its article 181. In consequence, it can be observed a major in R&I coordination at the EU-level, from programme-based to policy-based, meaning to suggest favourable conditions for policy convergence.

One main feature of this shift is certainly the setting of a European Research Area (ERA), launched with the Lisbon agenda in 2000. Indeed, this initiative puts the EU coordination of

national R&I activities in another perspective, since the ERA aims at creating a common space for researchers, as it was done for goods, services or persons in order to achieve a common Market. That is why some scholars such as Marimon and Carvalho (2008), argue that the ultimate aim of the European Research Area is to develop a kind of "*fifth freedom"* consisting in *the "free movement of knowledge, ideas and researchers*", in order to build an "opened, integrated and competitive European Research Area". More precisely, this new policy-based framework offers the opportunity to improve the coordination of national research policies at the EU level. Indeed, since its creation, a large set of measures, from guidelines to formal networks, emerged for improvement of coordination between national policies. Among them, the ERA-NET can be highlighted, as a formal network set up by the Commission in order to sustain dialogue between the national entities responsible for Research and Innovation policy. To sum up, it can be observed that those recent institutional developments set favourable conditions for strengthening EU-level coordination in the field of Research and innovation. However, the path, and even the idea of ERA is still questioned, since the governance of such a structure is not clearly established yet. Most of academic research on this topic (Edler, Kuhlman & Behrens 2003: 13-17) points out that further development of EU governance in this policy field remains quite uncertain. Indeed, all the options are still opened, from the supranational solution to the intergovernmental one.

This uncertainty about future of R&I is particularly observable by focusing on some of its policy instruments such as public procurement, and more precisely "public procurement of innovation", which is the case to be studied for this research (see 9. Below). This type of instrument for stimulating investment in R&I occurs when a public authority orders a product that doesn't exist currently but could be developed in a reasonable period of time (Edquist 2011, see definition in chapter 3), while regular procurement refers to purchase of ready-made products, not needing innovation.
As explained before, development of such an instrument also generates debates about the governance to set up, from intergovernmental solution to supranational one (European Commission 2010f). This leads to question why a lack of coordination and convergence in this field would be a problem.

Problems emerging from lack of coordination of national R&I policies.

If these recent years brought some major developments for the establishment of a single European area for Research, coordination is still a challenging issue for Member States and European institutions, and insufficient efforts in this field would be a problem for governance of the EU in several ways:

First, a lack of coordination, especially regarding our study case, public procurement of innovation, would undermine the efforts for increasing investments in Research and innovation in Europe. Indeed, the European Council of Barcelona in 2002 targeted that the EU will spend investments devoted to Research and Development equivalent to 3% of GDP (European Commission 2011a). However, R&D-related spending hardly exceeded 2.01% of the EU GDP, which is notably due to the lack of involvement of national governments, since Research still tends to be thought in national terms (Bonaccorsi 2007 ; Marimon & Carvalho 2008). Thus, failing coordination would undermine the efficient use of policy instruments, such as public procurement, for raising spending in Research and innovation.
Second, weak coordination of R&I policies would increase the "inertia" of European institutions. Indeed, according to Banshoff (2002), no further initiative for coordinating Member States' Research policies would lead to strengthen a kind of *statu quo* set since the institutionalization of R&I policy with the famous "framework programmes", and then an damageable inertia. More precisely, the author explains that due to a very weak synergy between national programmes, the EU put all its efforts in the running of those framework programmes, generating a clientele which will try to keep this *statu quo*, at the expense of the development of a new framework in which they are likely to lose their subsidies. Thus, failing coordination would feed this phenomenon, highly damageable for EU research policy.
Finally, third, such a problem would deepen fragmentation of national Research and innovation systems and the use of related policy instruments. As explained by Kaiser and Prange (2004), two main challenges risk to be even more problematic without stronger cooperation: a first one is related to vertical aspect of coordination, which involves several layers of governance, implying a strong commitment between supranational, national and sub national authorities to shape, make and implement decisions. Secondly, another challenge regards the horizontal aspect of coordination, that is to say the possibility to conciliate divergent national preference systems and to reach common goals; however, such conciliation would be undermined without a developed coordination strategy, and would, again, undermine efforts from the EU to build a common Research and innovation policy.

To sum up, it can concluded that coordination is a problem for development of a EU-wide Research and innovation policy, especially regarding the use of related policy instruments such as public procurement, since insufficient efforts would undermine the targeting of rising investments in R&I, and it would also strengthen inertia in this field, which moreover would increase fragmentation of Research in Europe, This goes against the finality of the EU, and that is why coordination appears to be one key issue for deeper integration in the field of Research and innovation.

In consequence, what the author has in mind with this research is to analyse whether EU coordination efforts lead to a convergence outcome of national policies regarding implementation and application of public procurement of innovation. However, data on this issue has not been produced yet (European Commission 2007a; Edler and Georghiou 2007), at the EU level as well at national one, even if some pioneers such as the UK or the Netherlands make some efforts. Thus, due to this unavailability of empirical data, the author is forced to limit this research to tender procedures (i.e. methodologies, schemes) rather than application. In other words, convergence should be understood as the move of Member States towards a single procedural model, and would not be understood as convergence of the outcome of tender procedures. This means that there would be possible mismatch between the elaborated analytical framework and the empirical data mobilized for this research, and this would not fit with original expectations.

Central research question:

Taking into consideration the problem analysis developed above, one research question can be formulated as follows:

What is the impact of the EU-level coordination system on the convergence of R&I national policies?

Sub questions:

Dealing with this requires additional sub questions. Indeed, the aim of this research project is to analyse the impact of EU efforts for coordination on convergence of national policies, by keeping in mind limits explained in problem analysis. More precisely, the main research question also implies to determine what led the EU level to develop a coordination system and what can explain a convergence process. Thus, it can be formulated the following sub questions:

SQ1 = *What are the characteristics of the Coordination system of national policies set by the EU level in the field of Research and innovation?*
Answering this question will put the emphasis on the logics and mechanisms ruling the coordination policy at the EU level, and bring some elements of analysis for the next sub question:

SQ2 = *What factors determine the convergence of national policies in the field of R&I?*

Setting this problem will lead to draw the conditions favouring a convergence process in the specific field of Research and innovation.

SQ3 = *On which factors the EU and Member States have to put its coordination efforts for making national R&I policies converging?*
Finally, by using the answer of the previous question, this latter one could help to identify on which aspects of the coordination process the EU has to focus for achieving a convergence of national policies in the field of research and innovation, especially regarding the case to be studied (see 7. below). This would also help to determine what can be learnt for Member States for coordinating efficiently their national strategies.

4. Research design

It has been chosen to design a case study for this research, and more precisely a congruence analysis, by focusing on one single case. Basically, this type of study consists in establishing congruence between the observations made and the theory chosen, and then the predictions formulated for the study (Gerring 2007: 37). In other words, this method will lead to focus on explaining the causal mechanism (coordination) leading to one outcome (convergence), rather than measuring its effects on the outcome. That is why this study should be considered as an explanatory research. The choice of this method of analysis rather than other types of case study can be justified by the fact that large-N analysis, requiring statistical analysis, would not fit with the study of such a topic since, as explained before, quantitative analysis would be hardly feasible due to insufficient databases on coordination activities, and especially regarding the selected case (European Commission 2007a; Edler and Georghiou 2007). In consequence, a case study, and more precisely a congruence analysis, would constitute an appropriated research design for this topic.

5. Methods of inquiry

Collecting data for measuring the degree of convergence of national policies in the field of R&I requires to gather data from various sources. According to Yin (2003: 85), six sources of evidence can be found: documentation, archival records, interviews, direct observations, participant-observation and physical artefacts. However, the selected case for this study offers very few quantitative data (European Commission 2007a). Among them, some appears to be more relevant for this research than the others.
First, documentation and archival records appear to be relevant source for this research, analyzed through a **desk research** in order to collect information about the past and current

rules and mechanisms of the coordination system set by the EU for Research and innovation activities, that is to say OMC and other soft coordination schemes. That will require a literature scan, covering books, academic articles and various expert reports related to the study case. Documentation from the EU and national governments also constitute relevant sources, since they offer a broad coverage of the case, as well as they are accurate and stable (Yin 2003: 86). However, using this source of evidence requires avoiding some pitfalls; indeed, attention should be paid on a relevant selection, in order to avoid an incomplete collection and then an incomplete coverage of the topic, the objectivity of the authors has to be carefully appreciated (Yin 2003: 86). Finally, archival records can also be relevant sources, but more in a passive sense, since this research is not a quantitative study (Yin 2003: 89).

Complementary to this, a necessary **empirical research** will be led, mobilizing other sources of evidence such as interviews and participant observation.

Regarding interviews, two types will be favoured. First, focused interviews can be led, rather than open-ended ones, since they are shorter, and expect to collect more than opinions about an event, with corroboratory purpose (Yin 2003: 90). Such interviews can be de done with officials from the European Commission, experts on R&I policy, or officials from national governments. However, this type of interview would present some pitfalls. As Yin (2003: 91) argue, asking leading questions risks to alter the corroborative purpose of the interview, meaning that if the interviewer leads the conversation too much, several interviewees from the same organisation risks getting the same answer, there is also the issue that it is "socially desirable", to conform to the organisation's doctrine. In order to avoid that pitfall, showing less knowledge on the topic will allow the responder to bring comments.

Another type of interview, the survey, can also be envisaged. Indeed, this source can provide useful quantitative data, as part of the case study evidence (Yin 2003: 91). For this research, it has been elaborated a 15-question survey targeting members of the three public procurement networks set up by the European Commission in 2009 (ENPROTEX, SCI-Network and LCB-Healthcare, see details in **annex 7**), in order to gather data about their perception of the role of the EU in coordination of tender procedures, their perception of coordination rules and their testimonial about problems faced in coordination. However, it can be observed that targeted organisations are not all national administrations; nevertheless, some of those interviewees are also experts on public procurement procedures, and information gathered can offer interesting outlooks about this issue.

Finally, one last source of evidence is mobilized, the participant-observation, through a 5 month traineeship at the European Commission in Brussels. More precisely, this experience in a European institution took place within the Directorate-General for Research and

Innovation, in unit A.7 "Strategic Planning, Programming and Procedure". According to the status agreed with the Head of unit, this traineeship consisted of the following :
- To contribute to the strategic planning and programming of research policy, through the application of specific competence and education background.
- To acquire sound knowledge and practical experience of EU policies and missions, rules, procedures and activities of the Commission, especially in the area of research planning and programming.
- To participate in meetings at different levels and collaborate in organisational, information, documentation, administrative and logistic tasks of value for the service and for the trainee.
Such an experience is an opportunity to "*gain access to events* [and] *groups that are otherwise inaccessible* [or sorely] *to scientific investigation*" (Yin 2003: 94). However, leading participant-observation requires dealing with some pitfalls, such as becoming a supporter of the studied organisation. Thus, a certain detachment is needed for using such a source of evidence.

To sum up, the method of inquiry designed for this research basically consists in a desk research, by collecting data from empirical research, through academic literature, documentation and in addition archival records. Furthermore, a field research has to be done, through interviews, as well as a participant-observation within the European Commission. Attention will be paid to avoid some recurrent pitfalls mentioned above for those kinds of sources.

Regarding the **validity** of this type of research, Mycoff and Reynolds (2005: 161) conceive it as the correspondence between the measure and the concepts. More precisely, internal validity refers to an easy establishment of the veracity of a causal relationship, whilst external validity refers the generalisation/applicability of results to other cases (Gerring 2007: 43). *Prima facie,* variables selected (see chapter 2) and concept of convergence seem to correspond, and in consequence "face validity" can be observed. However, Gerring (2007: 43) points out that single case studies "*suffer problems of representativeness because it includes, by definition,* [one] [single] [case] *of some more general phenomenon*". However, on the other hand, establishing "the veracity of a causal relationship" would be much easier through a single case study. In sum, as a single case study, this study would benefit a strong internal validity, but has to deal with a weak external validity.
Designing a research also needs to specify its **Reliability**. According to Reynolds, Mycoff and Johnson (2005: 159), reliability refers to "*the extent to which an experiment, test or measuring procedure yields the same results on repeated trials* […] *the more consistent the results given by repeated measurements, the higher the reliability of the measuring procedure*". In other words, it is about determining whether the measurement, applied

repeatedly, would yield the same result or not. Regarding our method of measurement, sources of evidence such as official documentation and evaluation reports benefit a high degree of reliability, whilst interviews and the survey provide less consistency. Indeed, some threats to reliability can be pointed out, such as hidden random errors (misunderstandings from respondents) or too many ways of interpreting answers, which is not the case for a large-N analysis for instance (Gerring 2007: 41).
In conclusion, reliability of this research *in fine* will have to be carefully appraised, particularly regarding results of interviews and survey, while validity will be essentially internal rather than internal.

6. Case selection

The EU Research and innovation policy is singular due to its horizontal dimension, involving other policy areas such as agriculture, trade, transport or industrial policy. Thus, in order to lead a congruence analysis, the focus should be put on a single specific case,
As explained in the problem analysis, one interesting focus can be public procurement of innovation. Indeed, analysing convergence of national policies in one field is too vague *per se*, and focusing on the coordination of procedures related to one policy instrument stimulating R&I would be a good option. In addition, public procurement in general tends to gain interest from the Commission as well as for Member States, since it generates 19.2% of EU GDP, equals to 2 200 billion euro. Such a huge amount of money logically catches the attention of policy-makers, in order to upgrade procurement as one major policy instrument for achieving Lisbon strategy (and now EU 2020) (Edler and Georghiou 2007).
Once again, analysing public procurement largo sensu would be still a vague case to study, that it why it has been decided to focus on one particular version of this policy instrument: the public procurement of innovative goods, services and processes. This type of tool appears to be the closest to Research and innovation field: according to an expert group report ordered by the Commission on Public procurement and innovation (2005a: 8), four dimensions can be identified: procurements can be private, public, regular or innovative.
Such a technical term needs a clear definition: according to the European Commission (2005a), procurement of innovation can be identified as a purchase which "*occurs when a public agency acts to purchase, or place an order for, a product – service, good, or system – that does not yet exist, but which could probably be developed within a reasonable period of time*". For instance, as indicated by Robert-Jan Smits, Director-General of DG Research and innovation (2011), "*if* [a] *city* [...] *Brussels need new building, that is not given to the cheapest constructor, but the constructor who can build Co2-neutral building, [what] can*

boost Research and innovation enormously". More precisely, if Public procurement is about 19.2% of EU GDP, procurement of advanced technology (which includes procurement of innovation) represent a significant part of it, reaching 4,17% of EU GDP (see **annex 3**).

Two types of innovative procurement has been tackled by the EU for supporting and coordinating their use by Member States, a pre-commercial one (PCP) and a commercial one (PPI) (see definition and state of the art chapter 3 *infra*). Thus, this research will focus on one single case (public procurement of innovation), consisting in two variants:

- The pre-commercial procurement (PCP)
- The Public Procurement of innovative goods and services (PPI).

However, as explained before in problem analysis, it is important to keep in mind that there is a significant lack of data on application of public procurement of innovation in EU countries, due to the fact that this type of instrument for raising R&I spending has been tackled very recently for convergence purpose. That is why the case to be study has to be limited to tender procedures, that is to say schemes, methodologies and strategies, rather than implementation and outcomes of procurement of innovation.

Case selection may also require focusing on a specific study period. Linking procurement and innovation emerges in EU strategies from 2000, when the Lisbon agenda was adopted. 2000 is also the starting year of the Multi-annual Financial Framework 2000-2006, allocating the overall EU expenditure, and notably the funding of the Framework Programme For Research and Technological Development (which will become the "Common Strategic Framework (see above) from 2013). This scheme allowed for the first time to fund projects aiming at deepening coordination of use of procurement to stimulate innovation. This policy item didn't lose relevance and interest from EU and national policy makers in recent years: indeed, the Commission continued its efforts to deepen networking and elaborate common policy frameworks in order to give as much importance as possible in the Multi-Annual Financial Framework for 2014-2020, adopted last June 2011. Indeed, recent developments such as the set up of the Innovation Union and prospective for adapting the American SBIR (Small Business Innovation and Research) programme to the EU brought new elements for analysing how EU coordination efforts bring Member States together on the table for deepening this path.
In conclusion, the EU policy related to the public procurement of innovation, and especially PPI and PCP, led between 2000 and 2011 will shape the case to be studied for this research.

7. Outline

The outline of this research project is as follows:

This introductory chapter aimed at presenting the main coordination issues in the EU Research and innovation policy are, in order to point out and analyse the problem which will be the subject of this research. Then, one research question and several sub-questions have been formulated, and the method of inquiry has been explained.

This leads to a second chapter, devoted to draw the theoretical framework of this research. After an historical perspective explaining the importance of Multi-Level Government approach for this analysis, the focus will be put on the fusion theory, which will constitute the core element of the analytical framework for this project.

Once the methodology and the theories have been explained, the next chapter will provide the necessary historical perspective and the state of affairs of the selected case.

Finally, last but not least, a fourth chapter will be devoted to each hypothesis, will present research findings and compare them to predictions formulated. This chapter will allow the making of conclusions leading to formulate recommendations.

CHAPTER 2: THEORETICAL FRAMEWORK

The introduction chapter clearly highlighted that the EU-level coordination issue can be relevantly analyzed through the theoretical lens of Governance theories, and especially European integration and governance approaches. Among the diversity of concepts dealing with this topic, a classic dichotomy can be drawn in the academic debate for explaining the dynamics of the EU system and their future developments (Wessels, 1996: 22-27), opposing two different views of future developments of the Union. On the one hand, one first refers to the intergovernmental model, strongly supported by scholars such as Moravscik, arguing that the Member States are the dominant actor in the EU system, keeping the decision-making power and will probably keep it in the future. On the other hand, the federal model rather predicts the development of a “merger Europe”, due to the fact that a “dual legitimacy” (Rometsch and Wessels 1996: 29) will emerge within the EU system, opposing the Community and the Member States. However, besides those two major trends in European integration theory, other alternative approaches emerge from this old debate, fostered by findings from Public Administration and Governance research. Originally named the “multi-governance” method, policy coordination was very difficult to locate in the classical modes of governance, the EU using to be between the government and community method (Linsenmann, Meyer and Wessels 2007: 11). That is why this “new mode of governance” (NMG) generated alternative approaches adapted to the coordination problematic, which is between intergovernmental and community method. Here is one relevant illustration this academic trend: in his study on future perspectives of European integration, Wolfgang Wessels (1997) compares different dynamics: two classical ones (realism and neofunctionalism) and two alternative ones (governance pendulum and fusion), and opts for the fusion thesis as the most appropriated for studying future developments of the EU, fostered as a "third way" for analysis (Wessels 2005: 27).

Thus, analysing the coordination process in the EU political system requires a complex theoretical framework, mobilizing several approaches. First, an historical perspective will help to draw which theoretical inspirations can be useful for this analysis. As policy coordination is characterized by its multi-layered and cooperative nature, the Network governance approach and the Multi-Level Governance model should constitute relevant analytical concepts for the shaping of the theoretical framework (1). Second, the emphasis should be put on theoretical foundations of New Modes of Governance, especially the Open Method of Coordination, since it remains the mode of governance for R&I policy at the EU level (2). Those theoretical explorations will lead to develop the cornerstone of our analytical framework: among all theoretical explanation of EU governance and integration, one appears

to be particularly relevant for the coordination issue, which is the concept of institutional fusion (3).

1. Multi-Level and Network Governance

As argued in the introductory chapter, Research and Innovation policy involves several layers of governance, from the local government to European institutions, having overlapping competences, interacting through a complex set of intermediary structures. This co-existence of several layers of government can also be put in perspective with the Multi-Level governance approach.

The Multi-Level Governance model.

This model emerged from the concept of governance, which gave birth to a wide range of theories. As Klijn (2008: 508-9) argues, governance can be understood in different ways: for instance, from the New Public Management perspective, this would refer to improving performance and accountability of market governance, while Network governance perspective puts the emphasis on interdependent nature of government. Mutli-level governance approach also insists on one feature of this concept: the multi-layer structure of government.

According to Hooghe and Marks (2002: 2-3), two models of governance can be observed within the EU, opposed on their conception of hierarchy and interactions between actors. One first, State-centric, sets Member States as the "ultimate decision-makers", having few interactions with the others levels of government, while the EU intuitions are considered as a supporting administration and political pressures are nested in national arenas.

On the contrary, Multi-Level governance approach claims for more competence-sharing between actors from every level. Here are basically the main characteristics of the Multi-level governance thesis (Hooghe and Marks 2002: 4):

- First, as stated before, decision-making power is shared, especially with the European institutions, such as the Commission and the Parliament (Jachtenfuchs and Kohler-Koch 2004).
- Second, due to this multiplicity of actors acting in the decision-making process, Member States are conceived as losing control on it, notably because of changes in voting rules, as co-decision and qualified-majority voting progressively replace unanimity. However, if the rise of other actors is argues, supporters of the MLG thesis recognize that Member States remain the dominant actor (Hooghe and Marks 2002: 3). What is questioned here is their monopoly.

- Third, regarding the interactions between actors, MLG approach claims that political arenas (especially the National and European ones) are "interconnected" rather than "nested". In other words, those actors develop relationships beyond the borders, and start a process of mutual influence. Indeed, as Jachtenfuchs and Kohler-Koch (2004: 102) argue, the EU political process is characterized by "negotiation among independent actors and institutions". Thus, one characteristic of MLG is that political arenas involved in the EU process are opened-up and not closed anymore.

The authors (2002) also describe two types of MLG: a first one, “type I”, refers to one mode of governance in which number of jurisdictions is limited, in charge of wide responsibilities and are operating in few levels. On the other hand, “type 2” involves a lot of jurisdictions, more specialised and operating on more different levels of governance.

Thus, it can be concluded that the Multi-Level Governance approach offers a fragmented reading of the EU Governance, shared among a multiplicity of actors, interdependent and developing complex relationships between them. Moreover, it can be pointed out some common characteristics with the fusion thesis, which underlines their compatibility: indeed, multi-layered conception of governance is shared by both approaches, as well as the need from actors to establish link between them. In addition, both approaches pay attention to the evolution of political arenas, agreeing on the point that borders between National and European ones are disappearing, or are blurred.

In conclusion, is has been shown that Multi-Level Governance (MLG) model offers an alternative to classical theories (intergovernmentalism and federalism) and addresses better the features of new forms of governance within the EU system: it constitutes a relevant analytical tool since MLG highlights how interactions and resulting interdependencies between all layers of governments are for shaping policies at the EU level. This approach would give interesting elements for analysing coordination process, since it underlines that Nation States have no more monopoly in the policy process, and have to adapt themselves to pressures from lower meso and supra-national level actors. However, this classical conception of multi-level governance is not comprehensive enough *per se*. Indeed, this original “vertical” approach of MLG only conceives interactions between actors from different levels; although, other interpretations emerge from this, by developing a horizontal understanding of MLG, i.e. between actors from the same level. From that reading of MLG emerged the Network Governance theory, which is an even more relevant analytical tool for analysis of coordination issue.

The Network Governance

This other approach of MLG also brings relevant elements for an analytical framework focused on European governance (Wiener and Diez 2004: 97). Both of them point out the fragmentation of the political system, and that the "Westminster model" (a central responsible government) is no longer relevant (Rhodes 2001: 1246). However, rather than a single vertical reading of MLG, an horizontal perspective tends to be more and more favoured, meaning that now, Multi-level Governance tends to conceived through network. Indeed, according to Jachtenfuchs and Kohler-Koch (2004: 99), "*networking is the most characteristic feature of European governance*". More precisely, the concept of Network governance is about "governing through networks" (Rhodes 2001: 1246 ; Klijn 2008), which leads to focus on interactions between actors of the political system. Such a reading of governance proposes interesting elements of analysis for scrutinizing policy convergence, since it offers a new conception of interactions between actors. In order to understand that conception, it is necessary to develop what is a network, and more precisely a "policy network".

Developed in the early 1950s and 1960s in the United States, the concept of policy networks gave one main postulate: there is one sub-government, compounded by governmental agencies, private actors and the Government itself (Rhodes 1997:34). This hypothesis, originally used for analysing national governments, tends to be translated to the European Union case (Peterson, 2001). Basically, Rhodes (1997) defines policy networks as a "cluster of actors, having an interest or putting a lot into one policy, having the ability to help to determine the success or the failure of a policy". This is on that basis some postulates are developed by advocates of the Policy Network approach (Peterson 2004: 120):

- First, governance in Europe would be non-hierarchical, implying a multitude of interdependencies and interactions between involved actors.
- Second, the political process should be disaggregated, since the relationships between actors vary according to the policy field.
- Finally, third, one government should be predominant, shaping its choices and its governance according to negotiations with other actors.

Prima facie, some assumptions seem to be shared with the MLG concept: both of them point out the non-hierarchical nature of the political system of the EU, as well as the dominance of one actor (i.e. National governments) and the importance of negotiations between all participants to EU governance. However, the concept of Policy Network seems to go further, by admitting this model should not be the same on every policy field, as the actors are different from one to another. In addition, this approach insists much more on interdependence of actors, and their need of coordination.

However, it remains to read governance of the EU through this theoretical perspective. Using this concept of policy network, Rhodes (2001: 1256) develops a network-based view of governance, by defining several characteristics:

- First, interdependence of actors, again, is showed as a main characteristic, as "governance is broader than government".
- Second, continuing interactions are also a main characteristic, since the actors have to exchange resources and as they share common interests sometimes.
- Third, those interactions have to be conceived as a game, meaning that there are rules to regulate it and trust to stimulate it.
- Finally, Fourth, a high degree of autonomy should be observed among the actors, meaning that they are less and less accountable to governments. In consequence, steering the network is quite hard for the central actor.

If the two first characteristics are shared with the concept of Multi-Level Governance, the two last ones bring interesting findings: governance is here conceived as a game of influences and power, in which the government is no longer considered as an almighty actor. The author developed this view through the concept of "hollowing out" of the State (Rhodes 2001: 1248), by which he argues that the rise of this governance system considerably reduces room of manoeuvre of governments, since they are "hollowed out" from below with networks and sideways by multiplication of agencies and national bodies. Thus, coordination becomes more and more necessary in such a shift towards multiplicity and fragmentation. Moreover, Rhodes develops the concept of "differentiated policy": according to the author (2001: 1243), governments are more and more specialized, fostering the creation of more and more networks in every policy field, as a result of interdependence between actors. In other words, governance seems to be re-organized into a set of sectoral networks, in which the involved actors increase their interdependence and their cooperation.

In sum, it has been analysed main properties of Network Governance theory, which found echo in New Modes of Governance, such as the Open Method of Coordination, which Network Governance approach widely inspired.

Theoretical foundations of the Open Method of Coordination.

Network-based conception of governance considerably influenced the EU coordination policy. That is why it is necessary to highlight that the coordination of national research policies is carried out by a specific governance tool, the Open Method of Coordination (OMC). That is why it appears relevant to point out the theoretical foundations of this new mode of governance. The theoretical inspirations of the OMC is still an academic debate, as some authors attaches it to rational choice theory, while some other ones rather think about

the principal-agent model (Borràs and Radaelli 2010: 21-22) the Open Method of Coordination actually seems to be a mix of several concepts. According to Borràs and Jacobsson (2004: 188), the OMC is a "*collection of mechanisms previously developed under the broad "soft law" tradition in the EU, such as collective recommendations, review and monitoring, and benchmarking*". In other words, the Open Method of Coordination group a wide set of non-binding instruments, which invites to conceive it as intergovernmental-inspired. Applied to Research and Innovation policy, the OMC led to set up the Scientific and Technical Research Committee (CREST), replaced by the European Research Area Committee (ERAC) in 2010. In fact, this mode of governance is much more than a simple collection of soft tools. According to Drachenberg (2009: 265), theoretical foundations of the OMC can be found in different European integration approaches.

