

# **New Modes of Governance and national policy capacities in the EU: an analysis of the coordination mix in the research and innovation policy in Finland, France and Italy**

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Paper delivered to the 'Fifth Transatlantic Dialogue Conference'  
Washington, D.C., June 2009

## ***Introduction***

The emergence in the European Union of the New Modes of Governance, such as the Open Method of Coordination established at the Lisbon European Council of March 2000, has given rise to a vast literature, ranging from the investigation of why such methods emerged to the assessment of its supposed virtues of non-hierarchical deliberative procedures, to the analysis of the underlying rationales of policy learning and transfer within the EU multi-level policy under these governance frameworks, and the ensuing potential for policy convergence in the EU (Citi and Rhodes, 2007). A number of works investigate the new modes in operation (De la Porte and Nanz, 2004; Zeitlin and Pochet, 2005). However, a relatively neglected area of investigation is the interconnection between new modes and pre-existing administrative structures at the country level.

If 'output legitimacy' of European public policies (the effective application of collectively binding decisions that serve a constituency's common interest) is a key concern, then in-depth investigation of institutional and administrative systems at the national level is part of the picture for explaining policy effectiveness. Issues such as 'institutional capacities' and 'coordination' are factors affecting policy outputs and outcomes. In the analysis of public policy, questions concerning how coordination is achieved in the public sector are central, which entails addressing questions like: what coordination tools are in operation? What are the underlying coordination mechanisms (whether based on Hierarchy-Type Mechanisms – HTM -, or Market-Type Mechanisms – MTM-, or Network-Type Mechanisms – NTM – Thompson et al., 1991)? What method and instrumentalities can be employed for comparative analysis?

The paper draws on recent work by Bouckaert et al. (2009) on the study of coordination in the public sector, that provides a framework for the comparative static analysis of coordination tools and the underlying social mechanisms through a univocal coding, and applies the analytical framework to the meso-level of the policy sector. Coordination (more precisely: the coordination mix and its impact on policy capacity) may be interpreted as a variable influential on the policy outputs and outcomes; in turn, the coordination mix is influenced by the characteristics of the administrative system and the administrative reforms in the country under investigation.

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The paper provides the mapping of the coordination mix in the research and innovation policy sector in three EU countries: Finland, France and Italy (multiple case study research design). The identified set of three countries displays variation in both the factors influencing the coordination mix (namely, the features of the administrative system and the trajectory of administrative reform), and the factors affected by the coordination mix, i.e. the policy outputs and outcomes. In the investigation, we start from two countries, France and Italy, that present a maximum of similarity (in comparative terms) concerning the administrative system, the object of analysis; they are also relatively close in the terms of size of the public sector (as well as the overall population). Both countries are usually held not to be excellent in this policy field, though with differences. As regards the administrative reform trajectories, there are certain significant differences, but when the larger picture is taken into account there are also very important similarities (Ongaro, 2009 forthcoming, chapters 2 and 6). We then turn the focus towards a North European country, Finland, characterised by small size, a consensualistic societal and organisational culture, an administrative system quite different from the ‘Napoleonic’ system of France and Italy. The administrative reform trajectory undertaken over the 1990s and the 2000s is also markedly different from that of Italy and France (Pollitt and Bouckaert, 2004, chapter 4). Last but not least, Finland has a reputation for being a world-wide excellence in the research and innovation policy.

The paper thus addresses the *empirical* questions about what coordination tools, and what coordination mix in the terms of its underlying mechanisms (HTM, MTM, NTM), are in operation in the research and technological innovation policy in the three selected EU countries, and what are main similarities and dissimilarities. On this basis, it argues speculatively about the broad causal linkages (first approximation model) among New Modes of Governance in the EU, the coordination mix in a given area of public policy and the way it is affected by public sector reform at the national level, and policy effectiveness.

The paper unfolds as follows: at first, definitions of coordination and the method employed in the empirical investigation are illustrated. Then the individual ‘country cases’ are examined, and a comparative analysis carried out. Finally, the notion of policy capacity is introduced and discussion on possible paths for furthering the research agenda on the effectiveness of European public policy centred around the notion of policy capacity and its applications in this frame is developed.

## ***Methodology***

A definition of coordination is provided by Peters (1998), that intends coordination in the public sector as a state of affairs characterized by the absence of inconsistencies, overlapping (or redundancy), and lacunae in a given policy field: ‘Co-ordination may fail when two organizations perform the same task (redundancy), when no organization performs a necessary task (lacunae), and when policies with the same clients (including the entire society as the clients) have different goals and requirements (incoherence)’ (Peters, 1998, p. 303). Coordination is here defined negatively (what happens in the absence of

coordination) through the outcome resulting from complete coordination (absence of redundancies, lacunae, inconsistencies). Another complementary definition is that of coordination as ‘the bringing into relationship of otherwise disparate activities or events and the enhancement of compatibility of tasks and efforts, in order to achieve something which otherwise would not be’ (Verhoest and Bouckaert, 2005). This second definition focuses the activity of coordinating, and the ways whereby it is achieved. The Authors joined their efforts in an attempt to provide a systematic analysis of coordination (Bouckaert, Peters and Verhoest, forthcoming 2009).

One of the important contributions proposed by the Authors, in our view, lies in having operationalized the different instruments that may be utilized for coordination in a consistent and thorough way, within a broader theoretical framework. So, for example, management instruments such as strategic planning or financial management, that are primarily instruments for the allocation of the goals and the resources to achieve them to organizational units, may be interpreted *also* as satisfying a need of coordination: they may be used to coordinate activities of separate actors in government by jointly determining the goals that each unit will have to pursue. Similarly, the establishment of collective decision entities, or of consultative decision entities, are other examples of instruments serving a number of purposes (e.g.: allocating decision powers and clarifying accountability lines) that have also the property of putting into effect coordination mechanisms, in this case of a structural nature. Bouckaert et al. (2009), in their analysis, put these structural and managerial coordination instruments in a broader theoretical framework: the distinction between hierarchies, markets and networks as three fundamental mechanisms of coordination in social life (Thompson et al. 1991; O’Toole 1997; Kaufmann et al. 1986). Coordination instruments can thus be divided according to the mechanism on which they mainly rely for their functioning:

- Hierarchy-Type Mechanisms (HTM): mechanisms which focus on objective- and rule-setting, on allocation of tasks and responsibilities, and on lines of control (authority as the main resource).
- Market-Type Mechanisms (MTM): mechanisms which focus on the creation of incentives to enhance the performance of public actors (incentive as the main resource).
- Network-Type Mechanisms (NTM): mechanisms which focus on the establishment of common knowledge, common values, and common strategies between partners (trust as the main resource).

In this respect, we may also consider that different mix of coordination instruments also rely on a different mix of resources (as authority, incentive, trust may be available at different levels in the public sector of different countries and also in the same country over the time).

Table 1 lists the different managerial and structural instruments, the underlying coordination mechanisms and the symbols adopted to represent them, following the pattern proposed by Bouckaert, Peters and Verhoest. Symbols representing different coordination instruments are inserted on the basic schemes (populated by the institutional actors active in the field, like competent ministries, agencies, etc.) for

mapping the whole of the coordination instruments (and the underlying mechanisms) at work. The European level – common to all three the countries - is distinguished from the national level, further articulated into three levels: level 1 (L1) is that of the central government as a whole; level 2 (L2) is that of individual ministries; level 3 is that of executive agencies, local governments, territorially deconcentrated offices and bodies, etc.. The location of the instrument of coordination (in terms of level - whether L1, L2 or L3 – and more broadly the position in the system) also determines its scope of applicability, hence its potential influence on the system. The adoption of the conceptual paraphernalia and symbols already employed in comparative studies conducted by prominent scholars contributes in our view to the accumulation of knowledge (or, at least, of structured evidence) on which further studies may draw – for example, by analysing the relations between the level of the policy sector and the level of the central government as a whole (reported, for France, in Bouckaert, Peters and Verhoest, 2009; and for Italy in Ongaro, forthcoming 2009 – drawing also on Fedele, Galli and Ongaro, 2008).

