

当代经济学系列丛书
Contemporary Economics Series

陈昕 主编

当代经济学文库

现代经济增长中的 结构效应

周振华 著



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主 编 的 话

上世纪 80 年代，为了全面地、系统地反映当代经济学的全貌及其进程，总结与挖掘当代经济学已有的和潜在的成果，展示当代经济学新的发展方向，我们决定出版“当代经济学系列丛书”。

“当代经济学系列丛书”是大型的、高层次的、综合性的经济学术理论丛书。它包括三个子系列：（1）当代经济学文库；（2）当代经济学译库；（3）当代经济学教学参考书系。本丛书在学科领域方面，不仅着眼于各传统经济学科的新成果，更注重经济学前沿学科、边缘学科和综合学科的新成就；在选题的采择上，广泛联系海内外学者，努力开掘学术功力深厚、思想新颖独到、作品水平拔尖的著作。“文库”力求达到中国经济学界当前的最高水平；“译库”翻译当代经济学的名人名著；“教学参考书系”主要出版国内外著名高等院校最新的经济学通用教材。

20 多年过去了，本丛书先后出版了 200 多种著作，在很大程度上推动了中国经济学的现代化和国际标准化。这主要体现在两个方面：一是从研究范围、研究内容、研究方法、分析技术等方面完成了中国经济学从传统向现代的转轨；二是培养了整整一代青年

经济学人，如今他们大都成长为中国第一线的经济学家，活跃在国内外的学术舞台上。

为了进一步推动中国经济学的发展，我们将继续引进翻译出版国际上经济学的最新研究成果，加强中国经济学家与世界各国经济学家之间的交流；同时，我们更鼓励中国经济学家创建自己的理论体系，在自主的理论框架内消化和吸收世界上最优秀的理论成果，并把它放到中国经济改革发展的实践中进行筛选和检验，进而寻找属于中国的又面向未来世界的经济制度和经济理论，使中国经济学真正立足于世界经济学之林。

我们渴望经济学家支持我们的追求；我们和经济学家一起瞻望中国经济学的未来。

顾昕

2014年1月1日

再 版 前 言

临近年末,接上海世纪出版集团格致出版社来电告知,由陈昕主编的“当代经济学文库”拟旧籍新版,让我在 20 世纪 90 年代曾在“当代经济学文库”中出版的两本专著[《现代经济增长中的结构效应》(1991)、《体制变革与经济增长》(1999)]中挑选一本先行再版。说实话,在当今全面深化改革和打造中国经济升级版的背景下,这两本 90 年代旧著所涉及的议题至今仍有重大现实意义。虽难以取舍,但经过短暂思索,我还是选择了先再版此书。

改革开放以来,我国经济持续高速增长,但结构严重偏差和扭曲一直存在,旧的结构问题还没有很好解决,新的结构问题又不断出现、交互影响,形成叠加效应。特别是产业结构,合理化程度低下和高度化不足并存,服务业发展严重滞后,制造业大都处于生产加工的低层环节,结构弹性呈现负效应及低弹性效应(表现为大量产能过剩)。因此,产业结构调整升级以及解决产能过剩问题仍然是当务之急。另外,我国经济已到了转型发展的关键时期,重点在于产业结构调整升级。根据经济收敛理论和国际经验,当一国人均 GDP 与最发达国家人均 GDP 之比上升至 57%左右时,这个国家

的经济增长达到了“技术边界”，即经济增长趋于收敛。2008年我国人均GDP与发达国家(美国)人均GDP之比约为21%(按购买力平价计算)，要上升到57%，在未来相当一个时期内仍有较高经济增长的潜力和余地。但依靠过去那种大规模投资驱动和粗放式增长显然是不可持续的，其增长潜力的挖掘更多在于发挥结构配置效应。

此书虽写于20多年前，但侧重是产业结构的机理分析。这种机理分析以动态结构的非均衡变动为基础，把总量增长描述为一种由结构变动和配置的回波效应促使经济增长不断加速的过程，重点研究的是产业结构变动及调整的资源再配置对经济增长的作用及其机制。这一机理分析的重要论是，在更具专业化和一体化倾向的现代经济增长中，产业部门之间的联系和交易及依赖度不断增大，结构效益上升到重要地位，成为现代经济增长的一个基本支撑点。这种来自结构聚合的巨大经济效益，是推动经济增长的重要因素。因此，这种产业结构的机理分析至今仍有适用性，这对解释我国新时期经济转型升级的深刻内涵及指导实际工作有积极的意义。

