


基于产业差异的知识产权 创新激励效应分析

Analysis on the Effects of Intellectual Property Right Policy on Innovation
Based on Heterogeneous Industry Characteristics

文豪 著

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序

经过连续十余年的快速增长，中国的产业结构已不以人们意志为转移地进入了具有质变和突变性质的调整期。西方跨国公司低成本整合中国重要产业的既成事实，某些产业因低水平扩张导致的生产能力严重过剩，中国企业跨国收购和经营屡屡受挫，以及全球金融危机引发的出口导向产业集体困境等现象都表明上述调整已经开始。

文豪博士的专著《基于产业差异的知识产权创新激励效应分析》围绕该调整期要求的产业创新活动，系统研究了产业形态多样化、知识产权多元化和市场格局复杂化之间的关系，试图在中国制造向中国创造演进的过程中探寻优化企业微观机制和政府产业政策的适宜路径。一般而言，产业是生产同类产品和服务的企业总和，由于需求驱动和技术进步，产业内的分类细化和产业间的边界模糊开始呈现出同时并存的格局，生产性服务业异军突起导致的产业定义困境，通讯产业中移动业务与固话业务的战略分野等现象，引发了人们对产业再分类的思考。导致上述分化的基本原因之一就是知识产权的产业存续方式的差异，专利、商标、版权对医药行业、奢侈品行业和计算机软件行业的贡献显然不能相提并论，加之现代企业开始形成的消耗有形资产，借以累积无形资产的运营模式，所以有必要设计并实施充分反映产业特征的企业和政府知识产权战略与政策。作

为发展中大国,我国与发达国家的经济交往越来越频繁,西方企业拥有的具有边际效用递减特征的某些常规知识产权,与我国企业因历史沉淀构建的具有边际效用递增特征的某些非常规无形资产的不等价交换,已经导致了关于“市场换技术”的讨论,这至少表明具有不同市场特征的产业中知识产权规制政策必须考虑中国市场新兴加转轨的特殊性。相信这本专著能在以上三个方面给读者以启示。

2000年,文豪以计算机专业的本科背景考取公司管理方向的硕士研究生,毕业即在国有企业和咨询公司工作,数年后以优异成绩考取产业经济学的博士研究生并留校教书。十年来他专注于企业知识产权与产业优化升级问题的研究,形成了一些有影响力的科研成果。他的成长之路表明,从事学术研究一要心静、二要投入、三要合作。希望文豪博士在其研究的领域持之以恒,不断进步。

汪海粟

2009年夏于武汉

摘要

随着世界经济一体化的发展，知识产权在国际经济往来中的重要性日益增强，对不同国家的创新和经济增长的效应日益受到关注。过去二十多年里，在发达国家的压力下，知识产权保护水平在世界范围有增强的趋势。这一趋势使得发展中国家利用知识产权促进本国创新活动与经济增长面临困境。发达国家将知识产权与财政、金融、贸易与工业政策、对外发展援助相挂钩，使得发展中国家在制定符合自身利益的公共政策中受制于人，承受了巨大的外部压力。

多年来，中国不断修改调整了国内的知识产权政策，加强和完善了知识产权的保护，并提出建设创新型国家的目标，试图改变对外国技术的过度依赖和经济粗放增长的方式。在国家倡导自主创新的政策导向下，国内也出现了对自主创新和知识产权的过度盲从，不仅宏观的知识产权政策上存在过度保护的迹向，而且微观的企业认识和行为上也出现误区。因此，对知识产权的创新效应和机制进行深入研究具有紧迫而重要的实践意义。

目前，关于知识产权对技术创新和经济增长的效应，无论是理论研究，还是知识产权政策实践，通常关注知识产权的整体经济效率，而忽视了知识产权的产业差异效应，以统一的政策对各个产业实施一致的保护。诸多实证研究发现，知识产权不仅对各个产业的技术创新和技术进步的