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**Table 1 about here**  
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In this kind of analyses, the focus may be on the coordination mix, or on individual instruments of coordination.

The study of the three countries has been conducted through on the field investigation, by employing a combination of documental analysis and semi-structured interviews with key informants<sup>2</sup>. The empirical analysis has been completed in April 2008 (Italy), June 2008 (France), August 2008 (Finland).

The policy sector under consideration, whose boundaries are sometimes uncertain to draw even from a formal-institutional point of view, is here intended as the field of research and *technological* innovation; whenever we had doubts in drawing the borders, the broad reference criterion was to enlarge in order to encompass all actors to some extent involved in the policy field, rather than excluding – overall, the way

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<sup>2</sup> More in detail, three interviews with key informants were carried out in Italy between March and April 2008; three interviews were carried out in Finland over the period 26-27 August 2008; five interviews were carried out in France at different dates between the 3rd of June and the 27th of June, 2008. Documentary analysis has been carried out in the national languages in the study of the research and innovation sector in France and Italy; the English-language version of official documents (almost always available) was utilised in the Finnish case. The empirical investigation was financed by the *Dipartimento della Funzione Pubblica* – Department for Public administration – of the Presidency of the Council of Ministers of Italy. The empirical investigation encompassed also two other policy sectors, namely environment and immigration. The overall project team was composed by Paolo Fedele, Davide Galli, Fabrizio Pezzani and Giovanni Valotti as well as myself (in the capacity of coordinator of the project); Irene Basile took part to the project as external collaborator. The research and innovation policy sector was studied by myself in all three the countries, with the precious help by Irene Basile as regards France. I am grateful to Pia Marconi, director general at the Department for Public administration, for the support received during all the phases of the project and the very constructive way of exercising the steering role proper of the commissioning part in a commissioned work.

we drew the boundaries appears to be much in line with ‘grey literature’ definitions of the policy sector, as can be deduced from EU documentation<sup>3</sup>.

In the mapping of the set of coordination instruments (see Figures 1 to 3), the European level is the same for the three countries. The main institutions involved are the European Commission, through various Directorates-General and the Joint Research centre. There are also various institutes and agencies, two of them operating under the Euratom treaty, involved to a smaller or lesser extent. The Competitiveness Council is the main council formation of reference in this policy field. The 7th Framework Programme on research represents the reference programming tool for the definition of goals and allocation of community resources in the field of research and innovation; from the point of view of the analysis carried out in this paper, it can be interpreted as a type 1 coordination instrument – strategic planning aligning activities of multiple administrations). The European network ‘ERA-Net’ represents a platform that may facilitate the development of a European-level culture or at least mindset among operators in the policy domain (type 3 instrument of coordination - enhancing coordination by fostering shared vision, values, norms and knowledge between organisations).

The next three sections illustrate the results of the empirical investigation of the instruments of coordination in place in Italy, France and Finland.

### ***The research and innovation sector in Italy***

The policy subsystem in the research and innovation domain is quite populated in Italy: there are a number of ministries as well as other agencies and bodies wielding important formal competencies in the sector of research and innovation in Italy. The *Ministero dell’Istruzione Universitaria e Ricerca*, or Ministry of Higher Education and Research, and within it the Directorate General for the Coordination and the Development of research, and the *Ministero dello Sviluppo Economico*, Ministry for Economic Development, within it the Directorate General for the Industrial Policy and the Directorate General for the Support of Industrial Activities, have especially significant competences. Other ministerial departments are more limitedly involved, whilst research bodies, and particularly the by far largest one – the *Centro Nazionale Ricerche*, or National Centre for Research – and universities are central actors. A number of other public agencies and committees further populate the policy environment.

What instruments of coordination are in place (as of the year 2008)? The mapping of the coordination tools in the sector of research and innovation in Italy is reported in Figure 1 and succinctly illustrated in the remainder of this section<sup>4</sup>.

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<sup>3</sup> See [http://europa.eu/pol/rd/index\\_en.htm](http://europa.eu/pol/rd/index_en.htm) (last access: 20 March 2009).

<sup>4</sup> The mapping of the overall public sector at the central level is in Ongaro, 2009, and Fedele, Galli and Ongaro, 2008.

A major change in the policy occurred when the programme called ‘Industry 2015’ was enacted, packed within the annual budget law for the year 2007. At the core of this programme was the idea of the convergence of public interventions on five priority areas, the ‘strategic areas’, namely: energy efficiency; sustainable mobility; the sciences of life; the technologies for the ‘made in Italy’; and the technologies for the cultural heritage. The (at least in words if not in deeds) ‘Copernican’ revolution embodied by the programme Industry 2015 was centred on the notion that all ministerial departments, not just those more directly involved from a formal-legal point of view in the research and innovation policy, have to make their interventions converge on the five priority areas. Previously, there were no priority areas, and regarding the Ministry of Higher Education and Research, and the Ministry for Economic Development, the division of labour was based on the criterion that research (both basic and applied) was regulated and funded by the former, and the so-called pre-competitive development and the support to investments (mainly concentrated in the less developed area, objective 1 territories within the EU regional development policy) was regulated and funded by the latter. After the reform, convergence of interventions of all ministries became the guiding criterion. Thus, for example, a convention was agreed with the ministry of primary and secondary education that determined that the maximum of emphasis be put in vocational training school programmes to those contents connected to the five priority areas, that had to massively enter the curricula of pupils. The programme ‘Industry 2015’ can thus be interpreted as a system of strategic planning cross-cutting multiple units (type 1 instrument of coordination).

For each strategic area, a responsible was identified, explicitly appointed as the ‘project manager’ of the area, entrusted with the power of issuing guidelines concerning three broad domains of public action: the system of the incentives for enterprises, the direct public demand for goods and services, the regulation of private demand. Thus for example the project manager of the energy efficiency area, that was identified in a former top executive of private sector firms like Motorola and Telecom Italia, was in charge of issuing the guidelines for the criteria according to which incentives for new-technology-based plants were to be granted to private firms, as well as the requirements in terms of energy efficiency to which all public purchases should comply, as well as the guidelines for regulating the usage of solar panels by private citizens. An admittedly ambitious attempt at coordinating public action. The supporting organisational capabilities for executing such a complex role were provided by ministerial bureaus and specialised agencies like IPI (*Istituto Promozione Industriale*, or Institute for Industrial Promotion). Such project manager thus establishes a specific coordination function through the reshuffling of lines of command (type 7 instrument of coordination).

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**Figure 1 about here**  
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A number of institutional venues were established with the declared aim of ensuring the coordination of the initiatives under the umbrella of the programme Industry 2015. A ‘concertation table’, a permanent body for concertation among the parts, was set up (type 12 coordination instrument), whilst a number of procedural devices were contrived for ensuring the ‘voice’ option to a number of actors before regulations were issued in each of the five priority areas (mandated consultation - type 4 instrument of coordination). Notification to Community authorities – occurred within the frame of the EU regulation of state aids - represents a form of coordination between the national programmes and the EU level<sup>5</sup>, through the employment of procedural instruments (type 4 instrument of coordination). Ministerial decrees (a form of secondary legislation) regulating each area prescribed that the implementation of guidelines should occur through agreements (through the legal instrument provided by the Italian legislation of the so-called ‘framework programme’) with the other ministries as well as with each regional government<sup>6</sup>, agreements that were to be the outcome of a process of joint strategic planning (type 1 instrument of coordination).

