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要素投入、全要素生产率 与中国经济增长的动力

熊俊/著



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摘 要

中国经济在经历了 20 多年的高速增长之后, 能否持续快速增长下去是经济学家和政策制定者们高度关注的重大问题。问题的实质是中国未来经济增长的动力是什么, 这种动力的大小如何, 这正是本书研究的核心问题。本书旨在从要素投入和全要素生产率出发, 建立一个经济增长动力的理论框架, 并以此为基础, 综合运用规范分析与实证分析相结合、定性分析与定量分析相结合、逻辑分析与历史分析相结合等分析方法, 高度重视中国国情及其在双重转型期的特点, 分析中国经济增长的需求制约和供给制约、城市化和加入 WTO 对中国经济增长的作用机理以及政府在中国经济增长中的作用。本书在吸收内生增长理论基本思想的基础上, 将经济增长中投入的生产要素分为物质资本、简单劳动力、人力资本和知识资本, 并对索洛模型进行了扩展, 提出了一个具有广泛适用性的经济增长因素分析模型。该模型所表达的基本思想是: 经济增长的直接动力来自四种要素投入的增长和全要素生产率的增长, 即使对中国这样的不发达经济而言, 知识资本投入的增长不仅是全部生产要素投入增长的一部分, 而且其所对应的自主创新成果的增加也是形成技术进步的重要来源之一。全要素生产率的增长来源于资源配置的改善、规模的节约和知识的进展三个部分, 它与技术进步既存在紧密联系, 也有重大区别, 且四种要素投入之间以及各种要素投入与

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全要素生产率之间存在着相互作用，这也是理解和分析中国经济增长机理的重要基础。在未来相当长的一段时期内，中国经济增长都可能受到需求不足的制约，这种需求不足主要是由收入分配差距过大和社会保障体制不完善等长期性因素导致的，因而具有长期性且对要素投入和全要素生产率的增长会产生阻碍作用。由于要素市场很不完善、政府投入不足以及教育体制和科技体制不完善等原因，中国经济增长也受到要素供给不足的制约。城市化的快速持续推进和加入 WTO 后对外开放的深入发展对缓解经济增长的供给制约和需求制约，进而对要素投入和全要素生产率的增长具有广泛而强大的促进作用，因此，城市化和加入 WTO 是未来中国经济增长的两大引擎。政府应围绕促进要素投入和全要素生产率的增长，充分发挥其在经济增长中的重大作用，为此，政府对自身的职能要准确定位，正确处理政府与市场的关系，通过制订和实施匹配性强的政策法规构建经济增长的动力，要做到这些，政府自身的改革是十分必要的。

全书除导论外，共分六章。导论部分阐述本书研究的背景和意义，国内外相关研究综述，并简要介绍本书的研究方法、基本思路和创新之处。

第一章以理论分析为主。首先，对经济增长、生产要素、全要素生产率 and 经济增长因素等基本概念进行辨析和界定；然后，以要素投入和全要素生产率为视角，对亚当·斯密的经济增长理论、哈多德—多马模型、新古典增长理论、内生增长理论等有代表性的增长理论进行评析；最后，在吸收内生增长理论思想成果的基础上，对索洛模型进行了扩展。在扩展模型的研究中，对索洛模型三个假设条件的作用一一进行了分析，发现这些条件虽然对索洛模型能用于经济增长核算是必要的，但对于揭示和表达经济增长的直接动力的思想而言，并不是必要的，因此，这三个假设条件可放松。另外，将索洛模型中的生产要素由两个增加为四个，即增加了人力资

本和知识资本，并将各种要素定义为存量。然后经过数学推导，得出一个综合性和适用性很强的经济增长因素分析模型。

第二章是关于技术、要素投入与全要素生产率相互关系的一般分析。本章考察和界定了不同意义上的“技术”，并对经济学中的技术进步进行了分类；分析和讨论了全要素生产率与技术的区别和联系，四种要素投入之间的相互影响以及各要素投入对全要素生产率的影响。技术有技术学意义上的技术、投入产出意义上的技术和经济学中的广义技术三个层面，只有投入产出意义上的技术进步率才等同于全要素生产率增长率。各种生产要素之间存在相互影响，且这些要素的投入对全要素生产率也存在重要影响，这些影响是理解和分析经济增长机理的重要基础。