从个人而言，选择此书再版，是出于一种偏好。20多年前，此书及另外两本有关产业经济专著[《产业政策的经济理论系统研究》(1991)、《产业结构优化论》(1992)]的出版，将我引入了产业经济领域的学术殿堂。其中，此书的学术影响较大。时隔十多年后，还经常有朋友提及此书。尽管此书也重印过，但在市面上早已成绝版。现在一些青年学者与我谈起此书时，往往为“只闻其名，不见其书”而憾。此书的再版，也许能满足他们的好奇心，当然更可能使他们大失所望。尽管之后我的学术研究中也涉及宏观经济学、新制度经济学、区域经济学、企业微观理论、城市经济学等领域，但产业经济研究始终是“主业”。即便是《体制变革与经济增长》(1999)一书，其实也是进一步研究“结构”背后的体制机制问题。进入新世纪后，根据信息化发展的新变化，我又撰写出版了专著《信息化与产业融合》(2003)，填补了原先产业结构研究中所缺失的空白。凑巧的是，新著《服务经济发展——中国经济大变局之趋势》即将在2014年“马年”出版，而《现代经济增长中的结构效应》则是在1990年“马年”撰写成稿的，正值两轮生肖之循环。在我的本命年，此书再版与新著一起“出笼”，相互照应，亦可热闹一番。

事过境迁，要与时俱进。旧籍新版，通常会作修订，甚至是重大修改。重

新通阅此书,尽管一些观点不免老化与过时,个别地方的学术规范也不够,但总体上感觉还过得去。另外,此书中未能详尽阐述的内容或新变化的内容,在后期的一些著作中也已作了专门论述。鉴于此,还是以保留原貌为好,故不作重新修订。书中的不妥之处,权当留给读者批判好了。在当今知识更新的“光速”年代,据说一本书有五年的生命周期就已不错了。时隔 20 多年,此书再版,哪怕属于“苟延残喘”,若还能有所用的话,也足矣了。

周振华

2013 年 12 月 26 日

ABSTRACT

In today's theoretical circle, the studies on industrial structures are mainly confined with in analysis of the present conditions of the structures and their, changing trends but this book aims at a tentative analysis of the mechanism of industrial structure a field which lies between the above two. It covers the effect on economic growth of the structure's present state and changing tendencies, namely, structural effect on modern economic growth, as well as the mechanisms of its function and realization so as to provide a theoretical basis and guidelines for formulating industrial policy.

The basic argument of this book is that, in the international process of modern economic growth, structural effect is an important variable which determines economic growth. This argument comes from a criticism on traditional economic growth theory, as well as from an analysis of and conclusion drawn from the essence of complicated economic activities. That is the thread along which the book will develop.

Undoubtedly, the structural effect in modern eco-

nomic growth has attracted people's attention. Some noted economists, such as Walt W. Rostow and Hollis Burley Chenery, have done some research and exposition on this aspect. This book, however, displays originality in a systematic study of structural effect and theoretical expounding of its function mechanism, trying to provide a comprehensive theoretical model of the effect.

The theoretic system of this book develops from the abstract to the concrete. First, in the abstract, by taking industrial structure as a "white box", and the intermediate product movement—inter-industrial input-output—as its analysis model, the author tries to make a study of the technical matrix level, scale-deepening and present state and changes of polymerizing quality, together with their impact on economic growth, and to reveal the effect of structural interrelation mechanism for its realization. Then, the final demand and its composition are introduced, the open input-output model is turned into a closed one, and industrial structure is dealt with as a "black box". Taking industrial structure as corresponding to demand structure, from the angle of national product movement, the author observes the degree of the structure's response to demand structural changes (structural elasticity) and its effect on economic growth, trying to reveal the mechanism of structural elasticity effect and its realization. On this basis, the book introduces variables such as resource structure and allocation structure, looking upon the industrial structure as a dynamic system which exchanges energy with the outer circumstances before reviewing the structure's development and its effect on economic growth and revealing structural development effect and mechanism of its realization. Finally, putting the industrial structure in the large context of international divisions, the author makes a study of to what degree and in what form our domestic industrial structure has taken part in international industrial divisions and its effect on economic growth, bringing to light the mechanisms of structural opening effect and its realization.

