

Title

The logics and limits of innovation agencies: a review of the state of the art

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Aims of the paper

In the research of industrial and innovation policy management there are several often overlapping but also contradictory ‘logics’ why governments should prefer innovation agencies over hierarchically consolidated systems of innovation policy management. These logics reflect, although often with some significant time-lag, the dominant ideas for ‘agencification’ (that is, creation of semi-independent or fully independent bodies next to general line ministries) also found in the general public management literature covering New Public Management (NPM), and also its predecessors and successors. Accordingly, agencification is expected to increase the quality of policy decisions and choices, increase managerial and administrative efficiency, or improve public-private cooperation and interactions. In other words, agencification tends to be seen almost as a ‘cure-all-medicine’ for most innovation policy problems.

Based on our literature review, we argue that innovation policy literature tends to perceive agencification as a solution to many different management problems from policy efficiency to coordination in a rather uncritical way, thus, blurring the lines between the different logics of innovation agencies.¹ At the same time public management research has more often than not emphasized the failures of agencification in leading to desired improvements in efficiency or coordination. Agencification is in fact often interpreted as a cause of many coordination problems especially in ‘wicked’ policy areas characterized by the need for multi-actor cooperation and interdisciplinary policy-making.²

In this paper we build a taxonomy of the different ‘logics’ of innovation agencies that combines the insights of both innovation policy and public management research. By combining these streams of research we can highlight the diversity of the logics behind different types of agencies and discuss the limits of the applicability of these logics for solving different innovation policy problems. We argue that the eventual effectiveness of these agency logics (whether specific agencies help to solve innovation policy problems) is inherently dependent on the complementarity with the private sector characteristics and dynamics. In other words, we argue that *there is no single functional logic for innovation agencies*. Rather, effective innovation agencies build policy capacities (via its management systems) that complement private sector capabilities and allow for contextual rectification of innovation system failures. This, we believe, is an

¹ See for example Braun D (2003) Lasting tensions in research policy-making – a delegation problem, *Science and Public Policy*, 30(5): 309-321; Braun D (1998) The Role of Funding Agencies in the Cognitive Development of Science, *Research Policy* 27: 807-821; Braun D (1993) Who Governs Intermediary Agencies? Principal-Agent Relations in Research Policy-Making, *Journal of Public Policy* 13 (2): 135-162; Braun D (2008a) Organising the political coordination of knowledge and innovation policies, *Science and Public Policy*, 35(4): 227-239; Braun D (2008b) Lessons on the political coordination of knowledge and innovation policies, *Science and Public Policy*, 35(4): 289-298; Flanagan K, Uyarra E and Laranja M (2011) Reconceptualising the ‘policy mix’ for innovation, *Research Policy*, 40: 702-713; Laranja M, Uyarra E and Flanagan K (2008) Policies for science, technology and innovation: translating rationales into regional policies in a multi-level setting, *Research Policy* 37(5): 823–835.

² See Pollitt C and Bouckaert G (2011) *Public Management Reform: A Comparative Analysis* 3rd edn, Oxford University Press, Oxford; Bouckaert G, Peters GB, Verhoest K (2010) *The Coordination of Public Sector Organizations: Shifting Patterns of Public Management*, Routledge, London & New York; Verhoest K, Roness PG, Verschuere, B, Rubecksen K and MacCarthaigh M (2010) *Autonomy and Control of State Agencies: Comparing States and Agencies*, Palgrave Macmillan, Basingstoke.

important insight both theoretically and in the context of international policy learning and emulation that has often been overlooked. The taxonomy provided in this paper is intended as a model for building better analytical tools and approaches for policy analysis in the area of innovation policy management.

Taxonomy of the logics of innovation agencies

In our analysis we build a taxonomy of the different ‘logics’ behind innovation agencies and distinguish three waves of agencification – pre-NPM agencification, NPM agencification, post-NPM agencification – all with different logic of how agencies can contribute to better policy performance. In the following we briefly highlight the key characteristics of each of the waves that we will discuss in more detail in the paper.

Pre-NPM agencification. In public management research it is argued that the first moves towards agencification was mostly carried-out with the aim of increasing *professional autonomy* in certain policy fields characterized by requirements of high technical skills and/or de-politicization of policy fields (classically central banks and financial supervisory agencies).³

In the field of innovation policy, we see similar logic at least in two contexts: firstly, the creation of research funding agencies that are run by scientific communities and that finance basic research based on international peer-review and competitive excellence⁴; secondly, general trends towards decentralization and use of multiple agencies (e.g. the emergence of alternative and parallel research funding systems and agencies) in the economies of the techno-economic frontier has been explained by the inherent unpredictability of technological development: decentralization and fragmentation allow for the competition of ideas and reduces the risk of ‘lock-in’ into ‘wrong’ techno-economic trajectories.⁵ The scope of the applicability of these logics has been always a source for debates: that is, in which policy fields professional skills outweigh the importance of political accountability, transparency, public debates for determining public needs (or are professional decisions and priorities politically acceptable) etc.

