Book Review


This book contains a set of articles dealing with various aspects of innovation, productivity growth and economic performance. While the data analysis and examples focus primarily on the U.K, the concepts and results are broad and easily generalized to other settings. The readings cover a broad range of topics, making this book useful to a wide variety of researchers. Each chapter provides an exhaustive and up to date reference list; the bibliography alone is worth the purchase price. The book is recommended reading for anyone with an interest in productivity growth and innovation. Readers new to the literature will find that each chapter summarizes pertinent issues, while researchers with an ongoing agenda will find depth in the more technical material. The remainder of this review provides a brief summary of the individual contributions. Articles are referred to by chapter number rather than by title or author in order to conserve space.

Chapter one, an overview of contemporary issues related to innovation and productivity, provides the reader with a road map for topics found in the text. Among the issues presented in chapter one are growth rates across countries and their relation to per capita GDP, measurement of productivity and innovation with particular emphasis on the difficulty of measuring these concepts in the new economy and the importance of spillovers and diffusion. Productivity growth is related to the work of Solow and Schumpeter’s process of creative destruction. A continuing theme relates labor-intensive quality improvements in service industries to the false perception of declining productivity. Coverage of global issues includes an assessment of where countries perform their research and development activities, the role of openness at industry and country levels in determining innovation and productivity growth, and technology convergence across countries. The authors observe that efficient markets would allow firms to appropriate the future value of current R&D activities, but that spillovers in research and development may limit the ability of incentive structures to capture the true social value of innovative efforts. Methodological issues raised in chapter one relate to the Solow residual as a measure of technical progress and the use of hedonic modeling.
A discussion of British productivity over the very long run, 1870–1990, is found in chapter two. The author observes that Germany overtook Britain when resources were redeplored from agriculture to services, rather than from improving manufacturing productivity. A somewhat surprising finding is the remarkable stability of manufacturing productivity. The U.K. experience points to what could be a general trend for productivity growth that is derived more from shifts in resources between sectors rather than from intra-sector productivity gain.

Chapter three examines U.K. productivity during the 1980s, a period characterized by downsizing and job shedding. The 1980s were a period of respectable but not spectacular growth. The authors develop a theoretical model to analyze the transmission of productivity change across and within economic sectors. Input-output data are then used to test several hypotheses regarding productivity change. Important findings include the dominance of own-sector over inter-sector effects in determining productivity growth, spreading effects that distribute the content of some domestic R&D throughout the entire range of goods and services, and the position of services as major users of R&D despite their limited R&D expenditures. Moreover, high technology services and manufacturing appear to be more similar in terms of R&D contribution as compared to high and low technology manufacturing.

The financial services sector and the apparent IT paradox (previous failures to detect productivity gain from information technology) are the subject of chapter four. The authors focus on the impact of ATM adoption on productivity and find no support for the IT paradox. As ATM adoption appears to have resulted in substantial labor savings. The authors observe that ATMs exhibit elements of both process and product innovation. The labor saving aspects of ATMs suggest process innovation, while the introduction of twenty-four hour banking is more consistent with product innovation. Moreover, ATMs, unlike most innovation, requires consumer acceptance before productivity changes, suggesting a time lag between adoption and productivity gain. Prior findings of an IT paradox may result from measurement problems and/or previous failures to properly specify lags.

A comparison of productivity and service quality in banking across the U.S., U.K. and Germany is presented in Chapter 5. Initial comparisons of loan activity per employee suggest that German banks are considerably more productive than their U.S. and U.K. counterparts. Accounting for differences in loan sizes across countries reduces but does not eliminate the differential; lending output per German employee is fifteen percent higher than in the U.S. and approximately two-thirds higher than in the U.K. Factors that complicate the analysis include the use of completed loans rather than loan applications to measure output, the implicit assumption that differences in lending reflect differences in net marginal revenue, and intercountry differences in quality of loans as measured by incidence of problem loans. This chapter offers a number of interesting insights regarding differences in banking in the U.S., U.K. and Germany and serves as a case study on the difficulties of measuring productivity in service industries.