重要性不同,而且实施无差异的知识产权政策会影响企业行为选择,加大知识产权的负面效应。尤其对于发展中国家,在国内产业发展不平衡、知识产权制度不完善和发达国家不断要求增强知识产权保护的多重压力下,知识产权的负面效应可能更加严重。本书在总结既有的研究成果基础上,构建一个较为系统的技术创新激励模型,对影响知识产权的技术创新效应的产业特征及其作用机制进行了理论分析,并对中国的知识产权实践进行了实证研究。本书的主要内容和研究结论概括如下:

首先,在深入分析产业技术创新过程基础上,根据影响产业技术创新过程的关键因素,从产业视角构建技术创新激励的三维分析框架,即产业技术创新受到知识产权、市场特征和技术特征三个维度的相关因素影响,发现知识产权对不同产业技术创新的激励效应,不仅受知识产权自身的影响,而且与产业的市场特征和技术特征相关。

其次,在一个南北产业技术创新与技术进步分析框架下,研究知识产权的激励效应受到产业技术创新的累积性特征、产业技术复杂度和产业技术差距的影响。本书的分析结论表明,由于不同产业的上述技术特征的差异,技术后发国家应该选择差异性的知识产权保护与产业技术创新策略,以促进各产业的技术进步和向技术领先国产业的技术追赶,并根据不同产业技术进步和发展的阶段性,调整知识产权政策。第一,对那些与发达国家的技术差距较大的产业,而发展中国家又缺少自主创新的投入能力,早期应增强该产业知识产权保护水平,以鼓励发达国家产业技术向本国转移,并随着该产业技术差距的缩小,适当放松知识产权保护水平;如果某一产业与发达国家的技术差距虽然较大,但从发达国家的技术溢出很少,发展中国家应当增强知识产权保护水平,同时加大自主创新的投入,促进自主创新。第二,对那些技术创新的累积性程度较大或者技术复杂程度较小的产业,发展中国家应当采取较宽松的知识产权保护政策,鼓励向技术领先国引进技术和模仿;而对那些技术创新的累积性程度较小或者技术复杂程度较大的产业,发展中国家应当降低知识产权保护水平,同时通过加大自主创新投入,出台其他的鼓励自主创新的配套政策来鼓励本国的自主创新活动。

再次,分别研究产业的需求规模、需求弹性和市场结构等特征对知识产权的技术创新激励效应的影响。研究结论表明,促进产业技术创新和技术进步的最优知识产权政策,应根据产业的市场特征差异进行调整。市场规模越大,企业选择的最优研发投入强度就越大;消费弹性越大,知识产权保护期限越长,企业的最优研发投入水平就越低。在维持产业的一定的研发投入水平情况下,市场规模越大,需要政府提供的知识产权保护期限就越短;消费弹性越大,则需要政府提供的知识产权保护期限也越长。在其他条件给定情况下,政府可以根据产业的市场需求弹性和市场规模选择合理的知识产权保护水平。一个产业的市场规模越大,消费需求弹性越小,为了达到预期的创新激励效果,政府可制定相关政策使该产业的知识产权保护水平保持在较低水平;反之,政府应提供较强的知识产权保护水平。

无论是垄断性市场结构还是竞争性市场结构,都可能促进技术创新,也可能形成技术创新的障碍。市场的垄断性越强,企业的垄断利润越高,越有利于形成较好的创新投资能力,但缺乏足够的创新动力;市场的竞争性越强,企业会有较高的创新倾向,但缺乏必要的创新条件。一个产业中最适合技术创新的均衡市场结构,取决于市场结构的竞争性与垄断性分别对企业技术创新能力和技术创新倾向的影响。因此,只有根据不同产业的特征差异,促进形成适合该产业的垄断与竞争共存态势,才能有效地激励企业进行技术创新。各个产业最优的知识产权政策安排,应该与产业中决定最优市场结构的内生因素进行联动,如市场需求、规模经济、技术特征、开放水平等,同时也需要考虑不同产业市场结构下企业行为对知识产权保护的反应。

