北京林业大学经济管理学院

"英才计划"出版工程

编委会主任：陈建成

主编：温亚利　张卫民

中国木质林产品市场分析与预测研究

STUDY ON ANALYSIS AND FORECASTING OF
WOOD PRODUCT MARKET IN CHINA

◎ 王兰会　著

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出版说明
Publication Introduction

　　为加强学院科研团队建设，培养经济管理青年英才，扩大学院学术交流和学术影响，产出高水平标志性成果，促进学院重点学科与基础学科的协调发展，全面提升学院整体学术竞争力和影响力，北京林业大学经济管理学院制定了"英才计划"，该计划由"创新团队工程"、"出版工程"、"奖励工程"和"论坛工程"四个建设项目组成。

　　"英才计划"出版工程是对学院教师完成的，以农林经济管理学科领域为主、包括学院其他学科领域中的具有重要理论意义或重大应用价值及前景，或具有独到见解或新颖体系，对科学发展有重要作用的专著出版提供资助，目的是鼓励学术创新、传播学术思想、加强学术交流、繁荣学术研究、促进学术研究更好地服务社会。

　　"英才计划"出版工程得到了北京东方园林股份有限公司副总经理梁明武、湖南省汨罗市长江铜业有限公司董事长余方然以及中国林业出版社的大力支持，特此鸣谢！

School of Economics and Management(SEM) of Beijing Forestry University (BFU) launched Cultivating Talents Programs including Innovation Team Project, Publication Program, Award Program and Forum Project, which aims to enhance the research team of school, to cultivate young faculties in economics and management to output high level benchmark achievement.

Cultivating Talents Program-Publication Program provide support to manuscript with significance or critical application value or prospective, or with original idea or innovative system mainly agro-forestry economics and management field and other fields completed by school faculty members

Publication Program acknowledge the great support of Mr. Liang Mingwu (Vice president of Beijing Oriental Garden Shares Co. Ltd), Mr. Yu Fangran (Chairman of Changjiang Copper Product Co. Ltd in Miluo city) and China Forestry Publishing House.

北京林业大学经济管理学院
"英才计划"出版工程编委会
2011 年 5 月 10 日

序　言

　　多年来，北京林业大学经济管理学院以建设和培育国家重点学科——林业经济管理学科为目标，抢抓机遇，深化改革，瞄准学科发展前沿，凝聚全院师生智慧，激发一切可利用资源的活力，团结一致，与时俱进，精思厚德，以人为本，科学发展，敢为人先，在教学、科研、人才培养和社会服务诸方面取得了显著进步。仅 2010 年，学院在高层次科研项目数量、科研经费总量、高质量学术论文数量、学生获奖层次、本科教学质量评价、专业学位建设等 6 方面实现突破，创学院历史最好成绩。2010 年学院获得国家自然基金、国家社科基金和教育部人文社科基金等国家级课题 7 项；被 SCI、EI 和 ISTP 三大检索系统检索的论文共 33 篇；学院教师获全校理论课教学质量评价第一名；学院学生获"全国先进班集体"称号和 58 项省级以上学科竞赛奖；学院新增工商管理硕士（MBA）、应用统计硕士、会计硕士、国际商务硕士四个专业硕士学位授权学科点。这些成绩的取得，为学院的改革和发展奠定了良好的基础。

　　为了进一步推动学院在"十二五"期间快速发展，从 2010 年起，学院计划用五年时间，在全院推进"英才计划"建设项目。该计划包括"创新团队工程"、"出版工程"、"奖励工程"和"论坛工程"四个建设工程。"创新团队工程"旨在林业经济管理重点学科和其他具有优势和潜力的学科领域，以突出重点团队建设及领军人才培养、突出高水平标志性成果产出为原则，组建学术研究团队，择优提供研究费用资助。"出版工程"旨在鼓励学术创新、传播学术思想、扩大学术影响，资助学院教师多出具有影响力的学术专著。"奖励工程"旨在引导和激励教师申报高层次科研项目、产出高水平学术成果，鼓励教师关心学院发展、积极投身学院教学和科研工作，对在科研、教学和学院发展中取得突出成绩的教师进行奖励。"论坛工程"旨在营造学术氛围、加强学术交流、凝聚学术智慧、扩大学术视野、提倡学术创新，举办各种形式的学术论坛。

