

G U

ONGPING PIANHAOXIA
DE BAOCHOU QIYUE
SHEJI JI YINGYONG YANJI

公平偏好下的 报酬契约设计及应用研究

魏光兴 蒲勇健 著



四川大学出版社

G U

ONGPING PIANHAOXIA
DE BAOSHOU QIYUL
SHILIJYINGYONG YANJI

公平偏好下的 报酬契约设计及应用研究

魏光兴 蒲勇健 著



四川大学出版社

责任编辑:高庆梅
责任校对:何 静
封面设计:翼虎书装
责任印制:李 平

图书在版编目(CIP)数据

公平偏好下的报酬契约设计及应用研究 / 魏光兴, 蒲勇健著. —成都: 四川大学出版社, 2007.12
ISBN 978-7-5614-3914-2

I. 公… II. ①魏…②蒲… III. 劳动报酬-研究 IV. F244

中国版本图书馆 CIP 数据核字 (2007) 第 197643 号

书名 公平偏好下的报酬契约设计及应用研究

著 者 魏光兴 蒲勇健
出 版 四川大学出版社
地 址 成都市一环路南一段 24 号 (610065)
发 行 四川大学出版社
书 号 ISBN 978-7-5614-3914-2/F·531
印 刷 成都蜀通印务有限责任公司
成品尺寸 140 mm×202 mm
印 张 7.5
字 数 187 千字
版 次 2007 年 12 月第 1 版
印 次 2007 年 12 月第 1 次印刷
定 价 20.00 元

◆读者邮购本书, 请与本社发行科
联系。电话: 85408408/85401670/
85408023 邮政编码: 610065
◆本社图书如有印装质量问题, 请
寄回出版社调换。

版权所有◆侵权必究

◆网址: www.scupress.com.cn

摘 要

作为研究非对称信息下激励机制的主要理论工具，博弈论和契约理论在报酬契约设计尤其是针对企业经营者的报酬契约设计方面已经得到了广泛应用和长足发展，对促进企业改革与经济发展都发挥了重要作用。

然而，近年来，契约理论在设计报酬契约时遇到了以下三个方面的新问题：其一，契约计量经济学对报酬契约的实证检验研究发现，契约理论在很多重要领域并没有很好地解释经济现象，也没有很好地预测经济行为；其二，契约理论以传统纯粹自利偏好为假设前提，而最后通牒博弈实验等一系列博弈实验反复证明人们还具有公平偏好，这说明契约理论的假设前提是不准确的；其三，组织行为学的理论分析和实证研究都认为公平问题是影响人员激励的一个重要因素，而契约理论在设计报酬契约时却忽略了公平因素。正是因为契约理论忽略了公平偏好，其设计的报酬契约才与实践不一致。所以，应该把客观存在的公平偏好引入标准的报酬契约设计框架，设计基于公平偏好的最优报酬契约，以提高契约理论的实践指导能力。本书正是进行这方面的理论研究。

首先，作为深入理论分析的前提，本书归纳总结了公平偏好的经济学研究。

内容包括显示公平偏好的博弈实验、描述公平偏好的理论模型以及检验理论模型的博弈实验三个方面。综合比较假设的真实

性、模型的可操作性以及对博弈实验结果的解释能力和预测能力等几个方面，FS模型是现在广泛被接受和应用的理论模型。本书的理论分析也是在FS模型基础之上展开的。

其次，作为完善和扩展契约理论的基础研究之一，本书研究了引入公平偏好之后的单代理问题报酬契约设计。

理论研究发现，公平偏好下对单代理人的最优报酬契约是线性的，而且其斜率随着公平偏好的增强而增大，但是不会超过0.5。这就解释了为什么现实中的报酬契约大多数是线性结构的。在公平偏好下，只要达到能够影响委托代理双方收益分配的公平程度，那些即使没有反映代理人努力信息的因素也可能会进入最优报酬契约，此时的报酬契约就是“超完全的”；只要出现可能限制或阻止委托代理双方表达自己行为动机的机会，那些即使反映了代理人努力信息的因素也可能不会进入最优报酬契约，此时的报酬契约就是“不完全的”。这就解释了为什么现实中的某些报酬契约是“超完全的”或“不完全的”。

再次，作为完善和扩展契约理论的基础研究之二，本书研究了引入公平偏好之后的多代理问题报酬契约设计。

理论分析表明，公平偏好下对多代理人的最优报酬契约是同时基于个人产出和联合产出的联合契约，而不是仅基于个人产出的独立契约。因此，契约理论的充分统计量原则不再成立。在风险中性情形下，联合契约具有极端团队业绩评价契约、极端相对业绩评价契约和中间联合业绩评价契约三种形式，且随着公平偏好强弱和生产过程随机程度的变化而不同；并且，公平偏好会提高激励效率，因为更高的报酬和更公平的报酬都能够提供激励。而在风险厌恶情形下，联合契约具有团队相对契约和团队平均契约两种形式，在公平偏好较弱时是团队相对契约，在公平偏好较强甚至极强时是团队平均契约；而且，公平偏好会导致激励效率损失，因为不但要补偿非对称信息引起的信息风险溢价，而且要

