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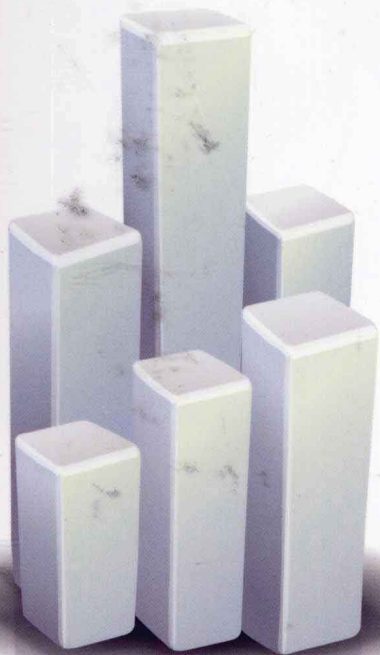
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——基于新李嘉图模型的开发与应用

Analysis on Sources of Comparative Advantage
of China since Reforming and Opening-up

——Based on Development of Neo-ricardian Model

刘厉兵◎著



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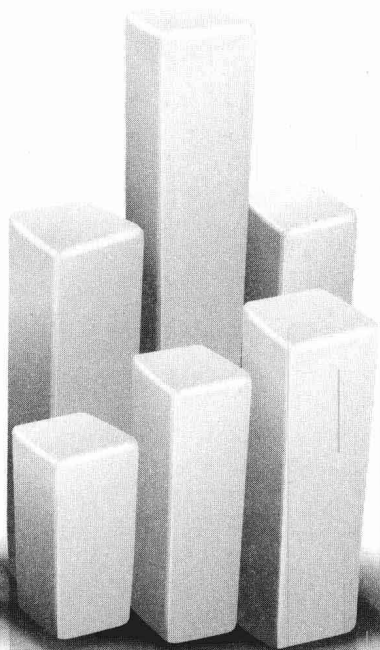
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摘要

Abstract

走过 30 年风雨历程,我国充分发挥比较优势动因,主动参与国际分工,快速“嵌入”了外资主导的全球产业链,有效“利用两种资源、开拓两个市场”,破解了“两缺口”难题,取得了经济建设巨大成就。然而作为发展进程指导思想之一的传统要素禀赋比较优势理论却因为忽略了生产率与比较优势之间的深厚关系,忽视了比较优势动因的多源性,近几年来在经济贸易实践与理论中遭遇到挑战,尤其是在后危机时代外部经济环境出现剧烈波动的情况下,如何以连续且稳定的路径实现贸易增长方式转变更是亟待学术界的理论指导。因此,来自完善理论和指导实践的双重任务都要求我们系统全面且科学规范地研究要素禀赋背后更加深层次的比较优势动因,并探索适合承载日益高度化动因的国际分工与贸易模式。

为此,笔者回归到经济学核心理念——生产率决定经济社会发展,通过拓展新李嘉图模型深入挖掘比较优势动因,并以此模型为实证基础分析决定我国产业层次贸易流动的若干动因,随后定量测算承载比较优势动因的国际分工模式、贸易方式及其对应的产业链对我国经济增长的拉动作用,进而在定性与定量研究基础上探讨后危机时代中国平衡增长的方向,最后针对当前我国贸易增长方式转变提出有益见解。基本行文思路如下:

(1)通过拓展新李嘉图模型,科学系统地探究比较优势动因。基于全球化和信息化条件下生产率是多层次展开、多角度作用于比较优势动因的认识,经过经济原理论述和数理假设及推导相结合的方式得出:全要素生产率、要素使用效率与要素存量有机结合构成的有效要素禀赋、经济制度以及广义地理条件综合作用于比较优势,进而决定国际分工与贸易模式。

(2)通过剖析改革开放以来我国对外贸易流动的方式与结构等问题,对我国外贸格局和显性比较优势及其动因的演化轨迹进行现实描述与分析,从定性角度研究诸多比较优势动因对我国贸易模式的影响。

(3)凭借拓展的理论模型,实证研究近年来我国比较优势动因对贸易流动的影响程度。利用我国2000—2006年19个产业对30个国家贸易流动和相关产业生产运行活动数据,通过面板数据分析和BP神经网络拟合并行处理,发现全要素生产率、金融制度、原材料和实物资本的有效要素禀赋以及地理距离作为比较优势动因对我国贸易格局解释力度在经济和统计意义方面均显著。

