Innovation, internationalization and performance – mainly in terms of productivity – are the three interrelated dimensions that form the basis of the book’s overall framework within which there is an exploration of a variety of issues, all connected with the concept of heterogeneity of firms. In particular the book examines how the activities of transnational corporations (TNCs) interact with innovation; and also how the performance of host economies is affected by the cumulative interaction of various elements of internationalization and innovation.

The authors point out that firms’ heterogeneity has usually been studied in relation to inter-industry differences and/or differences in the country of origin of TNCs. Castellani and Zanfei’s work concentrates on a less researched aspect: intra-industry heterogeneity. TNCs differ from each other even within the same industry; their heterogeneity impacts on innovation and performance as well as on their contribution to positive spillover effects in a host economy. Similarly, firms in the host country are heterogeneous even within the same industry. They differ in a variety of characteristics that impact on their own innovation capabilities and productivity and on their absorptive capacity as recipients of spillover effects from foreign TNCs. This is the overall framework around which the book is structured; it has three parts, each comprising two chapters.

Part I deals with the changing role of TNCs. Chapter one clearly develops the issue of two way linkages between internationalization and innovation; the latter constitutes an advantage for the firm branching out into the international arena and, conversely, internationalization creates opportunities for innovation activities via what the authors term double network structure. The intra-firm network of affiliates at home and abroad interacts positively with the external networks of formalized or informal linkages that each unit of the company establishes. The positive interaction allows each unit of the firm to learn from external linkages and – via the internal network – to transmit knowledge to other units within the firm. The scope for knowledge acquisition is
higher the more diverse the environments with which the various units of the firm come into contact and therefore the higher and more diverse the host countries in which a TNC operates. Thus, the authors see the TNC as a bridging institution between different localities and countries with their diverse economic, technological and cultural contexts.

Innovation and internationalization affect each other and co-evolve along three main dimensions: (a) innovation activities create advantages that lead to and/or enhance internationalization; (b) the double network structure allows TNCs to learn from diverse environments; and (c) if local firms are innovative, they contribute to the innovativeness of the foreign TNC while, at the same time, having enough absorptive capacity to benefit from the innovative activities of foreign TNCs. The other five chapters develop a discourse around these main points; in each chapter, theoretical arguments are presented, and empirical evidence from the authors’ own research and/or from other sources is brought in to strengthen the theoretical arguments.

Chapter two deals with the double network structure. The authors analyse the issue of geographical dispersion of innovative activities, as well as the issue of embeddedness. On the latter point there is evidence that many foreign TNCs are becoming embedded into host economies via adaptation of their technology to local conditions and/or the establishment of cooperative agreements on innovation with local firms. A relevant role underpinning the effectiveness of the double network structure is played by the internal organization of the TNC: specifically by the degree of autonomy that affiliates enjoy vis-à-vis the parent company. A high degree of autonomy allows the affiliate to develop more external linkages and become more embedded into the host locality; however, a lower degree of autonomy may favour the intra-firm transfer of knowledge. One question that emerges from this chapter is the following: are internal and external networks complementary or substitutive with regard to innovation activity? There are arguments and evidence that the relationship could be either way. The authors’ view is that, on balance, the evidence of complementarity is stronger. On this point, they present their own case study of the electronics and chemicals industries.

Part II deals with firms’ heterogeneity in terms of innovation, internationalization and productivity. Chapter three explores heterogeneity in terms of international involvement and its relationship to innovation. TNCs differ from each other because of
the differences in their country of origin or in their ability to develop their internal innovation capabilities or in terms of their chosen internationalization path. These issues are explored by reference to relevant theories of internationalization from Vernon’s international product life cycle to the Scandinavian School’s stages in the internationalization process. We are also presented with the authors’ own study of productivity and innovation of Italian firms.

Chapter four develops the theme of TNCs as bridging institutions in the context of their heterogeneity seen as a characteristic that applies across and within TNCs. Across TNCs, the heterogeneity arises from differences in the following aspects: (a) characteristics of the country of origin; (b) characteristics of the foreign systems in which they operate; and (c) the number, diversity and quality of the different systems in which they operate as well as the type of interaction they are involved in. The analysis of heterogeneity within the TNC leads the authors to consider the position, behaviour, innovation activities and performance of foreign and local parent companies and foreign affiliates. The analysis addresses the following issues: organization of innovative activities with particular attention given to the dispersion of R&D activities; constraints to the transfer of knowledge and innovation and constraints to the adoption of innovation and technology. The inference on the performance of parent companies versus foreign affiliates and national affiliates is derived not only from studies by other experts but also from the authors’ own work on the Italian case. The chapter concludes that affiliates of foreign firms perform better than purely domestic firms but not better than domestic TNCs: a conclusion with relevant policy implications highlighted in the book.

Part III analyses the indirect impact of TNCs’ innovation activities through spillover effects on the host economy. Chapter five considers various spillover channels: competition, imitation and demonstration effects, workers’ mobility and various forward and backward linkages. The empirical evidence on spillovers is scanty. The authors explain this lack of evidence as resulting partly from the problems in model specification of the econometric studies and partly from the negative impact of competition neutralizing any positive impact.

Chapter six goes “in search of horizontal spillovers” from TNCs and again looks at the role of heterogeneity. Positive spillovers from foreign to domestic firms can occur
in the presence of: technological gaps between foreign and domestic firms; and/or high absorptive capacity of domestic firms. Thus, the characteristics of both foreign and domestic firms are relevant. In this respect, foreign firms differ in the following characteristics: (i) extent of R&D in the host economy; (ii) propensity to establish collaborative linkages for innovation activity; and (iii) time elapsed since the establishment of the affiliate in the host country. All three characteristics are relevant for the degree of embeddedness and the extent of positive spillover effects. The heterogeneity of domestic firms is analysed with regard to their being internationalized or not, which may take the form of engaging in export or direct production abroad. Internationalized firms are found to have higher absorptive capacity and thus be better able to receive positive innovation spillover effects. A last arm of the study takes the authors to the issue of whether the difference between domestic and foreign TNCs is due to the latter being foreign or being transnational. This involves analysing transnationals (both foreign and domestic) versus non-transnationals. The authors’ own study finds that the expansion of foreign firms in Italy helps domestic firms that internationalize via exports while an increase in activities at home of Italian TNCs favours other domestic firms.

This is an excellent book – the result of years of research. It offers the reader a fairly coherent theoretical framework, a very large literature review for every element of the study and a great deal of empirical research by the authors themselves, mostly on Italy and based on the Community Innovation Survey and ELIOS databases. The literature review as well as the authors’ empirical studies point to a large number of unresolved questions and therefore to the need for further research – as in the case of spillover effects into the host economy. In other words, the book can be turned into a gold mine for doctoral students to dig in and find sources of ideas for their own research.

Given the multi-dimensionality of the theoretical framework and the richness of elements covered for each dimension, the book is necessarily dense as well as deep: not easy bed-time reading. Readers have to devote their full attention in order to gain full benefits, but the results are highly rewarding. Moreover, clear and concise introductions and conclusions to each chapter are a great help to the reader, as are the summary tables offered by the authors throughout the book. All in all, this book is a “must” on the
reading list of any researcher working on innovation, internationalization and the interface between the two.

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