Preface

Ever since *A Research Report on the Development of China's Manufacturing Sector (2004)* was prepared, this research has focused on new-type manufacturing industries and has explored a road map and way forward for the development of China's manufacturing sector. Thus far, 12 consecutive research reports have been published. This book is the second English edition of the research report. During the research process, we have deeply understood the rapid development of China's manufacturing sector and witnessed the rapid improvement of China's manufacturing sector in terms of economic resourcefulness, technological innovation capability, and resource and environmental protection capability. While China is developing itself into an innovation-oriented country and transforming itself from a large manufacturing country into a strong manufacturing country, this research report is expected to accurately reflect the improvement of China's manufacturing sector in self-dependent innovation capability and to assist in the transformation, upgrade, and innovative development of China's manufacturing sector.

This research report focuses on the topic of technological innovations guiding the development of China's manufacturing sector. Specifically, this report highlights a development road map for China's new-type manufacturing sector, conducts normative research (including comprehensive evaluation, regional research, industry research, and enterprise research), and deepens research on different manufacturing industries, so as to accomplish higher academic value. The unique and innovative points are mainly as follows:

"Comprehensive evaluation" sets forth the connotations of the new-type manufacturing sector, and evaluates the general status of China's new-type manufacturing sector from four aspects, namely, economic resourcefulness, technological innovation capability, energy conservation capability, and environmental protection capability.

"Regional research" sets forth the following points. (1) It evaluates the degree of newness of regional manufacturing industries from four aspects (i.e., economic resourcefulness, technological innovations, resource utilization, and environmental protection). Guangdong and Jiangsu provinces in eastern China take the lead in the comprehensive strength of manufacturing industries and have attained remarkable

achievements in self-independent technological innovations. Anhui, Henan, and Hunan in central China have grown rapidly in terms of scale of manufacturing industries, but are confronted with such problems as a sharp increase in pollution discharge and the largest discharge amount of waste gas and waste residue (it is advisable to be vigilant about the well-known old road of "first pollution and then remediation"). Western China has a relatively sluggish manufacturing sector and continues to lag China's developed regions in terms of economic resourcefulness; thus, it is imperative to build an incentive mechanism to promote the clustering and growth of manufacturing industries. (2) The regional research type evaluates the degree of newness of manufacturing industries of China's 30 central cities. Cities in eastern China have outstanding performance in economic resourcefulness (in particular, both Suzhou and Nanjing in Jiangsu rank in the top three), while their environmental protection capability is worrisome (in particular, Suzhou ranks at the bottom). Shenzhen has exceptional performance in both economic resourcefulness and environmental protection capability, providing valuable experience for other manufacturing cities.

"Industry research" sets forth the following points. (1) In light of the connotations and evaluation index system for the new-type manufacturing sector, industry research evaluates and ranks China's manufacturing industries in terms of the degree of newness by using the deviation maximization method. (2) Industry research builds appropriate measuring models and empirically analyzes various issues, for example, the influence of technological innovations on the growth of China's manufacturing sector, the energy efficiency of China's manufacturing sector and its influencing factors, the influence of informatization on the green growth of China's manufacturing sector, and the influence of industry clustering on technological innovations in China's manufacturing sector.

"Enterprise research" analyzes the general development characteristics of China's listed manufacturing enterprises, rebuilds an evaluation and selection system for China's most respectable listed manufacturing enterprises, and selects China's top 50 most respectable enterprises accordingly.

In conjunction with those who are concerned about the development of China's manufacturing sector, we are interested in studying and exploring the development road map for China's manufacturing sector and make our contributions for the attainment of enhanced Chinese development. Given various academic deficiencies, this research study inevitably contains certain errors or imperfections. We sincerely seek your constructive comments and criticisms.

Nanjing, China — Lianshui Li
Beijing, China — Zhanyuan Du

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Li, L.; Du, Z. (Eds.)

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