- First, the nature of the instruments used in the framework of the OMC shows its "realist" facet, and the author adds that this method can be seen as a "justification discourse" for existing policies, which is one finding form realist schools.
- Second, on the contrary, the OMC is also a way to foster convergence of Member States, and then to foster delegation of competences to supranational actors. In that way, it can be assumed that the OMC has neofunctionalist roots.

Thus, *prima facie*, one first conclusion leads to conceive the Open Method of Coordination as a bridge between the two opposed theories on European integration. One the one hand, the OMC is inspired by realism, in the sense that its tools are highly intergovernmental-like, but on the other hand, the purpose of such a governance mode targets in fine convergence, which is closer to the neofunctionalist thought (Kaiser and Prange 2002).

Besides those two theoretical aspects, some others can be pointed out. Indeed, Drachenberg (2009: 265) points out the flexible nature of this mechanism, which implies diffuse governance and loose steering. In consequence, according to the author (2009: 99), theoretical aspects of Policy Networks, and *a fortiori* the Network governance, can be found in the OMC mechanism.

Finally, one last main theoretical foundation of the Open Method of coordination can be pointed out from an economical perspective. Indeed, as Kerber and Eckardt (2007: 229) argue, the OMC targets a policy learning process, which is trying policies and sharing this experience with the others for developing a mutual learning. According to the authors, such a process is inspired from the economic theory of laboratory federalism, which claims that in a multi-level system, policies which are not centralized (such as EU Research) would lead to a "process of experimentation with new policies" (Kerber and Eckardt 2007: 228). In sum, this non exhaustive analysis of theoretical foundations of the OMC has shown that it is at the crossroads of various approaches, which underlines the complexity of policy coordination within the EU.

To conclude, those sections highlighted the relevance of approaches on European Governance as parts of this analytical framework. Indeed, the analysis of theoretical foundations of the Open Method of Coordination highlights the influence of network-based approach on governance of R&I policy at the EU level, due to its multi-level nature and certain interdependence between actors. However, another approach can be combined with another approach, rather focusing on the overall pathway of the EU, that is to say a postulate explaining the deepening of integration and convergence of national policies. Scanning of literature for this research highlighted the relevance of fusion theory to these ends.

2. The fusion theory.

The fusion theory should be conceived as an alternative approach to the classical dichotomy between intergovernmentalism and federalism, which offers a better theoretical lens for analysing coordination issue. Indeed, as Wessels and Schäffer (2007) argue, "*fusion theory goes beyond the analysis of the integration process at a given time*", and this approach also "*offers tools to understand the very process of interaction and joint problem solving beyond the state*". In other words, the fusion approach appears to be highly relevant for the analysis of policy coordination within the EU, since those two processes (interaction and joint problem solving) are central dynamics for this issue, as governance theories above showed. Rometsch and Wessels (1996: 35-36) develop a three-step process characterizing dynamics of the EU and its integration. One first stage refers to the so-called “Europeanization” of national policies, which is basically the penetration of European area (Olsen 2002; Featherstone and Radaelli 2003) into the national one, leading to an increasing participation of national actors in the European sphere. In other words, the borders between European and National areas become blurred. However, Rometsch and Wessels (1996: 355-356) point out that this process is more or less achieved, and give different degrees of Europeanization, taking the involvement of national institutions as the determining variable for measuring it: a first level (low Europeanization) can be observed if the institutions doesn’t play an “active role” in the EU policy-process and try to resist to it. A second degree (medium Europeanization) can be deduced if institutions are active, and develop a European outlook. Finally, one last level (high Europeanization) is observable when national institutions go further, by taking initiatives within the EU arena.

As a result of Europeanization, one second step towards integration described by the authors refers to institutional “fusion” (Rometsch and Wessels 1996: 36), which is basically about a growing mutual influence between national and European-level institutions, leading to an increase of interactions and a share of responsibilities (see *infra*).

Finally, the fusion process is supposed to lead to "convergence". This last step towards integration is the most extreme one, described by the authors (1996: 238) as a "*gradual process of constitutional, institutional, procedural, organizational and behavioural innovations and adaptations to the EU decision-making by national institutions and which* […] *lead to one politico-constitutional system in the Member States* […] *characterized* […] *by disappearance of pre-existing differences*". This process is analyzed as the most integrative one, since the Members State accept to rule specific policy areas at the European level (Dimitrova and Steunenberg 2000: 2), and then abandon their exclusive competence, and adopt common adaptations for doing so. Scheme (Fig.1) gives an overview of this three-step process.

Here is then the fusion process as argued by its original authors. This research project aims at confirming or infirming such a reading of EU integration. For doing so, the emphasis should be put on the second stage, i.e. the fusion process as analyzed above.

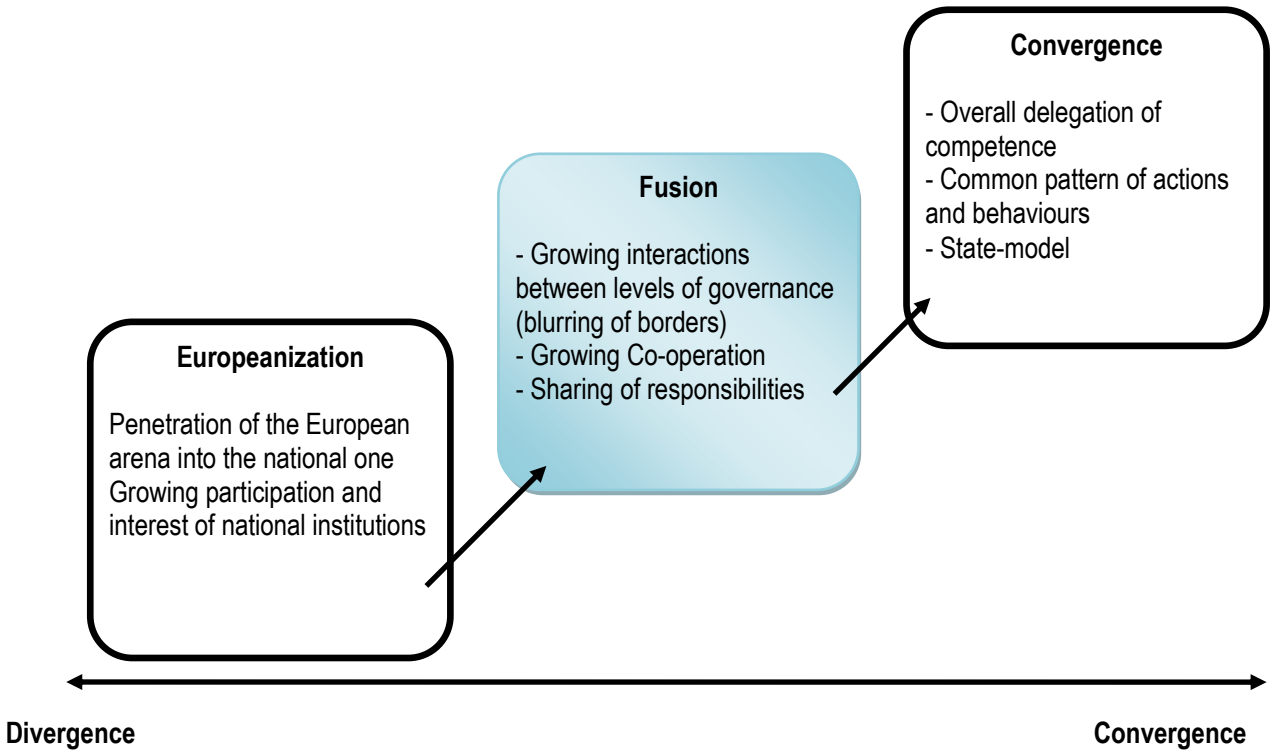

Fig.1: the fusion process according to Rometsch and Wessels (1996)

As explained before, according to Rometsch Wessels (2006: 36), this concept is the step after Europeanization, and then constitutes more than penetration of European area into the national one. Indeed, as Linsenmann, Meyer and Wessels (2007: 31) argue, fusion can be conceived as a "*highly bureaucratised process of European Governance* [which] *draws in ever more parts of national and regional administrations and leads gradually to bureaucratic interpenetration or administrative fusion*". Thus, several main postulates can be drawn from the fusion perspective:

- First, due to a growing Europeanization process, the interactions between national and supranational institutions will grow, and then increases the interdependence between those actors. Indeed, Rometsch and Wessels (1996: 239) point out that those two levels of governance cannot acting independently anymore, since there is more and more clear division between national and European institutions. Concretely, this process should involve particular national bodies, as Rometsch and Wessels (1996: 238) show, such as the governments, ministerial bureaucracy, parliaments, regions and courts.

- Second, as a consequence of increasing interactions, a growing cooperation can be observed. Indeed, according to Wessels (1997: 274), the fusion approach claims for "*a "merger" of public resources located at several "state"-levels for which the "outside world"* [the average European citizen but also experts] *cannot trace accountability, as responsibilities for specific policies are diffused*" (Wessels 1997: 274). The author explains such a process by a dilemma faced by national government, between "*growing demands for welfare* […] *and public services* […] *on the one hand, and increasing European interdependencies* […] *on the other hand*" (Wessels 1997: 271). More precisely, this development can be considered as a result of interdependencies. Indeed, according to the author (1997: 286) this merge of resources at the State level, results from a growing interdependencies and spillovers, fostered by dynamics of EU bodies. This can be translated for instance into exchange of views and information. In other words, the European institutions' involvement in the domestic sphere, causing interdependencies, combined by a growing need to develop public policies would lead National governments to pool their resources and developing common mechanisms to use them, developing then integration.

- Finally, third, the fusion approach points out that due to these mutual interactions, interdependence and due to cooperation, an increase of the share of responsibilities will occur. Indeed, according to Rometsch and Wessels (1996), national institutions will increasingly share the responsibilities with the other institutional actors outside their own control, and the vertical and horizontal interactions between Member States and/or independent bodies will increasingly be influenced y the EU arena. Furthermore, according to Wessels (2005: 18), one expectation from fusion perspective is the occurrence and intensification of further pressures, which will promote the transfer of instruments to EU

bodies. This particular process is called the "escalator effect" y the author. In addition, Wessels adds that fusion also expects a merger of legitimacy and functions, and integration of all the instruments (Wessels 2005: 27). The result of such a process is analyzed as a change of policy style (Rometsch and Wessels 1996) towards more convergence.

In sum, it can be clearly observed that the fusion thesis implies a global reflexion on the integration process, and then needs to be modelized for developing it as a theory. One first attempt, undertaken by Rometsch and Wessels (1996), consists in establishing between an horizontal and a vertical fusion, in order to distinguish two processes: the fusion of institutions from the same level (horizontal) and another one more multi-level, between national and European actors (vertical). Beyond this basic dichotomy, some other typologies can be found in literature on the fusion thesis. According to Miles (2003: 292), several types of fusion can be observed in the EU political system: one first refers to "performance fusion", according to which the Member States participate actively to the development of the Union for getting as many benefits as possible, rather than for developing a shared view of an integrated Europe. One second type is about the Political fusion, which is basically the third of thinking European integration (as mentioned above). More precisely, this type of fusion is described as a kind of compromise, since the national institutions accept to draw a supranational-like path for the EU, through ambitious agendas, but refuse "radical new constitutional arrangement" (Miles 2003: 292) towards federalism. Finally, one last form of fusion is the "compound" one. This rather highlights the co-existence of national and European levels of governance, and points out that different actors, involved in this multi-layered system, will fuse their instruments and methods, but without reforming the constitutional structure of the EU. In sum, compound fusion makes actors from every level closer and more cooperating, mixing their instruments, resources and sharing their views.

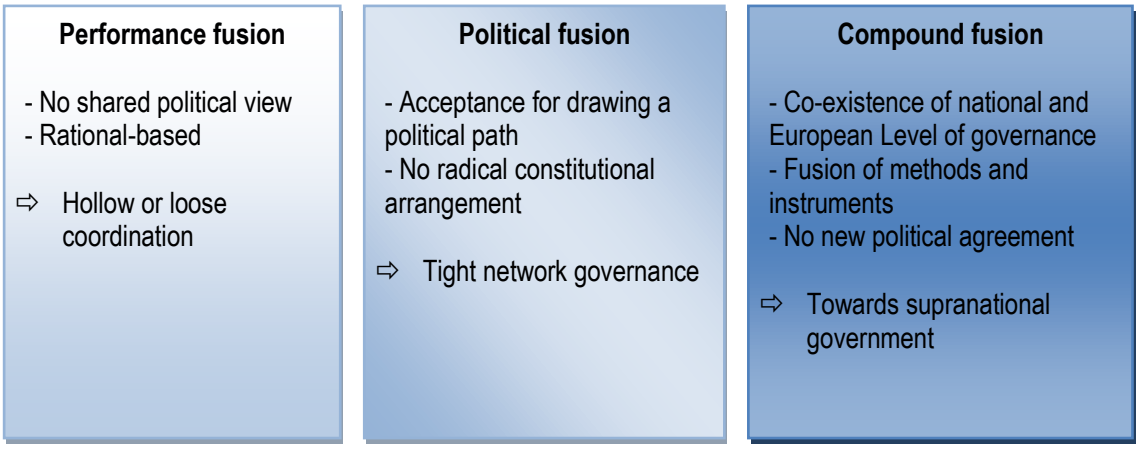

Fig.2 Typology of fusions according to Miles (2003) and corresponding type of coordination.

Moreover, it can be seen that fusion is a very wide concept, offering several explanations on the future developments of the EU, found applications for analysis of the coordination policy within the EU. Indeed, by using of fusion perspective, Linsenmann, Meyer and Wessels (2007: 26-29) point out four types of coordination between Member States, differing from their intensity and their development. One first level, hollow coordination, is the lowest degree of coordination observed by the authors, arguing that in that configuration, coordination rules are ignored by the actors, creating a polarization between national and EU level. The next type, loose coordination, is still analyzed as a low level of integration, consisting in opportunistic participations to coordination process, making it irregular and efficient only on several policy areas. Another type of coordination, mentioned as the "tight network governance", goes one step further, as the actors adhere to "the spirit of coordination" (Linsenmann, Meyer and Wessels 2007: 28), by accepting paying costs in exchange of definition of common goals and strategy. Thus, a "core network" of actors is taking shape, highly interdependent, making convergence of national policies eve more efficient. Finally, one last type of coordination described by the authors, the "supranational government", could be observed if an advanced transfer of competences occurs, contributing to build a European public space, in which all involved actors, from national governments to civil society, will interact and exchange like in a State model.

In sum, it can be concluded that the fusion theory appears as a relevant theoretical lens for measuring the EU coordination policy, and then for analysing the object of this study. This approach offers an alternative to federal and intergovernmental perspective to explain the different pathways of the European integration, more focused on how the different actors involved in the policy process interact each other and how they shape their action as a consequence. Furthermore, this approach shows how important interactions between actors and mutual influence are for measuring the evolution of European integration. Thus, the fusion theory seems to be highly relevant for the analysis of the impact of coordination efforts from the EU on the convergence or non-convergence of national R&I policies. However, regarding the multi-layered structure of the Union, the theoretical framework of this study should be completed with governance-related approaches, dealing with this multiplicity, such as the Network governance and Multi-Level Governance concepts.

3. Operationalisation.

This chapter led to set a relevant theoretical framework for measuring the impact of the EU coordination policy on convergence of national policies, consisting basically in the fusion thesis, completed by elements from multi-Level Governance and Network Governance, while theoretical foundations of the Open Method of Coordination will be also

taken into account for selection of variables. From that framework, some concepts can be defined (1), helping for the formulation of a series of hypotheses (2). Finally, this conceptualization leads to select variables (3) for measurement as well as relevant indicators (4).

4.1. Concepts.

Coordination.

Conceptualizing a buzz word such as coordination requires a strong focus and delimitation. First of all, coordination is a mode of governance (Prange and Kaiser 2005: 290 ; Drachenberg 2009: 22), meaning that it is a type of governing, a way of doing politics (Borràs 2004: 199). In the R&I case, coordination is practiced through the Open Method of Coordination, which is characterized as flexible, politically driven, non-regulatory, rather than biding and delegation (what delegation of competences fostered) (Borràs 2004: 199). Thus, the operationalisation of coordination should be the OMC, that is to say a mode of governance characterized by its non-biding nature, policy-driven and soft-like (and then non-regulatory).

Research and Innovation.

According to the OECD, Research refers to a "*creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humanity, culture and society, and the use of this stock of knowledge to devise new application*" (OECD). In other words, Research and innovation is an activity, consisting in producing knowledge.

Convergence

Once again, convergence is a term to use with caution, since it is very trendy in most of political and economic discourses at national and European level. However, some scholars tried to conceptualize this notion. According to Rometsch and Wessels, (1996: 238) as a "*gradual process of constitutional, institutional, procedural, organizational and behavioural innovations and adaptations to the EU decision-making by national institutions and which* […] *lead to one politico-constitutional system in the Member States* […] *characterized* […] *by disappearance of pre-existing differences*". Then, convergence should be conceived as a process leading to a single political system, with merged procedures and resources.

Fusion

The fusion process constitutes the keyword of this study and the central mechanism to be analysed. As explained before, fusion can be conceived as a "*highly bureaucratised process of European Governance* [which] *draws in ever more parts of national and regional administrations and leads gradually to bureaucratic interpenetration or administrative fusion*" (Rometsch and Wessels 1996).

4.2. Units of analysis

In order to provide an effective measurement, a relevant selection of units of analysis should be undertaken. The unit of analysis should be understood as "*the level or types of actors which the hypothesis is thought to apply*" (Mycoff and Reynolds 2005: 77). Thus, since this research project aims at analysing if EU coordination efforts make National R&I policies converging, the main units of analysis should be the Member States, as well as European institutions, especially the European Commission.

4.3 Variables selection.

4.3.1 Dependent variable

A research design requires the selection of two types of variables: one "dependent" and several "independent". According to Reynolds and Mycoff (2005: 87), a dependent variable is "*the phenomenon thought to be influenced, affected or caused by some other phenomenon*". As explained before, this study aims at giving elements of explanation on the effect of EU coordination efforts on convergence of R&I policies. Thus, convergence of national policies should constitute **the dependent variable** of this research.
As mentioned in the introduction chapter, the dependent variable of this analysis will be the "convergence of National R&I policies". More precisely, as explained in this chapter, the expected output is the achievement of the fusion process, i.e. the intensification of cooperation and of the share of responsibilities (see fig. 2).

4.3.2 Independent variables

Choosing independent variables requires focusing on the selected analytical framework, that is to say the fusion approach combined with Network governance theory. On the basis of this analytical framework, three hypotheses have been formulated, related to Europeanization, growing interdependencies and the share of responsibilities. In consequence, choice of independent variables should be related to those hypotheses, which leads to focus on the following phenomena: Europeanization of national political arenas (1), provisions from coordination rules (2), specificities of national political systems (3) and specificities of national preferences (3).

Antecedent variable: Europeanization of national political arenas.

Firstly, Europeanization of national arenas should constitute an antecedent variable. Indeed, as explained before, one prerequisite for establishing a coordination process is the involvement of national actors in the supra-national agenda, that is to say the shaping of a position at the EU level (Linsenmann, Meyer and Wessels 2007: 21-22 ; Olsen 2002). This phenomenon wouldn’t occur if there is no penetration of the EU political arena into the national ones, i.e. an opening of domestic politics to supranational actors. In consequence, Europeanization of national political arenas should constitute one antecedent variable for this theoretical framework.

Although it is conceived as a prerequisite and at the starting point of the explanatory scheme, this variable is influenced by another variable closer to the expected outcome: indeed, if Europeanization influences observance of EU coordination rules (OMC) (main independent variable of this study, see below), it is also true that implementing and respecting those provisions feeds this phenomenon, since national-level institutions deepen their involvement in the European arena. Thus, the antecedent and the main independent variable feed each other.

Independent variable.

A step further to Europeanization is the increase of interdependencies. Such growing mutual interactions would depend on a growing need to cooperate, which can occur if coordination rules are provided. In other words, national actors would become interdependent if they have to take into account legal provisions ruling coordination in the European Union. More precisely, as explained by Linsenmann, Meyer and Wessels (2007: 18), the "legal constitution" of the European Union, consisting in formal-institutional decisions, rules and texts, can be considered as a "skeleton", a structure, for the "living constitution" of the EU (i.e. the behaviour of actors or their cultures). In other words,

awareness of existence of rules and their recognition would be determinant for setting minimum conditions for an effective policy coordination, and then convergence.
In the case of Research and innovation, the applicable rules for coordination are essentially the provisions from the Open Method of Coordination, from which the European Research Area (ERA) is born. More precisely, according to the European Council decision setting up the OMC (2000), three groups of instruments characterizes this mode of governance: the elaboration of guidelines, the exchange of best practices and the setting up of peer review.
In sum, provisions from coordination rules, that is to say provisions from the OMC, should constitute the main independent variable of our analytical framework.

Intervening variables.

In addition to Europeanization and the provisions from OMC, other variables, so-called "intervening", can be selected. This category refers to variables coming "*between an independent [one] and a dependent [one] and helps to explain the process by which one influences the other*" (Johnson, Reynolds and Mycoff 2008: 67). According to the fusion theorists, the coordination process leading to fusion needs to take into account several factors for achieving a share of responsibilities. They should be related to the specificities of Member States, which have a significant influence on the vertical and the horizontal aspect of the coordination process:

Specificities of national political systems

First, managing the specificities of national political systems is one first intervening variable which can help to understand how coordination can lead to policy convergence. Indeed, as Kaiser and Prange (2004: 250) argue, one major issue to challenge in the coordination of innovation policies is related its vertical coordination, that is to say taking into account the "multi-level character of innovation policies", involving national as well as sub-national authorities in the implementation and the shaping of policy preferences in the field of Research and innovation. But the share of competencies between central and local governments is highly heterogeneous from one Member State to another.
Predictions from the fusion theory and the Network Governance also provides arguments for taking this diversity into account: as Rometsch and Wessels (1996) argue, the way towards convergence implies growing interactions between actors from all layers of governance, leading to more interdependency. Indeed, according to Edler and Georghiou (2007: 955), quality and demand of innovation, but also inclination to adopt innovation appears to be different from one region to another. In consequence, the specificities of national political

systems possibly has an impact on the vertical coordination process (i.e. coordination among different layers of governance), and should complete this theoretical framework as an intervening variable.

Specificities of national policy preferences.

This factor also matters regarding the horizontal aspect of coordination (i.e. among the same level of governance), especially concerning the harmonization of policy preference of national governments. Regarding the R&I case, Kaiser and Prange (2004: 250) argue that solving the diversity of structure and preferences of national innovation systems should be conceived as a key factor for determining the success or the failure of the coordination process, i.e. the Open Method of Coordination. Indeed, each Member State has its own policy preferences, and the structure of the R&I system from one country to another can be different, in terms of involved institutions or in terms of modes of funding.
Predictions from the fusion theory also point out the importance of harmonization of positions in the coordination process: as explained before, growing interdependencies generate a need to cooperate (Rometsh and Wessels 1996), and then a need to harmonize national positions (Holzinger and Knill 2005: 781), which would lead to necessary adjustments (Linsenmann, Meyer and Wessels 2007: 25-26 ; Holzinger and Knill 2005: 782). Thus, it can be observed this factor constitutes a requirement for achieving the fusion of resources and instruments, and that is why specificities of national preferences should constitute a second intervening variable for this theoretical framework.

To sum up, it can be selected several independent variables for measuring if there is convergence between national R&I policies:
- First, Europeanization of national political arenas, meaning the construction of national preferences, motivations and interests defended at the EU level, should constitute an antecedent variable.
- Second, legal provisions of the EU coordination process, that is to say provisions of the Open Method of Coordination, should constitute the main independent variable.
- Third, two resulting intervening variables complete this model, related to specificities of Member States, acting on the horizontal and the vertical aspect of the coordination process: the specificities of national political systems and the diversity of national preferences. The flowchart below draws those variables and their interactions

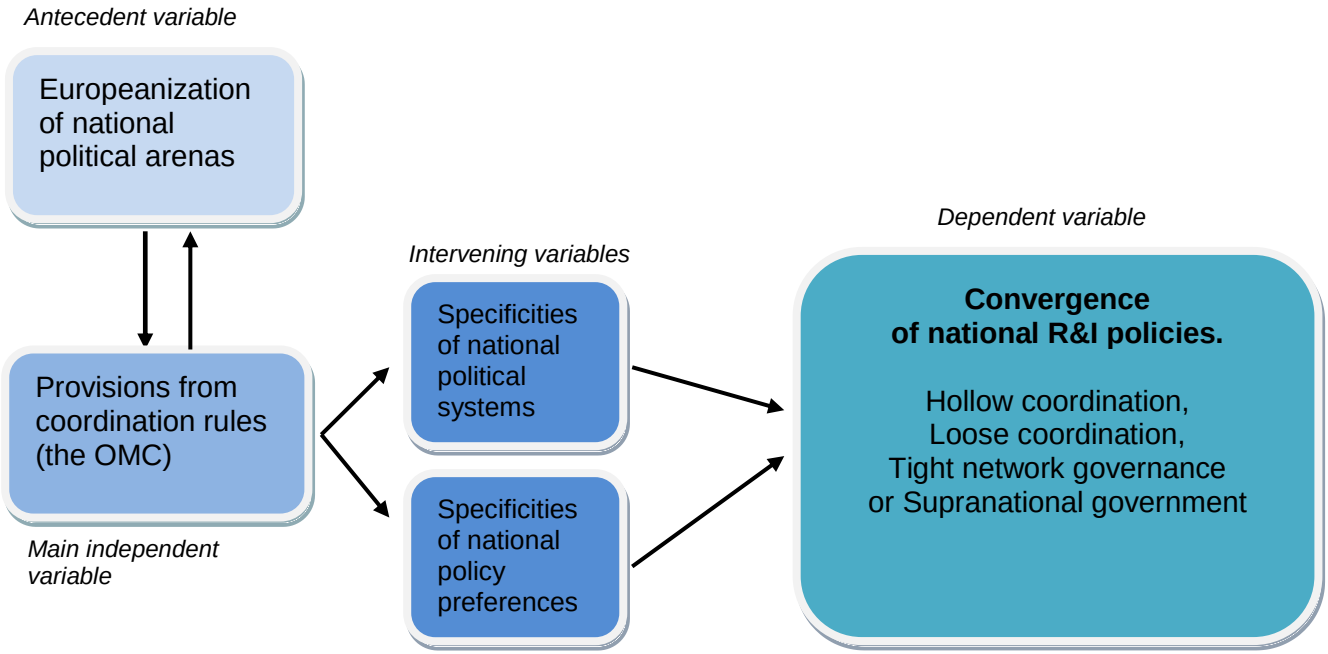

Fig.3 : Illustration of the analytical framework.