第三章在运用第一章的理论模型和第二章的基本观点的基础上，对我国需求不足的存在性及其主要方面、需求不足对要素投入和全要素生产率的影响、收入分配差距过大与经济增长需求制约的长期性进行以实证分析为主的研究。研究表明，20世纪90年代后期的几年里，中国存在总量性的需求不足，且需求不足的主要方面是消费需求不足；消费需求不足的原因除社会保障制度不完善等因素外，主要是因为现阶段居民收入分配差距过大；由于已经过大的收入分配差距很难在短期内缩小至适度范围内，因此，由消费需求不足主导的需求不足可能存在于很长一段时期内；长时间的需求不足不仅在总体上会阻碍要素投入的增长，而且不利于全要素生产率的提高。

第四章首先探讨了供给不足的三个层面及其相互关系，然后对要素供给不足的存在性及其对要素投入和全要素生产率的影响进行了较全面的分析。供给不足包括产品供给不足、要素供给不足和制度供给不足三个层面，三者之间存在紧密联系，从制约经济增长的角度看，要素供给不足是最直接、最核心的方面，而制度供给不足是最深刻的原因；尽管长期以来，中国的储蓄率之高世界罕见，而

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且政府文件中都强调科教兴国战略的重要性，但除简单劳动力供给充足外，物质资本、人力资本和知识资本都存在供给不足，导致这三种要素供给不足的原因归纳起来主要是体制性的；每种要素的供给不足都会对其他要素投入和全要素生产率的增长产生程度不同的阻碍作用，特别是人力资本供给不足对经济增长会产生既广泛又严重的制约作用。

第五章提出城市化和加入 WTO 是中国经济增长的两大引擎的观点，较详细地论证了中国城市化的滞后性、城市化发展存在的巨大空间、加入 WTO 对进出口和引进外资以及经济体制改革的促进作用，并分析了城市化和加入 WTO 促进要素投入和全要素生产率增长的作用机理。中国的城市化无论是从“量”上还是从“质”上看，都显得滞后，特别是从城市化率看，与世界其他人均收入水平相近的国家比，中国的城市化存在较严重的滞后，而从一般规律看，中国已进入城市化快速推进的发展阶段，因此，只要城市化战略正确，中国将经历城市化快速推进的相当长一段时期；中国加入 WTO 作为一个长期过程，已经而且还将对中国的进出口、引进外资以及体制改革产生重大促进作用；城市化和加入 WTO 对消除或减轻经济增长的需求制约和供给制约，进而对要素投入和全要素生产率的增长产生广泛而强大的推动力。

第六章首先讨论了政府在中经济发展中干预经济的理由和政府职能定位的基本原则、中国经济社会的特殊性和政府职能定位、政府促进经济增长的指导思想和主要着力点，然后根据前面几章的研究结论提出政府促进经济增长的政策措施，最后分析了政府自身改革的必要性。政府干预经济的基本理由是市场机制存在固有的缺陷，而政府干预存在市场所不具备的优势。政府干预经济必须适度的理由是政府也存在“失灵”。从中国的特殊性看，中国政府与一般市场经济国家政府相比，其职能范围应更广，政府更应在中国经济增长中发挥重大的推动作用；政府应在减轻中国经济增长的需求制约