A number of committees empowered with deliberative functions were in place. Some of them are stable components of the institutional setting: in Italy a committee named *Comitato Interministeriale per la Programmazione Economica*, or Inter-ministerial Committee for Economic Planning, attended by ministers in charge of important spending administrations, is endowed with formal decision powers; within it, the Research Sub-Committee is in charge of a number of authoritative decisions concerning the allocation of public funds in the research sector (entity for collective decision-making, type 10 instrument of coordination). Others are the outcome of *ad hoc* organisational decisions, like the two inter-ministerial committees (one for the steering and the other one for the surveillance, one chaired by the Ministry for Economic Development and the other one by the Ministry of Higher Education and Research) that have deliberative powers over the employment of EU structural funds-financed programmes, in the territories target of the EU regional development policy.

The examination of the organisational chart of the Ministry of Higher Education and Research revealed an inconsistency at the time the on-the-field visit was conducted. The Prodi government that took office in 2006 split into two distinct ministries the formerly united Ministry of Education and Research: one became the Ministry of (primary and secondary) Education, the other one the Ministry of Higher Education and Research. The predecessor was based on a departmental model, ‘departments’ being like divisions – macro-organisational units in charge of a given area of public intervention, and directed by a ‘Head of Department’, an apex figure - à la Mintzberg (1983), whilst the new<sup>7</sup> ministry was based on the

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<sup>5</sup> In a more compliance-driven form in the Italian case, whilst as we shall see the Finnish case displays a more ‘proactive’ role by the government aimed at more clearly distinguishing the borders between the domain of ‘regulation of competition and state aids’ on the one hand and ‘public support to research and innovation’ on the other hand - a goal to which the Finnish Presidency of the EU appears to have devoted a huge amount of energies.

<sup>6</sup> At least this is the case for those decrees that had already been issued at the time on-the-field investigation was conducted.

<sup>7</sup> At the time empirical data were collected: later, the former Ministry of Higher Education and Research was once again merged into a larger Ministry of Education and Research.

directorates-general model, a functional model in the Mintzberg's sense, based on directorates each functionally competent in a given area of technical expertise, and a 'Secretary-General wielding a soft role of steering and harmonising of the tasks executed in the different parts of the ministry. Unfortunately, in the legalistic, *Rechtsstaat* (Pierre, 1995) tradition of governance of the Italian administrative system, the shift from one organisational-formal model to another one requires the adoption of a new ministerial regulation, through a highly proceduralised process: the new regulation was not ready till January 2008, right the day before the Prodi government received a vote of no confidence by the Parliament and fell, paving the way to another government – which in turn re-merged the two ministries and had to start drafting a new regulation. In the absence of the ministerial regulation no appointments can be made, which is why for two years the Ministry of Higher Education and Research had neither a Head of Department nor a Secretary-General, an absence of a line of command and control (type 7 coordination instrument) indicated with a crossed arrow.

A national programme of the research is formulated as the outcome of a wide consultative process with universities, research bodies, and formally approved by the Research Sub-Committee (type 1 coordination instrument), although key informants provided quite a critical stance towards its actual capacity of orienting expectations and behaviours of the relevant actors. A similar appraisal surrounded another procedural mechanism: the requirement for all research entities to undergo an evaluation of the quality and productivity of research, entrusted to a body named *Comitato di Indirizzo e Valutazione della Ricerca*, or Committee for the Steering and the Evaluation of Research, in order to be entitled to the access of additional financial resources, allocated through competitive bids. At least potentially this institutional-procedural contrivance should set up a regulated market steering the behaviours of public operators in the field of research (type 8 instrument of coordination) – though its actual functioning has been hollowed out in a number of ways<sup>8</sup> (ranging from the absence of the prescribed funds, since this budget item became the first target in every budgetary cut, to the absence of guidelines necessary to proceed to the allocation of money, especially regarding the funding of universities, and so on).

Within the population of research public entities, there is one especially significant, at least because in terms of budget and staff size absorbs almost half the total public resources, the National Centre for Research. The organisational design that resulted from a reorganization process that unfolded during the first half of the '00s was characterised by the grouping of institutes into larger departments (type 6 instrument of coordination - reshuffling of competencies) and the establishment of the figure of the Head of Department (reshuffling of lines of command and control – type 7 instrument of coordination) and a significant concentration of powers in her or his hands, especially concerning the authorisation of expenditures (budget process cross-cutting organisational units – type 2 instrument of coordination).

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<sup>8</sup> A consideration which poses a methodological problem about this kind of investigations of coordination instruments: are we searching for coordination tools 'in action' or 'potential'? And in the latter case what are the conditions for such potential to be considered as 'ready-to-use'?

Two bodies complete the picture: the *Conferenza dei Rettori delle Università Italiane*, or Permanent Conference of University Vice-Chancellors, and the less institutionalised *Conferenza dei Presidenti degli Enti Pubblici di Ricerca*, or Conference of the Presidents of Research Public Entities, both representing consultative bodies (type 9 coordination instrument).

### ***The research and innovation sector in France***<sup>9</sup>

A trait characterising the sector of research and technological innovation in France is the relative preponderance (at least when compared to Italy) of research bodies like the *Centre Nationale pour la Recherche Scientifique* and others more specialised *Organisme de Recherche* (Research Bodies) over the university system centred on the co-existence of teaching and research activities, which characterises a number of countries, including Italy. The main ministries institutionally competent for research and technological innovation affairs include the *Ministère de l'Enseignement Supérieur et de la Recherche*, or Ministry of Higher Education and Research, the *Ministère de l'Economie, de l'Industrie et de l'Emploi*, or Ministry of Economy, Industry and Employment, and to a more limited extent the *Ministère de l'Energie, Environnement Durable et Aménagement du Territoire*, or Ministry of Energy, Sustainable development and the Management of the Territory.

Starting from the EU level, it may be observed that French actors took part to as many as 101 initiatives of ERA-Net, i.e. 9.85% of total, whilst Italy participated only in 4.7%<sup>10</sup> - the same institutional opportunity for networking is likely to have left a different mark on the two systems of actors operating in the research and innovation policy field, though our investigation is not suited for detecting the effects of cumulative learning dynamics (Levitt & March, 1988; Kelman, 2005).

Moving to the national level, we observe a number of consultative interinstitutional bodies (type 9 coordination instruments), like the *Conseil Interministériel de la recherche Scientifique et Technologique*<sup>11</sup>. More substantive appears the potential for coordination of an inter-ministerial committee on the management and the competitiveness of the territories, the *Comité Interministériel d'Aménagement et de Compétitivité du Territoire*, that launched in the 14 September 2004 meeting the 'competitiveness poles' and established a system for the monitoring of the activities carried out by such poles, the *Groupe de Travail Interministériel*, or Inter-ministerial Working Group (entity for collective decision-making – type 10 instrument of coordination). The competitiveness poles are in themselves an ambitious attempt at coordinating public action on a given territory, through the assignment of some procedural powers to a leading ministry (better: its deconcentrated structure on the territory), 'chef de

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<sup>9</sup> The study of the research and innovation sector in France has been conducted jointly with Irene basile (currently Junior Consultant at Eureval, Lyon) – her contribution is here acknowledged.

<sup>10</sup> ERA-Net Review 2006.

<sup>11</sup> Which however did not meet since 1999 (see footnote 8).