4.4. Selection of Indicators

This research project opts for a theoretical framework focused on the fusion theory. According to Wessels (1997), the fusion process should be evaluated through a set of several criteria, which can be used for the measurement of the selected variables:

4.4.1 Indicators related to the enlargement of scope of EU policies.

One first indicator should measure the antecedent variable (Europeanization of national political arenas). As argued by fusion theorists, Europeanization is one prerequisite for convergence. The transformation of the EU agenda towards a "state-like" one should be evaluated through the enlargement of the number of policy areas discussed in Brussels (Wessels 1997: 278; Wessels and Schäffer 2003: 17). Another similar indicator is also selected by the European Commission (2011d) in DG Research and innovation's Management Plan for 2011 ("Number of areas where MS have decided to embark on Joint programming"), and can be adapted for measurement of this variable. Thus, it will be chosen the following indicators related to this variable:

- *Enlargement of the scope and objectives of R&I and procurement policies.*

The more the scope and objectives of coordination extended, the more the EU will penetrate the national political arenas. In order to score this indicator, it can be measured the following observations:

- Policy sectors subject to cooperation.
- Specific objectives to be tackled for harmonization

- *Rise of R&I and procurement issues in the EU political agenda.*

The Europeanisation of national R&I policy can be observed if this policy area is upgraded as a priority action in the EU agenda. In order to score this inidcator, it can be measured the following observation:

- R&I-related policy objectives put on the EU agenda.
- Acceptance of EU involvement by Members States in R&I and procurement policies.

4.4.2 Indicators related to perception by national actors of EU coordination rules.

Measuring the main independent variable (provisions from coordination rules) requires focusing on how decisions taken look like. That is why, according to Wessels (1997), analysing the binding nature of such acts or at least [perçu comme tel] by actors helps to observe a fusion process and then policy covergence. As explained before, as regards R&I, coordination rules and mechanisms mainly consist in OMC. Yet, the OMC is essentially composed of soft law mechanisms (Borrás and Jacobsson 2004 ; Drachenberg 2010), which are basically elaboration of guidelines, establishment of benchmarks, setting of European targets and setting up of monitoring tools, such as peer reviews and mutual learning process (see point 2). However, binding nature of decisions is quite hard to define. Thus, indicators should be about the recognition of those coordination rules, and could be formulated as follows:

- *Degree of awareness and availability of good practices examples, guidelines and monitoring schemes.*

This indicator will help to determine if national authorities are aware of the existence of coordination rules and if they are accessible enough. In order to score it, it can be measured the following observations:

- Awareness of EU guidelines, good practices and mutual learning possibilities.
- Accessibility of guidelines and good practices examples.

- *Perception of coordination rules by public authorities procuring innovation.*

Measuring the following of coordination rules requires data and statistics which haven't been achieved. Thus, one way to overcome this obstacle is to measure how binding coordination rules are perceived by national actors. Scoring this indicator can be done through the measurement of the following observations:

- Perception of OMC tools.
- Perception of the EU as a central coordinator for PPI.

4.5.3 Indicators related to involvement of intermediary actors.

For the measurement of the first intervening variable, the focus should be put on how important sub national authorities are in the formulation and the implementation of Research and innovation policy, especially in the policy area selected for this work, i.e. development of public procurement of innovation. Wessels (1997: 283) also considered the involvement of intermediary actors for analyzing the fusion process, stating that "*the capacity to link several circles on different levels of the EC/EU system*" would constitute one factor for making fusion effective. Thus, it can be chosen the following indicators:

- *Coordination initiatives complementing without duplicating regional and local initiatives*

This indicator, derived from a feasibility study of a EU support for procurement of innovation (Consortium 2011), would help to determine if EU coordination initiatives don't duplicate other existing sub national ones, which would undermine them. This indicator can e scored by measuring the following observations:

- Amount of structural funds allocated to RTDI
- Share of Regional and local authorities in total expenditure in public procurement.

- *Administrative capacity of Member States.*

Dealing successfully with specificities of each Member State requires that they have enough administrative capacity for implementing coordination rules. Such an indicator can be scored by measuring the following observations:

- Procurement structures among Member States
- Degree of fragmentation of public procurement national structures.

4.5.4 Indicators related to institutional growth.

Measuring the last intervening variable (specificities of national preference) implies to assess whether the EU set up a scheme facilitating harmonization of preferences, which can be achieved by institutional developments, such as the creation of networks. Indeed, according to Wessels (1997: 280), "an important characteristic of institutionalization is the comprehensive and intensive participation of national governments and administrations in all phases of the EU's policy cycle", which can open the way to consensus and then harmonization of preferences. That is why it can be chosen the following indicators:

- *Broadening of transnational networks.*

Harmonization of preferences requires a strong networking of involved actors, as argued in network governance approach. The scoring of the indicator can be done by measuring the following observations:

- Setting up of transnational cooperation networks
- Sectors covered by networks.

- *The Reach of Common policy objectives.*

The scoring of this indicator will be proceeded by measuring the following observations:

- The targeting of common policy sectors to tackle.
- The definition of common policy priorities.

4.5. Hypotheses

By referring to the selected theoretical framework (fusion theory, combined with some features of Network governance), and the selection of variables and indicators, it can be formulated the following hypotheses:

H1- *The more the national institutions will shape their preferences, motivations, interests and initiatives at the European level, the more National R&I policies will converge.*

It has been selected Europeanization, i.e. the penetration of the EU one into the national ones, as a first independent variable for explaining the policy convergence process of national political arenas. In other words, involvement of national institutions is required, and this should constitute one first hypothesis. If this prerequisite cannot be observed, the outcome would be an absence of convergence, or even a divergence.

H2- *The convergence of national R&I policies is determined by growing interdependences between both levels of governance, leading to an emergence of common policy preferences.*

As predicted in the fusion theory, but also in the Network governance, the blurring of frontiers generates interdependencies between actors. The involvement of the EU in national political arenas makes common preferences emerging from national positions, and would lead them to increase their exchanges. Such a process has been taken into consideration in our analytical framework through the main independent variable, i.e. provisions from the Open Method of Coordination rules. Thus, it can be assumed that interdependencies and resulting emerging common preferences are another step towards fusion, and *in fine* convergence. However, in case of poor exchanges and partitioning of national preferences, the opposite result should occur, i.e. weak convergence (hollow or loose coordination), or even divergence.

H3- *The increase of sharing responsibilities between layers of governance favours convergence of national R&I policies.*
As explained by Rometsch and Wessels (1996), one feature of fusion is that as a result of blurring of borders between levels of governance and increasing interactions, a share of responsibilities should take shape between actors from different levels of governance. In order to operationalize this prediction, it has been formulated two intervening variables to observe this phenomenon, about taking into account specificities of national political systems and diversity of policy preferences. Thus, it has to be assumed that National and European institutions share competencies within the decision-making process. Nevertheless, findings contradicting this postulate would rather lead to the opposite outcome, meaning a monopoly of responsibilities leading to divergence.

4.6. Measurement

For such diversified indicators, a wide variety of data should be analyzed for measurement. First, official documentation and reports from European institutions as well as consortia of experts will be particularly relevant measuring indicators related to the main independent variable (provisions from OMC rules), as the Open Method of Coordination generated lots of evaluation reports. This source of evidence would also help to measure the other indicators, such as those related to intervening variables, since there is an increase reports assessing horizontal and vertical coordination. In addition, a wide set of semi-guiding interviews and a survey to selected Public Procurement Networks would also help to measure all the indicators, and will be particularly relevant for measuring the antecedent

variable, which is hardly measurable through official documents and reports. Interviews and the survey would also bring relevant findings for indicators related to the remaining variables.

In order to obtain a measurement as accurate as possible, one option is to elaborate a basic scoring system as follows:

- The findings corroborate with observations predicted = 1 (corroboration)
- The findings partially corroborate with observations predicted= 0,5 (partial corroboration)
- The findings partially contradict the observations predicted = - 0,5 (partial invalidation)
- The findings contradict the observations predicted = - 1 (invalidation)

Based on that system, it will be calculated the sum of scores on each observation predicted per indicator, to obtain a final one for each variable. The scores will be interpreted as follows:

2,5 > x > 4 = high congruence between findings and predictions formulated.
0 > x > 2 = medium-high congruence between findings and predictions formulated.
- 2 > x > 0 = medium-low congruence between findings and predictions formulated
-4 > x > -2,5 = low congruence between findings and predictions formulated.

Table 1 offers an overview of the analytical framework and scoring for measurement. Before presenting and analyzing research findings (chapter 4), next chapter will give a deeper definition of the case to be studied, as well as an historical perspective and the state of the art on this issue.

Table 1. Summary of hypotheses, variables, indicators and measurement.

Hypothesis	Name of variable	Description	Type of independent variable	Selection of indicators for measurement	Observations to be measured	Congruence Scoring
The more the national institutions will shape their preferences, motivations, interests and initiatives at the European level, the more National R&I policies will converge	Europeanization of national arenas	Penetration of European arena into the national one is a prerequisite for fusion.	Antecedent	– Enlargement of the scope and objectives of EU R&I and procurement policies.	- Policy sectors subject to cooperation - Specific objectives to be tackled for harmonization	2,5>x>4= high 0>x>2= medium-high -2>x>0= medium-low -4>x>-2,5= low
				– Raise of R&I and procurement issues in the EU political agenda	- R&I-related policy objectives put on the EU agenda. - Acceptance of EU involvement by Members States in R&I and procurement policies	
The convergence of national R&I policies is determined by growing interdependences between both levels of governance, leading to an emergence of common policy preferences.	Provisions from Coordination rules (OMC)	The Member States respect acts formulated through the OMC	Independent	– Awareness and availability of OMC tools	- Awareness of EU guidelines, good practices and mutual learning possibilities. - Accessibility and availability of guidelines and good practices examples	2,5>x>4= high 0>x>2= medium-high -2>x>0= medium-low -4>x>-2,5= low
				– Perception by national actors of coordination rules	- Perception of OMC tools. - Perception of the EU as a central coordinator for PPI.	
The increase of sharing responsibilities between layers of governance favours convergence of national R&I policies.	Specificity of national political systems (vertical coordination)	Member States succeed to coordinate all levels of governance to implement EU standards.	Intervening	– Coordination initiatives complementing without duplicating regional and local initiatives	- Amount of structural funds allocated to RTDI - Share of Regional and local authorities in tot expenditure in public procurement.	2,5>x>4= high 0>x>2= medium-high -2>x>0= medium-low -4>x>-2,5= low
				– Administrative capacity of Member States.	- Procurement structures among Member States - Degree of fragmentation of public procurement national structures.	
	Diversity of national policy preferences (horizontal coordination)	The Member States succeed to conciliate their national preferences and systems with a common EU strategy.	Intervening	–Broadening of transnational networks	- Setting up of transnational cooperation networks - Sectors covered by networks.	2,5>x>4= high 0>x>2= medium-high -2>x>0= medium-low -4>x>-2,5= low
				–The reach of common policy targets	- Targeting of common policy sectors to tackle. - Definition of common policy priorities.	

CHAPTER 3 = PUBLIC PROCUREMENT OF INNOVATION: HISTORICAL PERSPECTIVE AND STATE OF AFFAIRS.

1. Introduction

Public procurement as a policy tool for funding Research and innovation.

Stimulating R&I requires efforts from public as well as private actors. As explained before, the European leaders targeted in 2003 to spend 3% of GDP for Research and Development activities, by coordinating all measures stimulating R&D. According to the European Commission (2003), several ways of actions, several policy instruments can be envisaged for that objective, which can be classified according to their purpose, i.e. whether they foster the demand or the supply of R&I-based activities (see fig.4).

One first option for policy makers is to stimulate the supply of R&D-based products or services.

Possible direct measures for public authorities consist in two groups of actions: first, they can undertake financial measures for supporting R&D activities, such as granting SMEs for innovative projects, funding training programmes such as Marie Curie or LEONARDO actions, or allocating credits to public research organisations. In addition to the financial way, public can also stimulate R&D activities through a wide set of services for private sector, such as establishing networks or providing support for information exchange.

Besides those measures fostering the “supply side” of R&D, Public authorities can also stimulate the demand of such activities. First, “systemic policies” can be led, by for instance fostering the development of clusters (concentration of industries). Second, public authorities can act as a regulator, in order to give necessary stimuli for boosting investments in Research. Finally, one last measure consists in fostering R&I through the establishment of **public procurements**. For this research, the scope will be focused on this latter case.

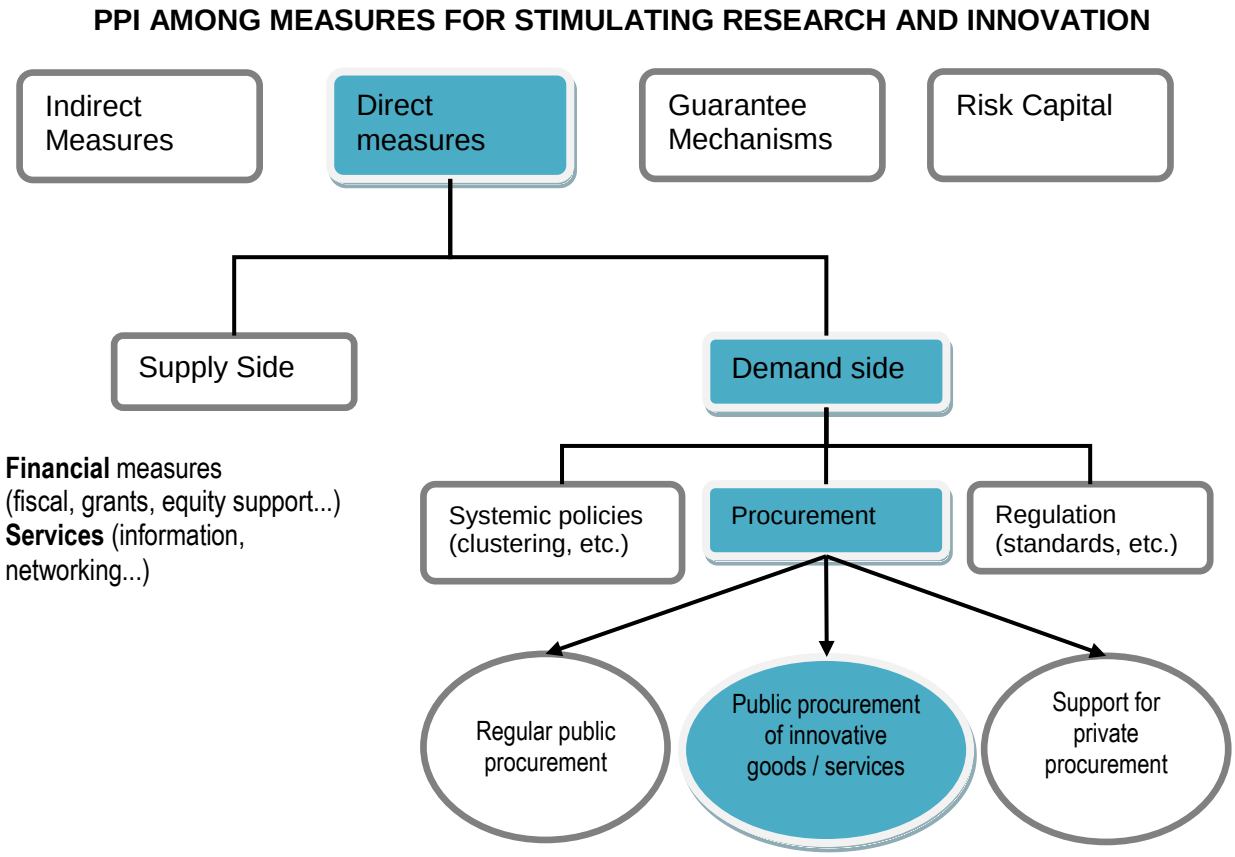

Fig. 4 Typology of measures taken by public authorities to stimulate R&I activities, inspired from European Commission (2003).

Public procurement constantly gained the interest of European institutions as a tool for raising investment in R&I, mainly because almost 19.4% of the EU-27 GDP (equivalent to 2 200 Billion €) is generated by such activities (Wert 2011 and Smits 2011). Besides, pubic authorities constitute major demanders of innovative products, since they got a huge purchasing power (Rolfstam 2009: 349), which make them decisive actors for boosting Research and Innovation needed for such procurements. More precisely, the concept of "public procurement of innovation" has been developed these recent years, and has been appropriated by European institutions in the drawing of Lisbon and EU2020 strategies, raising that concept as a flagship measure for increasing R&I in Europe.

Defining Public Procurement of Innovation.

Such a buzz word merits finding some elements of definition, as stated in the introduction chapter. According to the Commission (2003: 10), public procurement should be conceived as "*the acquisition, whether contract or not, of works, supplies and services by public bodies at whatever level* […] *and by utilities*". More precisely, as explained before, the concept of public procurement of innovation (PPI) emerged from this logic. The idea behind this notion is about using procurement as a tool for raising R&D investments, and then "*stimulating the development of Research and innovation-intensive products and services*" (European Commission 2005b: 9).

According to Edquist (2009: 7) and Rolfstam (2009: 351), this type of procurement occurs "*when a public agency acts to purchase, or place an order for, a product – service, good, or system – that does not yet exist, but which could (probably) be developed within a reasonable period of time, based on additional or new innovative work by the organisation(s) undertaking to produce, supply, and sell the product being purchased*".

Put in a simpler way, public procurement for innovation is needed when goods or services to purchase, such as infrastructures or equipment, require research and innovation to be realized, which makes this procurement different from the regular one (Edquist 2009: 7). In other words, PPI is a kind of a call for expertise, in order to produce innovative goods or services. **Annex 2** allows to have a better understanding of what is about and the added value of a EU support.

Typology of Public Procurements of Innovation.

As explained in the introductory chapter (chapter 1), public procurement of innovation is one type among others, and offers several variants: the public procurement of innovative products and services (PPI) and pre-commercial procurement (PCP).

According to the European Commission (2007b: 6), three specificities should characterize the PCP from another innovative procurement:

- The application of risk-benefit sharing between public purchaser and suppliers.
- Separation of the R&D phase from deployment of commercial volumes of end-products.
- A competitive procurement designed to exclude State aid, leading to a competitive development in phases

In Sum, a Pre-Commercial Procurement should occur if R&D is needed for purchasing one good/service/process, while Public procurement of innovation occurs when the innovation already exists and can be commercialized. In addition, another major difference is that Procurement directives of 2004 do not apply to PCP (Edler and Georghiou 2007: 954), while

they do for PPI. Characteristics and differences between those two types of procurement can be illustrated as displayed in **annex 5**.

If this measure for boosting R&D activity already found a strong support in the United States and in Japan, the European Member States hardly developed this type of action. Only some pioneer States, such as United Kingdom, Sweden or Netherlands (Edquist 2009) integrated this kind of measure in their national R&I policies. Facing this fragmented view and use of public procurement as a tool for boosting Research and innovation, the EU level increasingly paid attention to it, and finally considered public procurement for innovation as a supranational stake. Indeed, according to the European Commission (2005a: 22), debating this issue at the EU level should establish "*a link to the concept of European "home markets" for innovative goods and services*". In order to end the fragmentation of the European market, building a common governance and policy of such a tool for R&I would be beneficial for all Europeans, so that united Member States could "*offer a market opportunity large enough to warrant major investment in innovation by suppliers*" (European Commission 2005a: 22). Considering that logic, coordination is more than necessary, and becomes a major issue for the EU to achieve such objectives, so that "*the same solutions and standards would meet all* [different] *needs*". An historical perspective helps to understand this growing problem of coordination.

2. Public procurement of innovation from an historical perspective: from an experimental measure towards a policy tool for boosting R&I.

As highlighted in the previous section, the interest of EU institutions in PPI as a tool for raising R&I should be put in the context of achieving the single market. As Rolfstam (2009: 350) argues, that target necessarily led EU institutions to accelerate standardization, notably by putting the setting of common rules for public procurements in the Political agenda. The launching of the Lisbon Strategy and the Agenda 2000 confirms this trend, making R&D as a priority for the next ten years. Two years later, Member States renewed their will to raise R&D at the EU level during the European Council of Barcelona on 15-16 March 2002. In addition to be a target, R&D is now considered as "*a key instrument for innovation, growth and employment*" (European Commission 2005b: 9). Moreover, Member States agree on one target: raising R&D investments to reach 3% of the EU GDP for 2010, instead of 1.97% in 2002. Following this growing interest for Research and Development, public procurement issue tends to move from a minor consideration, "*modestly mentioned in passing*" (Rolfstam 2009: 350), towards a key role in innovation policy of the EU. Indeed, in

2004, the Kok Report on the Lisbon Strategy considered that procurement could be used to provide pioneer markets for new Research and innovation-intensive products. One year later, another report from the Commission in 2005 reminds the relevance of such measures, due to the fact that public authorities constitute "big market players" (Rolfstam 2009: 350) in the field of R&I, and confirms that procurement should be viewed as a policy tool for reaching the "3% target". Thus, it appears that European Institutions unanimously agree on the role which procurement can play in R&I intensity in Europe, that is why coordination of such measures increasingly concerned the EU level. In a summit in 2003, Member States decided to apply the Open Method of Coordination to R&D policy making for reaching the 3% objective. In consequence to that, some projects born form the OMC method were launched in the 6th Framework programme for Research and Technology Development, such as STEPPIN (which ran until 2008) or OMC-PTP (2007-2009). In consequence, this historical perspective put in evidence the increasing role of Public procurement in the EU R&I strategy and helped to draw the key lines of the first steps of coordination efforts. Therefore a state of affairs is needed for understanding the issues linked to coordination, by using our theoretical framework.

3. The state of affairs: public procurement of innovation and the coordination issue.

Previous sections helped to understand the growing issue regarding Public Procurement for Innovation and the resulting need of coordination. On this latter point, it can be pointed out an intensive effort from European institutions, and especially from the Commission, for drawing basis for coordinating the use and the practice of Public procurement, and a fortiori the PPI.

First, one first major step to reach this target is the setting of a legal framework, by the adoption of two directives, 2004/18/EC on the coordination of procedures for the award of public works contracts, public supply and public service contracts, and 2004/17/EC on coordination of procurement procedures on specific fields. In addition to this, the EU is part of the Public Procurement Agreement (GPA) concluded within the WTO. As a result of those directives and agreement, types of procedures, rules and guidelines for competing are harmonized (European Commission 2007a: 46). Viewed from the fusion theory, this development constitutes a clue for determining a certain Europeanization of Member States policies on Public procurement, since the European arena penetrates the National one, which constitutes a first step towards institutional fusion (Rometsch and Wessels, 1996: 35-36). However, the needs of public authorities of innovative and R&D-based products all across Europe still constitute a highly fragmented market, in which every Member State is

organising its own system for stimulating innovation through public procurements. Indeed, as Rolfstam (2009: 358) argues, "*An analysis purely based on legal framework is insufficient*", but should be rather focused on institutions, in order to analyse which kind of matrix can use efficiently the procurement too for diffusing innovation in the whole EU. Besides, this requirement of interacting and interdependent institutions is one of the main postulates of the Fusion approach, arguing that Member States can politically converge if administration from European and National levels increase their interdependence and their interactions (Rometsch and Wessels 1996). Fragmentation is an observation also shared with experts from the Joint Research Centre (2007: 28): taking the case of Internet and Communication Technologies (ICT), they observe that there is "no aggregation" in the use of public procurement, and that the legal framework for coordination is characterized by its soft nature (guidelines, information, awareness rising, etc.) rather than by a governance-oriented approach. Rolfstam (2009: 358) also argues in that way, stating that "*rather than trying to change the law, different kinds of coordinated activities could further improve possibilities for public procurement of innovation*", and also insists on the necessity to offer an institutional solution rather than a legal one.

The setting of a viable institutional framework is then a major issue for coordinating the use and governance of the procurement tool for stimulating R&I. Indeed, according to Rolfstam (2009: 352), "*without institutions, a social system would not be able to accumulate knowledge, or enable communication and would therefore be unable to sustain innovation*". Arnold and Boekholt, quoted by Braun (2008: 231), tried to conceptualize different levels of coordination:

1. The level of *the government and the cabinet*, corresponding to 'high politics', deals with major objectives as well as institutional reforms.
2. The *sectoral* level of ministries, subdivided into divisions and subdivisions, deals with "day-to-day" decisions, such as implementation issues.
3. Finally, the *agency* level, regards execution and implementation tasks, but benefits a certain degree of operational autonomy, like freedom to decide on how to implement policies.

Evidences of such a typology can be observed in other academic works and official reports: for instance, Rolfstam (2009: 350) also mentions public agencies as major central actors for coordinating activities promoting PPI, and claims for the setting of a central one coordinating this issue at the EU level. On the other hand, a report from the European Commission (2005a: 10) rather insists on the necessity to coordinate at governmental level, fostering the OMC system, operating in the field of Research via the CREST Committee which is a structure dependent to the Council.

Thus, it can be observed significant efforts for coordinating at the EU level the use of public procurement for innovation, by involving every level of governance, which can be considered as a share of responsibilities according to the Fusion theory (Wessels and Shäfer 2007: 17), as well as Network governance approach (Rhodes 2007: 1256). From those dynamics, several significant coordination actions have been undertaken, which leads to analyse what kinds of measures are taken. First, one first wide-spread practice consists in networking public authorities with all other stakeholders, on a lesson-learning basis; as a result, several groups have been created, such as the European Union advisory Committee on Public Procurement or the Public Procurement Network (PPN) (European Commission 2007a: 28). In addition to this, other practices make a step further towards coordination, consisting in setting joint procurements. Indeed, several expert groups agree on the fact that the EU would benefit to coordinate demand, and then purchases, at the European level (European Commission 2007a: 15), which can be stimulated by the creation of joint procurements, by pooling need of several Member States together. In consequence, this state of affairs clearly underlined how important coordination issue is for the development of the concept of Public Procurement for Innovation (PPI), leading supranational as well as the national one to develop it. That is why the EU launched the so-called Lead market initiatives in 2007, in which public procurement constitutes a cornerstone of this European Strategy. According to the Commission (2010: 8), a Lead Market consists in "*market of a product or service in a given geographical area, where the diffusion process of an internationally successful innovation first took off and is sustained and expanded through a wide range of different services*".

To conclude, it has been highlighted the importance of PPI as a policy tool for fostering Research and innovation in Europe, and then strengthening future of European economy. However, it also has been showed that coordination is needed for optimizing the use of such a tool in the whole EU, in order to make it beneficial for all Europeans. The state of affairs in that case revealed that a legal approach of coordination has been undertaken, by harmonizing and standardizing procedures to compete for tenders. Nevertheless, dealing with coordination problem through legal path appears to be insufficient; in addition to harmonize rules, coordination also needs to develop a global strategic use of this tool, by pooling purchases of innovation all across Europe and diffuse it in the whole EU territory. Reaching such a target requires a clearly defined institutional framework, which can be set if there is enough interactions and interdependencies for launching an administrative fusion process (Rometsch and Wessels 1996: 238). This research project aims at analysing if EU efforts generate a policy convergence going in that way.

CHAPTER 4: RESEARCH FINDINGS

While chapter 2 set up the theoretical framework of this study and chapter 3 gave an overview of the state of affairs of our study case, this section aims at presenting and analysing the author's findings for scrutinizing a possible between predictions formulated and observations made. As explained before, it has been assumed that a congruence outcome can be reached if H1, H2 and H3 are valid. That is why it will be scrutinized whether there are matches between those predictions and findings by using our analytical framework, hypothesis by hypothesis.

1. Hypothesis 1 = A Europeanization of national R&I policies?

1.1 Analytical framework, operationalisation and measurement.

The analytical framework develope ed in chapter 2 highlights how important Europeanization is for reaching a convergence outcome. That is why it has been formulated one hypothesis based on this concept. H1 is formulated as follows: *The more the national institutions will shape their preferences, motivations, interests and initiatives at the European level, the more National R&I policies will converge.*

One antecedent variable has been selected for explaining this assumption: the "Europeanisation of national political arenas" aims at highlighting a penetration phenomenon of the European politics into domestic ones, so that a shaping of an outlook and strategies at the EU level emerge in national political arenas (Olsen 2002; Linsenmann, Meyer and Wessels 2007). In other words, a deeper involvement of National institutions into the EU political agenda is expected when this phenomenon occurs.