最后,对中国的知识产权政策演进与现状进行考察,并运用中国的产业相关数据进行实证的检验。研究发现,由于技术创新能力和技术水平的演进阶段不同,中国的两次重要的知识产权制度变革的效应存在差异。在1990年代初期进行的加强专利保护的制度变革,由于当时的技术水平和创新能力差距,并未起到整体上促进中国技术创新和技术进步的效果;随着中国技术创新能力和水平的提升,本世纪初进行的第二次专利制度变

革,整体上具有明显的促进创新的效应。进一步对 2006 年中国的工业行业进行实证研究发现,各个行业中知识产权与技术创新之间存在较为显著的差异。上述实证分析结果,一定程度上支持了我们的理论分析结论。

全书共分七章论述上述内容。第一章为导论。第二章为文献回顾与评论。第三章是相关理论基础和分析框架的构建。第四章是对影响知识产权创新激励效应的产业技术特征进行的理论分析。第五章是对影响知识产权创新激励效应的产业市场特征进行的理论分析。第六章是对中国的知识产权政策进行的实证研究。第七章是全书的研究总结,同时,根据研究结论对中国的知识产权政策选择提出相关建议。

Abstract

With the development of economic integration in the world, the intellectual property right in international economic contact has become more and more important. Most countries have paid more attention to its effects on innovation and economic growth. In the past 20 years, due to the pressure from the developed countries, the protection level of intellectual property right has increasingly promoted all around the world. This trend brings about troubles to the developing countries when they are using intellectual property to urge their innovation and economic development. The developed countries usually associate intellectual property right with fiscal policy, finance, trade and industry policy, development assistance to abroad, etc. This makes the developing countries trapped when they are drafting the public policies conforming their own benefits and suffer from the tremendous external stress.

For many years, China has continuously adjusted the domestic intellectual property policy, strengthened and improved the protection level. We put forward the target that establishing an innovative nation to change the over dependence of intellectual property right of foreign industrial technology and the extensive mode

of growth. With the policy of independent innovation advocated by the government, there rise an over enthusiastic attitude towards independent innovation and intellectual property right. Not only the over protected system is existing in the macro-policy of intellectual property right, but there is some wrong concept in understanding and action of micro-enterprises. As a result, the further study on effectiveness and system of intellectual property right on innovation is very urgent and important.

Nowadays, with regard to the effectiveness of intellectual property right on technical innovation and economy growth, both the theory study and policy practice would usually paid attention to the whole economic efficiency but neglected the diverse effectiveness. As a result, the same policy is implemented to protect the intellectual property right in various industries. Many researches show that the degree of importance of intellectual property varies according to different industries, consequently, the enterprises, emphasized with the same importance of intellectual property, can easily be impacted when they make decisions, and the negative effectiveness of intellectual property right will be magnified. For the developing countries in particular, the negative effectiveness of intellectual property right can be more serious because of the uneven development of domestic industries, unperfect system of intellectual property and the pressure from the developed countries calling for strengthened protection of intellectual property right. This book, based on the previous research achievements, carries out academic analysis on the industrial features and mechanism which can bear on the effectiveness of intellectual property right on technology innovation by setting up a systemic mode of motivating technology innovation, and conducts empirical research about intellectual property right. The main contents and research conclusions are as follows:

Firstly, according to the key factors impacting the processes of industrial technology innovation, the motivating effectiveness of intellectual property right, based on the further analysis on the processes of industrial technology innovation, may be influenced by intellectual property right itself and the industrial traits of market and technology when it is used in different industries.