和供给制约，真正构建城市化和加入 WTO 这两大引擎方面采取匹配性强的有效对策；为了充分发挥政府在经济增长中的作用，加快政府自身的改革是十分必要的。

关键词：要素投入 全要素生产率 中国经济增长

Abstract

It is a significant issue highly concerned by economists and policy makers whether China's economy will maintain the growth speed with sustainable rate after its 20 - year rapid growth. The essence of the problem is what kind of motive power is driving China's economic growth and how great this power is, which is the core of this article. The aim of this article, which proceeds from factor input and total factor productivity, is to build a theoretical framework about the motive power of economic growth which also serves as a basis for people to attach importance to the fundamental realities of China and the characteristics at the period of dual transition, and analyze the demand and supply restrictions, urbanization and the roles WTO and government play in China's economic growth, by combining some analytical methods, such as standardized analysis and empirical analysis, qualitative analysis and quantitative analysis, logical analysis and historical analysis. By absorbing the basic theoretical idea of endogenous growth, the article divides the factors of production into four parts as material capital, simple workforce, human resource and intellectual capital which are useful for the progress of economy. And the expansion of Solow model made by the article also results in an analytical model of economic growth with broad applicability. The basic ideas expressed by this model are the direct motive power of e-

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economic growth comes from the increase of these four factors and total factor productivity; so far as China, an undeveloped country, is concerned, the growth of intellectual capital input is not only a part of the growth of all factors input, its corresponding increase of innovation results are also major sources of technological progress. The growth of total factor productivity comes from three parts, that is, improvement of the distribution of resources, scale - saving and progress of knowledge. The interaction within the four factor inputs and between factor inputs and total factor productivity also acts as an important foundation for understanding and analyzing China's economic growth. In a fairly long period of time, China's economic growth may be restricted by insufficient demand that is mainly resulted from some long - term factors such as excessive gap of income distribution and imperfect social security system. As a result, the growth of factor input and total factor productivity will be hindered to a certain degree. Because of the imperfect factor market, the inadequate investment by government, the imperfect educational system and technological system, China's economic growth is yet constrained by insufficient supply of factors. The sustained rapid promotion of urbanization and thorough development of opening since China's admission to WTO act as a strong stimulus to alleviate the restriction of supply and demand in economic growth and accelerate the growth of factor input and total factor productivity. Therefore, urbanization and admission to WTO are two important engines of China's economic growth in the future. In order to give full play to its great functions in economic growth while focusing on promoting the growth of factor input and total factor productivity, the government should orient its own functions accurately, deal with the relations between government and market correctly, form the motive power for economic growth through the formulation and implementation of

strongly matching policies and regulations. In order to achieve all above, it is very necessary for the government to carry on its own reforms.

In addition to the introduction, The full text is divided into six chapters. Introduction describes the background and significance of the study, and an overview of relevant studies both here and abroad, and a brief summary of this research methods, the basic ideas and innovations.

The first chapter is based on theoretical analysis. First, discriminate and define the basic concepts such as economic growth, factors of production, total factor productivity and economic growth factors; Then, in terms of factor inputs and total factor productivity, assessing a representative growth theory such as Adam Smith's economic growth theory, H - D model, neo - classical growth theory, endogenous growth theory; Finally, absorbing ideas on the basis of the outcome of endogenous growth theory, Solow model has expanded. In the research of expansion models, I analysing the three assumptions of Solow model one by one, and found these conditions while has to be used to economic growth accounting is necessary, but revealing the celebration of direct motivation of economic growth motivation, is not necessary, therefore these three assumptions can relax. In addition, the factors of production in Solow model will has increased two to four, namely, increased human capital and intellectual capital, and defined each factor as stock. Then, after mathematical thinking, to produce a strongly comprehensive and applicability of economic growth factor analysis models.

Second chapter is about general analysis of relationships between technical, factor inputs and total factor productivity. This chapter inspected and has limited in the different meanings of "the technology", and has carried on the classification in the economic technology advance-

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ment; Analyzed and discussed the difference and the relation between total factor productivity and the technical, and the mutual influence between four factor inputs as well as the influence of the factor inputs to total factor productivity. The technology has technology study on the technology, the sense of input - output in the technology and the economic generalized technical three stratification planes, only the sense of input - output in the technology advancement rate equate to the growth of total factor productivity. Between each kind of factor production exists mutually affects, also these factor inputs also have the important influence to total factor productivity, these relations are the important foundation to understanding and analysing economy growth mechanism.