Effect of Structural Interrelations

Structural interrelations are not only a problem of proportions between the

industries, but also the aggregate of industrial stereoscopic input-output relations. It is an organism composed of three-dimension-vectors: level, scale and quality of industrial input-output.

Technical matrix level, which reflects industrial input-output, is closely related to the rate of economic equilibrium growth. Once the technical matrix level is determined, we can obtain an equilibrium growth rate and the relevant production structure from non-negative matrix's Frobnis and the appropriate vectors of characteristics. With technical matrix level raised, changes will take place in the channels of economic equilibrium development so as to guarantee the accelerated economic growth. On the other hand, the level of industrial interrelations, which consumes a great deal of energy, is unlikely to support the speedy economic growth. A lift in the industrial input-output level is determined not only by correct selection structures but also by adjustment of the interests among the industries.

The enlargement of transaction scale among sectors is shown in the deepening of input-output interrelation level, which is mainly brought about by the increase of purchase between the sectors and the substitutions of manufactured goods for primary products. An analysis of both sum totals and sectors reveals the close relativity between deepening of interrelations and economic growth. Its mechanism of function lies in the fact that the process of qualitative change, during which the social division of labour accelerates self-reproduction, has greatly improved people's ability in receiving and handling outside information and acquiring knowledge and techniques, whereas the economic efficiency is a positive function in the improvement of the ability. Nevertheless, the mechanism which guarantees the establishment of the relationship is based on the fund accumulation for starting economic growth, the adjusting device which is to lift the degree of equilibrium, and the efficiencies of economic feedback and circulation which act as control variables.

The polymerizing quality of structural interrelations means the coupling styles among industries and their overall function. The organic integration of the

three basic styles parallel coupling, series coupling and feedback coupling reveals the proportions between the sectors, i.e. the orders for productive continuation, complexity of pluralism and continuity of circulation. The improvement of the polymerizing quality will promote efficiency in resources utilization and external economic effect so that it will have an impact on economic growth. The target of quality improvement should not be for the short-run balance but for longterm equilibrium. In the process of longterm equilibrium we cannot simply repress the long-run procedures and supplement the short-run ones, but we can implement different policies in accordance with different situations, paying close attention to embodied short-run and long-term equilibriums (That is, the long-run sectors change its original point of structural equilibrium-point by reducing input resources.). Price mechanism plays an important role in the two equilibriums. Meanwhile, in order to strengthen the stability of structural polymerizing quality, we can only seek to keep the relative equilibrium and to realize, in the temporary in balance, continuative dynamic equilibrium.

Structural Elasticity Effect

When supply structure is taken as a function of demand structure, the degree of demand structure's reaction to the changes in supply structure will become an external expression of structural interrelation effect, i.e. structural elasticity effect.

There is a distinction between quantitative and qualitative in the changes of supply structure—the former is the changes in product structure in which the components of latent production ability are supposed to be unchanged; the latter, changes in latent production capacity. Therefore, the response of supply structure to changes in demand structure can be divided into two categories with an essential distinction: quasi-elasticity and elasticity. The value of structural elasticity can be measured in terms of aggregate or individual summary.

When the structural elasticity equals one, the change of industrial structure have the largest positive effect, which is shown in two aspects: one is the maximized utilization of gross product; the other is the maximized efficiency in utili-

zing production capacity. These constitute the internal measurements of structural elasticity effect.

Although structural elasticity means the degree of supply structure's response to changes in demand structure, nevertheless, whether the maximized utilization of gross product and maximized efficiency in utilizing production capacity can be brought about by the response is still dependent upon the changes in both supply and demand. The demand analysis of structural elasticity effect is to observe the different impacts on structural elasticity effect of the structure's regular changes, lagging changes and leading changes on the supposition that the changes of supply structure are conformed with the law. The supply analysis of structural elasticity effect is to study the different impacts on structural elasticity effect of the structure's regular changes, distorted changes and rigid changes, provided that demand structure changes regularly. Finally, taking China as an example, the author tries to make a comprehensive analysis of the structural elasticity effect by reviewing the changes in demand and supply.

Structural Development Effect

Industrial structural development is a change under alternate function in which the industrial structure exchanges energy with outer circumstances, it is the external dynamic reflection of qualitative change in structural interrelations, i.e. the sequential alternation of advantages among the industries. In the process of the structural development, the guiding sector plays a very important role.