　　"出版工程"作为"英才计划"的重要组成部分，其实施范围在兼顾学院各学科领域的基础上，适当向林业经济管理学科领域倾斜。众所周知，林业经济管理学科在国家生态建设、低碳经济发展及现代林业体系构建中承担越来越重要的人才培养及科学研究责任。北京林业大学林业经济管理学科作为全国同类学科中唯一的国家重点培育学科，在林业经济理论研究方面长期积累，形

成具有中国特色的林业经济管理学术体系，在林业经济管理学科发展，以及参与国家林业重大问题、前沿和热点问题研究中发挥了积极作用。为促进学科发展，提升学科服务于社会发展的水平，北林林业经济管理学科正努力开展林业经济理论系统研究，以及林业经济重大问题的持续研究，尝试对中国林业经济发展进行理论与实践的梳理和总结，更好地为中国林业发展发挥理论指导作用。

　　"英才计划"出版工程项目将系统、全面地向社会介绍北林林业经济管理学科及相关学科领域最新的研究成果。主要涉及林业经济管理基础理论，林业经济重点和热点问题，国内外林业经济与政策比较，以及经济学、管理学和政策学最新研究成果在林业上的应用等方面。这些著作中既有青年教师在博士论文基础上形成的最新著作，也有教师最新科学研究成果。该出版工程不求研究内容及形式的系统性和完整性，更注重创新性及探索性；特别是对于新时期中国林业发展与社会经济可持续发展关系、林业在应对全球气候变化中的经济与生态环境政策、当前中国改革与发展中涉及林业与生态环境的关键经济政策问题的创新性研究给予高度重视。

　　这些著作大多是我校经管院中青年林业经济工作者的研究成果，在学术上可能还有不尽完善之处，一些问题在学术界可能也有不同观点，我以为，实施该出版工程的根本目的是繁荣中国林业经济管理研究，鼓励学术创新，勇于探索林业经济重大问题，更好地为中国林业经济发展服务，同时使有志于中国林业经济研究的广大中青年林业经济工作者有机会发表自己的成果，与学术界交流、沟通和争鸣，提升他们的学术水平，为中国林业发展奠定人才基础。

北京林业大学校长

宋维明

2011 年 5 月 16 日

Foreword

Over the years, School of Economics and Management (SEM) of Beijing Forestry University (BFU) has made a great progress with an aim of building and fostering the national key discipline - forestry economics and management. We seize the opportunity, deepen the reform, aiming at the development of frontier subjects and gather all the wisdom and inspire all available resources and energy of teachers and students. We realize a scientific development, going forward with the times and people-oriented in teaching, research, personnel training and social service. In 2010, SEM got a breakthrough of history because we got 7 major projects from National Natural Science Foundation project, the National Social Science Fund and the Ministry of Education, Humanities and Social Science Fund and other national projects. About 33 papers were cited by SCI,EI and ISTP, with students winning the National Advanced Course Collective and more than 58 provincial level of academic competition awards. Four new programs of graduate studies were approved including Master of Business Administration (MBA), Master of Applied Statistics, Master of Accounting, Master of International Business. All the above achievements have laid a good foundation for the reform and development of SEM.

