Productivity Accounting
The Economics of Business Performance

The productivity of a business exerts a significant influence on its financial performance. A similar influence exists for industries and economies: those with superior productivity performance thrive at the expense of others. Productivity performance helps explain the growth and demise of businesses and the relative prosperity of nations. *Productivity Accounting: The Economics of Business Performance* offers an in-depth analysis of variation in business performance, providing the reader with an analytical framework within which to account for this variation and its causes and consequences. The primary focus is the individual business, and the principal effect of business productivity performance is on business financial performance. Alternative measures of financial performance are considered, including profit, profitability, cost, unit cost, and return on assets. Combining analytical rigor with empirical illustrations, the analysis draws on wide-ranging literature, both historical and current, from business and economics, and explains how businesses create value and distribute it.

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Productivity Accounting

The Economics of Business Performance

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To the Ladies

Mercè, Marta, Julie, Heidi, Claire, Gemma, Sydney, Savannah, Addison, Holly, and Lucinda
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We were inspired to write this book by the pioneering works of Hiram S. Davis and John W. Kendrick. Davis, a staff member and Director of the Industrial Research Unit in the Wharton School of Finance and Commerce at the University of Pennsylvania, wrote on prices, wages, and industrial relations, and more extensively on productivity. His work on productivity influenced Kendrick, the foremost productivity expert of our time (and also a reviewer of the prospectus for this book), and Kendrick in turn has influenced a generation of productivity scholars.

Both writers were concerned with productivity growth at the aggregate level.

In The Industrial Study of Economic Progress, the first of two books devoted to productivity, Davis proposed to investigate productivity at the industry level, and was equally concerned with the sources, both internal and external, of productivity growth and the sharing of the benefits that productivity growth conferred. He claimed that productivity growth constituted one, but not the sole, driver of “economic progress,” which is more far-reaching than the more popular concepts of real income or real income per capita. Economic progress also depends on a distribution of the productivity gains in which all members of society benefit, and the ability to address the labor displacement and social costs of industrial development that productivity growth generates.

In his authoritative Productivity Trends in the United States Kendrick measured US productivity growth over a half-century, finding that it accounted for three quarters of the increase in real output per capita, a concept less inclusive, and more concrete, than Davis’s notion of economic progress. Kendrick then showed that, as a consequence, prices of final goods
and services increased less than prices of the factors of production did, and
he concluded that this explains how the fruits of productivity growth were
distributed to providers of the factor services. This also implies that the
measurement of productivity change can be based on price changes, an idea
central to the work of the French writer Fourastié that is enjoying a renais-
sance more than a half-century later.

Both writers were also concerned with productivity growth at the level of
the individual business.

In Productivity Accounting Davis studied productivity in a business and
devoted much of his attention to the relationship between productivity
growth and financial performance, a relationship he called “productivity
accounting,” a term we have borrowed for the title of our book. He also
explained the need to convert the accountant’s current price accounts to
constant price accounts in order to obtain a productivity measure
independent of prices. Davis also continued his interest in the distribution
of the benefits of productivity growth to consumers, resource suppliers,
labor, management, and investors, and the concept of investor input played
a central role in his analysis.

In a pair of books devoted to the measurement of business productivity –
Measuring Company Productivity (with Daniel Creamer) and a subsequent
updated version, Improving Company Productivity – Kendrick referred
explicitly to the influence of Davis. He echoed Davis by emphasizing the
necessity of converting current price accounts to constant price accounts in
order to measure productivity, and he explored the relationship between
productivity change, price change, and profitability change. He devoted
considerable attention to measurement problems, partly within the context
of several case studies.

In this book we follow Davis and Kendrick by examining productivity
dispersion and the determinants of productivity change, by relating produc-
tivity change to change in financial performance, and by exploring the
distribution of the benefits of productivity change. We do so within an
analytical framework, augmented with empirical applications. We have
reviewed a wide range of literature, in business and economics, created
around the world over a long period of time, in academe, in consultancies,
and in government agencies. We have learned much about productivity
dispersion and its persistence from studies that appeared nearly a century
ago in Monthly Labor Review, a journal published by the US Bureau of Labor
Statistics. We have gained valuable insights into the relationship between
productivity and business financial performance from reading Productivity
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Measurement Review, a journal published quarterly from 1955 through 1965 by the European Productivity Agency. We have gained additional insights into the distribution of the benefits of productivity change, and to alternative definitions of these benefits, from reading several monographs published under the auspices of the Centre d’Étude des Revenus et des Coûts (CERC) in Paris during the late 1960s and early 1970s. None of these sources occupies a prominent place on the bookshelves of most scholars. We have incurred some debts in the lengthy process of writing this book.

We are indebted to the innovators whose contributions we have absorbed, re-interpreted, and hopefully not distorted. Our primary influences have been the two pioneers, Hiram Davis and John Kendrick. We also have benefited from exposure to the large analytical and empirical body of work produced by André L. A. Vincent, Raymond Courbis, and Philippe Templé (who, while acknowledging the influence of Kendrick, were more interested in the distribution, rather than the generation, of productivity gains) and their colleagues in Paris; Bela Gold, Samuel Eilon, and their colleagues, whose work on integrated managerial control ratios and related matters academics tend to overlook; the detailed business histories of Alfred Chandler and H. Thomas Johnson; Ephraim Sudit and his colleagues, whose business experience has enriched academic discourse; William W. Lewis and a host of writers for the McKinsey Quarterly and the McKinsey Global Institute, who have seen the business world as it exists rather than as academics would perceive it; and our friends and colleagues Bert Balk and Erwin Diewert for teaching us much. Although our book is inspired by the work of these and other innovators, it also contains much original material that extends their work in hopefully productive ways.

We thank Bert Balk for his thoughtful comments on part of the book; Ephraim Sudit for sharing his insights into productivity measurement at the company level; audiences at seminars and conferences around the world for their questions, comments, suggestions, and references; and graduate students in Barcelona, Chapel Hill, and Athens, whose reactions to half-baked ideas and preliminary drafts have contributed productively to the development of this book.

Thanks to our original editor Scott Parris, for his enthusiasm for and support of this project, but whose patience understandably finally ran out, to his successor Kristin Purdy, and to our current editors Karen Maloney and Kate Gavino, whose patience we have not yet tested.

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