

法律经济学博士文丛

史晋川 主编

水权交易制度研究 ——中国的案例分析

THE STUDIES OF THE INSTITUTIONS OF
WATER RIGHTS TRANSACTIONS

—— The Case Studies in China

沈满洪 著



ZHEJIANG UNIVERSITY PRESS

浙江大學出版社

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图书在版编目 (CIP) 数据

水权交易制度研究: 中国的案例分析 / 沈满洪著.
杭州: 浙江大学出版社, 2006.7
(法律经济学博士文丛 / 史晋川主编)
ISBN 7-308-04828-4

I. 水... II. 沈... III. 水资源管理 - 案例 - 分析
- 中国 IV. TV213.4

中国版本图书馆 CIP 数据核字 (2006) 第 081709 号

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丛书策划 袁亚春
责任编辑 朱玲 葛娟
封面设计 刘依群
出版发行 浙江大学出版社
(杭州天目山路 148 号 邮政编码 310028)
(E-mail: zupress@mail.hz.zj.cn)
(网址: <http://www.zjupress.com>)

排版 浙江大学出版社电脑排版中心
印刷 浙江大学印刷厂
开本 787mm×1092mm 1/16
印张 12.5
字数 218 千
版印次 2006 年 7 月第 1 版 2006 年 7 月第 1 次印刷
书号 ISBN 7-308-04828-4/TV·001
定价 25.00 元

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总 序

《法律经济学博士文丛》是由浙江大学经济学院政治经济学和西方经济学专业法律经济学研究方向博士研究生的博士学位论文集成的一套学术丛书。

法律经济学(或“法和经济学”)是一门法学与经济学的交叉学科,自 20 世纪 50 年代以来,在科斯、阿尔钦、卡拉布雷西和波斯纳等人的倡导下,在西方学术界兴起和蓬勃发展。尽管法律经济学自诞生以来就从来不是一场统一的学术运动,但是,大多数学者对于法律经济学的学科定位不外乎认为是以下两个方面:一是强调法律经济学的研究重心是剖析法律对社会经济活动的影响;二是强调法律经济学的研究重心是用经济学的理论和分析工具研究法律问题。

中国大陆的法律经济学引进与研究,可以说是 1978 年改革开放以后的事情。在法学界,北京大学、中国人民大学、吉林大学、复旦大学和西南政法大学的法学院都活跃着一批法律经济学的研究者,其中北京大学法学院的朱苏力教授在介绍和引进法律经济学理论,尤其是大力翻译介绍波斯纳教授的法律经济学文献方面,做出了很大的努力和贡献。在经济学界,中国社会科学院的张曙光教授、盛洪教授和复旦大学的张军教授、山东大学的黄少安教授,在推动法律经济学的研究过程中,也做出了显著的成绩,法律经济学在国内经过二十多年的发展,已经成为一门受到法学界和经济学界愈来愈多关注的学科。

浙江大学经济学院的学者对法律经济学的关注始于 20 世纪 90 年代初期,至今也不过十余年,浙江大学经济学院开设博士研究生的法律经济学相关课程及招收法律经济学研究方向的博士研究生,距今也只不过七至八年的时间。但是,可以欣喜地看到,浙江大学经济学院的从事法律经济学研究的师生经过数年勤奋努力的研究,已经在《经济研究》、《中国社会科学季刊》、《中国社会科学评论》、《经济学季刊》和《管理世界》等学术期刊上发表了数十篇高水平的学术论文,同时初步形成了一支年青的和充满学术活力的法律经济学研究团队,跻身于国内法律经济学研究领域的前列。

勿庸讳言,中国大陆的法律经济学研究不仅与国际学术界的 research 前沿相比较,即使与中国台湾地区的学术研究水平相比较,都仍然存在着差距。法律经济学这门学科在中国大陆的发展,事实上至今存在着两大问题:一是

法律经济学研究的进一步本土化的问题,而且这一问题由于不同的法系——普通法与大陆法——的差异性,给研究者带来了更大的挑战;二是在法律经济学研究中经济学与法学家的学科“磨合”问题,而且这一问题由于中国大陆法学界与国际学术界接轨相对滞后于经济学界(请相信这绝对是一个善意的批评,且笔者认为是基于客观事实的),显得更为突出。当然,尽管在研究中存在着诸多的困难与问题,我们仍旧对法律经济学在中国大陆的发展充满信心。浙江大学经济学院的法律经济学研究团队,希望在今后的研究中有更多的机会向国内外的同行学习和开展学术交流,为推动法律经济学的学科建设贡献一份浙大人微薄的力量。

