

UNIVERSITY-INDUSTRY R&D COLLABORATION IN THE UNITED STATES,
THE UNITED KINGDOM, AND JAPAN

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UNIVERSITY-INDUSTRY R&D
COLLABORATION
IN THE UNITED STATES,
THE UNITED KINGDOM,
AND JAPAN

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PREFACE

Over the last several decades there has been a growing interest in Research & Development (R&D) policy. This is particularly so in advanced industrialized nations that have adopted science- and technology- based strategies for national economic competitiveness. The United States, the United Kingdom, and Japan -- the three nations that are the subjects of this book -- share this policy strategy. Each of these nations is committed to harnessing the innovations that stem from scientific and technological advance to promote national economic prosperity.

Governments can influence their nation's R&D effort in three general ways. First, they can directly fund the R&D effort through grants, loans, appropriations, or government contracts. Second, they can provide tax and financing incentives to encourage higher levels of private sector R&D. Third, they can use their power to create inter-organizational collaborations that vastly extend and expand the nation's collective R&D effort. University-industry collaborations are a principal type of these inter-organizational R&D efforts -- and the focus of this book.

The United States, the United Kingdom, and Japan differ in the manner that they implement their policies. Some of these differences stem from national tradition or culture, from the historical evolution of the institutions, and from the extent of available resources that can be applied to the effort. Despite their differences Japan, the U.K., and the U.S. serve as a models of particular aspects of R&D policy: Japan for cooperative strategies as well as technological targeting, the U.K. for research foresight planning, and the U.S. for long-term investment in basic scientific research. As the chapters of this book will demonstrate, the U.S., the U.K., and Japan carefully analyze each other's policy efforts and learn from each other.

This book is intended for those new to R&D policy as well as for those with some background on the topic. The introductory chapters provide enough general information to make later, more in depth, chapters readily accessible even to readers not particularly familiar with R&D policy issues. The book begins with a discussion of political and economic rationales most identified with government involvement in R&D efforts as well as with an overview of the forms of government intervention widely used. Specific aspects of public policy concern, directly related to university-industry collaborative R&D efforts, are introduced. The second chapter starts the more comprehensive discussion of the United States, the United Kingdom, and Japan by providing historical background information on the development of the science and technology structures within each nation. This material is then followed by chapters describing and evaluating in some depth the collaborative university-industry R&D efforts in the U.S., the U.K., and Japan, respectively. Much of the information presented in these chapters is drawn from original investigation and data analysis. These sections should be of interest to a general audience as well as those concerned with learning more of the particulars of any one nation. The book concludes with a discussion of how

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the U.S., the U.K., and Japan have learned from each other and, as a consequence, have modified their domestic R&D policies by using the other countries as models for reform.

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