*file*', and through the incentive to collaborate for public and private actors alike provided by public bids for funding given only and exclusively to actors operating in association, part of the competitiveness pole, and provided that they operate in such a way that knowledge is spread throughout the actors of the poles. A combination of: budgetary procedures forcing the association of otherwise distinct actors (type 2 instrument of coordination); procedural means (type 4 coordination instruments); and a mechanism of regulated market (type 8 coordination instrument). A number of bodies have been established or certified for the development of activities of technological assistance, diffusion of technologies, advice to businesses (they have different names, indicated in Figure 2 through their acronyms: CRT, PFT, CDT).

Also the *Fonds Unique Interministériel*, or interministerial single fund, performs also a coordinating function insofar as the allocation of such resources occur through the compulsory participation of directorates from three ministries (Higher Education and Research, Economy and Industry, Energy Sustainable Environment and Management of the Territory): a budgetary, type 2 instrument, as well as a procedural, type 4 coordination instrument. At a more systemic level (level 1), the same logic of the budgetary system operational since 2006 in France, the *Loi Organique Relative aux Lois de Finances* (LOLF), sets up a system of 'management by objectives' that has implications both as an instrument of strategic planning and as a budgetary tool – a government-wide influence cross cutting and affecting all policy sectors (the trajectory of coordination in France is analysed by Bouckaert, Peters and Verhoest, 2009). In particular, the LOLF has established a single mission for public spending related to both research and higher education (*Mission Interministérielle pour la Recherche et l'Éducation Supérieure*), composed of twelve programmes, five under the remit of the Ministry of Research and Higher Education, the others under the remit of other ministries, but delegates from the Ministry of Research and Higher Education take place to meetings at the Finance Ministry in which such programmes are defined, thus setting up a mechanism that ensures that the programming process occurs through the systematic involvement of all ministries, and particularly with the ministry in charge of research: a form of strategic planning through the involvement of different units – with a top-down logic that seems to prevail (the Ministry of Finance and the Ministry of research being 'the top'): a type 1.2 coordination instrument.

Remaining at level three of the scheme, we may observe a number of specialised bodies, that have been reshaped, often more than once, over the 2000s<sup>12</sup>. Prevailing instruments of coordination of such 'agencies' are budgetary (type 2 instrument of coordination) and through the reshuffling of the lines of command (type 7 instrument of coordination). A number of these agencies have been interconnected through an information system 'based' in one of these agencies, named AERES (*Agence d'Évaluation de la Recherche et de l'Enseignement Supérieur*) that has become to a certain degree inter-institutional (type 5 coordination instrument). The results of the evaluation conducted by this agency are, at least at the level of formal declarations, utilised for deciding on the allocation of funds to given beneficiaries, though the actual influence of such instrument is more difficult to assess (something similar occurs in Italy as regards

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<sup>12</sup> Though this longitudinal type of analysis is outside the design of the research, which is based on static comparative analysis across the three policy-level country cases.

the actual influence of the inter-ministerial committee for the evaluation of research). One of these bodies, the *Observatoire des pratiques pédagogiques en Entrepreneuriat* (OPPE, Observatory on Pedagogical Practices in Entrepreneurship) promotes a number of initiatives in the area of business-government collaboration – especially in terms of training and promotion of the business culture – on behalf of a number of ministries (establishment of a common organisation to perform joint tasks – type 11 instrument of coordination). In another way, also the *Maisons de l'Entrepreneuriat* (Houses of Entrepreneurship) are agents of promotion of conferences, seminars, debates, etc. between public officials from different institutions like teachers, university professors, etc and private-sector employees in the field of research and development, technological innovation, etc. – whose action may possibly promote over the time a form of inter-organisational culture and knowledge management (type 3 instrument of coordination). A specific instrument of coordination is the one-stop shop arrangement created within the agency named 'OSEO' for dealing with all applications for grants and other forms of public support to research, target at SMEs<sup>13</sup> (type 13 instrument of coordination).

Moving upwards in Figure 2, there are bodies with a government-wide scope, like the *Conseil Economique, Social et Environnemental* (Economic, Social and Environmental Council), that exercise cross-cutting functions of 'high level' steering<sup>14</sup> (type 11 coordination instrument) or active in the relevant sector, like the *Conseil Supérieur de la Recherche et de la Technologie* (Higher Council for Research and Technology), a consultative body (type 9 coordination instrument).

An ambitious instrument, processual in nature, is the 'Pact for research', formalised in the programmatic law for research dating back to 18<sup>th</sup> of April, 2006, that aimed at setting the long-term priorities, and the procedures for administering the financial means to pursue them, on the broad area of public support to private research – guidelines compelling for all involved ministries (strategic planning aligning objectives of different ministerial units, with mainly a top-down logic – type 1 coordination instrument).

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Figure 2 about here  
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### ***The research and innovation sector in Finland***

Research and innovation represent a priority for the Finnish government since the beginning of the 1990s, when the sudden collapse of the Soviet Union made the Finnish export fall and the country went through a

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<sup>13</sup> One-stop shops arrangements proved to be quite popular, especially during the 1990s, in a number of countries (Ongaro, 2004).

<sup>14</sup> Or at least institutionalisation of national priorities in the public debate.

harsh economic recession for some years. It was during that period that matured in the governing elite the conviction that a massive investment in research and technological innovation was a crucial lever, perhaps the only way, for the country to overcome the crisis, ensure high levels of economic growth, and sustain its large and far-reaching welfare state. Since that period, the expenditure in research and development has always scored above 3% of national GDP. It is in this period that matures a vision according to which the three domains of, first, research, second, technological innovation, and, third, innovation are to be interpreted as part of a single, large policy domain. The integrated conception of these three domains, which came out as part of the reaction to the economic crisis of the beginning of the 1990s, became a sort of (cultural) policy paradigm (intended as a set of values, principles and cognitive maps that shape the way phenomena are interpreted and alternatives assessed – see Hall, 1992) - as such affecting in an overarching way the dynamics of the policy process.

Figure 3 depicts the mapping of the coordination system in place in the Finnish public sector (at the date of August 2008). Before entering the details, a couple of observations at a more systemic level are introduced. First, though the President of the Republic in Finland does have some significant executive power (it is the only European Union country – besides the semi-presidential France - in which the President of the Republic has also some executive powers, and not just powers of guarantee), these have been deemed not to be significant in the sector of research and innovation, which is why this institution has been left out of the picture (together with all the other institutions not directly part of the institutional landscape populating the policy domain, consistently with the criterion of focusing the representation on the policy sector).

Second, we have introduced right at the centre of the picture the symbol employed for representing an inter-organisational common culture – this is due to the fact that Finland is characterized by a horizontal, consensual societal culture which translates also into a reduced power distance – adopting the categories of analysis employed by Hofstede (2001). This means, *inter alia*, that hierarchical barriers are relatively low, and it is not unusual in that kind of societal and organisational cultural context for persons in top positions to speak directly with persons at a lower level in the hierarchical chain in another organisation, bypassing the relevant hierarchical apex, if that person is the one to talk to for solving a given problem, or because s/he has the relevant expertise. If we add that the country is relatively small (about five million people) and, more significantly, that the public sector at the central government level is overall composed by a limited number of officials (since most of the labour-intensive welfare-related services are delivered directly by local governments, which employ the bulk of the civil service), one consequence is that, all in all, the central government in Finland is composed by a limited circle of people that tend to know each other<sup>15</sup>. What implications does this feature have for coordination, at central government level in general and, for what concerns the purposes of this paper, in the research and innovation sector specifically? Basically, we argue, this kind of societal – and organisational – culture, coupled with the limited staff size of the central government in absolute terms, enhances coordination by fostering shared vision, values,

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<sup>15</sup> As one of the interviewees put it: ‘when you know somebody in Finland, you know everybody’.

norms and knowledge between organisations – a type 3 coordination instrument. This was not the case in France and Italy, due to a different societal culture as well as a different size of the central government – which is why no comparable coordination instrument has been depicted in these two cases.

