Preface

This book is the outcome of research activities conducted during my doctoral studies. In it, the theories of the knowledge-based economy (KBE) have been advanced one step further, within the East Asian context. Many recent scholars have considered the KBE to be the main economic driver of today's economic growth. In the last couple of decades, many countries have shown high economic performance by knowledge creation and its diffusion to the various sectors of the economy. The economic ramifications of the creation of a KBE are that it would increase the competitiveness of any country and its stock of knowledge for future innovation activities. Many East Asian economies have shown tremendous success in economic development by transferring the traditional economic system into a KBE. This book explores the knowledge-based economies (KBEs) in East Asia by studying the factors contributing to the growth of KBE in the region.

One of the greater challenges of this study was to select an appropriate methodology to measure the contribution of knowledge and its output to the national economy. The usual methodology for measuring gross domestic product (GDP) and most other macroeconomic indicators cannot appropriately measure the impact of policy formulations on the KBE. Moreover, how to measure the performance of KBE, itself is yet to be identified and defined in the literature. The World Bank's knowledge assessment methodology is by far the most comprehensive methodology to identify the key variables of the KBE worldwide. Thus, this study investigates the key contributing factors of the KBE in East Asia by taking the World Bank's KBE index into consideration. A KBE framework is proposed based on the four pillars of the KBE indicated by the World Bank. The four pillars are as follows: economic incentives and institutional regimes, education and human resources, information and communications technology and a system for innovation. The intention behind using the KBE framework is to simplify systemic data collection and thereby facilitate the investigation of key factors of each pillar, factors affecting

the development of the KBE. This will allow us to understand the economic ramifications of the KBE in the East Asian context.

Through the qualitative and quantitative analysis of the KBEs in East Asia, it has become evident that there are some key factors in each pillar of the KBE in East Asia. The countries that are better at developing these key factors are the most successful KBEs in the region. Japan, Korea, Taiwan, Hong Kong and Singapore have been the most successful countries in the region in developing the key determining factors to become KBEs. However, rapid demographic transition has been found to be one major challenge for these countries, as they hope to continue to supply the KBE with the human resources it requires. As a consequence, these countries have adapted the policy of attracting talented human resources from abroad, by providing them with opportunities equal to what the native population receives, as well as by raising the domestic birth rate.

I have benefited from many individuals and organizations that enthusiastically contributed to the completion of this book. I am afraid that without their help, assistance and cooperation, this book otherwise would have not been a success. I am grateful to Almighty that this book is finally finished in time. I also wish to convey my heartfelt gratitude to Professor A. Mani for his critical insights and bringing to light vital elements which have been the fuel in writing this book. Many thanks are due to Professor Yokoyama Kenji, Professor Jeremy Eades, and Professor Suzuki Yasushi for their critical comments and advice during the compilation of this book. I am also grateful to the Institute of Southeast Asian Studies, the National University of Singapore and the Nanyang Technological University, Singapore and the University of Malaya, the Prime Minister's Department, and Cyber Jaya, Malaysia for providing me with access to their valuable academic materials and industry statistics and other information related to this book.

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APEC	Asia Pacific Economic Cooperation
BMRC	Bio-Medical Research Council
EU	European Union
FDI	Foreign Direct Investment
FTE	Full-time Work Equivalent
GDP	Gross Domestic Products
GERD	Gross Expenditure on Research and Development
GER	Gross Enrolment Rate

HDI	Human Development Index
HKSE	Hong Kong Stock Exchange
IK	Investment in Knowledge
ISEAS	Institute of Southeast Asian Studies
IT	Information Technology
ICT	Information and Communications, Technology
IMD	International Institute of Management Development
IDA	Infocomm Development Authority of Singapore
KAM	Knowledge Assessment Methodology
KBE	Knowledge-based Economy
KB	Knowledge Base
KI	Knowledge Inputs
KSF	Knowledge Stocks and Flows
KN	Knowledge Networks
MEXT	Ministry of Education, Sports, Science and Technology
MITA	Ministry of Information, Communications and the Arts
MSC	Multimedia Super Corridor
MNC	Multinational Corporation
NITA	National Information Technology Agenda
NSTP	National Science and Technology Plan
NSF	National Science Foundation
OBM	Original Brand Manufacturing
ODM	Original Design Manufacturing
OECD	Organization of Economic Cooperation and Development
OEM	Original Equipment Manufacturing
R&D	Research and Development
SERC	Science and Engineering Research Council
TFP	Total Factor Productivity
TSLN	Thinking Schools, Learning Nation
US	United States
VINNOVA	Swedish Agency for Innovation Systems
WCY	World Competitiveness Yearbook
WEF	World Economic Forum

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