The Europeanization variable has been conceived as antecedent, meaning that it occurs first and constitutes a prerequisite. This variable should make the main independent variable (provisions from OMC) occurring; however, those two are interdependent, since observance of rules from the Open Method of Coordination feeds the Europeanization phenomenon (see fig.3 in chapter 2).

For operationalisation of this variable, two indicators have been selected:

A first one refers to the rise of Research and innovation issues in the EU political agenda. This would help to indicate to what extend the Member States open their domestic political arena to the EU one so that European and the national ones.

A second indicator refers to the enlargement of scopes and objectives of EU R&I and procurement policies. Indeed, this would help to measure the deepening or the stagnation of cooperation in those fields.

Here is then the analytical framework elaborated for explaining H1. Finally, measurement for this will consist as follows:
The first indicator is going to be measured through the scrutiny of two expected observations: first, it will be measured if it can be observed an acceptance Member States of more EU involvement in R&I and PPI issues. Finally, second, it will be measured if it can be observed an increase of R&I and PPI-related policy items in the EU agenda.
Finally, the second indicator will be also measured through the scrutiny of two expected observations, suggesting 1- An increase of policy sectors subject to cooperation 2- An increase of specific objectives subject to cooperation.
Findings below will help to lead this analysis

1.2 Results of measurements.

1.2.1 Indicator "Rise of R&I and procurement issues in the EU political agenda".

- Acceptance of EU involvement by Members States in R&I and procurement policies

Findings from empirical data and field research highlight a clear gain fo interest by Member States to put Research & innovation, as well as procurement policy, on the "European table". Firstly, data from feasibiliy studies on PCP and PPI clearly highlights that Member States agree on the fact that R&I and procurement policies have to be discussed at the EU level. Indeed, one first report on opportunity of Pre-Commercial Procurement in Europe ordered by EC's DG Information and Society collected qualitative data (interviews) highlighting the willingness from public authorities to share their views and their experience at the EU level (2008: 31), even if their aceptance of sharing risks related to innovation is quite a mitigated feeling.
In addition, another report on the state of play of implementation of a PCP framework (2011) also reveals a kind of acceptance form Member States to cope with an involvement of European level in this field. Indeed, according to data collected from interviews, a very large majority of respondents claims for more guidance and more support from the EU for the practice of such procurements, notably regarding joint procurement. Such a demand clearly shows an acceptance of a deeper EU involvement into innovative procurement issues, notably through the providing of guidance and frameworks for implementing such complex policy tools like Pre-Commercial Procurement. The same observation can be made from the feasibility study on EU support to innovative procurements, ordered by EC's DG Enterprise

(Consortium 2011): once again, the consortium set up for this study gathered data through a large set of interviews, and reveals that a large majority of respondents are in favour of more EU involvement in procurement policy, notably regarding the assessment of needs in each country. Indeed, according to the study (2001: 20), assessment of needs appears to be an item for which respondents accept a wide EU involvement: for instance, definition of needs with other organisations to “achieve critical mass” for procuring is considered as “very important” for 56% of respondents regarding PPI, and 64% regarding PCP. In addition, this survey also points out that EU support for analysing of policy problems is considered as "very important" by 41% of respondents for PPI and 37% for PCP. The study concludes that the Commission, and then the EU level, is perceived by interviewees as stimulator and a policy analyst which can help them to clarify their needs for procurement. In other words, this data clearly shows an acceptance from Member States of a deeper involvement of the EU in their procurement policy and strategy.
Data from interviews also leads to observe this phenomenon: among officials who deal or dealt with procurement and innovation policy, there is quite a large consensus on the fact that European activism, notably through the Aho report (see below) or the establishment of the deepening of the ERA, clearly influenced Member States towards more openness of this policy field to the EU level (Wert 2011 ; Sequeira 2011 ; interview 3 ; Gavigan 2011).

- <u>R&D-related policy objectives put on the EU agenda.</u>

In addition to evaluation report of the OMC (2010) and a considerable amount of Commission Communications (2006a, 2007b, 2009a, 2010a to c), data collected from interviews helped to draw the evolution of items put in the EU agenda related to R&I, and more precisely regarding the Public procurement of innovation.

Items related to Research and innovation.

Unanimity of interviewees agree on the fact research and innovation gained lots of interest and succeeded to rise up at the top of the EU.

First of all, some interviewees highlighted the initial context (EC official 2011 ; Gavigan 2011) not favouring a policy-based approach: indeed, Research and innovation before 2000 was low-priority item in the EU political agenda, only tackled thourgh framework programmes, and the main policy dimension was to deinfe themes to be funded in those schemes (Gavigan 2011). However, unanimity of interviewees agree on the fact that R&I gained importance in

the agenda witht the setting up of the European Research Area by the Lisbon strategy in 2000, and had the effect to put more attention on it (Gavigan 2011).
2002 and 2008 helped to stimulte this trend: indeed, the Barcelona process, and then the ljubljana process contributed to strenghen commitments made in 2000: the “3% objective” has been agreed by all MemBer States in Barelona, while Slovenian Presidency succeeded to reach consensus among head of States and Governements about necessity to strengghen ERA goverance. A new structure has been set up within the Council, the CREST (and now ERAC) (Sequeira 2011; EC official 2011; Gavigan 2011). Bertrand Wert (2011), Policy officer at Directorate Genral for Enterprise and Industry at the European Commission, also points out that achievement of the internal market is annother item which led Member States to accept that R&I and Public procurement in particular tshould be put in the Agenda.
2010 also constitutes one major step, since the Lisbon treaty offers new perspectives for strenghening the EU action in the field of R&I (Gavigan 2011)
Finally, another last development would be likely to increase this trend, since the EU is currently seeking to set up a framework for the ERA for enhancing integration of national research policies (Gavigan 2011).

Items related to Public procurement and innovation:

As explained before, two directives allowed the EU to coordinate public procurement procedures (Wert 2011 ; Sequeira 2011), which cannot be possible without a certain aceptance from MS to put procurement in the EU agenda, and legislate on it not only at national level. The Agreement on Public Procurement (GPA).
Such a trend is confirmed in the Aho report (Wert 2011 ; Gavigan 2011 ; Brenier 2011), which recommends to raise public prcurement in the EU agenda. One step further was reached witht the creation of the innovation Union in 2010, by fixing targets about public procurement of innovation.
It can also be noticed that one assessment report of OMC in Research policy (2010) mentions public procurement as one possible area to tackle in the next cycle of the OMC-CREST, while James Gavigan, Head of Unit “ERA Policy” at DG Research and Innovation of the European Commission also evokes procurement as a new issue in Research policy.
Finally, one evaluation report of the OMC published that respondents to a related survey wished to put public procurement in the next CREST OMC cycle, which clearly shows an evolution in national institutions’ minds, which are now ready to take initiatives at the EU level to discuss this issue together.

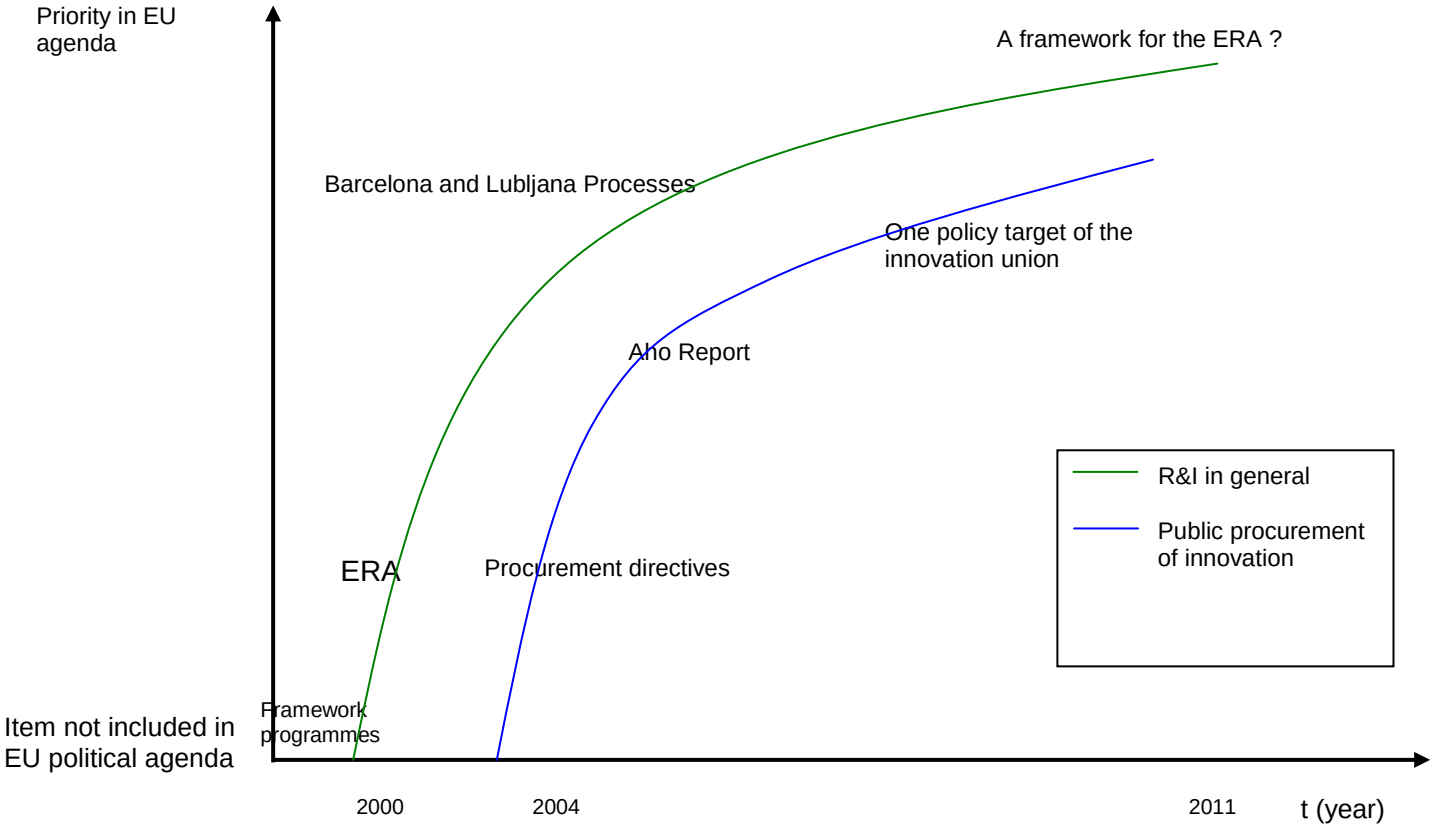

Fig. 5 Illustration of policy events which contributed to raise R&I and procurement in EU agenda.

1.2.2 Indicator "Enlargement of scopes and objectives of EU R&I and procurement policies".

- <u>Sectors subject to cooperation</u>

Empirical data as well as field research brought findings revealing that the EU increased the number of business sectors subject to policy coordination of Public procurement.

Public Procurement of Innovative goods and services.

Some interviewees underline that coordination initiatives focused on a small set of activities when the Lead Market initiatives launched them in 2007 (Wert 2011 ; Sequeira

2011). Indeed, on the one hand, the first Public Procurement Networks born from the 2009 Call for proposals set up three networks devoted to three different business sectors out of six identified for the creation of Lead Market Initiatives: protective textiles (ENPROTEX), construction (SCI-Network) and Healthcare buildings (LCB-Healthcare, each of them receiving 1 million euro per year from CIP funds (Wert 2011). On the other hand, one recent call for proposals from the Commission, published in June 2011, extends cooperation to other sectors. Indeed, general objectives of this call clearly state that this call aims at contributing to reach targets agreed within the Innovation Union communication, notably regarding the reach of 10 billion euro expenditure in Procurement of innovation. For this, the call count on the setting of new cooperation networks, which will cover new sectors related to the following challenges identified by the Innovation Union: climate change, energy, and resources scarcity, health and ageing (European Commission 2011c: 9). Thus, it can be observed an increase of policy sectors subject to cooperation, as summarized in the Following table:

Sectors subject to cooperation in 2009	Sectors subject to cooperation or have been subject to cooperation in 2011
Protective textiles construction Healthcare	Protective textiles Construction Healthcare **+ Several sectors related to the challenge:** Sectors related to Climate change Sectors related to Energy and resource scarcity Sectors related to Health and ageing.

Table 2: Sectors covered by CIP calls for proposals about public procurement networks in 2009 and 2011.

Pre-Commercial Procurement.

As explained before, calls for proposals of collaborative project about PCP come from the Seventh Framework-Programme (FP7), related to Research and development, rather than the Competitiveness and Innovation Programme (CIP), as it is the case for PPI. Excepted this difference, it can be noticed one similarity between calls re number of sectors in which the EU launched cooperative projects tended to increase between 2009 and 2011. Indeed, the 2009-2010 Framework-Programme for ICT launched calls which led to set up three networking projects on three areas of interest: Intelligent Transport Systems (P3ITS),

purchasing processes (PRECO), and Competitiveness for public services, focused on Eastern Europe (PROGR-EAST). Two years later, the 2001-2012 FP7 work programme for ICT develops this trend, by launching four calls for PCP proposals addressing four new areas of interest: health, ageing, photonics and one miscellaneous related to one need from public sector. In consequence, it can be observed for PCP an increase of policy sectors subject to cooperation, as the following tables shows:

Sectors subject to cooperation in 2009	Sectors subject to cooperation or have been subject to cooperation in 2011
Intelligent transport systems Purchasing process Competitiveness of public services	Intelligent transport systems Purchasing process Competitiveness of public services **+ several sectors related to the following themes:** ICT for health ICT for ageing well Photonics Miscellaneous

Table 3: Sectors covered by FP7 calls for proposals about public procurement networks in 2009 and 2011.

In consequence, findings from this empirical data clearly indicates an increase of policy sectors subject to cooperation.

- Specific objectives to be tackled for harmonization

Besides the scope of cooperation, objectives of such a cooperation, and a fortiori its policy instruments, also constitutes an observation to verify for this indicator.

Findings from interviews highlight how Member States' position evolved towards more willing to involve the EU in specific aspects of the problem. Indeed, some interviewees agree on the fact that the EU tackles more and more aspects of R&I policy (Gavigan 2011), especially regarding public procurement, by addressing specific objectives of procurement: since the stimulus provided by the Aho report in 2006, the EU deepened its involvement in that filed, by tackling some specific aspects of the problem such as SMEs' access to procurement, or risk management (interview 3).

According to the feasibility study on EU support to Public Procurement of Innovation (already mentioned in 1.1), respondents to the survey claim for more involvement of the EU on some

features of procurement process: firstly, as explained before, a large majority of respondents are favourable of EU involvement for a common definition of needs, which is considered as “very important” for 56% and 64% (PPI and PCP) of polled organizations (Consortium 2011: 19). Moreover, a relative majority of respondents also considers that a common analysis of existing problems with other organisation from other countries should also be tackled at the EU level (“very important”: 41% for PPI and 37% for PCP). Another feature of procurement process, the market consultation, also receive a relative positive feedback about EU involvement: indeed, joint market consultation with bodies in other Member States is considered as “very important” by 40% of respondents for PPI and 39% and 39% for PCP, while the share of “not important” responses is quite low (Consortium 2011: 21). Finally, the study points out that respondents have a strong interest in the EU support for some technical specific objectives of procurement, notably for setting up EU-wide database (“very important” for 67% of polled organisations regarding PPI and 58% regarding PCP), while EU expertise also gathers positive responses (“very important” for 51% of respondents for PPI and 52% for PCP).

Those results from empirical data are confirmed by findings from the survey elaborated for this research, about opportunity of EU support for development of innovative procurements: indeed, it has been asked to polled organisation to mention which activities should be coordinated by the EU among 5 main actions (see **annex 7**). Scores are attributed as follows:

- Activity “collaboration between public authorities”: 85% (n=6) of respondents put a score between 3 and 5/5 (“coordination needed”).
- Activity “Develoment of apolicy related to PPI and PCP”: 85% of respondents put a score score between 3 and 5/5 (n=6), and 71% (n=5) put 4/5 (“coordination needed”).
- Activity “development of a methodology related to prepare and foster PPI and PCP”: 86% of respondents (n=6) put a score between 3 and 5/5.

Thus from those results, it can be observed that Eu involvement for coordination of certain aspects of innovative procurements is perceived as “needed”.

1.3 Congruence between findings and predictions formulated.

As explained before, Rometsch and Wessels (1996: 355-356) proposed a different levels of Europeanization, by elaborating different types showing different intensity in terms of blurring of borders between national and EU political arena. As a reminder, those levels are: “low” Europeanization (no active role of National institutions in EU political process), “medium” (development of a European outlook) and “high” (undertaking of initiatives within the EU arena).

The findings explained in previous section doesn't lead to observe a low Europeanization: indeed, number of sectors subject to cooperation increased, as well as specific objectives, and Member States conceded some grip to the EU which was translated into more consideration of R&I and Public procurement of innovation in the EU agenda. Then, there is indeed an active role, which cannot suggest low Europeanization. In addition, the rise of R&I issues, in particular Public procurement linked to innovation, tends to gain considerable importance in the EU agenda through the Innovation Union Communication, and then leads Member States to shape an outlook on this issue since objectives and targets have been decided at the highest level (European Council). Moreover, it has been observed that the increase of sectors subject to cooperation and coordination, through calls for proposals within FP7 and CIP, clearly stimulated initiatives from institutions from different Member States to participate to those European actions. In consequence, the indicators selected for Measuring the "Europeanization" variable would be scored as follows:

Variable: Europeanization of national arenas		
Indicator: Enlargement of the scope and objectives of the selected policy area (public procurement of innovation).		
Observations to be measured	**Research Findings**	**Score**
Policy sectors subject to cooperation	- PPI: increase (corroboration) - PCP: increase (corroboration)	1
Instruments to be tackled by the EU for harmonization	- PPI: increase (corroboration) - PCP: increase (corroboration)	1
TOTAL		2
Indicator: Rise of Research and Innovation issues in the EU political agenda		
Observations to be measured	**Research Findings**	**Score**
R&D-related policy objectives put on the EU agenda	Increase (corroboration)	1
Acceptance of EU involvement in R&I and procurement policies.	Wide acceptance (corroboration)	1
TOTAL		2
TOTAL SCORE		**4 (high congruence)**

2. Hypothesis 2 = Growing interdependencies?

2.1 Analytical framework, operationalisation and measurement.

The analytical framework developed for this research put the emphasis on interactions between national and supranational institutions, and it has been assumed their intensity is stimulated by provisions from coordination rules, that is to say the Open Method

of Coordination (OMC). That is why it has been formulated hypothesis H2: *The convergence of national R&I policies is determined by growing interdependences between both levels of governance, leading to an emergence of common policy preferences.*

One independent variable has been selected for explaining this assumption: the "provision from EU coordination rules (OMC)" would help to determine if those rules and their observance by national institutions lead them to deepen their interdependencies towards policy convergence.

For operationalisation of this variable, two indicators have been selected:

A first one addresses the awareness and availability of OMC tools, i.e. good practices, guidelines and mutual learning possibilities. This would indicate to what extend National actors would be responsive about those rules and indications, so that they can observe them.

A second indicator refers to how National actors perceive the role of the EU in coordination of R&I and procurement policies, in order to observe if EU-level provisions are considered as binding or not.

Here is then the analytical framework elaborated for explaining H2. Finally, measurement for this will consist as follows:

The first indicator will be measured through the scrutiny of two expected observations, stressing 1- a wide awareness of guidelines, good practices and mutual learning possibilities.; 2- an important accessibility of those tools.

Finally, the second indicator will be measured through the examination of two expected observations, supposing 1- that OMC tools are perceived as binding ; 2- that the EU is perceived as the central coordinator of R&I and procurement policies.

Findings below will help to lead this analysis

2.2 Findings from measurements

Two observations have been predicted for this indicator: a raising awareness of EU guidelines and good practices examples and their accessibility and availability.

2.2.1 Indicator: awareness and availability of OMC tools

- Awareness of EU guidelines, good practices and mutual learning possibilities.

Observing such awareness is determinant for determining if Member States follow rules provided by the Open Method of Coordination, in which guidelines, good practices exchange and mutual learning process constitute the “raison d’être” of the OMC (Gavigan 2011).

First, data collected from interviews points out that guidelines are offered as much as they are demanded: indeed, some interviewees insists on the fact that guidance is a need which is claimed by some national organisations dealing with procurement and innovation (Wert 2011 ; Sequeira 2011), Moreover, interviewees generally agree to state that awareness of existence of guidelines is quite ample among actors who requested them (Wert 2011 ; Gavigan 2011). However, data collected from the survey targeting members of procurement networks (see **annex 7**) reveals different results: indeed, it has been asked to polled organisations to answer the following question (n°9): “*According to you, are public authorities from every level (national and sub-national) aware enough about availability of good practices, guidelines and mutual learning possibilities?*. Compilation of answers reveals that 86% of respondents (n=6) put a score between 0 and 4/10 (weak awareness about availability), while only one respondent put a 5/10 score (medium awareness).

In addition, findings from empirical data also bring some doubts about an effective awareness of those OMC tools. Indeed, the survey conducted by DG INFSO on the state of play of implementation of PCP methodology in EU countries (2011b: 4) points out that “*none of the respondents* [to] [the] [questionnaire] *is aware of obstacles in their respective national legal frameworks that prevent public procurers to undertake PCP projects*”. The same observation is made in the feasibility study on EU support to innovative procurements (Consortium 2011: 18), the consortiums arguing that “*too many contracting authorities are unaware of the flexibility that is allowed under current legislation*”. It can be underlined that both of those studies highlights unawareness about legislative obstacles, which is one barrier tackled by guidelines and good practices. In other words, this data shows once again that awareness of national institutions about those tools is still quite limited.

- **<u>Accessibility and availability of guidelines and good practices examples</u>**

If awareness is one of the problems, it is not the only one for an efficient dissemination of OMC tools (Consortium 2011: 23). Data collected from interviews suggests that availability of guidelines is determined by demand of Procurement of innovation, indeed, one interviewee underlines that guidelines are not relevant if there are no people willing to do procurement of innovation (Sequeira 2011). Moreover, regarding best practices exchanges, another interviewee insists on the fact that they can be stimulated (and then available) only if some practices in one Member State can be applied into another one (Sequeira 2011).

Data collected from other empirical studies also feeds this feeling of unavailability: indeed, according to the survey on the status of implementation of pre-commercial Procurement in Europe (2011b: 9), only very few guidelines have been developed in Member Stats on the basis of the EU ones, translating a lack of availability of such tools for procurers.

2.1.2 Indicator: Perception by national actors of coordination rules

Perception of OMC tools.

Binding nature of EU acts is always a sensitive topic within Member States, since recognising compulsory nature of European rules is synonym of obligation to comply with coordination rules.

In order to collect testimonials of compliance of actors with OMC rules, such a question has been put in the questionnaire sent to members of Public procurement networks (see **annex 7**). The results have been compiled as follows:

- Regarding the set up of coordination networks, 72% of respondents (n=5) put a score between 3 and 4/5 (“partners comply with recommendations from these activities”)
- Results are quite eloquent with regards to elaboration of guidelines: 72% of respondents (n=5) pu a score between 1 and 2 (“partners don’t comply with recommendations from these activities”), while 29% (n=2) put the medium score (3/5).
- Concerning dissemination of good practices, no clear trend can be found from the results: indeed, scores 2/5, 3/5 and 4/5 have been put by 29% of respondents each (n=2), while one polled organisation put the minimum score and nobody put the maximum one.
- The same observation can be made from results regarding peer review: a clear majority of respondents (58%, n=4) put a score between 1/5 and 2/5 (“partners don’t comply with recommendation from those activities), while only 28% (n=2) put a score between 4/5 and 5/5 (“partners comply with recommendations from those activities).

To sum up, it can be observed that respondents to the survey don’t consider that those OMC rules are followed by institutions in Member States, especially regarding guidelines, while this feeling seems to be less obvious regarding good practices exchange.

Data collected from interviews tends to match those testimonials. Indeed, according to Bertrand Wert (European Commission, DG enterprise and Industry), guidelines are a request from actors and gives a great philosophy of ideas. This statement matches the results from the survey led for this research: indeed, 90% of respondents (n=9) considers that elaboration of guidelines by the EU is one "important", "very important" or "rather important" support. In addition, dissemination of good practices is perceived as "important" or "very important" by 90% of respondents (n=9). Enthusiasm is less visible for peer reviewing, for which almost

half of respondents (n=4) considers that such an EU support would be "rather important". However, according to M. Wert, one frustrating effect of guidelines is the fact that they are general solutions to specific problems, which can undermine their effectiveness. In addition, he also reminds that good practices could not have the same efficiency from one country to another (Sequeira 2011).

According to Keith Sequeira, guidelines are useful for those willing to do innovative public procurements, phenomenon which is influenced by the fact that a majority of procurers don't want to go out of the budget and then stick to the cheapest solution rather than the most innovative one, in order to minimise risks. Thus, in other words, the emphasis should be put on incentives to do procurements of innovation.

According to M. Gavigan, there is indeed a certain reluctance from Member States and national institutions to conform themselves to common rules, and reminds that coordination is always going to be soft measures. Nevertheless, the head of "ERA policy" Unit at DG Research and innovation argues that this lack of binding rules in the OMC is going to be tackled through future policy developments such as the “ERA framework” initiative, which would create an obligation for Member States to report to the Commission the number of on the number of key aspects of its policy and measures to provide to the EU the full set of information needed for its action. For explaining such a big shift towards more binding framework for ERA, M. Gavigan argues that the Lisbon treaty gives now this possibility (Gavigan 2011). Finally, language also appears to be claimed as a major barrier (see annex 7 and Brenier 2011).

To sum up, findings from interviews and the survey leads to observe that Member States are demanders of guidance, good practices exchange or reviewing don't feel bound up. The following table tries to point out main positive and negative factors for observance of OMC rules according to data collected:

Positive factors for observance of OMC rules	**Negative factors for observance of OMC rules**
Claim for guidance from procurers	Non-universality of good practices and guidelines.
Willingness raising to do innovative procurements	Lack of risk sharing
Attractiveness of good practices	Budgetary considerations (don't going out of budget).
	Linguistic barriers
	Lack of time and human resources

Table 4: possible factors favouring or disfavouring observance of OMC rules

Perception of the EU as a central coordinator for PPI.

One other observation to measure consists in analysing how public procurers perceive the EU's role in coordination for developing innovative procurements. Data collected from interviews as well as testimonials gathered thanks to the survey mentioned in previous sections helps to draw how the EU involvement should be pictured for procurement of innovation.

Firstly, compilation of responses from the survey led for this research asked to polled organisations which kind of support they expect from the EU among several proposals. The results can be displayed as follows:

- One first choice suggested that the EU acts as a kind of helpdesk for only providing technical support. 60% of respondents (n=6) put a 4/5 score ("strongly needed"), while 30% put 3/5.
- A second proposal showed the EU as a provider of guidelines, goods practices and peer review supervisor, and revealed the following results: 60% of respondents (n=6) put a 3/5 score, while 40% put a score between 4/5 and 5/5 ("strongly needed")
- A third proposal pictured the EU as coordinator for the setting up of joint tenders, thourgh the establishment of a common leading entity. Answers to this question are quite heterogeneous: each score (from 1/5 "not needed" to 5/5 "strongly needed"), obtained 20% of votes.
- Finally one last proposal suggested that the EU organize by itself innovative procurement for public authorities. Results from this questions are quite eloquent: no more than 70% (n=7) of respondents put a score between 1/5 and 2/5 ("not needed") , while only 20% (n=2) put a score between 4/5 and 5/5 ("strongly needed").