In order to further promote the development of college in the Twelfth Five-Year Period, from 2010, the college plans to use five years to promote Cultivating Talents Programs. The plan includes Innovation Team Project , Publication Program , Award Program and Forum Project. Innovation Team Project aims to focus on economic management in forestry and other disciplines which have advantages and potentials to highlight the building of the key leader in team and personnel training, highlighting the high level output of the principle of the landmark achievements and provide funds to the formation of research teams in the selection of the best research. Publication Program is to encourage academic innovation, disseminate of academic thinking, and expand academic impact of SEM by funding the publication of academic achievements made by teachers. Award Project aims to guide and encourage the teachers to apply for high-level scientific research projects, and academic achievement of high level, encourage teachers to care about development of the institute by taking an active part in university teaching and research work . Forum Project aims to create academic atmosphere, strengthen academic exchanges and combine academic intelligence by expanding academic horizons and holding various forms of academic forums.

Publication Program is an important part of Cultivating Talents Programs , which will put emphasis on economic management disciplines with the scope of all various disciplines in SEM .As we all know, forestry economics and management assumes an

increasingly important responsibility for personnel training and scientific research in the national ecological construction, low-carbon economic development and construction of modern forestry system. Forestry economics and management of BFU, as the only nation greatly supported in all similar universities, has formed an academic system of the forestry economy with Chinese characteristics with long-term accumulation, and played an active role in the development of economic management disciplines and participation in national forestry major issues and hot issues of frontier. To promote academic development and enhance academic services to the community , economics and management disciplines of BFU are working to carry out systematic study on forestry economic system theory and continuous study on major forestry economics issues, trying to summarize and sort out the Chinese forestry economic development in both theory and practice to play a better role in guiding the development of forestry in China.

Publication Program will make a comprehensive introduction of the latest achievements in forestry economics and related disciplines to the society , including forestry management based on economic theory, economic priorities and hot issues in forestry, domestic and international comparison of forestry economics and policy, as well as economics, management and policy studies on the latest academic achievements in the forestry aspects of the application. All of these works include the latest work based on doctoral thesis of young teachers and the latest scientific research of teachers of SEM.

The publication does not seek a systematic integrity in the content and form, just to put more on innovative and exploratory research, particularly focuses on the relationship of forestry development in new period and sustainable economic and social development, including the global climate change in response to the economic and environmental policies, China's current reform and development related to forestry and ecological environment, etc.

These works are mostly works of young research workers in forest economics of SEM of BFU. They may not be quite complete and there may be different point of view in the academia, but our purposes are to make the research of forestry economics more prosperous, encourage academic innovation, the courage to explore major issues of forestry economy and better economic development of China's forestry services, which will give chances to young researchers in forestry economics to publish their achievements, and push the exchanges and communication and contention to improve their academic standards for laying a base of talents for forestry development in China.

President of Beijing Forestry University
Song Weiming
May 16, 2011

前　言

　　中国的林产品市场的发展已经成为全球关注的问题。我国的森林资源匮乏，人均森林蓄积量仅 $9.421m^3$，不到世界平均水平的 1/6，中国的林产品贸易主要是补缺型的进口贸易。林产品已成为当前中国最主要进口商品之一，我国林产品市场对进口产品的依存度亦在逐渐提高。据海关统计，2006 年林业产值突破 9000 亿元；林产品进出口贸易额达 470 亿美元，人造板生产量为 6380 万 m^3，均居世界第一；家具生产量达 1.3 亿件，亦居世界首位。鉴于林产品在我国国民经济和进出口贸易中的重要地位，全面系统地了解林产品市场需求，洞悉市场变化，准确预测市场发展趋势，掌握其内在规律成为这一领域重要的研究内容。

　　从计划经济向市场经济转轨过程中，中国政府对林业的控制某种程度上依然存在，林产品市场的发育并不完善，林产品市场的定量研究尚在起步阶段。纵观国外近几十年来林产品市场的研究，林产品市场模型已经从单一采用经济计量方法、线性规划方法或者优化控制方法演变成多种方法相结合，以克服单一方法的缺陷。但是国外比较完善的林产品模型似乎都不太适合中国的具体情况。首先，经济计量方法和优化控制方法是建立在市场机制发育良好的基础上，但是中国从计划经济向市场经济转轨过程中，政府对林业的控制在某些方面依然存在，林产品市场的发育并不完善。其次，由于经济环境的变化和中国林业的瓶颈状态，空间局部均衡模型忽略经济部门之间的联系也可能给模型的使用带来一定的问题，但是考虑经济部门联系的一般均衡分析只有一个静态模型，忽略了价格效应和投入替代效应，恐怕也不能对中国林产品市场作出准确的预测。此外，建模所需要的数据很难获得，这也给建立中国林产品模型带来了更大的困难。本著作就是对中国木质林产品市场系统研究的一次有益尝试。