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**Figure 3 about here**  
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Turning to the detailed analysis of the set of coordination instruments in place in the Finnish research and innovation sector, we observe at first that there is at the higher level (level 1) the Science and Technology Policy Council, a body endowed with deliberative powers, composed of the ministers more directly involved in the area of research and innovation and chaired by the prime minister (an entity for collective decision-making, type 10 instrument of coordination). The same body is in charge of formulating the Research and development Plan, an instrument of strategic planning having the potential of aligning the activities of governmental bodies at all levels (type 1 coordination instrument).

The parliament also set up in 2008 an ‘open process’ aimed at the redefinition of the innovation strategy for the country, entrusted to the Ministry of the Employment and the Economy, and specifically to its Innovation Department, and unfolding through the collection of opinions from more than 500 experts and the delivery of eleven workshops. Such process, named after the family name of the President of its steering committee - the Aho Steering Group (Esko Aho is also President of the National Fund for Research and Development) – may be interpreted, in our view, as a process of strategic planning (type 1 coordination instrument). Moreover, a number of technological platforms have been identified, named SHOK, in areas of research deemed to be priority ones, like Information and Communication Technology, Energy, Woods and Forests, etc.. Such platforms are intended as a means of forcing convergence of different types of public sector intervention, and to some extent resemble the priority areas (strategic areas) introduced by the programme Industry 2015 in the Italian case, thus providing a kind of strategic planning orienting the behaviours of different actors (type 1 coordination instrument).

Regarding the ministries more significantly involved in the policy sector, there is the Ministry of Employment and the Economy<sup>16</sup>, and the Ministry of Education. As to the former, it was established in 2008 from the merger of two ministries; it has a double line of political accountability, to the Minister of the Economy and to the Minister of Labour. It is based on departments (divisional organisation, based on the aggregation of various structures into large organisational units –divisions – that address a relatively distinct area of public intervention), further integrated into an organisational matrix model in which final

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<sup>16</sup> It may be noted that the Finance Ministry is a distinct ministry.

departments represent the first dimension, whilst the second dimension refers to cross-cutting issues like strategy formulation, or the administration of all EU structural funds, or the project management of ‘special projects’ deemed of high priority. The Innovation Department is the division competent as regards the research and innovation policy sector. The Ministry of Employment and the Economy is also the supervising ministry for the Employment and Economic Development Centres (named T&E Centres), that perform as a sort of single point of access (‘one-stop shop’) for a plurality of services operated at the regional level (and that may be interpreted as specific units of coordination, type 13 instrument of coordination). The Ministry of the employment and the Economy also supervises a number of agencies performing important functions in the policy sector of research and innovation, including the Technical Research Centres of Finland (named VTT), that are research bodies, and the International Innovation Centres, established in a few specific localities abroad (Saint Petersburg in Russia, Berkeley in the USA, and China) with the aim of facilitating the cooperation between Finnish institutions and the institutions of those countries/localities; and an agency named Tekes, on which we return below.

As to the Ministry of Education, it has significant responsibilities in the area of regulating as well as the funding of public research. At the time the empirical part of the study was conducted, it was also supervising a major intervention on the university sector: the merger of the three main universities of Helsinki and their transformation into a foundation constituted also by private capitals, and characterized by a new and different set of rules for the governing of the resulting body. A reshuffling of the formal competencies of (previously) distinct units and a revision of the lines of command explicitly aimed at ensuring stronger coordination (type 6 and type 7 instruments of coordination).

Another phenomenon that may be observed is the systematic communication to the European Commission of the procedural operations of all major programmes for the funding of research, meant as a tool for ensuring preventive approval by the Commission in an area in many respects borderline with ‘state aids’ regulation. This procedural device (type 4 instrument of coordination) is part of a larger set of strategically-oriented actions pursued by the Finnish government over the years for exploiting opportunities arising at the EU level. The range of interventions has included over the time exploiting the presidency of the EU for advancing the agenda about re-modulating community rules on the distinction between state aids and public support to research in the direction of a greater separation between the two field, as well as the intense promotion of the networking at the EU level by Finnish institutions, like Tekes, for triggering structured processes of learning as well as for catching opportunities of EU funding through the research framework programme and other channels.

As regards Tekes, the Finnish Funding Agency for Technological Innovation, it is the ‘agency for innovation’ of Finland and it allocates a large share of public funding in the area of applied technological research, including an important share of university funding, according to criteria that strongly incentivise inter-institutional cooperation (form of regulated market - type 8 coordination instrument).

Teke, the Ministry of Employment and the Economy, and other administration share an extranet, a system for information exchange across organisational units (type 5 instrument of coordination).

At the regional level are active the OSKE (Poles and Clusters of Excellence), consortia between public (state and local governments) and private actors having the purpose of concertating the actions of operators in a given territory (a common organisation to perform joint-tasks – type 11 coordination instrument).

## **Comparison**

In this section we address the empirical questions about what coordination tools, and what coordination mix in the terms of its underlying mechanisms (HTM, MTM, NTM), are in operation in the research and innovation policy in three EU countries. The analysis of the ‘institutional attributes’ of the systems for coordination in place in the three EU countries under examination is developed in this section. The next section changes gear and, by assuming a much more critical stance towards the ultimate significance of these findings for the discussion of Lisbon as a governance architecture (Borràs and Radaelli, 2009), sets the (descriptive) findings of this investigation into a much more problematic framework, tentatively elaborated in an attempt to interconnect at least some of the different levels of analysis that inevitably stem from any research agenda aiming at studying the EU Lisbon strategy as a whole.

Regarding the coordination instruments, Finland displays a set of instruments located at level 1 (government-wide in scope), which, for their top-level position, has no parallel in the two other countries - an institutional design consistent with the high status on the governmental agenda acquired by the research and innovation policy since the first half of the 1990s. The main instruments of coordination consist of the various forms of strategic planning that have been set up (the Research and Development Plan, the Aho Steering Group, the SHOK platforms<sup>17</sup>). There is also an entity for collective decision making (the Science and Technology Policy Council, directly chaired by the Prime Minister) located at the top level of the institutional setting that seems to have an important potential for coordination. Moving towards lower levels, we can find a variety of coordination tools, ranging from systems for information exchange to forms of regulated markets forcing the cooperation of otherwise partly or totally unrelated actors.

In France and Italy, the institutional design seems to reflect a more ‘sectoral’ position of the research and innovation policy (at least from the point of view of the institutional design, the dimension which is considered in this paper), with no instrument of coordination of the policy present at the government-wide level – the higher-level instruments being located between level 1 and level 2. In the institutional design of the sector in France, coordination at the higher levels seems to be achieved mainly through structural

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<sup>17</sup> The SHOK platforms being positioned at a lower level.

solutions, ranging from consultative bodies to entities for collective decision-making to bodies exercising cross-cutting functions. The other important coordination instrument lies in the specific design, as concerns this sector, of a broader-scope system that has important implications for coordination, namely the *Loi Organique sur les Lois de Finances* (LOLF), the budgetary reform introduced in 2001 and fully operational since 2005-06. The procedural design contrived for the employment of the Inter-Ministerial Single Fund is such that it ensures to the staff of the Ministry of Higher Education and Research an influential coordinating role. A wider set of instruments is present at level 3 (see Table 2).