Data collected form the feasibility study on EU support to Public procurement (Consortium 2011) tends to go in the same way as those testimonials: indeed, limiting the EU to a help desk function is supported by more than half of respondents (51% for PPI, 47% for PCP). Regarding the role of guidance and agreement provider, it is even better perceived, gathering 61% of "very important" responses. Finally, this feasibility study reveals similar results to our survey regarding direct organisation by the Commission of procurements for public authorities: a minority of respondents considers this role as "very important" (22% for PPI and 29% for PCP) while an important share of polled organisations indicate they are not sure about it (27% for PPI and 28% for PCP). Such a weak acceptance is also highlighted by some interviewees: indeed, for sinstance, Keith Sequeira's experience in DG Enterprise and

Industry at the Commission didn't gave him the feeling that the EU could have power to purchase on behalf of other institutions from national level (Sequeira 2011).
However, the feasibility study shows slightly different results regarding the possibility to set up joint tendering via a common entity (Consortium 2011: 23): a considerable bnumber of respondents (more than one-third) considered this role attributed to the Commission would be "very important", while the survey elaborated for this study revealed a certain divergence among polled organisations about this output.
Regarding the specific case of Pre-Commercial Procurement, the EC survey on status of implementation of PCP in Europe (2011b: 17) also reveals some information about how Member States expects from the EU: for instance, this study notices that Lithuania as well as Sweeden claim for more EU support schemes to offset PCP costs and those related to networking, while the Netherlands rather conceive the EU as an awareness raiser.

Thus, to sum up, it can be observed that the role the EU can play in the field of procurement of innovation is a sensitive issue for public authorities, and reveals a diversity of views: if It is well accepted that the EU can act as a networker and a guidance provider, further prerogatives receive less support, such as the creation of a common entity managing joint tenders or organisation by the EU itself of procurement on behalf of public authorities.

2.3 Congruence between predictions formulated and research findings.

As predicted in the analytical framework of this research, an increase of interdependencies between actors from different levels leads to strengthen cooperation and coordination (Wessels 1997: 286). Analysed through the theoretical lens of the Network governance approach (Rhodes 2001), such a phenomenon can be observed because of the network-based organisation of governance in the EU, which favours increasing interdependence, leading to an exchange of resources. In other words, applied to our case, those predictions would assume that OMC rules such as guidelines, peer reviews and best practices exchange would be observed by Member States due to growing interdependencies which make them necessary.
Findings detailed above indicate that there is a relatively weak awareness of OMC tools, mostly guidelines and good practices, among public authorities, in addition to a low availability, which could be clearly improved. Moreover, perception of OMC rules by institutions is quite heterogeneous: it appears from testimonials collected and empirical studies that those rules, not binding, are not rigorously observed, while the EU is still perceived differently from one country to another as a central or marginal coordinator. The scoring of indicators would be then displayed as follows:

Variable: Provisions from Coordination rules (OMC)		
Indicator: Awareness and availability of OMC tools		
Observations to be measured	**Research Findings**	**Score**
Awareness of EU guidelines	Low awareness (partial invalidation)	- 0,5
Accessibility of guidelines and good practices examples	Low accessibility and availability (partial invalidation)	- 0,5
TOTAL		-1
Indicator: Perception by national actors of coordination rules		
Observations to be measured	**Research Findings**	**Score**
Perception of OMC tools.	Weak binding perception (partial invalidation)	- 0,5
Perception of the EU as a central coordinator for PPI.	Quite positive perception (partial corroboration)	0,5
TOTAL		0
TOTAL SCORE		**- 1 (medium-low congruence)**

3 Hypothesis 3 = the increasing of sharing responsibilities between actors?

3.1 Analytical framework, operationalisation and measurement.

One last hypothesis has been formulated in the analytical framework developed in chapter 2: indeed, H3 assumed that *the increase of sharing responsibilities between layers of governance favours convergence of national R&I policies.*

Two independent variables have been selected for explaining this assumption: first, challenging the "specificities of national political systems" would determine if coordination can overcome obstacles proper to internal organisation of Member States for setting a relevant share of responsibilities for implementing coordination-related decisions. Second, addressing the specificities of national policy preferences is a phenomenon which can explain more or less sharing of power and responsibilities.

For operationalisation of those variables, four indicators have been selected:

Regarding the first intervening variable (specificities of national political systems), one first addresses the increase of amount of structural funds allocated to RTDI. This would indicate to what extend subnational authorities have some grip on R&I issues, which would favour the share of responsibilities between layers of governance. Finally, one second indicator refers

to administrative capacity of Member States, in order to observe if there is a succeeding management of diversity of political authorities.
Regarding the second intervening variable (diversity of national policy preferences), one first indicator is about the broadening of transnational networks. This would show up whether Member States are likely to embark themselves in deeper cooperation by enlarging scope and objectives of coordination networks. Finally, one second indicator would be related to the shaping of common policy targets. Indeed, this would indicate to what extend Member States are ready to share more than a common view, but a coordinated strategy on R&I.

Here is then the analytical framework elaborated for explaining H3. Finally, measurement for this will consist as follows:
Regarding the variable “specificities of national political systems”: the first indicator mentioned above will be measured through the scrutiny of two expected observations, assuming 1- an increase of structural allocated to RTDI ; 2- A large share of Regional and local authorities in total public procurement in the EU.
The second indicator will be measured through examination of two expected observations, guessing 1- A decrease of diversity among procurement structures in Member States ; 2- A decrease of fragmentation of public procurement in Europe.
Regarding the variable “specificities of national policy preference”: the first indicator related to this will be measured through the scrutiny of two expected observations, assuming 1- An increase of number of transnational networks ; 2- An enlargement of sectors covered by networks.
The second indicator will be measured through examination of two expected observations, guessing 1- An increase of targeting of common policy sectors to tackle; 2- A deepened definition of common policy priorities.
Findings below will help to lead this analysis

3.2 Findings from measurement.

3.2.1 Indicator: Coordination initiatives complementing without duplicating regional and local initiatives

- Amount of structural funds allocated to RTDI

Measuring exposition of Research and Innovation exposition to Structural funds appears to be an observation which catches attention of the Commission, since it was selected as an indicator in the Management Plan of the Directorate General for Research for 2012 (European Commission 2011d). Indeed, subnational levels of governance can play an

important role in convergence of Research and innovation policies, since they concentrate significant capacities, notably regarding public procurement.

Data collected from empirical data shows a significant increase of structural funds allocated to Research, Technological Development and Innovation (RTDI): according to the ERAWATCH Research Inventory Report for the Impact of Structural funds on Research funding (2011), it can be noticed a sharp increase of structural funds allocated to RTDI in quasi-unanimity of Member States, as shows **annex 6**: data availability varies according to the analysed Member States, but a general trend can be pointed out from those statistics, highlighting a clear re-orientation of funds towards more expenditure in Research and innovation. Thus, for instance, it sharply increased from 2000-2006 period to 2007-2013 period in new comers, notably in Poland, where RTDI expenditure from structural funds increased from 364 Million euro for 2004-2006 to 4,2 billion euro for 2007-2013. This increase trend also regards main contributors to the EU budget, such as France, which clearly reoriented allocation of its funds towards RTDI, increasing from 1.3 billion up to 4.2 billion euro.

In consequence, data collected clearly suggest an increase of structural funds devoted to Research, Technological Development and Innovation, which is not without consequence regarding the grip the regions and localities could have on procurement issues, which is one policy instrument to use those funds. In addition, management of those funds is different from one country to another, and can strengthen or weaken the position of subnational entities on implementation of regional policy. Such an important increase of expenditure coming from structural leads to question the grip subnational authorities can have on Public procurement expenditure.

- <u>Share of Regional and local authorities in total expenditure in PP.</u>

Purchasing power of public authorities significantly varies from one Member Sate to another and multiplicity of public procurers would make coordination even more difficult. That is why having an outlook on the share of expenditure in Public Procurement in Europe would help to understand who gets the most grip on this issue, and more simply who are the real procurers.

Data collected from interviews indicate a certain heterogeneity among public procurers: according to M. Sequeira (2011), most of EU Member States don't have centralized procurement structures, and the one of the most important procurers should be municipalities, notably the largest ones such as cities of London or Paris. A similar observation is also made by M. Wert, stating that actors, stakes and political games vary

from one country to another, quoting Germany as one example, where the Länders matters in financial terms, since they are more important procurers than German Government.
Those testimonial match findings from certain evaluation reports: according to one expert report ordered by the Commission on public procurement for research and innovation (2005a: 21), sub-central governments are responsible for "*almost two-thirds as much activity as central government in aggregate*". In addition, the report also mentions that purchasing power of some regional administrations in large countries can be more important than in a small Member State. One study from the OECD (2007) also highlight how important is the purchasing power of subnational authorities, evaluating that they have a larger share in total procurement than central governments, calculating the same ratio than the expert report mentioned above.
In consequence, findings from this research highlight the important share of subnational authorities regarding total expenditure in public procurement, underlining how those actors matter for coordination of procurement policies in Europe.

3.2.2 Indicator: Administrative capacity of Member States.

- <u>Procurement structures among Member States</u>

Findings for previous indicators already gave some elements determining the role and importance of subnational authorities in public procurement expenditure. However, observing which kinds of structures are set in EU Member States would help to have a clear idea about administrative capacity of those structures. According to the OECD study mentioned above (2007: 35), this notion refers to the establishment of appropriate institutions and mechanisms, so that the institutions are adequately staffed and have capacity to exercise all their functions efficiently. In a broader sense, administrative capacity should also include the one provided by other actors, such as private sector. In other words, capacity is constituted of resources share by several actors, even if the core functions used to be held by central governments. Administrative capacity varies according to how procurement is structure in each Member State. On this point, the OECD (2007: 24-25) distinguishes three types of procurement structures: in the first one, centralised, national government concentrates all the function (legislative, policy, international cooperation, dispute settlement, monitoring, administrative...). In a second type, semi-centralised, government share its responsibilities with an independent procurement body, which can notably get legislative functions like in Germany or in Austria. Finally, one last type, decentralised, disperses procurement functions among different institutions from different levels. According to the

OECD, a relative majority of EU Member States opted for a centralised structure (11 States), while 9 other ones chose a semi-centralised structure and two opted for a decentralised one (see **annex 4**).

Regarding procurement of innovation, Findings from empirical data helped to distinguish several types of procurement structures. According to the survey on the status of implementation of pre-commercial Procurement in Europe (European Commission 2011: 3), Member States opted for highly divergent configurations, which can be grouped into two groups.

- Firstly, some Member States, such as United Kingdom, Spain or Belgium (Flanders) opted for a top-down approach: whithin this scheme, the central government is the dominant actor, having power to decide to develop innovation procurement. Regarding the implementation phase, central government, through ministries, also provides support, mainly financial, for lowering barriers faced by procurers to do innovative procurements.
- Secondly, some other Member States, like Hungary, opted for a bottom-up approach, in which regional institutions took initiative to develop innovative procurements. In other words, this approach occurs when some regions take the lead by launching pilot project, which will replicated in case of success.

However, the study reveals that this duality of aproach is not clear (2011: 3): indeed, in some countries such as United Kingdom and Denmark, individual, regional and national initiatives for procuring in innovative ways can coexist, which can question the models explained above and duplicate approaches. On this point, the survey elaborated for this research mentioned in previous sections asked to polled organisation if this coexistence of different initiatives from different levels of governance would create doubloons and undermine coordination efforts. No clear trend emerges from this question, although a relative majority of respondants (60%, n=6) put a score between 3/5 and 5/5 (“No duplication of initiatives”).

In sum, it can be observed from those findings that diverging ways to develop and implement innovative procurements coexist, which can lead to duplicate initiatives from different actors.

- <u>Degree of fragmentation of public procurement structures</u>.

Another feature influencing the administrative capacity of Member States consists in fragmentation of procurement in the EU, which constitutes a big challenge for coordination and the adoption of common schemes, rules and practices regarding innovative procurements.

Data collected from interviews and empirical studies highlight that the European Union is still a fragmented space regarding procurement, while the achievement of the single market aims

at creating a single space of opportunities for economical agents, which includes companies seeking for procurements and public authorities willing to buying goods, services and processes. As a consequence, procurement markets are too small for transnational First, findings from empirical studies indicate that differences observed between procurement structures in Member States "*pinpoint the reasons behind high fragmentation of [developing] [and] implementing public procurement processes*" (European Commission 2007a: 19).

Data collected from interviews also point out a high fragmentation of procurement in Europe. Indeed, M. Sequeira reminds that compared to United States, the EU doesn't have a big federal agency for transnational cooperation, providing an appropriated critical mass and enough buying power for purchasing innovative rather than cheapest goods, services or processes, but also developing strategic capabilities. Rather, interviewees also underline that number of procurement bodies are dramatically numerous, up to several thousands (Wert 2011 ; Sequeira 2011 ; Brenier 2011). As a reminder, the survey elaborated for this research about EU support to innovative procurement indicated that only 40% (n=4) of respondents are in favour of a common entity of joint procurements and 20% (n=2) agree that the EU can organise by itself innovative procurements. M. Gavigan also reminds that each Member State have different policy cultures, and answers to signals coming from top level, European Council, tend to vary from one country to another. Thus, fragmentation is not only administrative-based, but also cultural and political..

In conclusion, findings analysed above indicate that there is a high fragmentation of procurement processes in the EU, and that this state of play, although dealt by procurement networks and other EU initiatives, is still significant and do not really decrease considering opinions and testimonial collected.

3.2.3 Indicator: the broadening of transnational cooperation networks

- <u>Expenditure allocated to coordination of public procurement of innovation.</u>

Measuring such an observation could help to indicate if Member States are willing to deepen their cooperation by increasing funding of networks. Data that can be mobilized for this observation should be the same than what has been used for measuring the indicators related to the "Europeanization" variable: indeed, as observed before, comparison between a EC call for proposals in 2009 about networking projects under CIP / FP7 and a new one in June 2011 showed an increase of policy sectors subject to cooperation for innovative procurements. However, what can also be observed from this comparison is a significant increase of expenditure related to this networking activity: indeed, regarding networks dealing with development and cooperation for PPI, allocation for networking projects

increased from 3 million to 15 million euro in the most recent call, which has been confirmed by M. Wert (2011). This clearly suggests a growing interest in this kind of cooperation. The same trend can be observed regarding PCP, budget for setting up "networks of excellence" increasing from 4 million to 14 million euro in the last call in 2011.

In addition to be increased, expenditure for networking appears to be prioritised and accelerated. Indeed, according to the activity statements of the Draft Budget of the European Union (2011: 69), the measures on "thematic networks of public procurers" and the "Pilot action for developing and testing of an innovative procurement scheme" granted with 14 million euro has been "advanced" to the 2011 Budget, "*in order to start implementing as early as possible the Innovation Union on public procurement*". In consequence, such a advance, conceded by the Council, and then Member States, constitutes another body of evidence of more and faster expenditure in collaboration networks. The following table helps to have a clear idea about this increasing trend:

	PPI		PCP	
	Call for proposals 2009	Call for proposals 2011	Call for proposals 2009	Call for proposals 2011-2012
Tot. expenditure	3 M €	15 M €	4 M €	14 M €
Max. EU funding per project	1 M €	Between 0.6 and 2 M€ (strands 1 & 2)	0.4 M €	?
Indicative nb of projects	Between 3 and 4	Between 6 and 11	3	?

Table 6: overview of budgets foreseen in CIP and FP7 calls for proposals about setting up of networks and coordination actions. (Source: European Commission 2009d & e, 2011c and f)

- <u>Sectors covered by networks.</u>

As observed for previous indicators related to "Europeanization" variable, findings from this research revealing a significant increase of sectors in which it can be possible to embark in coordination activities on public procurement. Indeed, comparison between the 2009 EC calls for networking proposals in CIP and FP7 and those for 2011-2012, highlighted that number of networks is going to be extended (see table in 1.1). According to Bertrand Wert, who is at the origin of those calls, up to 8 or 9 new networks will be set up as a result of the last call for proposals. This choice is made according to which sectors are the most likely to "contribute to make public utility moving, by satisfying their needs" (Wert 2011). Thus, to sum up, an enlargement of sectors covered by networks can be observed.

3.2.4 Indicator: The reach of common policy targets

- <u>The targeting of common policy sectors to tackle.</u>

In order to measure if Member States succeeded to reach common policy targets, one related observation would indicate that coordination efforts were successful to define common policy sectors to tackle.

Data collected from interviews helps to get some testimonials on this issue. Some interviewees insist on the reluctance of Member States to embark on common policies and to give more grip to the Commission on some policy sectors (Wert 2011 ; Gavigan 2011), either because public procurement-related policies are not “trendy” (Wert 2011) or because Member States are still unwilling to give all necessary data and information to the Commission for coordination purposes (Gavigan 2011). However, as explained in section 1 of this chapter, a Europeanization process has been observed regarding sectors related to R&I, reaching year by year and initiative by initiative more and more policy sectors. As reminded by M. Gavigan (2011), head of “ERA policy unit” in Directorate B in DG Research, the OMC started to be applied with the “3% objective” (see introduction), covering sectors such as tax and fiscal policy, through the CREST Committee in the Council, and saw its “policy portfolio” increasing, by starting dialogue in other areas such as intellectual property, knowledge transfer or... Public procurement. The recent assessment report of the Open Method of Coordination in Research policy (European Commission 2009b) also points out an enlargement of policy sectors to be tackled within the CREST Committee (now ERAC, see chapter 2 above) Committee, cycle by cycle. Thus, to sum up, findings from this research indicate some progress regarding the targeting of policy sectors for coordination, even if some reluctance is still perceptible among Member States.

- <u>Definition of common policy priorities.</u>

Definition of common policy targets constitutes another observation which can indicate the reach or the miss of common policy targets. As explained before, data collected from interviews highlights certain reluctance from Member States about being active in debates on coordination of Research and Innovation policies, which logically have an impact on definition of common priorities. Moreover, findings from the assessment report of the OMC in Research policy (2009b) also bring some body of evidence regarding difficulties for defining common priorities: in its survey to CREST Committee members, the reports concludes that “virtually none of the respondents indicated that their country has followed the

recommendations of the CREST-OMC reports in a 1:1 way" (European Commission 2009b: 25). In addition, our survey on EU support to innovative procurement brought some individual testimonials, including some pointing out different priorities as main obstacles for coordination of public procurement processes and policies (see **annex 7**).

On the other hand, some other elements are more in favour of successful definition of common policy priorities: first, the setting up of the Innovation Union in 2010 succeeded to define common targets for innovation in Europe, notably regarding innovative procurement. Indeed, Activity statements attached to the 2012 Draft Budget of European Union (European Commission 2011e: 375) remind that expenditure related to PPI and PCP was less than 1 billion euro in 2010, and that target agreed within the Innovation Union aims at reaching 10 billion by 2020. In addition to this, recent European Council of 4 February 2011 renewed its will to achieve the European Research Area by 2014 for the creation *in fine* of a single market of knowledge, and agreed on an integrated indicator for monitoring better innovation in Europe. Thus, it can be seen that recent commitments at least reveals common objectives and common views on great challenges which Research will face in the coming years, which is quite an important step according to Patrick Brenier, Deputy Head of unit "Economical analysis in DG Research and Innovation at the Commission (2011). In addition, the EC survey on state of play of implementation of PCP in Europe (2011b: 17) points out that several countries (notably Austria, Hungary, Italy, France, Sweden, Slovenia, Bulgaria, UK and the Netherlands) agree on targeting more information and guidance about implementation of PCP projects. It can also be notice certain heterogeneity among Member States regarding the setting up a methodology for using PCP (see **annex 1**).

In sum, it can be observed that despite reluctance and diversity of priorities among Member States, some major achievements have been done recently in order to set common policy objective regarding European Research and Innovation, and notably concerning innovative procurement.

3.3 Congruence between predictions and observations made.

As predicted in the analytical framework of this research, H2 (growing interdependencies and strengthening of coordination) would lead to shared responsibilities between different involved in the political process, which is one step more towards policy convergence. That is why one last hypothesis, H3, has been formulated as follows: *The increase of sharing responsibilities between layers of governance favours convergence of national R&I policies.* Postulated from fusion theory constitutes the theoretical basis for such an assumption. Indeed, according to Rometsch and Wessels (1996), national institutions will

more and more share their functions with the other institutional actors outside their own control, leading to vertical and horizontal interactions between Member States.

First, it was predicted that mastering of diversity among political organisation of Member States would facilitate the share of responsibilities. Findings from field research and other empirical studies revealed that indeed, national institutions don't have a total grip on procurement processes in their Country, since subnational authorities appears as major procurers in financial terms, position which is strengthened regarding innovative ones since allocation of structural funds devoted to R&I considerably increase. Such an important role of Regional and local authorities would suggest an intensification of the share of responsibilities with central governments and beyond. However, it has also been observed that there is a great diversity of public procurement structures among Member States and then a high degree of fragmentation of those structure, but most of all a high fragmentation of markets.

Besides this heterogeneity among States, a reduction of diversity of national policy preferences was also expected toward more sharing of responsibilities and more convergence. Finings of this research brought bodies of evidence confirming and invalidating this expectation: if it is true that sectors and expenditure devoted to networking and cooperation considerably increased, a certain reluctance from Member States for this issue is still observe, even if major recent progress has been achieved. Thus, final scoring for selected indicators can be displayed as follows:

Variable: Specificities of national political systems (vertical coordination)		
Indicator: Coordination initiatives complementing without duplicating regional and local initiatives		
Observations to be measured	**Research Findings**	**Score**
Amount of structural funds allocated to RTDI	Sharp increase (corroboration)	0,5
Share of Regional and local authorities in tot expenditure in PP	Important share (corroboration)	0,5
TOTAL		1
Indicator: Administrative capacity of Member States.		
Observations to be measured	**Research Findings**	**Score**
Procurement structures	Important diversity (invalidation)	- 1
Degree of fragmentation of public procurement national structures.	No decrease (invalidation)	- 1
TOTAL		- 2
TOTAL SCORE		**-1 (medium-low congruence)**

Variable: Specificities of national preferences (horizontal coordination)		
Indicator: Setting up of transnational networks		
Observations to be measured	**Research Findings**	**Score**
Setting up of transnational cooperation networks	Notable increase (corroboration)	0,5
Sectors covered by networks.	Notable enlargement (corroboration)	0,5
TOTAL		1
Indicator: The reach of common policy targets		
Observations to be measured	**Research Findings**	**Score**
Targeting of common policy sectors to tackle.	Mitigated targeting (partial corroboration)	0,5
Definition of common policy priorities.	Some progress (partial corroboration)	0,5
TOTAL		1
TOTAL SCORE		**2 (medium-high congruence)**

Final scoring for all indicators is displayed as follows (see next page):

Hypothesis	Name of variable	Selection of indicators for measurement	Observations to be measured	Scoring
The more the national institutions will shape their preferences, motivations, interests and initiatives at the European level, the more National R&I policies will converge	Europeanization of national arenas	– Enlargement of the scope and objectives of the selected policy area (public procurements of innovation).	- Policy sectors subject to cooperation - Specific objectives to be tackled for harmonization	4 (high congruence)
		– Raise of Research and Innovation issues in the EU political agenda	- R&D-related policy objectives put on the EU agenda. - Acceptance of EU involvement by Members States in R&I and procurement policies	
The convergence of national R&I policies is determined by growing interdependences between both levels of governance, leading to an emergence of common policy preferences.	Provisions from Coordination rules (OMC)	– Awareness and availability of OMC tools	- Awareness of EU guidelines, good practices and mutual learning possibilities. - Accessibility and availability of guidelines and good practices examples	- 1 (medium-low congruence)
		– Perception by national actors of coordination rules	- Perception of OMC tools. - Perception of the EU as a central coordinator for PPI.	
The increase of sharing responsibilities between layers of governance favours convergence of national R&I policies.	Specificity of national political systems (vertical coordination)	– Coordination initiatives complementing without duplicating regional and local initiatives	- Amount of structural funds allocated to RTDI - Share of Regional and local authorities in tot expenditure in public procurement.	- 1 (medium-low congruence)
		– Administrative capacity of Member States.	- Procurement structures among Member States - Degree of fragmentation of public procurement national structures.	
	Diversity of national policy preferences (horizontal coordination)	– Broadening of transnational networks	- Setting up of transnational cooperation networks - Sectors covered by networks.	2 (medium-high congruence)
		–The reach of common policy targets	- Targeting of common policy sectors to tackle. - Definition of common policy priorities.	

Table 6: Summary of hypotheses, variables, indicators and final scoring**.**

CONCLUSIONS AND RECOMMANDATIONS

1. Conclusive remarks

This research aimed to answer this main research question: *What is the impact of the EU-level coordination system on the convergence of R&I national policies?* It can be answered that there is not a significant impact on convergence. More precisely, it would be more relevant to conclude that there is no impact yet, since Public procurement of innovation is a policy field lately tackled by the EU. In addition, it has to be reminded that due to a lack of empirical data on application of EU coordination regarding public procurement of innovation, examining convergence among Member States and bring an answer is even more difficult.

The main research question has been developed through three sub questions. The first one has been formulated as follows:

SQ 1 = *What are the characteristics of the Coordination system of national policies set by the EU level in the field of Research and innovation, and more precisely regarding the PPI case?*

Research findings clearly highlighted the central role of the Open Method of Coordination for harmonization of Research and Innovation policy in the EU. This coordination system never stopped to gain interest from Member States since the estalishment of the European Research Area, which is the operationalisation of the OMC: the Barcelona Council in 2002 stenghened this mode of governance and set the famous “3% objective”, which from this date gave a major target which missed beforehand. OMC started then to adress our study case of this research, procurement of innovation, which has been strongly stimulated by political impetuses such as the Aho report in 2006. The Open Method of Coordination continued to be fostered through the Ljubljana process, which confirmed the reinforcement of its governance, and the creation of the Innovation Union in 2010 pursued this dynamics. Finally, one last recent support of this mode of governance can be found in the European Council of 4 February, which targeted to achieve the ERA by 2014.

This research also helped to understand the dynamics and problems gravitating around this coordination system: having theoretical roots between intergovernmentalism and

supranationalism, close to Policy network approach, the OMC only produces soft, mainly consisting in guidelines, peer reviews and mutual learning process, which cannot bin Member States but can bring them to the same table for exchanging and sharing experiences. Regarding the case of innovative procurements, it has been observed this domain mainly remains national-based but linked to the internal market, so coordination has quite an hybrid nature since it it consists in 2004 Public Procurement directives (legal dimension, hard law), but also OMC-based (like for PCP).
The analysis of the EU coordination system in the field of Research and Innovation led to ask a second subquestion.

SQ 2 = *What factors determine the convergence of national policies in the field of R&I?*

This research built an analytical framework, aiming at explaining convergence outcome (dependent variable) by the occurrence of several independent variables:

First, it has been stated that europeanisation of national policies (antecedent variable) constitutes one perequisite for convergence. This variable led to formulate the following hypothesis:
H1- *The more the national institutions will shape their preferences, motivations, interests and initiatives at the European level, the more National R&I policies will converge.*

This hypothesis is based on one property of the fusion apprach, arguing that convergence cannot be possible without a penetration of the EU political arena into the national ones.
Findings from empirical data and field research leads to confirm this hypothesis:
indeed, it has been observed a wide consensus among interviewees about the raise of R&I as a priority issue on the EU political agenda, and the selected case study revealed that there is also a constant broadening of the scope of coordination. Here is then a kind of “eldorado” for the Commission, which looks forward occupy this policy filed which is quite straegic, and quite underdevelopped regarding the public procurement case.