Table 1 Taxonomy of the logics of innovation agencies

Waves of agencification	Logics	Limits	Examples in the field of innovation policy
Pre-NPM	a) increasing policy autonomy and professionalization of policy-making b) creating	a) contradictions with political concerns (i.e. professional vs political interests) b) high-resources and	a) research agencies financing basic research (based on academic self-management) b) US ‘hidden

³ See Christensen T and Laegreid P (eds) (2006) *Autonomy and Regulation: Coping with Agencies in the Modern State*, Edward Elgar, Cheltenham.

⁴ See e.g. Braun D (2003) Lasting tensions in research policy-making – a delegation problem, *Science and Public Policy*, 30(5): 309-321; Braun D (1998) The Role of Funding Agencies in the Cognitive Development of Science, *Research Policy* 27: 807-821; Braun D (1993) Who Governs Intermediary Agencies? Principal-Agent Relations in Research Policy-Making, *Journal of Public Policy* 13 (2): 135-162.

⁵ See Block, F (2008) Swimming Against the Current: The Rise of a Hidden Developmental State in the United States, *Politics & Society*, 36(2): 169-206.

	decentralization and fragmentation to cope with uncertainty c) ‘pockets of efficiency’ to overcome failures in developing countries	capability requirements seemingly costly duplication c) democratization will impose new constraints and requirements	developmental state? institutions c) East Asian developmental agencies of the 1960s-1980s
NPM	a) increasing managerial autonomy by reforming existing agencies b) increasing managerial autonomy by building new service delivery agencies b) increasing administrative capacities and transparency in international aid policies	a) reduction of policy autonomy, risk taking culture b) fragmentation of policy design and implementation c) limited policy space for building endogenous policy capacities	a) reforms of public universities and research funding agencies since the 1990s b) new innovation agencies for entrepreneurship, education etc. c) creation of innovation agencies in Eastern Europe from late 1990s
Post-NPM	a) creating ‘pockets of efficiency’ for public-private interactions and networks (cure-all agencies)	a) both presumes and at the same threatens to reduce trust in public policy institutions	a) reforms of innovation policy and its agencies in the 2000s

Source: Authors

In developing economies, the pre-NPM agencification logic has been used to rectify different problems. For example, the East Asian developmental state scholars have argued that industrial policy in East Asian was successful partially because these countries relied on few *development agencies* (in some cases the whole ministry – i.e. MITI in Japan – and in other cases independent agencies, or boards). As these agencies functioned according to different management logics (relatively high policy autonomy; recruitment and personnel practices, accountability and performance systems etc that tended to be based on Weberian principles) than generally inefficient bureaucracies of developing economies, they were able to develop and sustain necessary policy capacities for successful industrial policies and build functional networks between public and private sectors. The criticism of this logic has mostly centered on the temporal functionality of this type of agencification: it fitted the specific development era (where techno-economic and policy-level emulation was feasible and best implemented via highly professional and autonomous agencies) from which even the East Asian economies have grown out (i.e. democratization required a better balance between professionalization and policy autonomy vs transparency and participation).⁶

NPM agencification. The spread of NPM management thinking from the early 1980s brought about a new logic for agencification: instead of professional autonomy, agencification was pursued for increasing *managerial autonomy* (via application of private sector management principles in the delivery of public services) as the means for increasing public sector efficiency. This logic also allowed agencification to spread

⁶ See e.g. Wade, R. (1990) *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*, Princeton University Press, Princeton

almost universally to all policy domains and also led to reforming ‘old’ professional agencies according to the management autonomy imperative introducing ideas such as performance management, contracting-out etc to most policy fields.

In the context of innovation policy, NPM agencification can express itself in two ways: firstly, managerial reforms of existing professional research agencies; secondly, creation of new managerial-autonomy oriented agencies that specialize in policy implementation (e.g. agencies financing enterprises and entrepreneurial activities in general). The NPM-type reforms of ‘old’ professional research agencies has been often contested and criticized for changing the logic of these agencies. Namely, professional autonomy and expected flexibility has been impeded by emphasis on managerial imperatives of achieving ex-ante determined performance criteria etc that in fact reduces risk-taking and flexibility in the situations of uncertainty.⁷ Also, the creation of new ‘innovation agencies’ within the NPM logic of managerial efficiency has brought about many problems in terms of policy effectiveness, especially as it tends to fragment policy-making both vertically and horizontally.