史晋川

二〇〇六年五月七日于杭州南都德加公寓

摘 要

水资源配置制度创新的核心是水权制度改革,水权制度改革的核心是建立水权交易制度。解决中国水资源供求矛盾是重大的时代课题。随着市场化改革的深入,中国已经出现了一系列可供研究的水权制度创新的典型案例。因此,本书以中国的案例分析为基础研究水权交易制度。

通过黑河流域“均水制”案例论证了中国区域水权的初始分配需要依靠上级政府的力量而无法利用市场机制。上级政府的区域水权的初始分配往往取决于自身的偏好状况并需要强制力予以实施。在初始水权得到明确界定的情况下,水权交易终将出现,并将提高水权配置效益。区域水权制度的安排可能可以利用“自治治理”机制,但取决于区域或流域范围的大小。在小区域或小流域范围内也许既不需要政府也不需要市场,但在大区域或大流域范围之内必须依靠政府主导。

通过东阳、义乌之间的水权交易案例求证得到的结论是,中国水权交易制度的改革与变迁是一种由政府特别是区域政府推动的“中间开花型”模式,也就是说,水权制度创新属于政府推动型的改革模式。之所以如此,是因为政府间水权交易同样是以最小成本获取最大收益的理性选择,产权模糊前提下的水权交易离不开政府推动,需求拉动是政府间区域水权交易的主要动因。

通过全国第一个节水型社会试点——张掖市下属的洪水河灌区与梨园河灌区两个灌区水权制度改革的比较分析揭示:用水户间水权交易要以明晰并且稳定的水权为前提,通过制度设计降低交易成本,实现交易双方互利的效果。从交易的潜在效益判断,水权交易不会停留于农户之间的交易,必然走向产业与产业之间、城市与农村之间。而要突破现行的临时性水权交易,必须延长水权期限,提升水权交易中介机构的层次。

通过上海市闵行区水污染权交易与浙江省嘉兴市秀洲区水污染权有偿出让这两个案例的比较分析,由水污染权交易价格的决定类推到水权交易的价格决定,得到的结论是:在总量控制和水权明晰的情况下,水权价格的决定无需政府干预。即使初始价格为零,即使初始价格偏离了均衡价格,市场机制的作用都能够导致均衡价格的出现。相反,如果政府人为地既控制数量,又控制价格,恰恰会阻止市场机制的有效运作。因此,市场机制在水权价格的决定中同样具有无比的优越性。

通过永嘉县包江案例和苍南县包河案例的比较分析,揭示了人是理性选择的,但人的理性是有限的;由于人的理性是有限的,导致契约的不完全性。不完全契约修订的成败与否取决于其交易成本。如果交易成本低于契约修订所可能获得的收益,不完全契约可能变成可完全契约;如果交易成本高于契约修订所可能获得的收益,不完全契约可能变成不可完全契约。因此,成功的水权交易契约必然是可完全契约,不可完全契约的签订必然导致交易的失败。

本文在基本概念、分析框架和理论观点上均有所创新:

第一,提出并论证了由一级水权交易市场——区域水权的初始分配、二级水权交易市场——区域政府之间的水权交易和三级水权交易市场——用水户之间的水权交易所构成的“中国多层次水权交易制度”框图模型。从一级水权市场到三级水权市场,政府管理成本呈现递减趋势,而市场交易成本呈现递增趋势。因此,一级水权市场的制度创新重在降低政府管理成本,防止政府失灵;二级水权市场的制度创新重在市场机制与政府干预的有机结合,力求扬长避短;三级水权市场的制度创新重在降低市场交易成本,防止市场失灵。在某些情况下,社会机制是市场机制与政府干预的替代性制度安排;在某些情况下,社会机制是防止市场失灵与政府失灵的监督机制。该模型比现有的“统一管理论”、“官督商办论”、“准市场论”、“纯市场论”和“自主治理论”具有更强的解释力。