补偿公平偏好与非对称信息共同引起的公平偏好溢价。一般地，公平偏好既是一项激励约束，也是一种激励措施，恰当调整报酬分配的公平程度可以提高激励效率，而“太公平”和“太不公平”的报酬支付（分配）都会导致激励效率损失。

最后，作为对公平偏好下多代理问题最优报酬契约研究的应用，本书研究了锦标竞赛和团队合作两种特殊多代理问题的激励机制。

一方面，公平偏好会降低锦标竞赛制度的激励效率并提高其业绩评价精度，而好胜心理会提高代理人的努力水平以及委托人的期望利润。因此，不应该在公平偏好较强的代理人之间展开锦标竞赛，而应该在好胜的代理人之间展开锦标竞赛。这一研究结论能够解释现实中垂直晋升和交叉晋升两种制度广泛共存的现象。

另一方面，足够大的同事压力和预期有相当多的同事会合作的行为规范，是实现团队合作的两个共同前提条件。其中，内部同事压力直接来源于公平偏好，而外部同事压力由同事惩罚通过公平偏好形成。只有在公平偏好非常强时，内部同事压力才有可能实现团队合作。而在惩罚成本不太高而且公平偏好不太弱时，外部同事压力就有可能实现团队合作。但是，无论是内部同事压力还是外部同事压力，只有在预期有相当多的同事会合作的行为规范中，才能实施团队合作。这能够解释培养团队精神的两条途径：一是培养和增强公平偏好，使之面临较大的同事压力；二是提高对同事会合作可能性的预期信念，使之相信有相当多的同事会合作。

本书的研究扩展了契约理论的假设条件，在以下几个方面具有创新：

在理论上，本研究把公平偏好纳入标准博弈分析和报酬契约设计框架，在更合理的假设条件下分别研究设计了单代理问题和

多代理问题的最优报酬契约，并分析了公平偏好下的锦标竞赛和团队合作激励机制。这种方法必将修正和扩展经典契约理论的研究结论，有利于丰富和推动行为契约理论发展，形成行为契约理论的理论体系。本研究还融合了组织行为学和契约理论不同学科的不同研究假设和不同研究范式。这种融合将会推动人事经济学等相关学科的发展，同时促进采用博弈论和契约理论的经济学方法去研究更一般的组织行为问题。

在实践中，本研究基于公平偏好的理论分析结论能够解释一些经典契约理论所不能解释甚至与经典契约理论相矛盾的经济现象，包括报酬契约的线性结构和低激励强度性质、“不完全性”和“超完全性”特性、企业向低层雇员提供股票期权以及垂直晋升和交叉晋升两种制度广泛共存等。这就提高了契约理论的经济现象解释能力和经济行为预测能力，能够为经济转轨进程中的企业改革与经济发展提供科学理论指导，也能够为当前和谐社会建设提供微观激励机制。

此外，本研究还可能会开启一些新的研究领域和方法。比如，综合应用性格测评等心理学方法与设计针对逆向选择问题的激励机制的经济学方法去识别和评价代理人的公平偏好强弱。再如，进一步融合组织行为学与契约理论的研究假设和研究范式，将程序公平、人际公平和信息公平等融入强调行为动机公平的公平偏好，用博弈论和契约理论的经济学方法研究更多的组织行为等。

关键词：公平偏好 报酬契约 激励效率 契约设计 行为契约理论

ABSTRACT

As the theoretic tools of researching the incentive mechanism under condition of asymmetric information, game theory and contract theory have been widely and deeply applied to design payment contract, especially that for enterprise operator, which accelerate the reform and development of enterprise and economy.

However, in recent years there emerge three new problems as follows. First, the positive test of contract econometrics finds that contract theory did not explain economic phenomena well and did not forecast economic behaviors either in many important fields. Second, Ultimatum Game experiment and other game experiments have proved that there is fairness preference, which is inconsistent with the self-interest hypothesis of contract theory. Third, the theoretic analysis and positive study in the science of organizational behavior figure out that fairness and justice is one of the most important factors influencing personnel incentives. It is because contract theory ignores fairness preference that the payment contract designed by classical contract theory can't explain practice very well. Therefore, it is necessary to introduce fairness preference into the standard frame of contract design in order to enhance the power to direct

practice. This paper will try to do the related theoretic research.

Firstly, as the base of theoretic analysis, this paper reviews and sums up the research on fairness preference in economics.

The related literatures can be classified into three fields, which include the game experiments revealing fairness preference, the theoretic models describing fairness preference and the game experiments testing the theoretic models. The FS model is accepted and applied widely because it trades off authenticity of hypothesis and tractability of model very well, and it can explain and predict the results of all game experiments. Hence, this paper is based on FS model too.

Secondly, as the expansion of contract theory, this paper investigates the payment contract for a single agent based on fairness preference.