(4)阐述当今世界承载比较优势动因的国际分工模式的实质,并实证工序分工与差异化工对中国经济增长的拉动作用。产业链的跨国境分解、不同国家在某些环节形成专业化是工序分工的主要表现形式;国家间生产同类商品,但技术含量、产品质量、商品附加值等差别显著,是差异化工的特征。通过对两种分工对应的贸易模式进行协整检验、Granger因果检验、Kalman滤波的状态空间模型测度时变参数等定量分析,发现“嵌入式”工序分工对应的加工贸易对总量产出和人均产出作用已然弱于差异化工对应的一般贸易。

(5)在剖析国际金融危机内在原因、跟踪世界主要国家做法的基础上,探讨中国发展比较优势动因载体、从而实现平衡增长的可行方向。此次国际金融危机背后的深刻内因是相关国家存在已久的内部结构性缺陷,西方国家采取了“宏观政策+结构改革”的双管齐下的应对之策。因此,我国有必要主动融合两种分工和贸易模式,充分利用业已高度化的比较优势动因。

(6)在理论建模、定性分析、实证检验均证实比较优势动因多源化的基础上,辅之对国际分工和贸易载体的深入剖析,对现阶段我国贸易增长方式转变提出可行的政策建议:劳动密集型产业在较长的一段时期内仍具比较优势,可以在其内部通过改善要素效率、生产技术和广义地理等因素进行加工升级,从而在贸易转型升级和经济发展过程中减少摩擦与成本,保持连续稳定的政策引导。

为展现上述研究逻辑路径,笔者将抽象分析与数理分析相结合,理论分析与实证分析相结合,理论研究与政策研究相结合,对改革开放以来我国比较优势动因进行全方位科学合理的系统分析。以简要论述从综合作用角度

科学规范考量比较优势及其演变的理论与实践意义入手(第一章),在辨析比较优势理论传承脉络、认清研究起点的基础上(第二章),以逻辑思辨和数理建模相结合的方式拓展新李嘉图模型,论证了全要素生产率、要素使用效率、要素禀赋、经济制度、地理距离等因素作用于社会再生产过程从而形成比较优势的机理(第三章),进而审视我国改革开放以来外贸格局和比较优势及其动因演化历程(第四章),以笔者建立的理论模型为依据采用翔实的数据实证分析我国比较优势动因(第五章),测算两种分工与贸易模式作为比较优势动因的载体对经济增长的拉动作用(第六章),深入研究国际金融危机内因、跟踪世界主要国家平衡增长作法、探讨我国可行方向(第七章),在定性与定量并举的研究基础上,最后提出以多角度优化比较优势为原理的推动我国贸易转型的若干政策建议(第八章)。

本书旨在进一步推进新李嘉图模型拓展构造的同时,推动测度贸易流动的当代国际贸易理论框架的持续改进和完善,增强刻画贸易流动的理论框架自身的解释现实能力,研究比较优势动因载体(分工与贸易模式)对经济增长拉动作用,从而有效指导后危机时代国际贸易流量分析广泛应用的实证研究。与现有文献相比,本书的创新主要表现在以下几个方面。

在观点上:

(1)将生产率多角度展现于社会再生产活动中,提出差异化生产率可分为要素使用效率和全要素生产率。前者结合其他生产条件影响要素密集度,后者又由各产业不同的确定性生产率和产业内各厂商随机分布的生产率构成,受经济制度增益作用。由此展开分析可将理论模型深入刻画至产业内垄断竞争的异质厂商层面,极大缩短传统理论与现实经济运行之间的距离。

(2)基于多样化生产率引发的逻辑思辨,提出“比较优势多源化”这一重要观点,将生产率、要素禀赋、经济制度、地理条件等因素科学合理地纳入统一的比较优势动因分析框架,弥补了主流理论对各动因非此即彼或论之不全的缺陷,从而为只能得到传统理论部分支撑的各项看似不相容的政策建议提供系统的理论依据,有助于全面把握经济社会活动规律。

(3)鉴于要素使用效率已被科学地纳入分析框架,本书提出“有效要素禀赋”理念,将生产要素的质与量合理融合起来,避免了将两者分割考量的不足,既有利于提高理论模型可预测性和解释现实能力,又能够加深经济实