In Italy, there seem to be two main clusters of instruments for coordination at the higher levels. On one hand, the design of the programme Industry 2015 provides both a framework for strategic planning potentially aligning activities of a number of public organisations operating in the sector, and pivotal roles – the project managers of the five priority areas – that have a potential for coordination. On the other hand, structural solutions consisting of entities for collective decision-making have been set up for the coordination of the two main ministries operating in the policy field, namely the Ministry for Higher Education and research, and the Ministry for Economic Development. At the lower levels, there seems to be a prevalence of coordination instruments based upon Hierarchy-Type Mechanisms.

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**Table 2 about here**  
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We now consider the coordination mix of the three countries under investigation<sup>18</sup>. Shifting the focus from the description of the coordination instruments to the analysis of the coordination *mix* entails a number of methodological problems. Instruments of coordination cannot just be counted: their position in the overall institutional setting should be considered too, as obviously an instrument relying on a given coordination mechanism (be it a hierarchy-based mechanism, or a market-based mechanism, or a network-based mechanism) has a different influence on the overall system according to where it is located (at what level), and how it interacts with the other coordination instrument. Moreover, though in general instruments are based on one prevailing mechanism, they may however be composite in the mechanism they rely on, hence making the analysis of the mix even more complicated. With all such *caveats* in mind, we make an attempt at investigating the overall coordination mix of the three countries in the policy sector of research and innovation.

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<sup>18</sup> I am grateful to Susana Borrás for many important observations on this and other parts of the paper.

What emerges from this investigation is that in the case of Finland the coordination mix is mainly based on network-type mechanisms at level 1, whilst the mix is more varied at levels 2 and 3. Hierarchy-based mechanisms are preponderant in France as concerns coordination at level 1, whilst the situation is more mixed at the other levels, with a significant presence of network mechanisms at level 3. In Italy, we can find both hierarchy-based and network-based mechanisms at level 1, whilst hierarchy is the main mechanism at the other levels.

The findings of the comparison partly reflect what a casual observer knowledgeable of the public sector, but not of the specific policy field under consideration, could have expected: for example, that network-type mechanisms are largely important in Finland. To some extent, however, empirical evidence may be partly surprising to the same observer. Network-type mechanisms 'contend' to hierarchy the primacy as the main underlying logic of coordination at level 1 in Italy – which one would probably not expect of a 'Napoleonic' state - whilst hierarchy-type mechanisms tend to be predominant at lower levels. Also the significant variety of instruments, and the significance of those based on network-type mechanisms, at level 3 in France may to some extent be considered surprising, given the image of preponderance of hierarchy-based logics and instruments usually associated to the state that gave origin to the Napoleonic (administrative) tradition.

## **Discussion**

What is the significance of the *empirical* research carried out in the previous sections for the study of broader questions about: the conditions for effectiveness of European public policy; the influence of administrative features at the national level on the formulation and implementation of public policies in European Union member countries; the potential linkages between the developments of a research agenda in public administration centred on the topic of coordination in the public sector and research agendas in European public policy, especially those centred around the investigation of New Modes of Governance and, more broadly, the Lisbon Agenda.

We envisage a first step in brickwork in the consideration that policy effects depend also on *policy capacity*: policy capacity has been defined as 'the ability to marshal the necessary resources to make intelligent collective choices about and set strategic directions for the allocation of scarce resources (Painter and Pierre, 2005, p. 2, drawing also on Painter, 2002, and Peters, 1996). Policy capacity has to do with 'intelligent choice': an illustrative list of procedural values that may be employed in evaluating policy capacity includes: coherence, public-regardness, credibility, decisiveness, and resoluteness<sup>19</sup>. The thrust in the debate

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<sup>19</sup> Whilst the related notion of administrative capacity has to do with effective resource management and criteria of economy, efficiency, responsibility, probity, equity - it is defined by Painter and Pierre (2005, p. 2) as 'the ability to manage efficiently and the human and physical resources required for delivering the outputs of government'; and state

surrounding the notion of policy capacity is in the stream of thought that with a label may be qualified as 'bringing the state back in' (Evans, 1995; Evans and Rauch, 1999) in the face of the challenges coming from processes like globalisation of markets that, it is argued, may otherwise operate in the direction of reducing the ability of intervention of the state.

What are the determinants of policy capacity? In an institutional perspective 'policy capacity is created and sustained in two ways. One is endogenous to government and comprises the development of a system of government that is capable of formulating and implementing policy. The more specific building blocks in this process are policy expertise, a professional staff, financial resources and some degree of continuity. The other aspect of policy capacity relates to the nature of the state-society exchange. Policy capacity in this perspective is the result of the creation of institutions that do not become captive to parochial political interests' (Painter and Pierre, 2005, p. 10). From a more operational point of view, the Authors point to an illustrative (rather than exhaustive) list of factors potentially capable (but more empirical analysis is required) of affecting policy capacity which includes: collective decision processes; planning and evaluation systems; information and analysis systems; and coordination procedures. Coordination instruments and mix is thus in this frame one potential determinant of policy capacity (Painter and Pierre, 2005); this entails that research work aimed at generating forms of knowledge about coordination procedures and the coordination mix – and their determinants - may contribute to explaining different levels of - and requirements for – policy capacity, as well as, assuming a more normative stance, it may contribute to the elaboration of design principles for building up policy capacity.

In examining the notion of policy capacity, it should further be distinguished between *attribute* and *relational models of policy capacity*: the former 'seeks to identify the key endowments that a state or public agency possesses and that give it a set of transformative powers over policy and structure' (Jayasuriya, 2005, p. 19, drawing on Evans and Rauch, 1999; Weiss, 1998). The latter has to do with organising a set of relations, also cross-cutting state boundaries that delimit a particular field of governance and build up the relational capacity that is central to the effectiveness of public action (Jayasuriya, 2005, p. 22). The kind of institutional analysis carried out in this paper about the coordination instruments and the coordination mix in the terms of the underlying balance of the resources for coordination (hierarchy-type – network-type – market-type) presupposes, we may consider, an attribute model of policy capacity. According to Jayasuriya (2005), this model assumes a national, 'Westphalian' state and models of sovereignty, much embodied in the 'Weberian' ideal-typical form of state. This 'statecentric' model of governance, it has been argued, 'does not provide as effective a compass for reaching areas of policy capacity that lie beyond the traditional boundaries of the state' (Jayasuriya, 2005, p. 21), in the multiple (multi-level, we could say with regard to the EU) sites in which governance is distributed (Peters and Pierre, 2005): ordering and arranging the complex properties that make up the various dispersed sites of public governance is a way for re-gaining policy capacity at the relevant system level (in the case, the EU level).

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capacity has to do with the appropriate outcomes in the state-society relationship, and evaluative criteria regard legitimacy, accountability, compliance, consent.

These are analytical keys we would like to take on board in this work. However, our main stance is not that of contrasting the two approaches, but to analyse each of them in turn and the potential for complementarities. Thus, the first step of our analysis is that of analysing coordination instruments and the coordination mix as a potential determinant of policy capacity as an attribute ‘enabling’ nation-states (EU member states) to perform potentially at higher level of policy capacity: this is the analysis carried out in the previous sections, and whose findings are summarised in the previous paragraph. Policy change in the policy field, examined at different levels (policy direction, policy paradigm, policy instruments – see Parsons, 1995) and due to different factors ranging from domestic ones (e.g.: in the case of Finland, the Soviet Union crisis and the policy window that it opened, possibly interpretable through the conceptual lenses provided by Kingdon, 1994) to global ones passing through the Lisbon strategy pressures, may change the conditions under which the structural characteristics and resource stocks that together form policy capacity are governed, and ‘in this respect policy capacity can vary from episode to episode and from time to time’ (Painter and Pierre, 2005, p.3). However, as the same Authors argue (Painter and Pierre, 2005, p.3-7), it is a set of support systems, a list which includes coordinating routines and processes within a collective decision-making process, that provides the basic stock of resources for achieving higher levels of policy efficacy: and these can be analysed as attributes of the public system.