Secondly, under the framework of analysis on technology innovation and progress in the south and north regions, the research of the motivating effectiveness of intellectual property right may be impacted by additive effect of industrial technology innovation, complexity of industrial technology and the gap between industrial technologies. The conclusions of analysis indicate that, the industries whose technologies are far lagged behind the ones of the developed countries' and lack the capacity to innovate by themselves with the aid of their own developing countries should be given a more relaxed environment by weakening the strength of protection of intellectual property right to imitate the industrial technologies from developed countries so as to reduce the gap. And for those who have the totally different situation, the level of protecting intellectual property right should be reinforced and more ought to be invested to their own innovation. On the other hand, for the industries, high in additive effect of technology innovation or low in complexity of industrial technology, the developing countries should conduct comparatively relaxed policy to protect intellectual property right and encourage them to bring in new technology from the technologically-advanced countries and imitate them. While for the industries, low in additive effect of technology innovation or high in complexity of industrial technology, the developing countries should, to some extent, weaken the strength of protection of intellectual property right, invest more to their independent innovation and carry out derivative policy to encourage the activities of independent innovation at home.

Thirdly, research on the influence the scale and the flexibility of demand and construction of the market bring about on motivating effectiveness of technology innovation of intellectual property right. The results of the research show the best policy of intellectual property right promoting the innovation and progress of the industrial technology should be adjusted according to the differences in the traits of industries. The bigger the market scale is, the more a firm should invest to its R&D; the bigger the demanding flexibility is, the longer the protection time of the intellectual property right is, the less a firm should invest to its R&D. Keeping certain level of the investment to its R&D, the market need shorter time for the protection from government, when its scale is bigger, and is need longer time of protection, when the demanding flexibility is bigger. In order to realize the set level of the innovation, the government, under certain situation, could protect the intellectual property right at some extent according to the scale and the flexibility of demand in the market. The bigger the scale of a market is, the smaller its demanding flexibility will be. In order to attain the set effectiveness of motivating the innovation, the government can work out relative policy to keep the protection level of intellectual property right lower; on the contrary, the authorities should provide stronger protection.

Whether the monopolistic or the competitive constrction of the market, could both urge the innovation of technology and become a barrier to it. A firm could earn more profits and form a better capacity of investing when it is more monopolistic, however, it will lack the stimulus for its innovation. On the other side, more competitive the market is, the firm will be more likely to innovate, but there is short of innovative conditions. The impact on the capacity and trend of the industrial innovation determined by whether the construction of the market is monopolistic or the competitive can decide the even construction of the market

where the technology innovation can be best developed. As a result, only in the situation where monopoly and competition coexist, can the technology innovation, in according to the differences in different industries, be efficiently motivated. The best arrangement of the policy of the intellectual property right in each industry should be in conformity to inbred factors which determine the best market structure, such as market demand, scale economy, technical traits and opening-up extent. At the same time, the firms' reaction to intellectual property right in different industries ought to be considered too.

Lastly, we review the evolution and existing situation of intellectual property, and verify it with relative data. The results of the research demonstrate that there exists difference in the effectiveness in the course of the two times' intellectual property right system reforms in different stages in the evolution. Because of the gap existing in technology level and innovative capacity, the system reform of strengthening the protection of patent, carried out in early 1990, did not advance the technology innovation and progress in an all-round way. With the promotion of the capacity and level of technology innovation in China, the second reform of the patent system early in this century had evident effectiveness in wholly urging the innovation. The further research on the industries in China shows there is remarkable difference between intellectual property right and technology innovation in various industries. The results of the analysis above, to some extent, gives full support our theoretic conclusions.

This book is divided into 7 parts. The first part is the introduction; the second is the references reviewing and comment; the third is the formation of relative theoretic basis and analysis framework; the fourth is the theoretic analysis on industrial technology characteristics which impact on the motivating effectiveness of the innovation of intellectual property right; the fifth is the theoretic analysis

on industrial market characteristics which impact on the motivating effectiveness of the innovation of intellectual property right; the sixth is the research on the demonstration of the intellectual property right policy and relative suggestions and the seventh is the conclusion and the direction of further research, which is based on the deficiency of our research.

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