第二,通过案例分析创建水权方程、水权交易社会净收益函数和水权交易的交易成本函数。水权方程表明:水权总量等于生态水权、生活水权与生产水权之和。该方程有效地解释了不同水权的相互侵占及其水权交易的潜在可能性。水权交易社会净收益等于内部净收益与外部净收益之和。该函数通过内部收益、外部收益、内部成本和外部成本等变量的函数构造,既解释了已有水权交易发生的原因,又揭示了常规情况下水权交易的约束条件,得出了“水权交易是既定约束条件下的优化选择”的结论,并且要求约束条件的“硬化”。水权交易的交易成本是市场范围的大小、交易双方用水边际收益的差额、合约签订的方式、水利技术的水平、监督组织的效果、仲裁组织的效果、社会的治安状况等变量的函数。该函数揭示了水权交易能否开展取决于交易成本的高低,水权制度改革的核心是降低交易成本。

第三,基于科斯定理提炼出了水权定理:如果交易成本足够低廉,那么不管初始水权如何界定,水权主体之间的自愿协商及交易活动必然导致水权配置的最优。反之,如果利用市场的交易成本居高不下,那么,市场以外的制度的介入是必要的,只要保证水权配置的净收益大于零。在此基础上

还提出了初始水权的界定方式取决于水权需求的结论,即:当存在一个来自上级的强制力的情况下,如果水权需求是存在外部性的生态用水需求,那么,往往需要上级政府来裁定并提供保护;如果水权需求是不存在外部性的生活用水和生产用水需求,那么,可能通过市场机制进行协调。当不存在来自上级的强制力的情况下,水权界定方式取决于水资源争夺各方的谈判能力和军事实力。

中国市场化改革的推进必然涉及水资源领域,水资源领域的市场化改革必然涉及水权问题,水权制度的改革需要水权理论的指导。本书有望为中国水权制度的改革和水权交易制度的建立与完善提供理论指导和政策建议。

关键词 水权交易 制度创新 案例分析

Abstract

The core of the innovations about water resources collocation institutions is the reformation of water rights institutions, while establishing the institutions of water rights transactions is the core of the reformation of water rights institutions. Now, the studies of solving the conflict between supply and demand of water resources in China are very exigent. With have gone deeply into the marketization reformation, a series of typically worth investigation cases of the innovations of water rights institutions have appeared in China. Therefore, based on the case studies in China' water rights transactions; this paper studies the water rights transactions institutions.

Based on the analysis of "dispositional system of water" in the Black River valley, this paper demonstrates that the initial collocation of regional water rights depends on the constraint from the upper governments, instead of market mechanisms in China. The initial collocation of regional water rights often lies on the upper governments' preferences, and must be put teeth in. If the initial water rights were defined clearly and definitely, water rights transactions will appear. Then the efficiency of water rights collocation is increased. Maybe the mechanism named "decides by self to administer" can be applied to the arrangements of regional water rights institutions. But it still depends on the area of the region or river valley. Perhaps it does need neither the government restrictions nor market mechanisms in small regions or river valleys, but it must rely on mainly government restrictions in large regions or river valleys.

Based on the analysis of water rights transactions between Dongyang City and Yiwu City, this article proves the conclusion that the reformation and evolution of water rights transactions institutions in China belongs to the pattern named "middle mould blossoming", which is impulsed by the regional government. In other words, the innovations of water rights institutions are subject to the reformation pattern which is impulsed by the regional government. It is because of water rights transactions between governments is similarly an optimal choice according to existing restrictions. Under the blurry

property rights, water rights transactions aren't independence of promotion by the governments. But water rights transactions between two regional governments chiefly are drawn by the demand.

Based on the comparison analysis of the reformation of water rights institutions between Hongshui River Irrigated Area and Liyuan River Irrigated Area in Zhangye City which is the first experimental unit of the frugal driving to save water in China, this paper shows the water rights transactions between two entities who use water are based on the suppose that water rights are distinct and stable. It is needed to reduce the transaction cost by the institution design which makes buyer and seller get better. From a potential revenue of water rights transactions perspective, water rights transactions trend to existing among industries and between the cities and countries, instead of resting among farmers. In order to break through current and temporary water rights transactions, the time of allotting water rights must be lengthened and the agency organizations of water rights transactions must be promoted.

Based on the comparison analysis of between water pollution rights transactions in Minhang District of Shanghai City and the water pollution rights sale with consideration in Xiuzhou District of Jiaxing City Zhejiang Province, this paper proves the conclusion that under control of the gross sum and distinct water rights, the price of water rights transactions can be analogized by the price of water pollution rights transactions, instead of the government's intervention. Even initial price is zero, even initial price deviates from the equilibrium price. Market mechanisms can lead to the emergence of equilibrium price. On the contrary, the government restrictions against both number and price of pollution rights prevent market mechanisms from operating efficiently. Therefore market mechanisms possess similarly the incomparable superiority in the form of water rights price.

