

**THE NATIONAL INNOVATION SYSTEM OF  
TAIWAN'S BIOTECHNOLOGY INDUSTRY**

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## SUMMARY

This dissertation aims to examine how national and firm-level features function together as a system to shape country-specific patterns in the development of the biotechnology industry in Taiwan, as an example of developing countries. This dissertation is organized as follows. Chapter 1 briefly illustrates the definition, scope and characteristics of the biotechnology industry. Chapter 2 explores how the biotechnology industry emerged, and in particular, how it relates to the universities and to the traditional sectors in the U.S. With a better understanding of the underlying innovation model in the U.S., chapter 3 summarizes the theoretical underpinnings of the concept of *National Innovation Systems*, to characterize the emerging research-based industries. Chapter 4 describes the national institutional context and the development of the biotechnology industry in Taiwan. Chapter 5 applies the framework of *National Innovation Systems* to an analysis of Taiwan's biotechnology industry by employing a large-scale survey, and thus examines Taiwan's innovation systems and performances. Finally, chapter 6 concludes by proposing the science and technology (S&T) policies for the developing countries.

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## **PREFACE**

This dissertation is submitted to the University of Cambridge as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

This dissertation is based on the work carried out from October 1998 to September 2000 in the Judge Institute of Management at the University of Cambridge, and from November 2000 to February 2004 at Taiwan Institute of Economic Research in Taiwan. This dissertation is my own work and contains nothing which is the outcome of work done in collaboration with others, except as specified in the text and Acknowledgements.

No part of this dissertation has been, or is being submitted for a degree or any other qualification at this or any other university. This dissertation does not exceed 80,000 words in length.

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*Genomics, Proteomics, Transcriptomics, Glyconomics, Metabolomics...*

*in Biotechnology the one –omics that really counts is Economics.*

*The Economist*