In the second and complementary step, that assumes a relational model of policy capacity, we may interpret ‘strategic moves’ by the governments of certain EU member states (like the exploitation of the six-month presidency of the EU by the Finnish government as an opportunity for attempting to re-draw the boundaries between state aids and support to research) as an attempt to build up policy capacity in the field of research and innovation by curbing the influence of supra-national regulators (in the case, the Commission in its role of guarantor of competition in the European single market) in this field. Or at another level, we may interpret the intense participation of the Finnish government and agencies in European-level research networks (from the loose ‘ERA-net’ programme<sup>20</sup> to highly focused networks like those linking agencies specialised in the funding of research like Tekes) as a means to gain access to capacities that would otherwise be in part or totally out of reach, especially for organisations in countries in which the public sector can overall count on limited resources in absolute terms (though significant as a percentage of GDP) as is the case of a ‘small’ country like Finland. Both may organise the set of relations that allow achieving a higher level of policy capacity, in the perspective of the relational model of policy capacity.

Thus, both models of policy capacity (attribute and relational) may contribute to explaining different levels of efficacy in the policy field.

What are the determinants of policy capacity? In a very schematic way, we may put forward the tentative proposition that NMG provides on the one hand a new and different type of pressures to improve policy performance at the EU level (although to quite a modest extent) in policy sectors that were previously exclusively the realm of nation-states (Cini and Rhodes, 2007); moreover, and more substantively as regards

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<sup>20</sup> The high level of participation of French bodies to this programme being another example of exploitation of supra-national level opportunities.

the direct influence on the policy cycle, it provides opportunities for the development of policy capacity in ways described by relational models of policy capacity.

However, we should also add that probably NMG is too weak a conceptualisation of what is going on in this and other policy fields that relate to the Lisbon Strategy – a phenomenon that might be better conceptualised through the notion of (the Lisbon Strategy as a) *governance architecture* (on the theme, see Borrás and Radaelli, 2009).

Turning to attribute models of policy capacity, this may be a theoretical lens through which to interpret how public sector reform affects public policy in general, by affecting the organizational basis for policy making – but this approach is quite tautological and too broad to control all influential variables; policy capacity is in a sense too close to the dependent variable (policy effectiveness) for providing a satisfactory explanation: thus the focus will be on the coordination mix interpreted as one key determinant of policy capacity (in turn conducive to policy effects). Determinants of the coordination mix have to be searched in the characteristics of the national administrative system, in turn affected by the administrative (public management) reform process. The public management reform process, though influenced by international and global factors, may be considered (at least for the sake of the argument) as mainly a national competence and policy (Pollitt and Bouckaert, 2004, chap 2). Obviously, the coordination mix is a determinant of policy capacity *ceteris paribus*, and context conditions are not equal, since some basic features of state structure and state processes obviously affect the policy process in the research and innovation policy sector in different countries: state structure and processes in a Nordic country like Finland are profoundly different from those in ‘Napoleonic’ states like France or Italy. But the set of coordination instruments and the coordination mix may make a difference ‘all other factors being equal’, specifically in the sense that modifications in the coordination mix may affect (may modify) policy capacity, in a framework of analysis in which it is the trend of the variable that is the *explanandum*<sup>21</sup>. Coordination mix is characterized by manipulability (modifiable by design over a relatively short period of time – ‘short’ meaning within the mandate of a government, or the stint of a coalition of top executives in government – differently from ‘state traditions’ that are mainly as ‘given’ for policy-makers and public managers); moreover, even apparently minor modifications may have huge effects on policy.

This consideration poses some methodological questions, as one limitation in the empirical basis lies in its being a static comparative analysis that could not encompass the longitudinal dimension (i.e.: the evolution over the time of the coordination mix in the three countries considered). Notwithstanding this limitation, it is possible to formulate some considerations, with the status of tentative propositions that only further research (through more thorough theorisation and possibly expansion of the empirical basis) may elaborate and test, about the influence of the coordination mix on policy capacity, hence policy effectiveness.

First, the scope of coordination instruments: Finland has introduced instruments of coordination that are government-wide in scope, such as various forms of strategic planning, that have no parallel in France and

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<sup>21</sup> I am grateful to Claudio Radaelli for clarification of these concepts.

Italy, where the research and innovation policy has a ‘sectoral’ status. The domain of applicability of such instruments may ensure that the research and innovation policy is part and parcel of the broader governmental action. The ‘institutionalization’ of such high status on the Finnish governmental agenda of the research and innovation policy is not unproblematic, and could further be analyzed through the consideration of the dynamic issue status of specific policy provisions;

Second, the quality of the design of coordination instruments: even slight differences in the design may provide the agents that manipulate them, especially those within government who operate in this policy area, with certain coordination tools that have the potential for triggering different courses of action, in the specific context where they operate, that may be conducive to significantly different effects.

Third, coordination instruments require resources for their utilization: finding the ‘proper’ balance in the coordination mix is a function of the available resources. So for example systems that are more consensualistic, like Finland, can probably rely more extensively on (mutual) ‘trust’ as the central resource, whilst for the very same features of organizational culture they *have* to rely less extensively on hierarchy. Thus, designing a proper coordination mix is obviously a context-related exercise.

*This paper draws extensively on a paper presented at the ECPR Joint Sessions of Workshops, Lisbon, 14-19 April 2009. The Author is grateful to all workshop participants for constructive comments. I am especially grateful to Susana Borràs and Claudio Radaelli for their incisive and constructive comments. Future developments of this paper will surely profoundly benefit from the observations of Claudio Radaelli and Susana Borràs – useless to say, responsibility for all errors rests only with me.*

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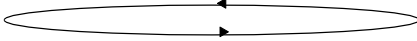

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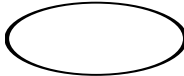


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<b>INSTRUMENT</b>	<b>UNDERLYING MECHANISM</b>	<b>EXTRA INFORMATION</b>	<b>LEGEND</b>
<b>MANAGEMENT INSTRUMENTS</b>			
<i>Type 1. Strategic management (planning and evaluation) Dependent of primary objective and process:</i>	NTM – HTM	Aligning activities of public organisations by a system of different and interconnected levels of plans.	
▪ <i>1.1. bottom-up and interactive strategic management</i>	NTM	The process of planning on the different levels of objectives and targets is a process with heavy input from lower levels, based on consultation and involvement of lower levels.	
▪ <i>1.2. top-down and unilateral strategic management</i>	HTM	The plans on lower levels are derived from the higher levels plans, objectives and targets. Process of planning relies heavily on top-down instructions and the unilateral setting of objectives and targets for lower levels.	
<i>Type 2. Financial management (budgeting, accounting and audit) Dependent of objective and focus:</i>	HTM – MTM – NTM	The budget process is a strong coordinating instruments for public organisations, because of three reasons: 1. it involves all policy sectors; 2. it gives a cyclic opportunity to assess the strategic orientation for the future and 3. it plays an important role in setting the policy priorities of government	
▪ <i>2.1. traditional input oriented financial management systems</i>	HTM	Focus of the financial management system is on defining clearly on what purposes resources should be spent in great detail.	
▪ <i>2.2. result oriented financial management systems focussed on incentives for units</i>	MTM	Focus of the financial management system is on giving incentives to organisational units to increase their performance.	
▪ <i>2.3. result oriented financial management systems oriented on information exchange and consolidation according to policy portfolios</i>	NTM	Focus of the financial management system is on consolidation of financial and performance information across organisations and policy fields. Emphasis is on exchange of information in order to foster joined-up government and interorganisational cooperation in order to achieve cross-cutting objectives.	