One of the best examples of the limits of NPM-type reforms, but also of the logic behind international development aid as well, may be the impact of EU on the innovation policy of the Eastern European member states whose innovation policy is financed through the EU’s cohesion policy. As a result, innovation policy systems in these economies are largely centered on innovation agencies as the centers of administrative capacities.⁸ This has resulted in contradictory impacts: while these agencies have allowed Eastern European economies to absorb the EU’s finances with relative efficiency and have introduced new management principles (performance management, strategic management, international evaluation and audit), more often than not, Eastern European economies face the problems of limited policy capacity (mainly as a result of limited policy autonomy) to contextualize international policy ideas for the national policy needs (that is, innovation policy making has been reduced to de-contextualized policy-copying).⁹

Post-NPM agencification. Public management research is showing that post-NPM reforms are mostly, or should be, dealing with the problems caused by NPM reforms (i.e. problems of fragmentation, coordination, lack of transparency, duplication etc) via a mix of organizational reforms (consolidation of policy-making tasks and different agencies) and management reforms (to building better coordination systems via centralization of policy-making tasks, creation of trust and professional networks etc); or complementing NPM-type market-based mechanisms by re-introducing hierarchy-type mechanism and/or building new network-type mechanisms.¹⁰

In the context innovation policy, we see a somewhat different trajectory whereby the logic of agencification seems to be in fact spreading rather than narrowing, or re-

⁷ See for example arguments in O Riain S (2011) From Developmental Network State to Market Managerialism in Ireland, in Block F and Keller M (eds) *State of Innovation: The U.S Governments Role in Technology Development*, Paradigm Publishers: 196-216.

⁸ See Suurna M and Kattel R (2010) Europeanization of Innovation Policy in Central and Eastern Europe, *Science and Public Policy*, 37(9): 646-664.

⁹ See Karo E (2012) Modernizing governance of innovation policy through ‘decentralization’: a new fashion or a threat to state capacities, *Innovation: Management, Policy & Practice*, 14(4): 495-509.

¹⁰ For a good overview, see Pollitt C and Bouckaert G (2011) *Public Management Reform: A Comparative Analysis* 3rd edn, Oxford University Press, Oxford.

focusing. Accordingly, innovation agencies are still mostly seen as potential cure-all ‘pockets of efficiency’ for policy coordination, network building etc and not as one of the potential causes for coordination failures. As a result, while the post-NPM public management research sees many limits in the logic of NPM-agencies and seeks to control these agencies through countervailing processes (such as re-professionalization, centralization, political control and accountability), innovation policy research tends to in fact do the opposite: innovation agencies are still foreseen to free innovation policy from Weberian and hierarchical shackles (which has become largely a myth due to NPM reforms) and allow innovation policy to be more entrepreneurial and more open for direct interactions with the private sector stakeholders. Indeed, in this model it is presumed that public sector policy-making capacities are not problematic (or have largely become a trivial issue due to the increasing complexity of economic challenges) and the main emphasis is on creating ‘co-productive’ institutions whereby policy problems and solutions can be identified designed through inter-sectoral networks. This kind of innovation policy management thinking/logic has seen very little critical analysis so far. At the same time classic public management research has argued almost for decades that functional networks and public-private interactions in policy design and delivery tend to require high-levels of policy capacity and skills.¹¹

Concluding argument

By combining innovation policy and public management research, we argue in our paper that as the three waves of agencification are interlinked, building or reforming innovation policy systems need to take into account both the logics and limits of each of the waves of agencification. In short our paper will make 4 general arguments. Firstly, we argue that pre-NPM type agencification (with an emphasis on building policy autonomy) fits for context where professional autonomy and risk culture need to be fostered for policy effectiveness. At the same time, NPM-type agencification reforms (not in organization, but in management practices – i.e. emphasis on ex-ante performance targets, short-term incentives etc) can undermine the basic logic of these agencies (i.e. the general criticism of research and higher educational policy reforms in countries such as the UK). Secondly, creation of new NPM-type agencies may in fact increase policy fragmentation both vertically (i.e. within a policy field between design, implementation, and evaluation) and horizontally (e.g. between different ‘competing agencies’); or conversely, agencies where NPM-style management practices are prevalent, are more likely to face issues of policy coordination. Thirdly, while innovation policy research also foresees that innovation policy agencies can act as ‘pockets of efficiency’ that can build better public sector and public-private coordination systems, public management research has shown that especially in systems with significant NPM-type reform legacies, this may in fact re-create fragmentation and keep coordination issues unsolved. Finally, we argue that the preference for one agency logic over another has to be conceptually embedded; that is, the ‘performance’ of different innovation policy systems and its’ logics need to be assessed in terms of how it affects the private sector dynamics of a particular country, technological field etc as this is in fact the final criteria of any policy performance.

¹¹ For the discussion in the context of innovation policy, see for example Karo E and Kattel R (2012) *Governance and coordination of mission-oriented innovation policy: a critical analysis of partnership approaches*, Paper presented at the EUSPRI 2012 Conference, Karlsruhe, Germany.