As a regular dynamic process, industrial structural development has three essential variables that determine its orderly development: demand structure, relative cost and international trade. The sequence of the countries' stepping into modern economic growth has an important effect on structural development variant.

The process of structural development is a dynamic combination of some sectors with a growth acceleration and others with a deceleration. Therefore, its relationship to national economic growth is always shown as the growth under

the changes of sector structures, which is opposite to the growth under the fixed ratio of sector products. The mechanism of the structural development effect mainly consists of two aspects:

1. Since the original sectors are substituted by the sectors with a higher income elasticity and a higher efficiency growth rate, the latter not only offsets the effect of the decreased growth rate in the original sectors, but also supports a still higher growth rate of the whole economic system. In this sense, structural development serves as the prerequisite of rapid economic growth; and there are internal relations between high structural alteration rate and high economic growth rate.

2. No matter whether new industrial sectors which emerge in the process of structural development are formed and evolved on the basis of existing or new resources, the substitution of new structures for old ones often means more efficient utilization of the resources on a vaster scale so as to promote economic growth.

Now that structural development has the effect of resource redistribution, expediting structural development becomes a strategic task. Yet we cannot promote structural development simply by “pulling the upward shoots” as in the case of farmers who are eager to help the shoots grow. Only under the precondition of innovation can the structural development be quickened on the basis of structural dynamic balance, and the effect of resource redistribution be brought into play. Thus innovation is the fulcrum of the structural development effect; and in the economic activities it should be equipped with the abilities of effusion and polymerization. Furthermore, the author attempts to research into dualistic structural transformation and new structural development in developing countries. The former seeks to solve the problem of traditionally rural laborers’ migration to non-agricultural industries. The basis of the migration is agricultural modernization; the general condition is national economic development; and the core of the problem is to build a good circulation between agriculture & non-agriculture, taking innovation as the turning point. The new structural de-

velopment mainly concerns how the developing countries make use of “the advantage of latecomers” provided by new international technological revolution to realize new structural development, using innovation as a lever, before shortening the gap between developing countries and developed countries.

Structural opening effect

As a universal process, modern economic growth is notable for the tendency of oneness of world economy and, structural opening effect is therefore an important component of structural effect in modern economic growth.

Structural opening means that an integrated industrial system cuts across national lines in the formation of industrial distribution and establishment of relationship all over the world. To every country that has participated in the international industrial divisions, its domestic industrial structure ought to be fragmentary”. The model of international industrial relationship shows that the mutual dependence of one country’s industrial structure on the structure of another country is determined by the trade, together with the structure, between the two countries. Production process of final goods is fully satisfied in the country concerned. So the trade of final goods between the two countries is decided by domestic input matrix. In this way, the industrial structures are indirectly interdependent. Intermediate product trade, exerting inevitable influence on domestic structure, leads to direct interdependence between two countries industrial structures.

Structure opening effect means that industrial structural alterations in another country change one’s own country’s industrial structure through international industrial relationship so as to promote economic growth. In fact, it is the effect produced on internal link, response degree and growth rate of domestic industrial structure by the changes in international industrial relationship, together with its impact on economic growth.

The realization of structural opening effect depends on a series of conditions both at home and abroad. Under the existing international conditions, whether

one country can obtain dynamic effect of economic growth from structural opening or not is determined by the formulation of opening strategic patterns, the selection of industrial targets and the capacity of transformation.

Opening strategic patterns cannot be classified by the degrees of opening but by various levels of opening efficiency which we are pursuing. Neither value-adding opening strategic patterns based on microeconomic efficiency nor the patterns of aggregate adjustment based on macroeconomic efficiency favor long-run domestic economic growth. Only by opening strategic patterns of structural optimization can one obtain a structural opening effect.

The selection of an industrial target in structural optimization opening strategy is not a relatively advantageous industry. Instead, it is a critical industry that can match foreign industries in strength. By supporting the critical industry, the range of participation in international industrial divisions is enlarged on the basis of optimizing domestic industrial structure so that each country's income distribution is developed in favor of its own interests and the effect of international income redistribution is there by strengthened.

The realization of the structural optimization opening strategy is finally determined by domestic ability of transformation. In the meantime, the key to strengthening the transformation ability lies in adapting domestic economic operation mechanism to the level of international competition.

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