Second, the main independent variable has been identified as the observance by Member States of provisions of EU coordination rules, i.e the Open Method of Coordination. This led to formmulate the following hypothesis:

H2- *The convergence of national R&I policies is determined by growing interdependences between both levels of governance, leading to a common tackling of common challenges*

This hypothesis refers to one postulate from the fusion theory, which argues that growing interdependencies constitute a factor favours convvergence, since the actors involved in the EU policy process tend to share common views and common practices in order to tackle together common challenges.
Data from empirical studies and field research don't invalidate this psotulate, but don't confirm it either: findings from this study rather indicate a partial confirmation of this hypothesis. It ahas been observed that awareness of OMC tools, and mainly guidelines and good practices, is more or less observed among targeted public authorities, while their availability can be improved. In addition, observance of those rules is quite low while perception of the EU as a central coordinator varies. In this context, an increase of interdependencies would exist, but in a slight and slow way. Partial confirmation is then a result to observe.

Third, it has been assumed that two intervening variables would influence the convergence outcome: the specifiities of Member State's political system and the specificities of Member State's policy preferences. From those variables, it has been formulated the following hypothesis:

- **H3**- The increase of sharing responsibilities between layers of governance favours convergence of national R&I policies.

According to one postulate from the fusion theory, the convergence outcome can occur if
actors involved in the EU political process share tasks and competencies, which can be made if heterogenity of politcal systems and policy preferences can be challenged successfully.
Analysis of those two variables leads to partially confirm this postulate:
Wiht regards to the potential influence of diverging political systems for reaching coordiation, it's true that a share of tasks has been measured as well-perceived by interviewees. Indeed, coordination has to laid on the whole policy-making process, from policy formulation to implementation and policy evaluation, which necessarily implies to involve all the actors involved in it and to share roles and tasks among them for an effective coordination. Findings from empirical data and field research clearly confirmed that Research and innovation, and public procurement policy in particular, involved all layers of governance, with different balance of powers and responsibilites from one Member State to another. Thus, differences among political

systems effectively constitute one factor determining if convergence has been reached of missed.
However, regarding the public procurement case, the field research led to slightly modify this conclusion, since other factors less linked to political organisation seem to matter: indeed, rather than diversity of politcal systems, testimonials collected from interviews highlighted how challenging fragmentation of procurement markets in Europe was for policy coordination. Another factor would then refer to enough in-house capability of actors (procurers) to be able to buy innovation, and then to be interested by coordinating it with other procurers in the same case. Yet, such a factor hardly refers to political organisation.

One second intervening variable has been selected for explaining H3, according to which diversity of policy preferences can influence the share of tasks and responsibilities for coordinating R&I policy. One first look on findings from empirical data and field research go in that way: regarding the case of public procurement of innovation, evaluation reports, nobably on Pre-commercial procurement, revealed that Member States have quite heterogeneous positions on the implementation of a common frramework, while a feasibility study on EU support for innovative procurements also underlines a variable interest in this policy filed among Union Members. In addition, interviews also highlighted cultural and political differences among Member States, which are the only ones able to give the necessay impetus for an effective implementation of OMC rules on this policy area, guidelines particularly.

Thus, findings from this research helped to shape what are the major factors influencing the attainment or the missing of policy convergence outcome, and then leads to answer subsquestion 2:

- First, Europeanisation or national policies, which has been oberved regarding the Public Procurement case.
- Second, observance of coordination rules would also constitute a factor , even if this one is quite hard to match.
- Third, overcoming diversity national political systems should also constitute a factor for reaching convergence, even if findings from this research gave to it a minor impact for coordination of procurement processes, given the fact different political systems doesn’t have a significant negative impact on administrative capacity of Member States.

- Rather, another factor, related to fragmentation of markets, constitute an imortant factor for targeting convergence, since a certain critical mass have to be reached for accepting risks, developing strategic capabilities.
- Finally, overcoming diversity of national preferences matters, since different priorities unblock or block the coordination process.

Those conclusions allow to answer to the third subquestion:

On which factors the EU has to put its coordination efforts for making national R&I policies converging?

The last sub question helped to find variables influencing the reach of convergence outcome. Nevertheless, it remains to determine which of them require particular attention, and public procurement of innovation constitutes one case quite representative for all aspects of the EU R&I policy:

- Europeanisation appears to be a factor which have been matched, and then doesn't appears as one on which efforts have to be concetrate, even if it is a perequisite.
- Observance of OMC rules is still a variable to be tackled with more attention, since it has bee shown in this research that actors are more or less aware of most of OMC rules existing on this aspect of R&I
- Defragmentation of markets also appears to be a factor in which efforts have to be put.
- Finally, harmonizing national preferences also matters, given the fact that policy divergences and general reluctance from Member States are still observed.

By taking into consideration this concluding chapter, some reflections can be done as regards the theoretical framework and methods of inquiry for improvement. One first remark would consist in selecting other intervening variables, which would address even better problems linked to innovative procurements and coordination in general. Indeed, results from interviews and survey pointed out that rather than diversity of political systems and policy preferences, other parameters matter such as administrative and financial capacity of public authorities or efforts for defragmenting procurement markets in Europe.

Moreover, as explained throughout this research, lack of empirical data on application of EU coordination rules regarding public procurement of innovation forced the author to limit the analysis to convergence of tender procedures, rather than their application. Thus, if the author

would have to do this research again, he would wait for publication of more empirical data on this issue, especially at national level, since it is still a topic lately put on the EU table.
Some other improvements can be done regarding methods of inquiry. For instance, the scope of polled people for the survey made for this study can be enlarged, by for instance targeting Members of national representation to the EU in Brussels.

2. Recommendations.

On the basis of those conclusions, several recommendations can be formulated:

First, the EU has to challenge fragmentation of procurement markets. As explained before, rather than diversity of political system, multiplicity of procurers and barriers between markets constitute one major obstacle for coordination and *in fine* convergence. That is why, as claimed during the European Council on 4 February 2011, deepening of single market would be highly beneficial to development of innovative procurements and *a fortiori* Research and innovation activities in Europe.

Second, as a consequence, the emphasis should be put on the facilitating the setting up of Joint procurements, so that critical mass for purchasing innovative and R&I-friendly becomes more frequent. Considering what have been done in Regional policy with European Grouping for Territorial Cooperation (EGTC), the EU could develop a territorial scheme fostering the development of transnational procurements. In addition, Joint Programming Initiatives (JPI) are also successful examples from which the Commission and Member States can learn for joint procurements.

Finally, one group of recommendations would refer to development of administrative capacity of Member States. Indeed, time pressure, inappropriate workload and weak human resources are very often mentioned as a big obstacle for making coordination and convergence successful. That is why improvements on this point would be highly beneficial.

Having set forward recommendations for the improvement of the complex and ambitious EU coordination system, it can be hoped some positive developments in the future, due to importance of research and innovation in the EU agenda. However, as Jean Monnet famously said, "*it isn't possible to imagine today the decisions which may be taken in tomorrow's context*". Therefore whilst we wait to see what happens in the future, let us plan accordingly in order to allow Research and innovation to assume its rightful place at the head of the European agenda.

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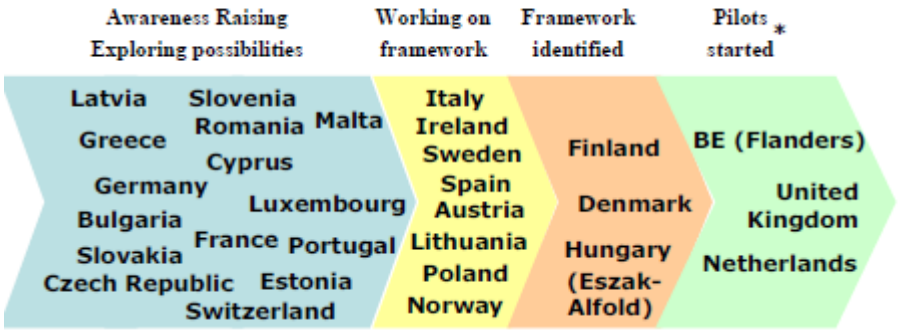
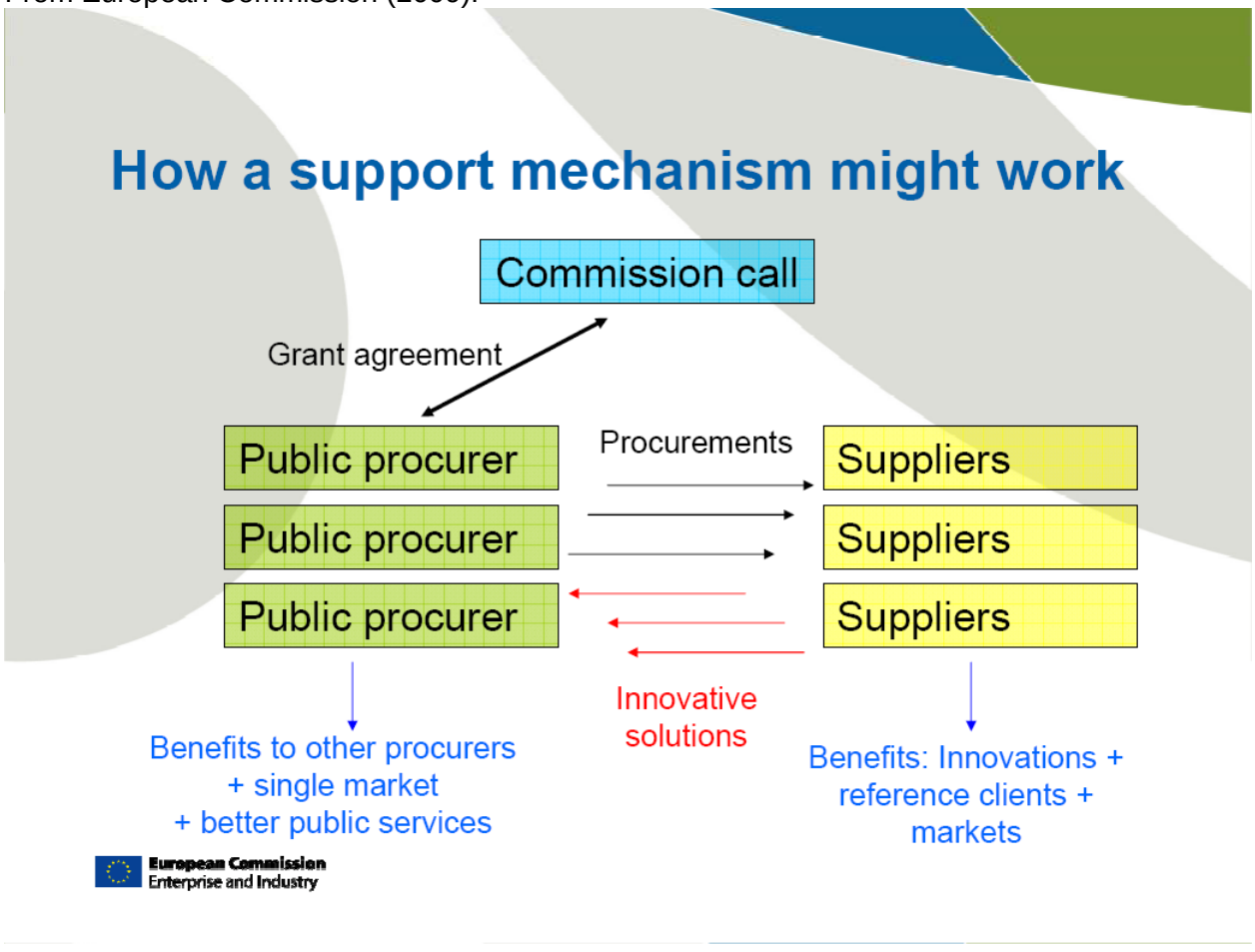
ANNEXES

ANNEX 1: State of the art of implementation of PCP scheme by country,
From European Commission (2011)

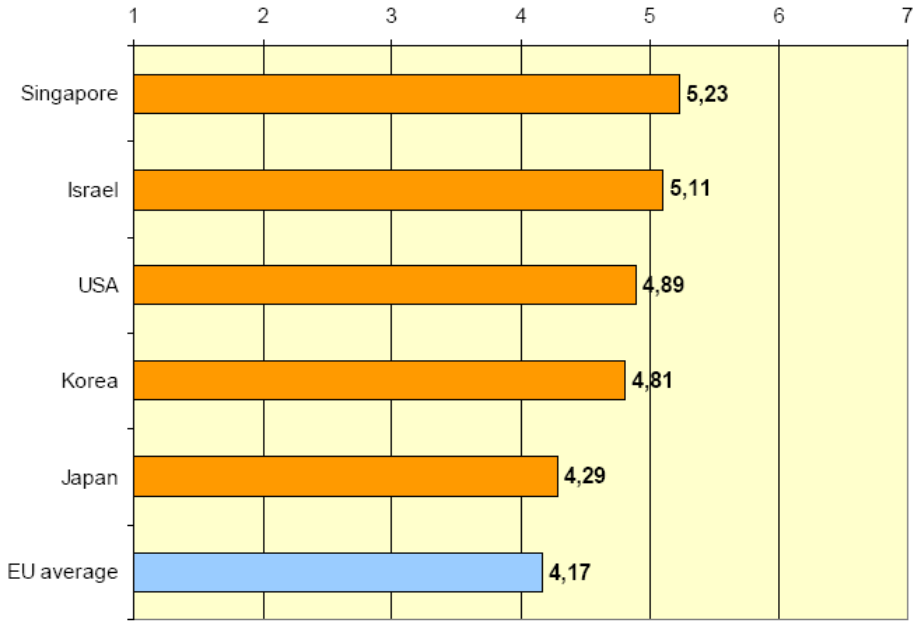


ANNEX 2: illustration of EU support for Public procurement of innovative goods, services and processes,
From European Commission (2009).



ANNEX 3: representation of Government procurement of advanced technology in several countries.

(Government purchase decisions for the procurement of advanced technology are based on: 1= price ; 7= technology and encourage innovation) (From European Commission 2007).

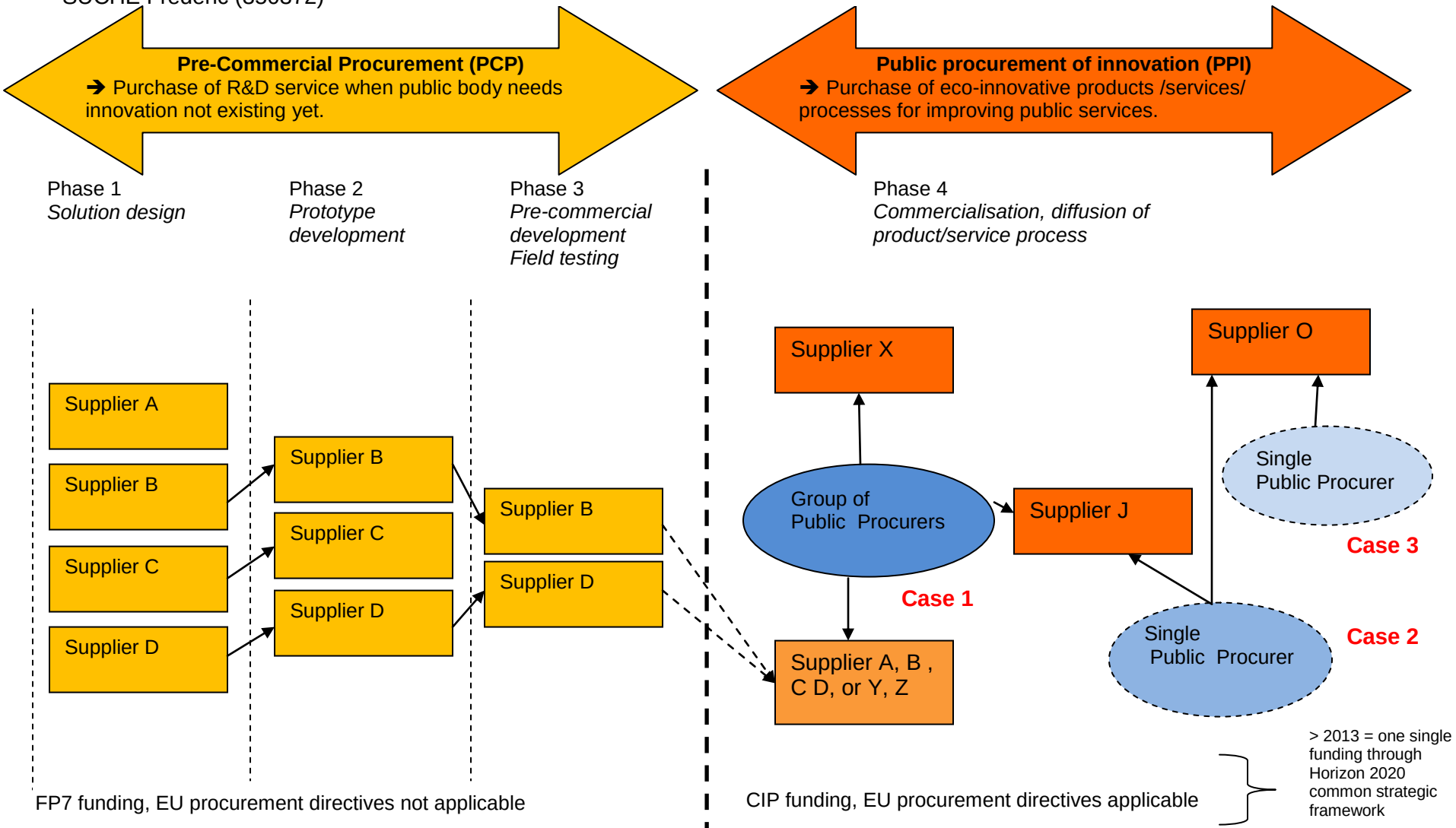


ANNEX 4: typology of public procurement structures in the EU.

(from OECD (2007))

Centralised Structure	Semi-centralised Structure	Decentralised Structure
Estonia	*Slovenia*	Finland
Latvia	Austria	Portugal
Malta	France	
Iceland	Germany	
Bulgaria	Ireland	
Cyprus	Italy	
Czech Republic	Luxembourg	
Hungary	Sweden	
Lithuania	United Kingdom	
Poland		
Romania		
Slovak Republic		

ANNEX 5: Innovative public procurements in the innovation life cycle



EXAMPLE: A hospital wants to purchase low-carbon medical equipment

Case 1= The product needs R&D since the innovation doesn't exist yet : The hospital purchases R&D through PCP (Implies suppliers A, B,C,D), and use PPI for commercialization (suppliers J and X in addition to A, B, C and D)

Case 2 or 3 = the product doesn't need R&D since the innovation already exists: the hospital can purchase product from the group of suppliers who developed the innovation or from other ones

ANNEX 6: overview of structural funds allocated to RTDI in 2000-2006 and 2007-2013 periods.
(Data collected from ERAWATCH (2011) and European Commission (2006)).

Member State	2000-2006 period (Million €) (2004-2006 for new comers)	2007-2013 period (Million €)
Austria	143	524
Belgium	1.100 (incl. competitiveness)	2.258 (incl. competitiveness)
Cyprus	46	
Denmark	N/A	N/A
Estonia	68,66	680
Finland	267,3	862
France	1.334	4.200
Germany	N/A	9.400
Hungary	140	990
Italy	2.300	3.103
Latvia	25	1.207
Lithuania	6.7 % of tot. structural funds	10.5% of tot. structural funds
Malta	6	89
Netherlands	25,687	743,73
Poland	364	4.100
Portugal	20% of tot. structural funds	24% of tot. structural funds
Slovakia	136	1.780
Spain	35,7	402
Sweden	134,7	N/A
United Kingdom	5.000	6.200

ANNEX 7: compilation of results from the survey "the opportunity of EU support to procurement of innovative goods, services and processes, elaborated for this research

Notice:

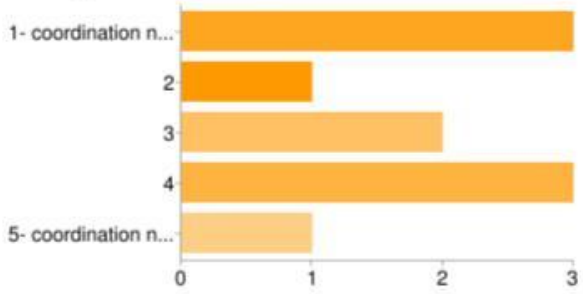
The following survey has been sent to the members of public procurement networks set up by the European Commission under Lead market initiatives. Those networks are ENPROTEX (protective textiles), SCI-Network (Sustainable construction) and LCB-Healthcare (Low carbon buildings in the health sector).

10 respondents out of 18 answered to the questionnaire, which leads to observe a 55% participation rate. Respondents to this survey are: UK department for business, Innovation and Skills (UK), Belgian department of Interior (BE), Rawicz County hospital (PL), ICLEI - Local Governments for Sustainability, Department of Environment, Food and Agriculture (UK), Greater London Authority Group (UK), City of Turin (IT), Public Procurement Council of Hungary (HU), Enprotex and Alcon Advies (NL).

This questionnaire counts 15 questions, divided into three parts: Question 1 to 3 gathers information about respondents (not displayed here). Then, one first part (questions 4 to 6) asks questions about opportunity of EU involvement in policies related to innovative procurements. Part 2 (questions 7 to 10) groups questions about how respondents conceive coordination of those policies. Finally, one third part (questions 11 to 15) groups questions about difficulties encountered in their network(s).

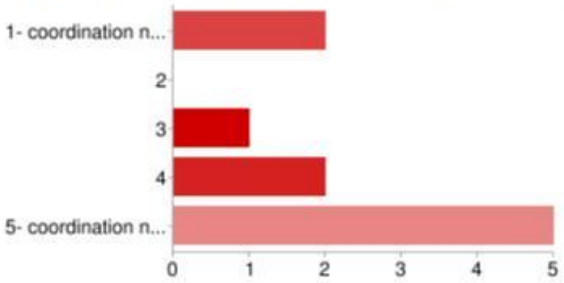
Part 1: the opportunity of EU involvement in policies related to Public procurement of innovation.

Q.4: Do you consider that the EU should coordinate one of the activities mentioned in question 3? - Procurement of Innovative services and products (PPI)



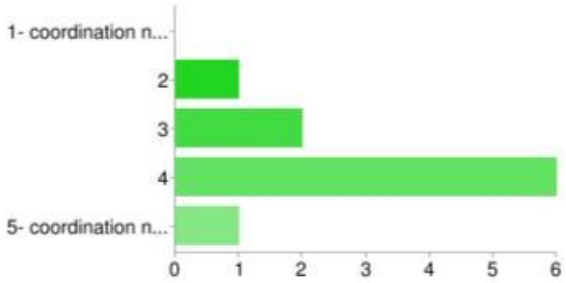
1- coordination not needed	3	30%
2	1	10%
3	2	20%
4	3	30%
5- coordination needed	1	10%

Q.4: Do you consider that the EU should coordinate one of the activities mentioned in question 3? - Pre-Commercial Procurement (PCP)



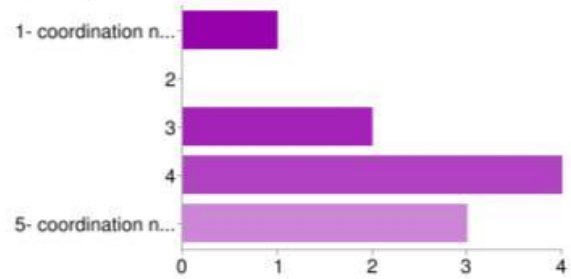
1- coordination not needed	**2**	20%
2	**0**	0%
3	**1**	10%
4	**2**	20%
5- coordination needed	**5**	50%

Q.4: Do you consider that the EU should coordinate one of the activities mentioned in question 3? - Development of a policy related to PPI / PCP



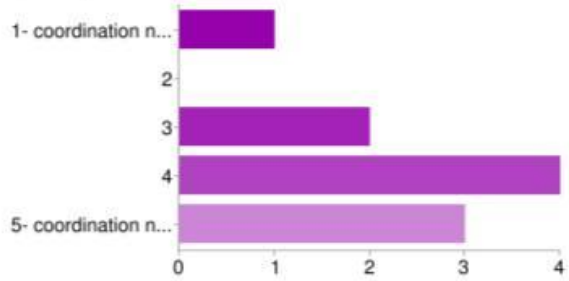
1- coordination not needed	**0**	0%
2	**1**	10%
3	**2**	20%
4	**6**	60%
5- coordination needed	**1**	10%

Q.4: Do you consider that the EU should coordinate one of the activities mentioned in question 3? - Development of a methodology related to prepare and foster PPI and PCP



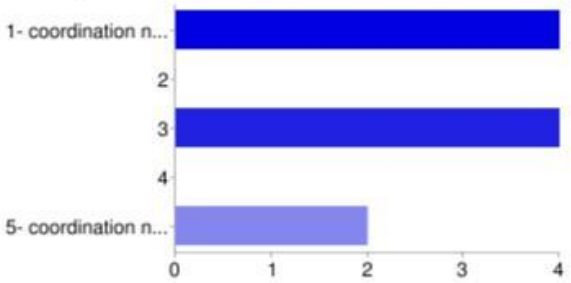
1- coordination not needed	**1**	10%
2	**0**	0%
3	**2**	20%
4	**4**	40%
5- coordination needed	**3**	30%

Q.4: Do you consider that the EU should coordinate one of the activities mentioned in question 3? - Development of a methodology related to prepare and foster PPI and PCP



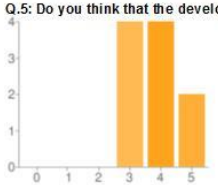
1- coordination not needed	1	10%
2	0	0%
3	2	20%
4	4	40%
5- coordination needed	3	30%

Q.4: Do you consider that the EU should coordinate one of the activities mentioned in question 3? - N/A (tick any box)



1- coordination not needed	4	40%
2	0	0%
3	4	40%
4	0	0%
5- coordination needed	2	20%

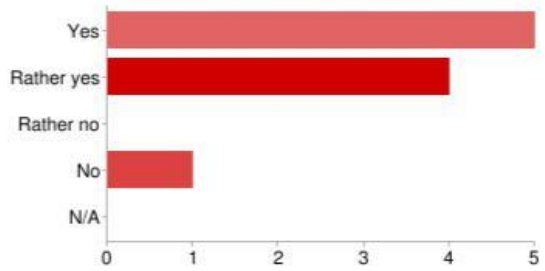
Q.5: Do you think that the development of a common strategy for Public procurement of innovation should be addressed between governments or in the framework of the EU?



This issue should not figure in the EU agenda and must be addressed between Member StatesThis issue should be a priority in the EU agenda

0 -This issue should not figure in the EU agenda and must be addressed between Member		
1	0	0%
2	0	0%
3	0	0%
4	4	40%
5 -This issue should be a priority in the EU agenda	4	40%
	2	20%

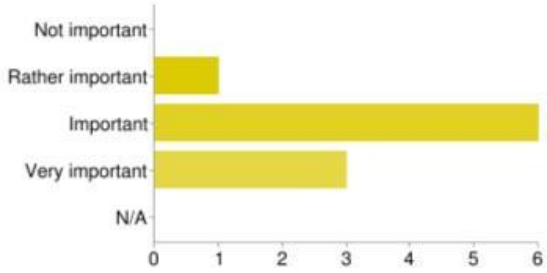
Q.6: The Commission already created three public procurement networks dedicated to innovation, covering several sectors (protective textiles, sustainable construction, Low-carbon building in the healthcare sector). Do you wish the Commission creates new networks covering new sectors?