践中人们对两者辩证统一的认识。

(4)指出在平衡增长过程中我国比较优势动因载体的主要问题是:“脚已经长大,鞋子也该换了。”“嵌入式”工序分工及其对应的加工贸易形式已然不适合中国经济,即将各项生产要素组织起来、将比较优势动因物化为比较优势的生产模式已然不适合中国经济,“鞋”已经束缚“脚”了。后危机时代中国急需主动融合两种分工模式来承载我国日益高度化的比较优势动因,有效“盘活”企业家、科技人才、技术工人、资金、良好的基础设施等生产要素与条件。

(5)依据多角度优化比较优势逻辑,提倡生产技术、要素效率、要素禀赋、经济制度、经贸关系等因素应均是经济政策着眼点,唯有多管齐下、协调互动、有序推进方可实现贸易增长方式平稳转变,并由此提出若干政策建议。

在方法上:

(1)利用高等数学与经济学分析工具,建立描述产业层次贸易流动的新李嘉图模型。在生产侧针对产业内异质厂商引入生产率极值随机分布假设,在需求侧设定产业内外双层需求函数,通过推导实现了“比较优势多源化”的数理表达,不仅整合李嘉图理论和要素禀赋理论,而且融入经济制度与运输成本等因素,充实并拓展了国际贸易前沿理论。

(2)使用翔实的产业活动和贸易流动数据,对近年来决定我国产业层次贸易流动的比较优势动因进行实证分析,有利于更加理性地认识经济制度、全要素生产率、有效要素禀赋、运输成本等因素对我国贸易结构的重要性,从而为制定政策建议提供科学依据。

(3)在国际贸易实证理论中引入拟合能力较强的非线性 BP 神经网络工具,实现了人工智能领域对贸易理论的渗透,学科交叉发展能够对贸易流动决定因素进行较之线性拟合更为精准的定量分析。

(4)采用 Kalman 滤波的状态空间模型,建立反映两种分工与贸易模式(比较优势动因载体)对 GDP、人均 GDP 影响的时变参数模型,对不同载体的产出促进作用进行动态评估。

摘要

Abstract

During the past 30-year reforming and opening-up, China made great use of the comparative advantage sources, joined the international labor division, and broke the “two-gap” problem. In this period, significant achievement has been made by using “resources and market of both domestic and abroad”. However, as the main development guideline, the theory of traditional comparative advantage based on factor endowment ignored the relationship between productivity and comparative advantage as well as the multilateral resources of comparative advantage. Therefore, it was challenged by recent theories and trade practice, especially under fluctuating international economy background during Post-crisis era. How to realize changing trade development in a stable and continuous way is the most urgent task for academy and government, which need further analysis on multilateral resources of comparative advantage so as to guide the practice comprehensively and systematically.

This dissertation based on core concept of Economics—productivity is the critical factor of economy development and further explored Neo-Ricardian model to explain different resource of comparative advantage. After theoretical argument, the paper developed empirical analysis based on the model which articulates the key elements that decided trade flows of different sectors in China. At last, effective suggestions are provided for changing trade and economy development mode after theoretical and empirical research. The main parts of this dissertation are as follow:

(1) Multilateral resources of comparative advantage was analyzed by developing Neo-Ricardian model. The productivity is multilateral and affects on comparative advantage in multiaspects under the background of globalization and informationization. This dissertation combined economics theories and mathematic logic so as to come out the conclusion that: ATF, effective factor endowment which was decided by factor efficiency and resources stock, economy institution and geographic condition would comprehensively made effect on systematic comparative advantage and then decide international distribution and trade mode.

(2) Though analysis on the mode and structure of trade flow of China since reforming and opening-up as well as discription of RCA development, this essay articulate qualitive analysis on the effect of multi-resource comparative advantage on trade mode of China.

(3) This part is empirical analysis on effects of the multilateral comparative advantage on trade flows of China in recent years. The essay used performance data of 19 sectors trade flow of China with 30 countries between 2000 and 2006. By panel data analysis and BP nerve network processing, the paper proved that ATF, financial institution, raw material, effective factor endowment of capital as well as geographic distance had economic and statistic significance as the resource of comparative advantage.

(4) Describe the nature of international division of labor model in nowadays, which bears the sources of comparative advantage and empirically analyze the role of processing division and differentiated division on economy growth. Cross-border decomposition of value chain and different countries specialization in different process are the main form of processing division. Countries produce similar goods, but the technical content, quality, value-added and other attributes of goods are significantly different, that is the main form of differentiated division. It is approved that common trade corresponding to differentiated division is more vital to economy growth than processing trade corresponding to processing division by Cointegration Test, Granger Cause Test and Time-varying Estimate.