In the application of the theoretical model of the first chapter and the basic concepts of the second chapter, the third chapter is based on empirical research about the existence to our country's demand insufficient and its principal aspect, the influence of the demand insufficient to the factor input and total factor productivity, income distribution gap is too wide and constraining economic growth in the demand for long - term. The research indicated that, after 1990s, Chinese existence total quantity demand insufficient, also the demand insufficient principal aspect is the insufficient of consume demand; The reasons for the insufficient of consume demand except such factors as imperfect social security systems mainly because the income distribution gap is too wide; As has been wide gap in income distribution in the short term is difficult to narrow the moderate scope, the insufficient demand because of the insufficient consumer demand may exists in a long time; prolonged insufficient demand will not only hinder the factor input in general, but also is bad for the growth of total factor productivity.

The fourth chapter first to explore the three dimensions of insufficient

supply and their interrelationships, and then analysis more comprehensive about the presence of factors of its inadequate supply and the factor inputs and the growth of total factor productivity. The insufficient supply including inadequate supply of products, factors and systems three levels insufficient supply, and their exist close contact, from constraining economic growth perspective, the most direct and core aspect is the factor insufficient supply, but the system insufficient supply is not the most profound causes; Despite long – standing, the China's high savings rate in the world rare, but the government in the document stressed the importance of the strategy of rejuvenating the country through science, but in addition to simple labor supply adequate, the physical capital, human capital and knowledge capital exist insufficient supply, the reasons for leading to the three factors of the supply shortage can be summarized mainly institutional; Each inadequate supply of factor have varying degrees of obstruction role to the other factor inputs and the growth of total factor productivity, especially inadequate supply of human capital will have a wide – ranging and serious constraints on economic growth.

The fifth chapter gives view of urbanization and joining the WTO are the two engines to make China's economy growth, and a more detailed study of China's urbanization lag and the presence of enormous urbanization development space, join the WTO has functions to promote import and export and to attract foreign investment and economic reform. Both from the “volume” or the “quality”, China's urbanization are all lagging behind, especially from the urbanization level, compared with the rest of world countries with similar levels in per capita income, China's urbanization is a more serious lag, and from the general law of view, China has entered the rapid urbanization of the stage of development and therefore, so long as the urbanization strategy is correct, China will ex-

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perience the quite long time of the rapid urbanization ; China joins WTO to take as a long - term process , already moreover also has important function to promote the China's import and export , and to attract foreign investment as well as the institutional reform ; The urbanization and joins the WTO could eliminate or reduce the demand restriction and the supplies restriction of the economy growth , then has widespread and formidable propelling force to the factor inputs and total factor productivity , therefore , the urbanization and WTO will become the engine of the chinese economy growth.

At the beginning of the sixth chapter , the author discusses points as following : reasons that government intervenes the economy during the course of economic development , the basic principle of orientation of government functions , the particularities of China's economic society and orientation of government functions , guideline and focus of government for economic growth . On the basis of the conclusions drawn from the former chapters , policies and measures for promoting the economic growth has been put forward . At the end of this chapter , the necessities of the reform of government are analyzed . The essential reason for government to intervene economy is that there are many inherent flaws in market mechanism and the government intervention owns the superiorities which surpass the market itself . Because of "malfunctions" existing in market , the government must give moderate intervention to economy . To go by China's particularities , compared with other national governments which practice general market economy , the functions of Chinese government is wider . Thus Chinese government should play a more constructive role in China's economic growth . Also , it will be the duty of Chinese government to take effective matching countermeasures to alleviate the restrictions of supply and demand in China's economic growth and construct ur-

banization in the real sense. It is necessary for government to speed up to practice its own reform so that it will have the abilities to play its parts to the full.

Keywords: factor input TFP China's economic growth

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