

1. General introduction

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This book focuses on technological policies, in other words all public interventions intended to influence the intensity, composition and direction of technological innovations within a given entity (region, country or group of countries).¹

This book explores numerous avenues and pathways in its attempt to shed light on the theory and practice of technological policies, as they can be analysed and documented using modern tools of economic analysis:

- It examines relatively conventional themes in a subtle way (the questions of research and development subsidies and the financing of innovative firms).
- It tackles subjects yet to be investigated (such as policies adapted to innovation by users and/or applied within the framework of communities of practice).
- It takes another look at questions and debates that remain unsettled after decades of academic work (how useful and rational is a so-called mission policy; is there such a thing as a policy adapted to different stages of development?).
- It opens up new perspectives (for example the selection of priorities and the maintaining of a good balance in the allocation of resources between disciplines or fields of research).
- It reviews the ranges of indicators available for the development of an economy of innovation and technology on its way to becoming a discipline primarily oriented towards the production of ‘evidence’, intended to inform policy-making and allow its accurate evaluation.
- It presents case studies, on Switzerland (the homeland of Monte Verità²) and Europe.

The ‘fashionable’ themes of the globalization of innovation, the role and effects of intellectual property, and the place of academic research in technological policy recur to a greater or lesser extent in every chapter.

Beyond all these topics and beyond the infinite variations that the most talented members of our profession may envisage regarding the question of the effectiveness of tools and instruments, this work also invites us to re-examine the very foundations of this area of research and the practices that ensue from them, fundamentals that are still insufficiently questioned:

- What is the pertinent level of aggregation, the most favourable unit of analysis that will produce original and interesting results? Rather than pondering on these questions, we are usually content to continue the tradition of ‘national’ studies without considering the nonetheless very disrupting phenomenon of the globalization of the knowledge economy.
- What are the objectives of technological policy? Rather than debating this subject, we continue to seek the best way of pushing countries to step up their research and development (R&D) intensity and to distinguish the best performers with the help of extremely simplifying indices and indicators, which can only provide a very partial, or perhaps even inaccurate, vision of reality.

These two questions are thus still usually little discussed, whereas they are in fact essential. This results in an enormous conformity among economists doing technology policy research, to paraphrase a famous article by Stigler (1982) devoted precisely to the role of economists with regard to public policies. This enormous conformity can, in our opinion, only serve to delay the inevitable and obviously beneficial arrival of a paradigm shift in our way of tackling the problems and assessing the results of technological policies. The paradigm shift predicted in this work, particularly in the concluding chapters, encompasses the unit of analysis and objectives attributed to technological policy. It would radically disrupt the instruments and empirical practices forming the basis of the evidence-based policy research that economists strive to develop in order to clarify policy-making and evaluate policies.

Today we find ourselves in the fairly typical situation of ‘pre-revolutionary’ times – that of no longer knowing whether it is better to adopt a pessimistic or an optimistic view of the way in which economists deal with these problems. The pessimist would say that what we observe relatively well today and what we are capable of meticulously analysing in terms of causal relationships concerns factors that hardly matter. What does really count (for example drive and ambition as human qualities leading to innovation and entrepreneurship) remains far beyond the scope of the instruments of observation and theoretical tools of economists, while the way in which these factors can be activated remains to a large extent unknown.

The optimist, on the other hand, would retort that a tremendous amount has already been accomplished and that our knowledge base henceforth permits a far keener understanding of the importance of a wide range of factors looked upon as ‘decisive’, and even of their sensitivity to different degrees of intervention (with regard to intellectual property or research tax credit for example).

Whatever happens, do not choose between the pessimistic and optimistic visions but rather turn the former into a challenge that can be successfully assumed with the help of the latter. This will only be achieved, though, if the economist community collectively accepts, with full knowledge of the facts and with wisdom (in other words realizing that it is the only way), the prospect of a paradigm shift, as prophesied in the final pages of this volume.

It is this process that the Monte Verità Conference and the book derived from it have endeavoured to follow. The basic principle was exceedingly simple: gather the biggest names in our field on Ascona’s ‘Mountain of Truth’, a magical place and cradle of many revolutions in thought. Over 100 years have gone by since the first meetings held on Monte Verità, the hill overlooking Ascona and Lake Maggiore, assembled anarchists, psychoanalysts, followers of the sexual revolution and other partisans of the Monte Verità Art of Life School (Folini, 2000). We hope we have captured a little of the spirit of this place in deciding to orchestrate a sort of small revolution in thought in a domain that in our view lies at the core of the issues of the knowledge economy, and of growth and development for our societies of tomorrow.

In conclusion, I would like to express my very sincere thanks to all the authors who agreed to write original contributions on these subjects, while conforming to a certain number of restricting editorial guidelines, and doing so within a very acceptable time limit. My thanks also go to the discussants who accepted the difficult task of writing brief comments on one or several chapters in the book.

I wish you happy reading!

NOTES

1. The term ‘technological innovation’ must be understood in a very broad sense. It essentially includes technical changes (products and processes) and organizational changes. Both types of change are either considered separately (a change in technique, a change in organization) or in association with larger-scale projects. The innovations take effect at all levels of aggregation, large-scale technological innovations themselves consisting of multitudes of innovations at lower levels of aggregation. Consequently the domain of technological policy is a very wide one. It includes interventions aimed at assisting firms, directly or indirectly, in innovation activities, those aimed at directly achieving innovations generally considered as being ‘out of reach’ for private companies, those that

concern the environment, institutions and specific infrastructures – all factors that can greatly influence the motivation and performance of firms.

2. Monte Verità is a seminar centre located in Switzerland on the hills overlooking Ascona and Lake Maggiore.

REFERENCES

- Folini, M. (2000), *Monte Verità: Ascona's Mountain of Truth, Guide to Swiss Monuments*, Berne: SHSA.
- Stigler, G. (1982), 'Economists and public policy', in *Ideas, their Origins and their Consequences: Lectures to Commemorate the Life and Work of G. Warren Nutter*, Washington DC: American Enterprise Institute for Public Policy Research (for Thomas Jefferson Center Foundation), pp. 85–97.