Yes	5	50%
Rather yes	4	40%
Rather no	0	0%
No	1	10%
N/A	0	0%

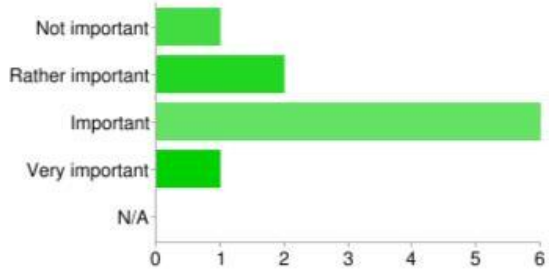
Part 2: the coordination of national methodologies and policies related to PPI and PCP.

Q.7: According to you, which type of support would you like the EU provides to authorities willing to develop procurement of innovation? - Networking of activities at the EU level



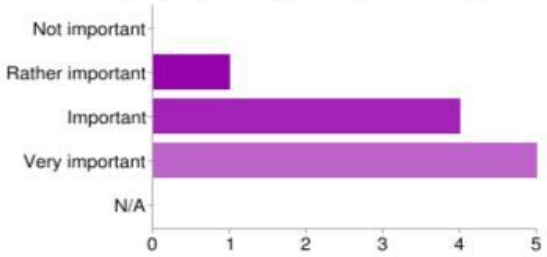
Not important	0	0%
Rather important	1	10%
Important	6	60%
Very important	3	30%
N/A	0	0%

Q.7: According to you, which type of support would you like the EU provides to authorities willing to develop procurement of innovation? - Elaboration of guidelines



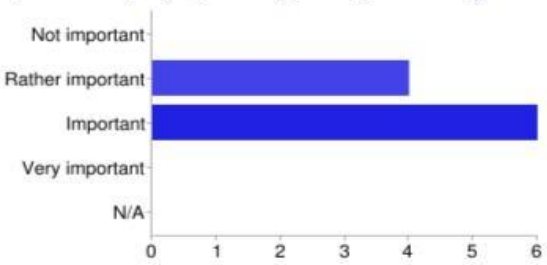
Not important	1	10%
Rather important	2	20%
Important	6	60%
Very important	1	10%
N/A	0	0%

Q.7: According to you, which type of support would you like the EU provides to authorities willing to develop procurement of innovation? - Dissemination of good practices



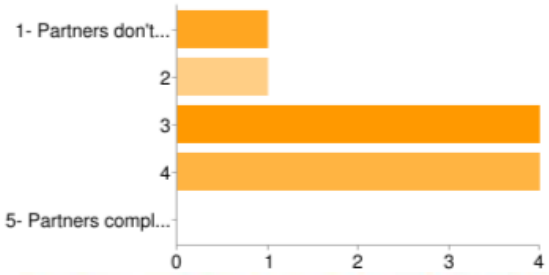
Not important	0	0%
Rather important	1	10%
Important	4	40%
Very important	5	50%
N/A	0	0%

Q.7: According to you, which type of support would you like the EU provides to authorities willing to develop procurement of innovation? - Peer review



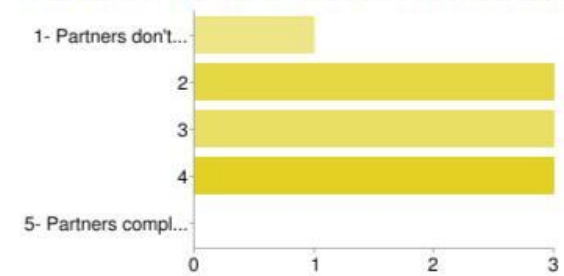
Not important	0	0%
Rather important	4	40%
Important	6	60%
Very important	0	0%
N/A	0	0%

Q.8: If you already benefit this kind of support from the EU, how effective are they? - Networking of activities at the EU level



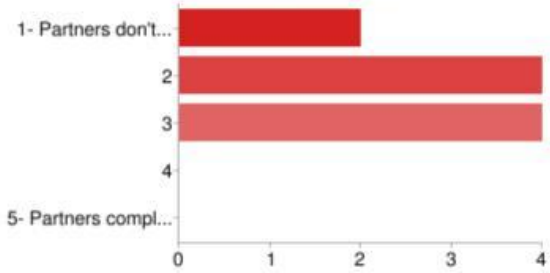
1- Partners don't comply with recommendations from those activities	1	10%
2	1	10%
3	4	40%
4	4	40%
5- Partners comply with recommentations from those activities	0	0%

Q.8: If you already benefit this kind of support from the EU, how effective are they? - Dissemination of good practices



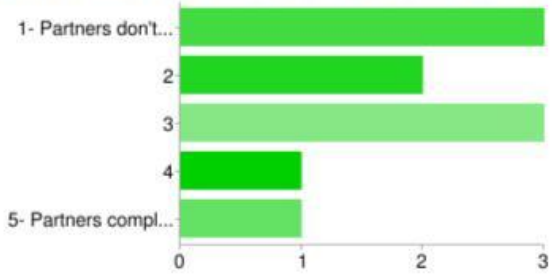
1- Partners don't comply with recommendations from those activities	1	10%
2	3	30%
3	3	30%
4	3	30%
5- Partners comply with recommentations from those activities	0	0%

Q.8: If you already benefit this kind of support from the EU, how effective are they? - Elaboration of guidelines



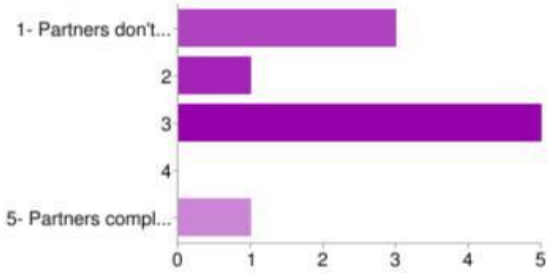
1- Partners don't comply with recommendations from those activities	2	20%
2	4	40%
3	4	40%
4	0	0%
5- Partners comply with recommentations from those activities	0	0%

Q.8: If you already benefit this kind of support from the EU, how effective are they? - Peer review



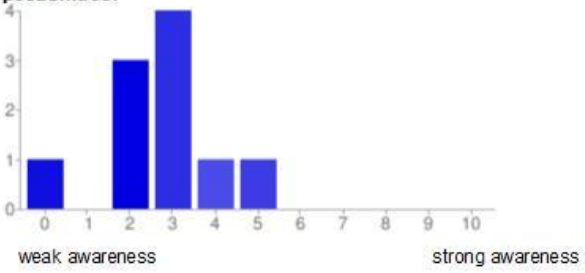
1- Partners don't comply with recommendations from those activities	**3**	30%
2	**2**	20%
3	**3**	30%
4	**1**	10%
5- Partners comply with recommentations from those activities	**1**	10%

Q.8: If you already benefit this kind of support from the EU, how effective are they? - N/A (please tick any box)



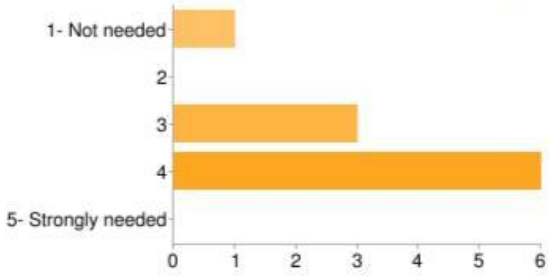
1- Partners don't comply with recommendations from those activities	**3**	30%
2	**1**	10%
3	**5**	50%
4	**0**	0%
5- Partners comply with recommentations from those activities	**1**	10%

Q.9: According to you, are public authorities from every level (national and sub-national) aware enough about availability of good practices, guidelines and mutual learning possibilities?



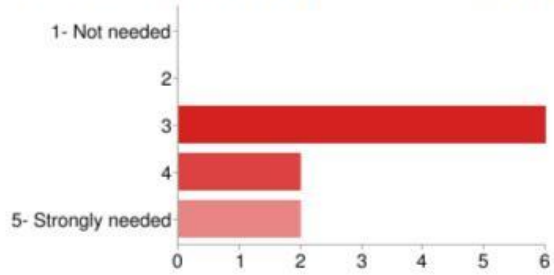
0 - weak awareness	**1**	10%
1	**0**	0%
2	**3**	30%
3	**4**	40%
4	**1**	10%
5	**1**	10%
6	**0**	0%
7	**0**	0%
8	**0**	0%
9	**0**	0%
10 - strong awareness	**0**	0%

Q.10 : To what extent the EU support would be developed for procuring innovation? - Set up an assisting platform which only provides technical support.



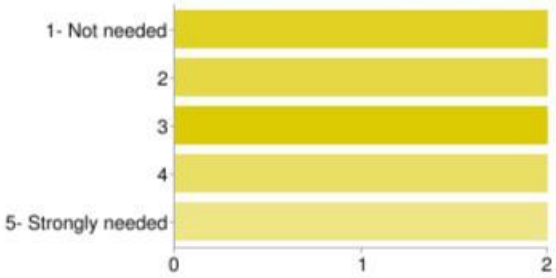
1- Not needed	**1**	10%
2	**0**	0%
3	**3**	30%
4	**6**	60%
5- Strongly needed	**0**	0%

Q.10 : To what extent the EU support would be developed for procuring innovation? - Create a support through guidelines, best practices exchange platforms or peer review



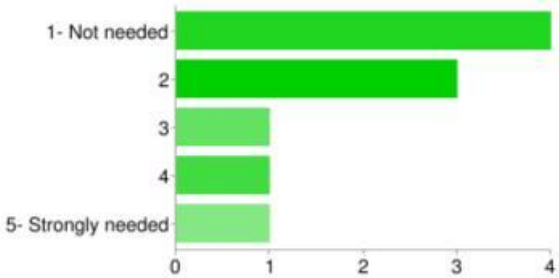
1- Not needed	**0**	0%
2	**0**	0%
3	**6**	60%
4	**2**	20%
5- Strongly needed	**2**	20%

Q.10 : To what extent the EU support would be developed for procuring innovation? - Set up a cooperation aiming at creating joint tenders, by creating a common leading entity.



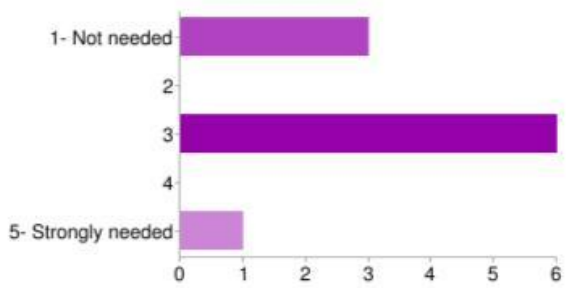
1- Not needed	**2**	20%
2	**2**	20%
3	**2**	20%
4	**2**	20%
5- Strongly needed	**2**	20%

Q.10 : To what extent the EU support would be developed for procuring innovation? - Organize by itself procurement for public authorities.



1- Not needed	4	40%
2	3	30%
3	1	10%
4	1	10%
5- Strongly needed	1	10%

Q.10 : To what extent the EU support would be developed for procuring innovation? - N/A (please tick any box).



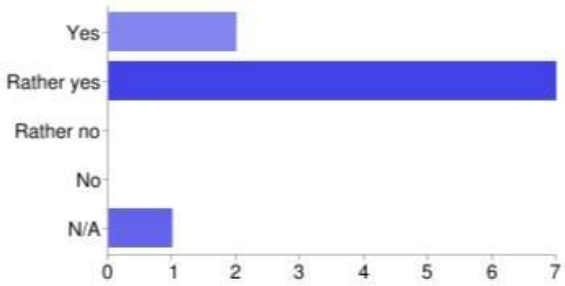
1- Not needed	3	30%
2	0	0%
3	6	60%
4	0	0%
5- Strongly needed	1	10%

Part 3: difficulties encountered

Q.11: according to you, what are the main obstacles when you cooperate with your partners.?

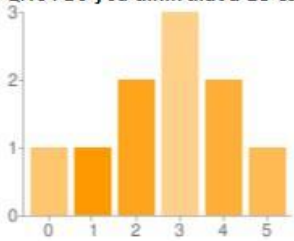
- Different priorities ; organizational, budget and administrative environments between public authorities ; language barriers ; lack of incentives to spend time networking.
- Language barrier between Member States ; Eastern Europe has no strong availability
- Strong lack of knowledge of procurers with respect to innovation in specific sectors (eg. Protective textiles)
- Language ; travel time ; we are doing this in addition to our main jobs

Q.12 : Scholars studying coordination of innovation policies identify that differences between national political systems (weak or powerful regions, different delegation of competences, etc.) are major obstacles for developing a common innovation strategy. Do you agree with this observation?



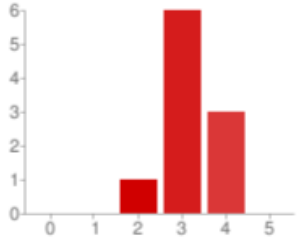
Yes	**2**	20%
Rather yes	**7**	70%
Rather no	**0**	0%
No	**0**	0%
N/A	**1**	10%

Q.13 : Do you think that a EU support for development of innovative procurement would duplicate initiatives already launched by regional or local governments?



0 - Duplication of initiatives	**1**	10%
1	**1**	10%
2	**2**	20%
3	**3**	30%
4	**2**	20%
5 - No duplication of initiatives	**1**	10%

Q.14 : One other obstacle to an effective coordination is the divergence of preferences between public authorities from different Member States. To what extent do you think that networks and other intermediary groups reduce divergence of interest and policy preferences?



0 - no contribution to harmonization of preferences	**0**	0%
1	**0**	0%
2	**1**	10%
3	**6**	60%
4	**3**	30%
5 - Efficient contribution to harmonization of preferences	**0**	0%

ANNEX 8: Interview with Bertrand Wert, Policy officer, DG Enterprise and Industry, "Innovation policies" Unit, Brussels, 17/06/2011 (translated from French)

The interview took place in Bertrand Wert's office, at DG Enterprise and Industry in Brussels. After a short introduction on Public procurement issues, the following questions have been asked to M. Wert

These recent years, the Commission made important efforts to foster the development of public procurements of innovation. Do you think that this proactive involvement led national actors to discuss this political issue at the European level?

Your question refers to the rationality of the European action, that is to say why acting at the European level. Indeed, there is always a necessity to know why there is an added-value to act at the EU level, due to the principle of subsidiarity. Besides, there is also a need to demonstrate this added value can bring in a specific political area. Regarding the public procurement case, first, there is a classical approach, i.e organizing good practices exchange between all levels of governance involved; this first approach naturally leads to foster the European action.
In addition, matters inherent in European action, related to internal market are also a factor favoring EU involvement. If we want to open up a market (private or public) to Europe, the support of an institution, such as the Commission, is needed. That is the case of public procurements which constitute an important part of the internal market: as you know, 17-18% of the EU GDP is directly linked to Public procurements (around 2000 Billion Euro per year). Such a big market assumes that there are some exchanges across the borders. That is why the purpose of the European action is to lead public demand, and to stimulate an offer not coming from a single nationality, and then make the single market working. For instance, if a French procurer publishes a call for tender, applicants from the other 26 Member States can participate. But this situation rarely occurs as a study of one of my colleagues shows: the participation rate of SMEs in other countries is under 2%, which is very weak. Thus, the Commission, a fortiori EI could foster public authorities to stimulate this internal market. This is also because we think in an innovation perspective, it can benefit to public procurer to find new solutions (technologic, technical) to a demand which is not provided by its territorial offer, national local. It can foster technological exchanges, and competition, and then stimulate national and local actors.

Thus, due to this intense activity, do national and local actors start to deal with those problems at the EU level or between governments, bilaterally?

There are fewer and fewer issues dealt bilaterally…

I mean intergovernmental.

Public procurement is a tool which has a lot of potential, but there is a series of constraints inherent to it, sometimes when we say that a public procurement should achieve political goals (see green procurement, procurement of innovation, social etc.), sometimes it is too linked to political considerations, and so there is counter productive effects such as corruption. That is also for that there are problems to demonstrate the potential of public procurements.

Stakes are sometimes counterproductive, then.

Exactly. So at the intergovernmental level, there are few initiatives. There is more a risk not to change things. Concretely, one of the most important sectors is the building sector. 40% of the sector is linked to public procurement, and this is a sector in which there are a lot of bad practices. In many cases, there is no will to change practices, and they do not wish to be stimulated. Was there an awareness raised? Refer to a study made by INFSO, about the setting of methodologies for PCP, led by Lieve Bos. From this study, a state of the art has been made for observing which MS implemented this methodology, which is out of directives on Public procurement. This methodology is quite constraining, meaning that a strong political support is needed. You can observe that UK, NL and BE (Flanders) are leaders among member States, some other are working on a framework, while some others are defining a strategy.

Is this methodology binding to MS?

This methodology is actually a complicated framework. Advanced countries developed a sustaining campaign for actors willing to use it (financial, technical), from ministries, helping the authority involved in. This is a political framework action.
We can observe from the study that some big countries such as Fr and De are still not convinced. A communication on PCP was published in 2007, following directives of 2004 tried to clarify those practices, and today in 2011, we can observe that pilots launched involve leader countries. So you have an idea of the State of the art.

PCP is one category of public procurement, plus PPI, which is in commercial phase, you buy a product without a need of R&D, submitted to directives of 2004. You follow classical method, no need of a special one, The strategy here is to accompany the procurer, etc.
Tout ca pour dire que there is a lot of disparities among MS, but globally I can say the action in PP of the Commission was to identify in 2009/2010 Lead market initiative, so awareness occurs, and in order to demonstrate at the EU level PPI is everywhere and high in the agenda, and among MS there is more and more going in the sense of interest

So we are going more towards NL and UK's path than FR and DE's one...

Yes, but FR and DE move shyly, it doesn't go as fast as we expected.

But there is a movement:

Yes, but I'm not objective since I'm a stakeholder (try to extend the movement) but I think compared to 2009 it goes further. However, there are always interests doubting about the necessity of EU action. If innovation policies are quite interventionist in general, PP are indeed interventionist, as we try to mobilize and target question of PP and public institutions involved. We'll use budgets initially targeted by neoliberal thought towards market actors which turned into public actors. So there is a major cultural change in terms of public policy. As far as the world is, there is the economical crisis. Theoretically they are not trendy policies, because concretely when we help actors to buy innovation, we don't help market actors anymore but to public authorities. That can shock neoliberal actors, in Brussels or among Member States. That can explain there is no a strong will to accompany this process and to give money and support to public procurers.

I wanted to come back to one thing we told about good practices. It is one of forms of cooperation. There is other similar ones, guidelines and MLP, do you think those rules of cooperation, related to OMC, are likely to be followed. I know it's a difficult question but do you have the feeling that this soft law tend to be followed by involved

Yes and no. Yes because, it's a request from actors, to have examples of good practices, and to be accompanied to reproduce those good practices. Guidelines are always useful. Bu what is frustrating in guidelines is it is always related to specific examples, and also its becomes too general, because we find general solutions from specific examples. Fastly, guidelines very general emerge from those practices, as guide of good practices shows. Those documents can be useful, but at the end it gives great philosophies of ideas, of

conduct. But fastly, one question comes on the table: "so what?". There is where need for instance mutual learning is eventually needed, where peers are meeting, that's why we need common platforms, there is already one existing but we are working on its improvement. They are 3 networks and we use one of them to finance this initiative. Originally, some MS arranged to extend what they did at their national level to the EU level, such as the NL, creating a forum involving 500-600 procurers so far exchanging information. Personally I don't trust in this kind of practices, but at least that proves there are a demand and offer. Actors are meeting and communicate their needs.

So there is at least a will to communicate across borders.

Yes, exactly, we foster this, it is part of our rationality to say if we can build a community of public procurers it could be a EU added value, and it can help us.

I have a last question. Most of the times coordination problems are due to specificities of MS (internal org, policy preferences). Regarding the PPI case, are those differences can be an obstacle.

Yes, obviously. There are different aspects, the implement of European directives in national laws is devoted to MS, and de facto there are then different legal contexts. Secondly, regarding the PCP, there is a particular methodology, involving complex procedure and legal aspects, there are different legal national frameworks framing PP, implying different answers and contexts, not facilitating the EU action. Sometimes it is contrary to best practices exchanges. Indeed, a good practice in one country can be perceived as bad in another. Some centralized states such as FR and UK, in contrary to DE, actors are not the same and stakes are different as well as political games, *relais*. Concretely, The EU tries to lobby to disseminate development of PPI, such as FR and DE which are not very up for that. In those cases, targeted actors are different, more national at Fr side and regarding De side, Berlin support would be a plus, but landers matters in financial terms, and are more important procurers. De facto, at the table we need national as well sub national actors, but in an other way it can be stimulating, and it can be pleasant to deal with different strategy of actors. We try to hold conferences in FR and DE, and location differs from Fr to De (Paris and other regions in DE)

Thank you for answering my questions. A last one however. I know there is three networks. Is this awareness rising will extend the scope and numbers of networks?

Yes. We are going to launch new networks, we are launching a new call of 15 Million Euro next week, we will relaunch up to 8 or 9 new networks built around specific themes, covering wide stakes. Furthermore, all the philosophy of PP, (and DG RTD don't understand), we are working on a demand of innovation, rather than the offer, it is to take into account needs what the citizens expects, as well as public administrations in charge of govern them, so start form precise expectations from the people, which are quite numerous in this context of crisis. Public intervention is even more necessary, and so we select stakes according to societies. Scopes is very large, but we limit it to demand of procurers. Globally what is interesting with the methodology we made is it can be duplicated towards other programmes, such as structural funds, by proposing this already made methodology, but the idea is to start form a demand from administration, but we contribute to make public service moving, by satisfying their needs. We think that we have to develop that, notably through the future CSF, the stakes are we each of theme we have to draw a PP aspect, for doing so we need a community of procurers, to identify leader procurers to represent public demand, sector by sector.

ANNEX 9: Interview with Keih Sequeira, policy officer, European Commission, DG Research and Innovation, Unit A.3 "Framework programme and simplification", 21 June 2011.

The interview took place in M. Sequeira's office. Working now in DG Research, M. Sequeira used to be a policy officer at DG Enterprise and Industry, working on Public procurement of innovation policy area.

These recent years, the Commission made important efforts to foster the development of public procurements of innovation. Do you think that this proactive involvement led national actors to discuss this political issue at the European level?

I came in December 2010, but I also worked in PP issues in the UK I was from the other side as well.
I joined the Commission in 2007, I was in DG Enterprise and Industry, I spend 3 years there, and I worked on Public procurement issues, and then I came here in November 2010; beforehand, I worked in the UK on Public procurement as well, so I saw this issue from both sides.

Yes, it clearly had an effect, and I think it had an effect in different stages. The first stage was when the Commission sponsored expert reports; there is a quite influential one around 2005-2006, one of them was done within the CREST (the Member States committee which was granted by some ministries in the UK). The second stage was to engage the process at the political level, and that was very much done in the “Aho report”, which drew the concept of lead markets. The Aho report was for European Council to write a report on innovation.
What happened after that? Aho said we moved from this situation from expert reports to next stage which is to provide guidance. 2 things were developed: First, guidance about good practices on procurements, made by the DG enterprise. Another one was mainly done by DG INFSO on Pre-commercial procurement. Those that provided people some tools for how actually doing this. However, there is a slow take off of these tools, some of the schemes in the UK and the Netherlands particularly, were pretty much made possible by the Pre-Commercial procurement communication, because that solved some legal and technical difficulties. It was important that the Commission was coming forward with its staff documents and the reason for which it was important the Commission is the guardian of the procurement directives, one of the “grey areas” is what the interpretation of the procurement directives are was a long discussion, whether this is a problem or not for procuring innovation. So that became a need for the commission to produce it, not for the Research and innovation, but for the procurement community.
It was giving the green light to this, and I think this is important.
That was the time when I joined the Commission, and we get followed up the Aho report with the communication on lead markets. In this communication, there was an action about public procurement, which was quite vague. There was no clarity about how to proceed, so we had some meetings and we decided to fund specific actions to allow public procurers to coordinate. So this is the next step after guidance: providing money for supporting coordination. Why do we do this? I think we saw (as well from my own experience in the UK) there is a low cooperation between public procurers, even in their own countries or transnationally, but at the same time procurement is quite an important activity, so there is a huge potential for learning from others, particularly when you have innovation which is even more complex.
Once you get some money to have a part of call in 2008 and provide money for procurement, and we restricted it to contracting public authorities,

What we asked to do with this money was to coordinate how they talk to the supply base, so the industry for instance, because there is a low communication, we ask them to try coordinate the strategies, and to work together to provide some practice, outreach training to other procurers. Because one of the difficulties is that procurement is so fragmented in

Europe, it's not like funding research which tends to be done in central bodies in Europe, for procurement there is thousands of different procurement authorities, so we could not involve all of these, so we in our networks we funded around 5-8 authorities in each project. That was difficult to approach this, it is a total new audience for DG enterprise as well as DG Research and innovation, and we tried to get the real procurers involved, and not just the research ministries and agencies.

The actual procurers, then?

The actual procurers. In some cases there were also innovation agencies and some universities involved for technical support or expertise, but we mainly put condition that there were actual procurers. That was the next stage and in parallel to that, DG INFSO did something very similar about Pre-commercial procurement. This is the same idea, and we work pretty closely. The other inspiration came from ERA-NET scheme, which is about coordination of research programmes, so we tried to get the same approach, the concept applied to procurement programmes rather than research programmes.

So translating ERA-NET scheme to the Public procurement case was the idea…

Exactly, that was the idea. The next stage which also followed in parallel to ERA-NET scheme is then to provide funding not only for the cooperation but act costs to do a procurement. And really thought it was important, because of the barriers to do this is the lack of incentives: in that case, public procurers if you doing something risky, if it goes right it almost well reward, but if it goes wrong, there are many penalties, so we thought to tackle this problem incentives, it was important to actually provide some real money to go beyond natural procurement. We did have long discussions about what the Euro bring added value. And as a result of those discussions two things happened. Firstly, the political level this was made a very clear proposal in the innovation union initiative, we tried to […] and the other thing that happened was two panel calls test this approach, one we did in DG entr which was using the CIP funding and that hasn't been launched yet, but I know there will be launched soon, the other thing is the DG INFSO has done the same approach on ICT using the FP7 instrument and I'm not sure where they are now.
So we worked hard in this approach to see what, on the same time at the political level and we put PP as part of the main actions of the Innovation Union; so those incentives problems, and the sources of problems of capabilities that's are that we tried to tackle with the Innovation union. We put figures on the table indicating 10 billion Euros on procurement of innovation and research, and the difficult figure to justify because we don't have statistics

what the level is at the moment, and we don't have a very robust definition of what is included in the notion of public procurement of innovation. It depends of a broader concept. It remains a vague term and there is different ways to define it, it is difficult to measure the information, because information about what the content of procurements is quite difficult to get hold on, and it would be important to make a statement about this, and that we saw large amount of money it should be used for this. I think that provoked quite strong discussions, particularly within the Council. But at the same time it was very effective in terms of political discussions, and the people started thinking about procurement and innovation. So that's a bit when the States […] It's for the issues for the next framework programme, there was a consultation document.

Yes, maybe the next framework programme will tell us more about the future of cooperation on that field. I wanted to come back to one thing we told about what about the guidance and other tools for guiding Member State authorities towards a common approach. There are other similar ones, such as good practices, etc. Do you think those rules of cooperation are likely to be followed, or is it not enough for let's say developing a common strategy for developing PPI? Or do we need more tools or bindings instruments leading States to have common approach?