　　本著作是在北京航空航天大学王惠文教授的悉心指导和北京林业大学经济管理学院刘俊昌教授和胡明形教授以及各位领导和同事帮助和支持下完成的。在此，我对整个研究过程中给予我帮助的各级领导、专家以北京航空航天大学复杂数据分析中心的所有的师弟师妹们表示感谢。同时，我也衷心感谢来自加拿大大不列颠哥伦比亚大学的 Steven Northway 博士和 Gary Bull 教授，在合作过程中启发了我的研究思路，并提供了技术支持。在美国波特兰的世界林业

前　言

研究中心学习的一年里，我得到了谢守鑫博士、Angie Disovle 和 Sara Wu 的热心帮助，使得我对林业资源管理以及林产品市场有了更深的理解，谢谢他们给我的帮助和支持。另外，还要对这一领域的专家学者表示诚挚的感谢，正是您们的研究成果为本研究提供的研究基础，才使得我的研究工作得以顺利开展。

我衷心地希望通过本书的出版，为林产品市场的分析与预测提供借鉴和启示，为林业产业的可持续发展尽微薄之力。鉴于作者学术水平的局限以及时间上的仓促，本研究还存在许多不足之处，恳请读者指出。

著　者
2011 年 5 月 30 日

Preface

The development of forest products market in China is one of global concerns. Because China is country lack of forest resource, the forest per capita is only 9.421 cubic meters, less than the one sixth of the world average. The forest product trade in China is the type of filling the deficiency and forest product has become the main import goods in China and the dependence to imported forest goods is on the increase. According customs statistics, the forest gross products broke through 900 billion RMB and the export of forest product amount to 47 billion US dollars. The production of man-made panel reached 63.8 million cubic meters, ranked No.1 in the world. In view of the significance of forest product in national economy and import export trade, it has become one of most important research fields to grasp the forest product market change and forecast its development trends following its rule.

China is in a transition period from a planned economy to a market economy, the control by the government over its forest product market has not been entirely eliminated and in some ways China is still in an early stage in quantitative analysis of forest product trade. The research abroad has been transferred from single econometric method to the combination of linear programming or optimization to over come the shortcoming of one single approach. Those methods don't not fit in China, because they are on the basis of mature market development. The change of environment and the bottleneck of forest in China bring some constraints to spatial partial equilibrium model by ignoring the connections of different entities in Economy. The static model considering the connections didn't consider the price effect and substitution effect to make precise forecasting. Furthermore, the desirable dataset is difficult to obtain, which brings more barriers to the research. This book attempts to do a systematical research in China forest product market.

This book is under the intensive instruction of Prof. Wang Huiwen inBeihang University and Prof. Liu Junchang and Prof. Hu Mingxing in Beijing Forestry University. Also, I would like to make acknowledgement to all the colleagues in my School and the colleagues in Complex data Analysis Center in Beihang University, thanks for your great help. Meantime, I would like thank Dr. Steven Northway and Prof. Gary Bull from University of British Columbia, who provides technical support to my work. Meantime, I would thank Dr. Xie Shouxin, Angie Disovle and Ms. Sara Wu from World Forestry Center in Portland, Oregon. They helped me to have a deeper understanding of forest resource management and forest product market. Last not least, I would thank all the researchers in this field. Their documentations provide a sound base for my work.

Sincerely I hope this book could provide some useful information for forest product market and do some contribution to forestsustainable development. In view of limited academic scope and time, there might be still some drawbacks, please point out ardently.

Author
May 30, 2011

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