Based on the comparison analysis of river contraction cases between Yongjia County and Cangnan County this book announces that selection of people is rationality, but the rational of people is limited. The limited rational of people leads to incomplete contract. Whether succeed or fail for revision of incomplete contract dependes on its transaction cost. The incomplete contract may change into complete contract if the transaction cost is lower than the

income that probably gains by contract revision. The contract may change into complete contract if the transaction cost is higher than the income that probably gains by contract revision. Therefore successful contract of water rights transaction is a complete contract, to sign an incomplete contract of transaction certainly leads to defeat.

The great academic innovations of this paper are:

First, the hypothesis of "multiple-level transactions institutions of water rights in China" has been put forward and proved, which is composed of the first market of water rights transactions which is the initial collocation of regional water rights, the second market of water rights transactions which is water rights transactions between regional governments and the third market of water rights transactions which is water rights transactions between entities who use water. From the first market to the third market of water rights, the cost of government restrictions appears the degressive trend and the transaction cost in markets increases by degrees. Therefore, the institution innovations in the first water rights market place emphasis upon reducing the cost of government restrictions and preventing government failure. The institution innovations in the second water rights market put emphasis upon integrating market mechanisms with government restrictions efficiently and making the best of bring into play their advantages and avoiding their limitations. The institution innovations in the third water rights market emphasize to reduce the transaction cost in markets and prevent market failure. In some circumstances, the society mechanisms substitute for market mechanisms and government restrictions, while in the other circumstances society mechanisms act as surveillance mechanisms, which avoid market failure and government failure. This model possesses the stronger capacity of explanation than existing models, such as "the unified management by", "firm management under officer control by", "definitely market by", "the pure market by" and "dependently administers by".

Second, based on the case studies, this paper constructs the Water Rights Equation, the Social Net Revenue Function and the Transaction Cost Function in water rights transactions. Water Rights Equation indicates that the gross sum of water rights is equaled to the summation of water rights for the ecology, water rights for life and water rights for production. This equation

can triumphantly explain the possibilities of mutual invading and occupying of different water rights and the potential possibilities of water rights transactions. The social net revenue in water rights transactions is equaled to the sum of external net revenue and internal net revenue. By constructing the function including some variables such as internal revenue, external revenue, internal cost and external cost etc, this paper not only explain the cause of producing water rights transactions but also open out the constraint conditions of water rights transactions in the general circumstances. As a result, the conclusion is that "Water rights transactions is the optimal choice according to existing restrictions", and its constraint conditions must be "rigidity". The transaction cost of water rights transactions is the function of market scale, bargainers' water marginal revenue, methods of concluding contracts, technique level of protecting water resources, effects of supervisory authorities, effects of arbitral authorities, conditions of public orders etc. This function demonstrates that water rights transactions depends on the transaction cost, and reducing the transaction cost is the core of reformation of water rights institutions.

Third, water rights theorem has been extracted based on Coase Theorem: if the transaction cost is small enough, the voluntary negotiation and the transaction activity between owners of water rights consequentially must lead to water rights collocations of optimization, no matter how are the initial water rights distributed. Contrarily, if the transaction cost of utilizing markets is every high, it is necessary that other institutions beyond the market mechanism intervene, as long as the net revenue of water rights collocations exceeds certainly zero. Found on foregoing analysis, this paper educes the conclusion that the way of defining initial water rights depends on the demand of water rights. Namely, under the circumstances of existing constraints from the upper governments, if water is used to protecting the environment with externality, the initial water rights often needs judgments and protections from the upper governments, otherwise market mechanisms are effective. Without existing constraints from the upper governments, the way of defining water rights rests with negotiation abilities and military power of each side that disputes water resources.

Along with pushing into the reformation of marketization in China, the

reformation of marketization in the domain of water resources is inevitable. It involves in water rights problems, while the reformation of water rights institutions needs the guidance of water rights theories. This paper can provide the theoretic guidance and policy suggestions for the reformation of water rights institutions and the establishment and perfection of the institutions of water rights transactions in China.

Key words: Water Rights Transaction, Institutional Innovation, Case Studies

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