I think that the guidelines if you have somebody who wants to do PPI, the guidelines are very useful, but if you don't have people who want to do PPI, then the guidelines are not relevant.

That's what your colleague said as well, indeed...

Yes, the problem is why should you have to produce it in use of on public procurement authority, why do you want to do this? And if you are procurement authority and you don't have a policy objective of supporting research and innovation, you have a policy objective of whatever it is, hospitals, roads, or transport systems. So most of the time, you don't want to do this, you don't want the thing going out of the budget, so most of the time what you try to do in procurement, and this also my experience worked on some ones, is to minimize the risks if anything going wrong, minimize the risk that it won't work, minimize the risk about procurer's budget, minimize the risk there would be any delay. So why would you want to do any procurement. So the guidelines only help if you have people who are enthusiastic to do this, and most of the time, they're not for many reasons. The second limitation of guidelines is that it needs to be more transnational cooperation, and this is because the market is too small, all the time. To make it worthwhile the industry to invest in innovations which clearly supposes to a owl programme and secondly, if there is very successful innovation, that

comes from procurement, most of the time, it's very hard for that company to sell to anybody else, because they have specifications. So we saw the need to try do this on transnational level, but to provide the volume, the market for people to justify their investments, and also to allow dissemination of innovation across the public sector. Because the other objective which is sometimes explicit, (sometimes hidden) is around innovation in public sector, and where they need to use procurement to become more innovative, and that is why the DG INFSO is so interested by procurement issue, due to ICT, communication technologies, e-Health, and for this work across Europe, it would tackle the same specifications. Both of these issues, lack of incentives, and lack of transnational collaboration shows we can't do it without guidelines.

Does that can help to improve transnational cooperation?

I don't think guidelines… Well… There are still some legal issues and practical issues around transnational procurement, there are also some about research programmes and use of public funding. In the public procurement field, procurement law is national, each MS translates directives into national law, so if you have a joint procurement between different countries, you have to choose which national law is under, and in many cases, the PP authority are or cannot legally, or doesn't want to operate under something else's national regime. There was also the problem when you have a research programme as well about decision-making, because the public sector is organized on people or their offices being responsible for their budget, and it's very difficult for them to legally give that authority to a common decision making process.
So it was the facts, and we have said we had to provide some guidance on joint procurements between MS, this is something that DG MARKT was looking at, we were pushing them to do so, there is a possibility of guidance on that, about how actually to do this, we have produced that guidance, but in my mind I don't think that guidance have actually helped people for transnational procurement.

I have a last question. During my research I tried to search the main coordination problems faced by MS and other authorities in general terms but also for procurement. Most of the time coordination problems are due to specificities of MS (internal org, preferences pol). For instance UK and DE

Well, Germany have said to give you an example they questioned this approach because there is a federal system in Germany, in fact most countries do not have centralized

procurement, it is done by individual organizations, one of the biggest procurers are municipalities for example. So does it pose a problem have different structure? This is one of the reasons given. In my view, it is not a correct reason. Because what is the real barrier is to have procurers who have a certain critical mass that makes them worthwhile to develop more strategic capabilities, to really understand what they buy, what they exactly need, to see more globally what are the solutions. This is the real problem. Now, in some cases, those kind of procurement authorities do exist, they might not be a MS, they could be at national level or lower if you look big cities such as the city of London, Paris, these can be major actors, regarding things like public transports, they have a capability. This is a difference with the US, they have big federal agencies, you have big buyers, procurers in their own right, if you look at the Commission, we do very little procurement here, procurers haves their offices, buyers are quite fragmented around MS, and if you look at the expert studies worked on this, and they said we need sophisticated buyers, and that's much more difficult in Europe, and it is not because structures are different between MS are different, it is because there is very few organizations that have the buying power and the in-house capabilities to take over innovation.

It is true there is an ongoing feasibility study on a EU support for procurement of innovation, and the results revealed quite a strong interest about such a support, but about the setting up of a single authority, there are quite mitigated opinions…

Well, I would be very surprised that the EU can set up a European entity or give a EU institution in power to buy on behalf of others, but it's quite difficult to do, and also if you look at the Innovation literature, my felling, and I think it's supported by innovation literature, is that the benefit doing this for innovation is because of the interaction between the users and suppliers, and this is what's missing in the grant system, which clearly supports suppliers but not involving the users, so if you have an agency who represent the users when you lose that direct contact, and if you look how does it work in practice, the benefit is not only for money which goes to SMEs or companies developing a solution it is also working together, so you have a SME who's actually work in a real hospital to try to have a innovative solution, and they can't do that without the hospital, because they need the hospital for supporting it. And secondly, the value for a SME of having a reliable customer who is supportive is incredibly important for innovative SMEs. There have been some discussions on it, in my view.

ANNEX 10: Interview with James Gavigan, European Commission, DG Research and Innovation, Head of Unit B.1 ERA policy, Brussels, 29 June 2011.

The interview took place in M. Gavigan's office.

These recent years, the Commission made important efforts to foster the development of public procurements of innovation. Do you think that this proactive involvement led national actors to discuss this political issue at the European level?

They largely continue to do this in their national context, but there is change these recent years, the story I usually tell is from my experience, when I started to work at the Commission in 1990, most of the Research policy efforts revolved around the funding of bilateral research projects and the only discourse of policy nature, was a discussion about the next thematic priorities going to be in the next framework programme, if we have to fund bioscience, less some others, new ones such IT, and so on. The policy discourse was very monolithic, a sort of single subject issue. This began to change with the Lisbon strategy in 2000, and as you may know the Lisbon aimed at making the most important economy in the world, this had the effect of putting more attention on research and knowledge as part of policy agenda of the EU. In real policy terms, the corresponding debate progressed I would say rather slowed it started with the ERA content we needed to choose in 2000s and then you had you had gradual solutions, broadening of the policy agenda, research policy and began to tackle more substantially human resource-related issues, mobility of researchers, researchers careers and so on, and the EC began to implement the OMC process, on some of these topics, which that not dealt with policy agenda for research until then. It started with human resources; I also think they also began to include in the FPs some efforts to develop research infrastructures, in 2000 I think, these things to go in even broader dimension when the EU the objective of 3% of GDP. This gave I would say a very strong impetus for the OMC, that began with the researchers, and actually was going quite well, but with the 3% action plan the number of issues invested by the OMC became very broad. With the 3% action plan, you had in that for the first time a very complete mapping of the relationships between research policy and other sectors of policy in the EC, industry, internal market, IP-related matters, taxes, fiscal policy, information and society DG, energy policy and so on. So the whole question of the situation of research policy within a multi-complex mix of policy instruments was put on the agenda, and research policy had to start a dialogue with other sectoral policies, and developing its own policy portfolio, it began to develop activities in some of the areas that it never look at before, looking at public procurement, intellectual property and knowledge transfer, looking at taxes and instruments for R&D, promotion of

philanthropy, and so on. What this has to do with Member States? The OMC aimed at bringing together the Member States to share their practice to exchange information, to learn from each other and hopefully that everybody can improve.

Through peer review for instance…

Through peer review, even just through the examination of single issue, for example one particularly useful initiative at the started in the OMC ant the 3ù was the area tax incentives, fiscal policy, bring the MS together through the CREST committee, undertook a work programme to identify the different practices in tax incentives, this established a the baseline of practices and then MS tried to learn and draw their adjust own approaches nationally, having good information and good knowledge of what's going on in MS. I should point out that MS engaged in the OMC process and 3% very hesitantly. They talked this is going to be an excessive burden on their staff and I would say that as time as time they did engage with it and in spite of themselves they found that this was good for them for learning from , so the original reluctance and hesitation was forgotten, every cleaveage was forgotten and they realized it was a usefull. I think it was very important, because as we went through several cycles of the OMC and 3% with many different topics each time, different groups set up, and reports established and so on, then you accumulate the learning process going on, and it forced, brought MS much closer to the idea of exchanging information supposed coordination. Then, in 2007, we decided to try to get new impetus to ERA ideas, such as ones on the green paper, as a result the Ec decided together with MS to try to bring if you like to give new momentum of establishing ERA, but through even stronger partnership between MS, and the EU. My feeling is that this idea ERA partnership initiative would not have been possible if it had not been proceeded by the OMC on the 3%, afaic the MS will give good conditions to exchange the info and they will prepare to take it from every level.

So that created a kind of perequsisite...

Yes, that created the conditions that allowed the MS to agree that it was good to implement now ERA in much more proper way through a partnership approach between each other and the Ec. And this led them to find partnerships launched in 2008 with joint programming, and know the sharing of research infrastructures, and researchers. This partnership issues are presently running. Sorry, your original question was?

You already answered my first question. It was about did coordination efforts of the EC led the MS to change their mind and they conceive future Research policy rather put in the EU agenda rather than in the national one.

I think the coordination efforts of the EC so far even the partnership approach, they are still miled. There are not very strong coordinating efforts because of a strong reluctance to MS to allow that EC will take a strong role and leading role or a coordinating role. I think with these partnership initiatives, is more value and progressed and can be derived out of them, but I think that coordinating efforts of the Ec is always imperfect if we do not have full information available o us to allow us to play full coordinating role. In other words, the type of role that the EC has played in the OMC and Era partnerships is essentially soft coordination. We provide mechanisms and facilities for MS and share information, but in terms of real coordination, imagine that the MS sit down and decide on common priorities, or at least to agree on common ways this would lend itself to the EC playing a much more important role, still within the coordinating capacity, if you take the example of the area of JP, between MS, where most of the money is going to coming from the MS as you know 94-96% of the budget in EU most of the money for the funding research comes form MS, there is a potential of big efficiency game and big economies of scale, if efforts are combined with European level,

Is that could avoid duplication of programmes?

That's right, the role that the EC could considerably play in establishing of joint programs would be much more significant than just facilitating the exchange of information, it's a much more substantial role. Another example would be the coordination role the Ec could play regarding the decision of the EU in international cooperation. Because Eu is seen as very fragmented entity from Washington or from Delhi or Beijing, they see Europe as a fragmented, there is no single voice in Europe, for engaging discussions on large global challenges that have science and technology components, EC can play a role again here, if there was a willingness and possibility for the Ec to shepherd the different MS together around common priorities. The same applies for research infrastructures, in aras of policies affecting researchers. One of the problems the Commission will have in exercising a coordination is not just the political willingness, but information that we will need to have available to us to permit us to conduct our role in a really informed and efficient manner. If we do have this information from Member States and what they are doing in the area of energy, research, and so on, are energy sectors cannot formulate, a view, a vision of what might be the best added value activities, in a coordinated manner.

So an active behaviour from MS is required…

One of the things we would put into, we're working on it, and we try to develop now, the ERA policy up to a new level, because there is this feeling that the modern nature of the partnership approach have got limits to what can do the Member States, and so as long as it will be voluntary there will always be reluctant so there is no necessity to cope/cover the full mile in terms of commitments to EU objectives, so if we can tackle next year some proposals on the next phase of ERA policy, including a framework for ERA, some mandatory requirements on Member States over the thematic or also over governance nature, some other could include the obligation to report to the Commission on the number of key aspects of its policy and its measures so that the Commission has the full set of information it needs to exercise its function. It's a kind of interesting because you would have then on the table for the Member States sort of obligatory set of requirements, not properly legally binding requirements to provide to the info for Commission to implement soft policy, because coordination is always going to be soft policy measures, so you will have obligatory reporting requirement to enable the commission to implement some soft policy coordination. And we may also build into the ERA framework if we want to justify some other obligations to MS that go beyond reporting requirements, maybe in relation to opening up of cross-border funding possibilities, of removing barriers of free movement of researchers, cross-borders recruitment and things la that. So we may build into ERA framework some instruments which will be more binding nature on Member States. You know that the legal basis now is the treaty gives us this possibility but we have to follow strictly the better regulation strategy of the Commission which means that anything that we do decide to tackle has to be fully substantantives by analysis of the problems that the problems are real, that there s size that warrants action because they 're causing efficiencies, that there is a cross-border dimension which warrants the EU intervention, that the actual size of the problem is big enough, so that there is the proportionality requirement does need that we do something, this is on what we are working on currently.

I'm happy you explained a little bit about biding outputs and future, because that was my second question. So that was was basically about the OMC but you also talked a lot about it, you talked also about PP, and I read the ERA report about the assessment of the OMC which was written last year, a survey was made and the respondents mentioned that they were not aware about the CREST and policy tools available do you think it's because of a special reason, do you think it's real, theyr'e not aware enough about OMC?

Well, when you say actors, what do you mean?

National bodies, agencies, ministries, CREST members…

I think there's ample awareness, the question there is if they are limited by the time that they can spend on EU-related business, any effort, any particular project will require to be available to have a look on it

So if they have enough time…

Yes, the ministries need to make its people available they need to tax on other services within the ministries to get the people to contribute to coordination activities. It is always hard to get people into this, but the commission can come in because we can sometimes bring some money in for consultancy, to help some projects to be implemented; but I think normally the circuit of stakeholders that are concerned by this from the ministries know what's going on, through the partnership initiatives that are going on, or the joint programming or thourgh things like ERA-NET, this is widening the net of actors that are more involved in cross-border related matters, ERA net has been a very positive development and surprisingly it was successful.

Some interviewees went in the same way than you. Last question, during my research I read that lots of scholars studying coordination of innovation policies, and pointed out two main obstacles. One is about the internal organization of Member States, and another one is about differences among policy preferences of Member States. Do you think these are major obstacles, or do you think there are other more relevant obstacles?

These type of obstacles are very straightforward things, because they are very factual , because obstacles are more about cultural nature, cultural nature and also of political a sort of reluctance-typed nature, or human-nature-type things, things that have to do sometimes with the individuals, that either in body or thing that the body or the interest of the Member States they represent is concerned and so they take certain views for or against, getting involved, based on their own experience and knowledge or at sometimes these indicators of what would be the positioning in their country, for example you can take the UK which clearly has clearly a tradition of distancing itself so here the people in body the view that the country and the political set up in the country has. Another case is you will get people that have been in long term in accordance as members of the committee, they may have either for or against might use to this which are not necessarily keeping the broader view in their ministries but this are things that are day-to-day if you like at the real politic of trying to do business.

There are then political games influencing this process…

Yes, sometimes this can be determinant, and what happens is you try to rise the sometimes through the institutions, and you get the ministers come in with their conclusions and instructions Sometimes you would get, as we did in February, we get the European Council with heads of States and governments, saying that the ERA must be realized by 2014. So this is a powerful message from the head of States and Governments t other ministries, s that they do something about it, but at the end of the day, the energy put are hard to overcome, it can still no being enough coming at the European council with its stakes “you have to do this”, but you can’t really think stronger than that, and you get the Head of States saying “do it”, but then you still have to shepherd them. Again, the response from different countries for such a signal also varies. You ill get some countries with very strong professional culture, within the public service, they can switch over night, and they go for it, but in other countries that’s all a bit confused.

Interview with Patrick Brennier, European Commission, DG Research and innovation, Diractorate C "Research and Innovation", Deputy-Head of Unit "Economic analysis and inidcators", Brussels, 29 June 2011 (translated from French)

The interview took place in M. Brenier's office:

These recent years, the Commission made important efforts to foster the development of public procurements of innovation. Do you think that this proactive involvement led national actors to discuss this political issue at the European level?

There are several elements of answer. Firstly, the Lisbon treaty and the lisbon strategy and EU 2020, those two strategies had a concrete effect: the objective 3% is one item of the Lisbon strategy, has to be declined at the national level. This is a concrete effect of coordination of antional strategic objectives. With EU 2020 it became very codified since national objective has to be presented in NPR. Another element more complete are the guidelines integrated which were succinct in Lisbon and which are now much more developed in EU 2020 and which set objectives and means to guide national R&I strategies (objective n°4).
In addition, one weakness of Lisbon was the absence of a framework for implementing recommendations. This was corrected with EU 2020 by setting two semesters: one first,

European the Commission proposes its orientations for the next two years, and the second one, national, aims at defining national implementation of strategies. The European semester starts with the publication of the Annual growth survey, which is a novelty of EU 2020, this report adopted in January mentions two things: the state of activities in previous year, and indicates for the two coming years what are among priorities defined by the Com in EU 2020 are in short term the most important for Member States, it is a kind of re-prioritarisation in the short term on what the MS have to implement in the long term. So there are more strict elements set up, and they are expected to have more direct effects.
MS present their national reforms what they will start to work in order to reach their national objectives there is a kind of coherence then, the idea is not

Finally, objectives are more and more discussed at the European level…

Well, headline targets have been discussed between head of states of governments, such as the 3% objectives. However, what is new in EU 2020 is that each MS will can (decline) these objectives at the national level. It is clear that among countries intensity of research is not the same, then that will not generate the same policies. What we mentioned in EU 2020 is that the Com will discuss bilaterally with each MS to ensure each fix targets according to its current situation and evolution potential. All of this makes us thinking in terms of intensity of research, and raise expectations from MS, and leads to think about which policies will allow to reach a common objective. That obliges MS to accept that their ministries come and say "I have to preserve my budget for Research" because we fixed high objectives at the European level, which requires lots of public funds. In sum, that allows ministries of education and research to defend their position. It already worked during Lisbon, since it was agreed that objectives fixed at national level, don't lead to budgetary cuts.
Secondly, private-related part of Research funding: it is not fixed in order to stimulate it, there is financial instruments (public funding mechanisms, incentive, co-financing, investments, which generates an investment opportunity). The other way is framework conditions, all related to business law, IPR, public procurement policy, policy related to access of SMEs to funding, etc. So there is a volume of framework conditions which are not specific to Research but those conditions are not unfavourable to investment in Research and innovation and even favourable. For instance, France deleted professional tax, based on productive investments, which was compensated by other taxes,
One third element is about education systems.
When enterprises are asked about what are the most important actors which can decide of your investment in R&I in Europe, we can see that the most frequent answer is a good access to private investments, because it is less easy than in the US which developed

business angels and other banking strategies. But Europe is going to help this process, through the Risk Sharing Finance Facility. In the risks to be tackled, banks have constraints, defined in Basel agreements, saying that they cannot have a certain proportion of risked projects. Very often, investments related to innovation are considered as highly risked investments.

Because they are long-term investments?

They are long-term investments, by definition R&I have a share of risk. So it is normal that banks are quite reluctant. Once they fulfilled their quota of risked projects, one aim of the RSFF is to offer through EIB a fund for financing the risk, to decrease it, to go from a risked loan towards a lower-risked one. That allows banks to go further in their investments. Thus, this RSFF will be extended to SMEs.
The other category of factor mentioned by enterprises is professional training, for getting access to a large amount of qualified people in sufficient quantity. It is very important that each MS ensure that investments in Educational systems are turned more efficient by staying more related by industrial needs. To attract hi-tech industry, a huge amount of human resources is needed. Anyway, the point is that to reach increase of private investments in Research, we need public funding having a leverage effect on investments, and we also need framework conditions having incentive effects on investments (a more indirect mean), they have now rules which encourage those who are innovative. For instance, a Country setting systematically a Public procurement policy which wouldn't describe in functional terms the expected products... I mean... We started from a selection based on the smallest cost.

Yes, that was the point of lots of commission reports, pointing that public authorities procuring privileged too much the cheapest rather than the most innovative...

Before going to this extreme, there is intermediary steps: we started from the cost-benefit (evaluating interest and performance of the product, divided by unitary cost) reasoning, and progressively, as Japan did, we moved from functional to performance-based approach (procurers want performing products). Afterwards, there are even more developed forms, where it is asked to providers to produce products which are not on the market yet. Products in advanced development, but which not passed tests yet. We can have in PP a pre-commercial, which leads to an idea contest which could be developed in the coming years, analysis is on potential of this technology, and financing or co-financing later stages of development until at least one product reach commercial phase. From here, competition

comes back: public authority launches a public procurement for which everybody can participate, and the one who will win the process with a product without equivalent in the market is likely to win. So this process respects transparency but with this kind of procurement, we don't procure a standard product. It is possible that a product is self-financed or partly financed by public authorities.
So here is a new approach from public authority.

Just a few words about the Innovation Union: there is aspects already existing before, modernization of European standard harmonization, the European patent, Innovative Procurement (notably requested by the Netherlands). But new things more or less put in the IU were explicated in conclusions of 4th February European Council. This is one of the first thematic councils after enforcement of Lisbon. MS Didn't have time to discuss about energy but they didn't have time about innovation but they confirmed the prepared conclusions. In them, the Council takes several elements from the Innovation Union and gave to them a particular importance, and asks the Commission to do make some proposals in several fields before the end of this year, notably regarding constitution of an Intellectual property market, a kind of Ebay of licences and patents. There are then concrete proposals. In the coming months, some official proposal will be put on the table, the European Council will debate on this, and official proposals will be made by the Commission in case of approval. What is striking is we didn't reinvent the world, priority axes didn't really changed, but we talk about this more concretely, rather than during Lisbon during which we discussed a lot but we didn't come to decisions, for which each have their national strategy. What characterizes this new phase is we want it more concrete, we can see it through the Innovation Union for instance. We have the feeling through the Commissioner's speeches that there is an urgent need of innovation, European Council in June 2010 concluded that a R&I objective such as the 3% objective is maintained but it is not enough, we want something more output-oriented, that is why it has been asked to the Commission to elaborate an indicator measuring innovation. The conclusion was that a good complement to the 3% objective was to measure is growth rate of innovative SMEs: according to you, who invests in research? Who creates jobs? Who renews European Industry? Enterprises do. What is problem of Europe is we are pioneers in domains of well-tried technologies, but we're not for developing new technologies. Even if so, lack of private investments makes that we are not the first ones to take risks. Yet, being the first mover would be an asset. One of our tasks is to scrutinize in some innovative sectors the share of jobs which are concentrated in fast grown companies. This is the indicator which interests us to Measure this in different countries. From this we expect that MS will think in terms of which measures which will have an impact on this indicator. This is the point of this, taking a photograph of a situation to measure an improvement or not, which is highly useful

for political leaders. As an illustration, France announced lots of R&I-like measures since 2004. Looking at French research System before this date, situation is totally different. (modernization, *poles de compétitivité*, tax credits for Research, devices for young innovating enterprises 5Mi/y), those measures have an impact, since industry relocate R&I in France. Besides this, a dispositive for young innovating enterprises attracts interest from other MS. From this I come back to your question: it is not always what the EC what interests MS, but very often some practices of some MS catches the attention of other MS. For instance, *pôles de compétitivité* catched attention of the Netherlands and Scandinavian countries.

Is it a kind of policy learning process?

We always looking for structuring mutual learning process, what the EC reviewed, etc. But MS are very disappointing in general, but what is interesting is why a measure is efficient, but organizing debate around this is very difficult, due for instance to language barriers, what leads to boring best practices presentations.

However, these are practices fostered by the Commission through the OMC...

We talk less and less about this since Lisbon Council, we tend to continue this strategy without naming it, because it is badly perceived. People involved felt obliged to come and present their measures, but 1- they didn't really invest themselves to present quality of their measures and 2-they were there for speaking and not listening. Indeed, very often the feeling was after mutual learning meetings, national actors hand in reports and the learning stops here. Why? For covering an idea, it is needed to convince directly political leaders, and people don't dare to do this, then way of mutual learning isn't codified, it is quite pernicious. For instance the OECD has the advantage to not scaring MS, which open their doors. On the long term, ideas will succeed to come on minister's table. Mutual learning concerns stops.

ANNEX 12: Interview with Robert-Jan Smits, Director-General of DG Research and Innovation, European Commission, 25 July 2011.

The interview took place at M. Smits' office.

Member States have to present National reform programmes, indicating how their will reform their economy, including ideas for R&I. On the basis of that, the Commission is giving country specific recommendation. This leads of course to some kind of a convergence in policy-making, because of course if there limited economic growth and prospective, you don't want to have governments running big budget deficits, you want that countries that countries spend more in education and Research and innovation, at least for research the 3%, so we want that countries cope more with R&I at national level, that governments modernize universities to work better with and for industries, so I think our recommendations and policy instruments are indeed shaping national policies and that will also ensure a kind of convergence at the European level. Because the problem course we have in the European Union, is that there are enormous differences between Member States as far as economic growth education, debts, research and innovation. Thus, it is important that we have a convergence between different policies at national level in order to have level playing field that will optimize cooperation, because at the moment, polices are too different. For this reason, we have 27 MS but we don't have integrated policy, while it is for economic affairs or for European affairs.

We told about differences among member States, actually that was something I wanted to talk with you; my research led me to analyze obstacles to coordination, and some authors argue that two major limits, due to internal organization of Member States and national preferences undermine coordination? Do you think those are major obstacles or do you rather think about other ones?

I think these are obstacles, but I think "national interests" is an obstacle. I think it's not national interest which is an obstacle but I think if we are doing that in an intelligent way, MS will see what we are proposing makes a lot of sense. If you look at the moment the problem related to Greece and monetary situation in Europe, this is purely due to the fact that we have a common currency but we don't have a common economic policy, so there is a complete mismatch, and I think everyone agrees to say "yes, we should have developed in the past, a converging economic policy". Yes, obstacles you describe are there but these are obstacles that we can overcome, I think the biggest issue at the moment that MS are in a number of areas not willing to do what they know is best to do, even look at education or

Research and innovation, all of them know that they have to do more and do better, a lot of them don't do it because they don't put at the highest political level, so I think it is not a matter of coordination it is about giving priority to it.

I have another question related to my specific case, which is public procurement of innovation. Do you know what are the next developments regarding PPI, what will be the next EU initiatives for trying to coordinate this major issue?

You know that PP stands for 17% of GDP, and I think we have to learn in Europe not to choose the cheapest one, but to choose the most innovative one, so in other words, if city of Brussels need new building, that's not given to the cheapest constructor, but the constructor who can build Co2-neutral building, that can boost Research and innovation enormously. We have to use a more innovative and intelligent ways, as the American do it. Do the current rules allow doing this? Yes, strangely enough, as nothing forbids innovative public procurements. The only thing which is missing is success stories, implementing guidelines, and there we are working at the moment working together with DG MARKT on implementing guidelines. For instance in the Netherlands, we are using innovative Public Procurement, they are using innovative public procurements in order to find solution against rise of sea level, they have done a Public procurement for only high-tech SMEs to come up with innovative solutions against rise of sea level. Because the traditional solution is to make dikes higher, but they ask now some innovative solutions, so this is the way in which Member States and the Netherlands where are using now innovative public procurements. And that is something which we would like to see much more than Member States do expect. We want to go further by establishing joint procurements between several countries. For instance, buses which needs electricity, let's suppose that city of Rotterdam, but the city of Rotterdam only needs 20, but if you consider for instance Rotterdam, Berlin and Athens Madrid, you could have four cities doing procurement together, and it is much more interesting for a company to compete for it, in other words the next step is to see how to do that at the European level, with cities together doing it, but I think the most important first to me is to make sure that doing public procurement is the good thing, it is possible to cope with rules, and I would check existing examples to do is, that is something we are working on it now with Commissioner Barnier will come at the end of the year with proposals about that.

One last question: we spoke about guidelines, peer review and best practices exchanges. Regarding again Public Procurement and in wider way R&I, there are a lot of criticisms about them, and some scholars say they're not followed or useful or efficient, what is your opinion about this?

Well, they used it in the US, and the Americans bought billions into innovation research for procurement. You know that SBIR is successful for example. So, looking at the American model, and I think this is a model that works, anyone who criticizes or who is skeptical, I would say “look at the American model”. It works and I think we need in Europe to go to this line, because money is lacking, there is not that much money for Research and innovation at the national level, we have to use all mechanisms there are, including using procurement in an innovative way, and this is for me a beautiful way to move in that direction.