INNOVATION POLICY AND THE ECONOMY:  
INTRODUCTION TO VOLUME 18

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This volume is the Eighteenth annual volume of the National Bureau of Economic Research (NBER) Innovation Policy (IPE) group. The IPE group seeks to provide an accessible forum to bring the work of leading academic researchers to an audience of policymakers and those interested in the interaction between public policy and innovation. Our goals are:

- to provide an ongoing forum for the presentation of research on the impact of public policy on the innovative process;
- to stimulate such research by exposing potentially interested researchers to the issues that policymakers consider important;
- to increase the awareness of policymakers (and the public policy community more generally) concerning contemporary research in economics and the other social sciences that usefully informs the evaluation of current or prospective proposals relating to innovation policy.

This volume contains revised versions of the papers presented in the group’s meeting in Washington, DC, in April 2017. For the eighteenth volume of this series, we decided to focus on work that highlights the interplay between new technologies and organizational forms and structures, including the role of networks and the role of the corporation. As in previous volumes, our aim has been to draw out the lessons of recent research in economics and related fields for policy analysis and future research.

The first chapter is on consumer search, and explores the role of technology in shaping price obfuscation. Glenn Ellison and Sara Fisher Ellison, building on the theory of obfuscation and recent empirical research, start with the premise that technologies such as the Internet have had the potential to increase price competition through reducing search costs for consumers; but, as a result, firms have strong incentives to obfuscate prices in order to avoid competition. Ellison and Ellison, synthesizing a body of empirical research including their own work, argue that markets transformed by easy price search, including those for airfares, hotels, and electronics, are also the markets in which obfuscation has become more central. In these markets, sellers price low-quality products aggressively in order to attract customers, and then encourage upgrades to higher-quality versions of the same product (which also have higher margins for the seller). Ellison and Ellison then examine the potential impact of various policy levers in shaping the level and nature of obfuscation likely to be observed in real-world markets. Their analysis highlights that any analysis is likely to be market and technology-specific; one must account for both the complexity of the product and market, as well as the objective of the regulator, to design an effective policy regime. With these considerations in mind, they review the conditions

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supporting alternative policy approaches, including scoring rules, a price disclosure mandate for a standard variety, standardized menu display, and regulation of add-on prices. More generally, this chapter highlights the profound ways in which the diffusion of the Internet now shapes fundamental approaches to competition and consumer protection policy.

In the next chapter, Aaron Chatterji focuses on the role of innovation in American primary and secondary education (K-12). The chapter investigates two broad linkages between these two areas. Chatterji begins by presenting dramatic evidence illustrating the very low level of innovation investment in education – the R&D expenditure in education is in the neighborhood of 0.2%, more than an order of magnitude lower than the overall economy or innovation-intensive industries. The essay considers a range of mechanisms that might explain this lack of investment, with the analysis suggesting an important role for (the lack of) market structure (there are few “large players” in secondary education) and the administrative burden of changing or leveraging technology in K-12 environments. Chatterji additionally investigates recent evidence (including his own) concerning the efficacy of classroom technologies, such as personalized software, which (at least so far) have failed to live up to the “hype” for a transformation of the classroom experience. Mechanisms to evaluate classroom technologies in a rigorous way, and disseminate results widely and rapidly, are needed to identify those technologies that are likely to yield meaningful improvement in educational outcomes. Chatterji then turns attention in the opposite direction of causality, and reviews the influence of the K-12 system on innovation and entrepreneurship. Though often cited by policymakers as a key driver of long-term innovative and entrepreneurial capacity, little research rigorously draws out the linkage between the early school environment and later-stage innovation and entrepreneurship career choices and productivity. Progress into understanding these issues likely requires integrated and sensitive data, as well as cooperation between various sub-disciplines and between a range of Federal and more local administrative data sources; though challenging, such an effort would be highly informative to understanding the long-term impact of K-12 policy on ultimately shaping technological change and business dynamism.