<i>INSTRUMENT</i>	<b>UNDERLYING MECHANISM</b>	<b>EXTRA INFORMATION</b>	<b>LEGEND</b>
<i>Type 3. Interorganisational culture and knowledge management</i>	Predominantly NTM	Enhancing coordination by fostering shared vision, values, norms and knowledge between organisations by means of common education or common training, management development, mobility of staff between organisations, systems for interorganisational career management and competence management.	
<i>Type 4. procedural instruments</i>		Mandated consultation system and forced points of passage during preparation of policy initiatives	
<i>Type 5. Systems for information exchange</i>	Predomi-nantly NTM	Through new or reoriented flows and systems of information, decision-making organisations are better informed regarding the latest developments and activities by other organisations. This helps them to adjust their activities to those of other organisations. Through this coordination instrument the information flows and exchange can be organised. Information from the different organisations can also be integrated in a broader information systems giving an strategic overview of government activities.	

**Table 1. mapping coordination events: symbols and description (Source: adapted from Bouckaert, Peters and Verhoest, 2009) [continues]**

<b>Instrument</b>	<b>UNDERLYING MECHANISM</b>	<b>DESCRIPTION</b>	<b>LEGEND</b>
<b>STRUCTURAL INSTRUMENTS</b>			
<i>Type 6. Reshuffling of competencies: Organisational merger or splits; centralisation (decentralisation)</i>	Predominantly HTM	Enhancing coordination by bringing related activities together by merging organisations or by separating them from other organisations with totally unrelated activities.	
<i>Type 7. Reshuffling of lines of control: Establishment of a specific coordinating function or entity; lines of control</i>	Predominantly HTM	Enhancing coordination by establishing cross-cutting lines of control, like: -matrix management or lateral management; - specific coordinating function or unit responsible for guidance and monitoring of some plan or objective. t	
<i>Type 8. Regulated markets: internal markets, quasi-markets, voucher markets and external markets</i>	Predominantly MTM	Enhancing coordination between organisations by bringing them in a market. Coordination of tasks and activities of different organisations is done by the mechanisms of price and competition, offer and demand. Providers are mainly funded through the sales to their customers and purchasers' demand determines the activities of the providers. Such a market can be created by government and depending on the kind and number of purchasers and providers, the kind and level of competition and the level of regulation the market is internal, quasi-market, voucher market or external market.	€€€
<i>Type 9 Advisory bodies &amp; consultative/concertative bodies</i>	Predominantly NTM	In these bodies representatives of different organisations exchange information in one or both directions. Organisations can mutually adjust their activities based on the exchanged information. Decisions taken by such bodies have to be ratified and implemented by the different member organisations or by a higher body before the decision takes effect.	
<i>Type 10 Entities for collective decision making</i>	Predominantly NTM	In contrast to concertative bodies these entities can take decisions that have a binding effect for the member organisations.	
<i>Type 11. Common organisations (partnership organisation)</i>	Predominantly NTM (HTM)	Two or more organisations create a common organisation to perform joint-tasks that is controlled by or has links to the different mother organisations.	

<i>Type 12. Chain management structures</i>	Predominantly NTM	A permanent body for concertation is created for a particular policy issue. In this body all main public and private actors that are involved in the different phases of the policy issue are represented. The concertation body monitors the preparation, implementation and evaluation of the policy.	
<i>Type 13 Establishment of specific functions or units for coordination</i>	Predominantly HTM	A specific function of organizational unit carries on a coordination role towards two or more entities, e.g. for the implementation of a specific programme or project.	*

**Table 1. mapping coordination events: symbols and description (Source: adapted from Bouckaert, Peters and Verhoest, 2009) [continued]**

	<b>Finland</b>	<b>France</b>	<b>Italy</b>
<i>Instruments of coordination</i>	<ul style="list-style-type: none"> <li>-Strategic planning through the Research and Development Plan, the Aho Steering Group, and the SHOK platforms (combination of bottom-up and top down, possibly mainly bottom-up) (type 1 instrument) (mainly at Level 1)</li> <li>-Entity for collective decision making (Science and Technology Policy Council) (type 10 instrument) (Level 1)</li> <li>-Cohesive central government (societal-organisational culture, small size) (type 3) (Level 1)</li> <li>-Procedural devices for the heedful managing of relations with EU competition authorities (type 4 instrument)</li> <li>-Reshuffling of competencies and lines of command (matrix organisational design of Ministry of Employment and the Economy) (Level 2) (type 6 and 7)</li> <li>-Regulated markets (steered through Tekes) (Level 3) (type 8)</li> <li>-Systems for information exchange (Tekes-based extranet) (type 5) (Level 3)</li> <li>-Specific units of coordination (T&amp;E centres) (type 13) (Level 3)</li> </ul>	<ul style="list-style-type: none"> <li>-Budgetary instrument for inter-ministerial coordination (Inter-ministerial Single Fund for research) (type 2 and 4) (Level 1 and 2)</li> <li>-Consultative bodies (like the Higher Council for Research and Technology); entities for collective decision-making (Inter-ministerial Working Group); bodies exercising cross-cutting functions (Economic, Social and Environmental Council) (type 9, 10 and 11) (mainly Level 2)</li> <li>-Strategic planning (Pact for Research), mainly top-down logic (type 1, Level 2)</li> <li>-Competitiveness Poles (territorially-based), established and steered (also) through a combination of budgetary procedures, procedural means and forms of regulated markets (type 2, 4 and 8) (Level 3)</li> <li>-Budgetary and lines of command instruments for the steering of agencies (type 2 and 7) (Level 3)</li> <li>-Forms of inter-organisational culture and knowledge management (Houses of Entrepreneurship); inter-organisational information system at agencies level; establishment of common organisations to perform joint tasks (Observatories); one-stop shop arrangements (OSEO) (type 3, 5, 11, 13) (Level 3)</li> </ul>	<ul style="list-style-type: none"> <li>-Strategic planning (Industry 2015 – convergence of public interventions on priority areas) (type 1) (Level 1 and 2)</li> <li>-Project managers of priority areas (type 7) (Level 1 and 2)</li> <li>-Mandated consultation in the elaboration of programmes within each priority area, concertation tables for each priority area, and notification to EU of programmes (type 4 and 12) (Level 1 and 2)</li> <li>-Entities for collective decision-making (Research Sub-Committee of the Inter-Ministerial Committee for Economic Planning; steering and surveillance committees on structural funds) (type 10) (Level 2)</li> <li>-Agreements with regions for each priority area (type 1, Level 3)</li> <li>-National programme for research, for universities and research bodies (type 1) (Level 3)</li> <li>-(Weak) forms of regulated markets (funding of universities and research bodies) (type 8) (Level 3)</li> <li>-Reshuffling of competencies and lines of command in the National Centre for Research - the largest research body (type 6 and 7) (Level 3)</li> <li>-Consultative universities and research bodies associations (type 9) (Level 3)</li> </ul>
<i>Coordination mix</i>	Predominantly network mechanisms at Level 1; mixed at Levels 2 and 3	Predominantly hierarchy mechanisms at Level 1; mixed at other Levels, with significant presence of network mechanisms at Level 3	Both hierarchy and network mechanisms at Level 1; relative predominance of hierarchy (with some network and piecemeal market mechanisms) at the other Levels.

**Table 2. A comparison of coordination instruments and the coordination mix in the research and innovation sector in Finland, France and Italy**

**Figure 1. The coordination mix in the research and innovation sector in Italy (2008) [see attached power point file]**

**Figure 2. The coordination mix in the research and innovation sector in France (2008) [see attached power point file]**

**Figure 3. The coordination mix in the research and innovation sector in Finland (2008) [see attached power point file]**