1.3 The Design of Holistic Innovation Policy: Characterizing 22 Policy Problems

This paper will be a draft of the concluding chapter in a book entitled “Holistic Innovation Policy: Theoretical Foundations, Policy Problems and Instrument Choices” to be published by Oxford University Press in late 2017.

Many governments (national, regional and local) have developed innovation policies aiming at promoting and fostering innovation in their economies and societies. However, the rich literature on innovation studies still lacks a well-defined and encompassing theoretical basis for public policy. Such a basis is necessary in order to provide a solid conceptual framework for identifying policy problems in the innovation system and designing policy intervention. Furthermore, it is necessary in order to provide specific guidance for the design and re-design of innovation policies. Such designs should be based on holistic (or systemic) problem-solving choices of policy instruments.

Innovation policies are normally designed in a partial rather than in a holistic way, as they only focus on few of the determinants of innovation system processes. There can be many different partial innovation policies, but most often innovation policies are based on a linear view of the innovation process, focusing strongly on the role of research – and therefore the policies themselves become linear. A linear innovation policy is a special case of partial innovation policies, and the most common one. Those partial and linear innovation policies fall far behind current studies of innovation systems and innovation processes.

The aim of this paper is to provide a theoretical and conceptual basis for the design of holistic innovation policy. This serves several purposes. Firstly, it serves to characterize a set of 22 different problems in innovation systems, which might require public policy intervention. This characterization recognizes the complex nature of those problems which often cut across several areas and sectors in the innovation system, and have important time and space-related dimensions.

Secondly, it allows a wider understanding of the strategic choices of policy instruments, which are combined in particular and idiosyncratic policy mixes. The choice of instruments and mixes are typically associated to specific problems. But the instruments tend to change through time according to many factors, namely, transformations in the formulation of goals and views about the nature of problems, the responsiveness of policy-makers and stakeholders to new opportunities, and the political strategies towards different aspects of innovation.

Thirdly, by understanding that policy action is part and parcel of the innovation system, it serves to identify a large series of possible unintended consequences of policy action itself, an issue which has traditionally been explored in a few specific areas (e.g. public support of private R&D investments), but is largely unexplored in other equally crucial problem of innovation policy activity (e.g. education or innovative entrepreneurship).

This paper proceeds as follows. Section 1 introduces the paper and states the purposes described above. Section 2 introduces the theme by presenting in a very succinct manner a specific approach on innovation system, based on ten activities or determinants of innovation processes. This approach is the authors’ theorizing effort about innovation systems and their dynamics, which is done in the context of discovery and of a continuous development from previous theoretical work on innovation. Section 3 discusses the differences between partial innovation policies and holistic innovation policies, along the lines mentioned above. Section 4 defines what policy problems are, and defines the two preconditions for innovation policy (additionality and the organizational capacity of public intervention). This serves to indicate that not all issues related to innovation should automatically be subject to public intervention, and that the capacity of public intervention is a key factor for the design of innovation policy in order to be realistic and fine-tuned. There are two preconditions for innovation policy intervention:
Private organizations must prove to be unwilling or unsuccessful to address bottlenecks and deficiencies in the innovation system; a policy problem must exist;

The state (national, regional, local) and its public organizations must also have the ability and organizational capacity to solve or mitigate the problem, as well as to learn from past experience.

Section 5 focuses on the ‘core model’ of our approach, namely the three elements for the design of innovation policy. Those three elements are the specific identification of policy problems in a system, the choice of policy instruments that governments typically use to mitigate them, and the identification of the likely unintended consequences of policy intervention. By linking those three elements, this approach aims at providing a holistic approach and problem-based account of innovation policy design.

Section 6 substantiates this approach, reviewing the most significant 22 policy problems identified in the different chapters of the book. This section summarizes as well the most relevant ‘families’ of policy instruments that governments traditionally deploy in view of addressing policy problems. And it summarizes as well the typical unintended consequences that policy intervention tends to take.

The final section of the paper, section 7, concludes this paper by stating the main contributions of the book. This book puts forward the theoretical foundations of a holistic innovation policy approach. In so doing it addresses the “unfinished business” of the innovation system’s literature, which did not provide specific and detailed theoretical foundations for holistic innovation policy design. Secondly, the book considers policy instruments as part and parcel of the innovation system, which can be part of the problems themselves. In so doing, it overcomes previous literature on innovation systems that omitted or simply ignored the innovation policy instruments in place and their possible positive or negative effects on performance. Last, but not least, the book has made an effort to cover different types of innovation systems in terms of socio-economic development; and the diversity of policy problems and policy instruments in the design of holistic innovation policies. The section concludes with a plea: Policy problems as well as the choice of policy instruments should be based (and be part and parcel) of the iteration between theory and empirical efforts.

Authors

Susana Borrás
Copenhagen Business School
Solbjerg Plads 3
2000, Frederiksberg, Denmark
+4538153568
sb.dbp@cbs.dk

Charles Edquist
CIRCLE, Lund University
Paradisgatan 2
22100, Lund, Sweden
+46462223931
charles.edquist@circle.lu.se
Charlesedquist.com