The third chapter, by economic sociologist Olav Sorenson, draws on a body of research on networks and social relationships to characterize the relationships of actors in innovative efforts using networks, and discusses the implications of these networks on innovation policy. Though economists have long focused on diffusion and networks, economic sociologists such as Sorenson have taken the lead in demonstrating the interplay between networks and innovation, and Sorenson synthesizes a wide body of this work in drawing out its import for innovation policy. He first focuses on how information, influence, and scarce resources flow through networks. Though information may occasionally be readily available for anyone to use, often interaction between the source of information is necessary for obtaining it. This has various consequences, including geographic clustering of innovative activities, enhancing the importance of boundary spanners, and prioritizing certain types of information over others for more rapid diffusion. Sorenson then explores how policymakers might take advantage of these insights by considering how alternative policies shape networks and the role of those networks in determining the flow of valuable resources. A number of distinct policy levers are discussed, including enabling access to information and resources, publication of non-results, diversification of decision-making bodies, and even encouraging the development of new types of network structures.
The last two chapters focus on the role of corporate organization on innovation and dynamism, and the first of these develops a synthetic framework for understanding the emergence and choices of social entrepreneurs and socially responsible firms. Andreas Nilsson and David Robinson motivate the paper by highlighting the proliferation of corporate approaches to social responsibility, and the parallel trend of non-profit organizations pursuing for-profit activities; while the level of investment and activity in these areas is high and growing, researchers and policymakers do not have a systematic framework for understanding the causes of these choices of the consequences (e.g., how policy changes might impact these new firms differently than more traditional firms). Nilsson and Robinson develop a simple framework highlighting that organizations produce a mixture of financial and social benefits, and that for-profit corporations are presumed to maximize their profitability (and be insensitive to the level of social benefit), while charities are presumed to maximize their social benefit (and be insensitive to the level of financial return subject to financial feasibility). The authors insightfully point out that, if all that has happened is an increase in demand by consumers for socially beneficial activities, this would result in a shift towards the consumption of activities provided by non-profits rather than the emergence of new corporate forms. Nilsson and Robinson then focus on how changes in technology and innovation in business practices have given rise to the potential of socially responsible corporations, to the extent that these corporations can now trade off profits and social goods at a more favorable rate than other market actors. This insight holds significance for those designing policy regimes (e.g., environmental policy or transportation policy) in which different corporate forms will all participate, since regulatory rules likely influence the degree to which different types of corporate forms can experiment and compete.

Steven Kaplan provides the final essay. His essay focuses on the contention that US companies suffer from “short-termism.” This criticism, going back (at least) thirty-five years, suggests that, due to pressure for short-term financial results from investors, US companies systematically underinvest in long-term capital expenditures and R&D, resulting in value destruction and a loss of dynamism in the long term. Kaplan reviews the history of this critique, and brings out the intriguing insight that, as the critique is now at least thirty-five years old, today is the long-term, and so we can examine the performance of today’s corporate sector to evaluate whether the predictions of the theory have been manifested. At first blush, Kaplan points out that, while there are important areas for policy concern, corporate profits are actually at historical highs, both in absolute and relative terms (e.g., relative to GDP). The simplest prediction of short-termism (long-term declines in corporate profitability) is unsupported. More subtly, the essay posits that, if publicly traded US companies are short-term-oriented, there would be significant opportunities for investment by private capital, and these investments should realize an above-average risk-adjusted rate of return. He therefore presents broad evidence about the performance of two particularly key sources of private funds, venture capital, and private equity. Analyzing data on corporate profits, venture capital and private equity investments and returns, and corporate valuations, he concludes that there is very little evidence consistent with the implications of short term behavior of U.S. companies. Though it is possible that there has been a decrease in the willingness of public companies to fund public goods (e.g., the decline of broad basic research programs at places such as Bell Labs) or that companies engage in less sharing of quasi-rents with labor (thus reducing the labor share over time), these
issues are distinct and separable from the issue of short-termism, which often dominates policy discussions about corporate motivations and behavior.

Together, these five essays continue to highlight the importance of social science theory and empirical analysis in innovation policy analysis. While the issues involved are undoubtedly difficult, the chapters in this year’s volume continue to suggest that contemporary research in economics and related fields informs the evaluation of current and prospective innovation policy alternatives.