(5) Explore China's carrier of comparative advantage sources in order to achieve balanced growth on the base of analyzing the international financial crisis

and tracing other countries' policies. The international financial crisis is from internal factors behind the profound national long-standing internal structural defects. Western countries have adopted macro-policy and structural reform. Therefore, China has to integrate two divisions of labor and trade patterns actively to utilize the advanced sources.

(6) After theoretical and empirical testification on multilateral resource of comparative advantage, the last part provided infeasible suggestion on changing trade development mode in recent period. Labor-intensified industry will still play an important role in recent trade mode. However, it should employ the concept of effective factor endowment. In other words, labor-intensified industry can be updated by improving factor efficiency, technology and geographic condition. In this way, cost and resistance can be greatly decreased in trade mode updating and economic reforming by stable and continuous policy guidance.

In order to articulate the logic path, this dissertation combined abstract theoretical analysis with empirical testification as well as policy research. In this way, the essay provided comprehensive research on multilateral resource of comparative advantage since reforming and opening-up. The first chapter is the introduction, which introduces the theoretical and empirical significance of the essay and briefly states the whole research. Then is the literature review (chapter 2) and theoretical basis of the research which tell us the start point of this dissertation. Chapter 3 is the core of the essay. In this part, Neo-Ricardian model was developed in logic and mathematical way. It illustrated the mechanism of ATF, factor efficiency, resources stock, economy institution and geographic condition effect on productivity and then systematic comparative advantage. Chapter 4 elaborated the trade and economy condition of China since reforming and opening-up which provided background of empirical analysis. Chapter 5 analyzed performance data of 19 sectors trade flow of China with 30 countries between 2000 and 2006 by panel data analysis and BP nerve network processing so as to testify the function of multilateral resource of comparative advantage in China. Chapter 6 measured roles of two divisions as the carrier of comparative advantage sources on economic growth. Chapter 7 explored internal reasons of international financial crisis, tracked the

world's major countries' policies, discussed the possible direction of China's balanced growth. After theoretical and empirical testification on multilateral resource of comparative advantage, the last part (Chapter 8) provided infeasible suggestion on changing trade development mode in recent period.

The main objective of this dissertation is to improve and perfect contemporary trade flow calculation theory by developing Neo-Ricardian model and increase the practical explanation ability of trade theories so as to guide recent trade flow development. The main contributions of this essay are as follows:

In theory:

(1) The essay divided the differentiated productivity into factor efficiency and ATF. The former is combination of manufacturing condition and factor intensification. The latter is decided by different fixed productivity in different sectors, institution and random productivity within an industry. In this way, the theory model can be stretched into different enterprises in monopoly industries, which bridge the traditional theory with real economy.

(2) The concept of "multilateral resource of comparative advantage" was articulated. Technology, factor endowment, economy institution and geographic condition were combined into comparative advantage analysis framework which overcame the defects of traditional trade theory and provided systematic support of policy suggestion that come from different trade theories.

(3) Providing the concept of "effective factor endowment" which combined the quality and quantity of factors. It conquered the separation between H-O theory and productivity theory. In this way, the feasibility of theoretical model and union of the two basic footstones can be greatly improved.

(4) Pointing out the main problem of comparative advantage sources' carrier in China's balanced growth is that the shoes are not fit the grown feet anymore. Embedded process division and its corresponding form of processing trade is already not suitable for China's economy, because the production model which materialize comparative advantage is postponed China's further growth. China needs urgently active integration of two divisions in post-crisis era in order to activate entrepreneurs, technology professionals, skilled workers, capital, infrastructure

and other production factors and conditions.

(5) The last part provided infeasible suggestion based on multilateral resource of comparative advantage for changing trade development mode in recent period which will improve healthy and stable development of trade and economy .

In technique :

(1) This dissertation introduced hypothesis of productivity and demand , productivity extremism function and dual-level demand function which proved the Neo-Ricardian model in a more mathematical way and developed the frontier of international trade academy.

(2) The essay used performance data of 19 sectors trade flow of China with 30 countries between 2000 and 2006 and provided empirical analysis on trade flow of different industries, In this way , the importance of technology, factor endowment, economy institution and geographic condition effect on trade structure can be precisely articulated.

(3) Introducing BP nerve network tool which has great fitting performance in international trade empirical analysis. It provided more precise quantative analysis for trade flows compared with linear method.

(4) Establishing time-varying parameter model to measure the effect of division of labor and trade patterns which are comparative advantage sources carriers on GDP and GDP per capita by state-space and Kalman filter method.

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