Theoretical research indicates that the optimal payment contract for a single agent under fairness preference must be linear, the slope of which increases with fairness preference within the upper limit of 0.5. This is the reasons why most real payment contracts are linear, which contract theory hasn't explain well. Under fairness preference, any variables that can affect the allocation of payment between principal and agent, although they may do not inflect any information of agent's effort, should be designed in the optimal contract, which is over determinate. And any variables that may restrict or even prevent the chances of principal and agent to signal their behavioral motivations, although they may actually inflect information of agent's effort, should not be designed in the optimal contract, which is incomplete. This is the reason why some real payment

contracts are over determinate or incomplete.

Thirdly, as another expansion of contract theory, this paper investigates the payment contract for multiple agents under fairness preference.

Theoretical analysis shows that the optimal payment contract for multiple agents under fairness preference must be the joint contract that is based on both the individual output and the joint output, instead of the independent contract that is based only on the individual output, by which the Sufficient Statistical Result of contract theory does not work any more. With the hypothesis of risk neutral, the joint contract may be the contract of extreme team performance evaluation, the contract of extreme relative performance evaluation and the middle contract of joint performance evaluation. And the fairness preference will enhance incentive efficiency because both the more payment and the fairer payment can provide incentives. While with the hypothesis of risk aversion, the joint contract may be the team contract of relativism that is optimal under weaker fairness preference, and the team contract of egalitarian that is optimal under stronger or even very strong fairness preference. And the fairness preference will result in incentive efficiency losses because the principal has to compensate not only the risk premium of information stemming from asymmetric information, but also the risk premium of fairness stemming from both fairness preference and asymmetric information. Generally, the fairness preference is both an incentive constraint and an incentive instrument, and so to adjust the allocation of payment according to the strength of the fairness preference right can improve the incentive efficiency,

while too fair or too unfair allocation, both will lead to incentive efficiency losses.

Lastly, as the application of the optimal payment contract for multiple agents, under fairness preference, this paper researches the incentive mechanisms for rank order tournament and team production.

On one hand, the fairness preference will reduce the incentive efficiency of rank order contest and improve the precision of performance evaluation, while the preference of status seeking can increase the efforts of agents and the expected profits of principal. So, rank order contest should not be applied to agents with fairness preference but to those of status seeking. This conclusion can explain why the vertical promotion coexists with lateral promotion in reality widely.

On the other hand, strong enough peer pressures and behavioral norm by which each anticipates that many enough peers will cooperate are the two requirements to realize team cooperation. The internal pressures stem from the fairness preference, while the external pressures result from peer sanction only via fairness preference. Only when the fairness preference is very strong, can the internal pressures realize team cooperation. And the external pressures can realize team cooperation when the sanction cost is not too high and the fairness preference is not too weak. But only with the behavioral norm by which each anticipates that many enough peers will cooperate, can implement uniquely team cooperation both the internal and the external peer pressures. Then, there should be two ways to cultivate team spirit. One way is to foster fairness

preference, which can bring up strong peer pressures. The other way is to improve the beliefs on the possibility of cooperation, which means that quite a few peers like to cooperate with others.

All the above researches expand the hypothesis of classical contract theory, which has made important progress as follows.

Theoretically, this paper designs the optimal payment contract in the case of a single agent and the case of multiple agents respectively, and the incentive mechanisms for rank order tournament and team cooperation, based on the more rational hypothesis of fairness preference, by introducing the fairness preference into the standard frame of game analysis and principal-agent theory. It will modify and expand the research conclusions of classical contract theory, and hence can enrich and promote the development of behavioral contract theory to form its own theoretic system. Furthermore, it integrates the different hypothesis and different paradigm of organizational behaviors and contract theory, which will accelerate the development of personnel economics and facilitate the study of more general organizational behaviors by the economic methodology of game theory and contract theory.

Practically, the research conclusions based on the fairness preference can explain some economic phenomena that classical contract theory can't explain or even contradicts with the prediction of classical contract theory, including linearity and low incentive intensity of payment contract, incompleteness and over-determinateness of payment contract, offering stock option to lower employees and coexisting of vertical promotion and lateral promotion, etc, which can offer scientific instructions for

enterprises' reform and economic development in the transitional economy and micro incentive mechanism for building harmonious society.

Moreover, this paper will possibly turn on some new research methods and fields. For example, the future works can try to synthesize the research methods of psychology such as personality evaluation, and methods of economics such as designing incentive mechanism for adverse selection, to evaluate and screen the strength of fairness preference, and try to synthesize further the different hypothesis and different paradigm of organizational behaviors and contract theory by integrating procedural justice, interpersonal justice and informational justice into reciprocity, by which more general organizational behavior can be studied by the economic methodology of game theory and contract theory.

Keywords: Fairness Preference Payment Contract Incentive Efficiency; Contract Design Behavioral Contract Theory

目 录

中文摘要	(1)
英文摘要	(5)
第1章 引 论	(1)
1.1 研究背景	(1)
1.1.1 契约计量经济学：契约理论与实践并不完全一致	(2)
1.1.2 博弈实验：自利偏好之外客观存在公平偏好	(4)
1.1.3 组织行为学及其实证研究：公平是影响人员激励的重要因素	(7)
1.2 问题的提出及研究界定	(9)
1.3 研究意义	(12)
1.3.1 理论意义	(13)
1.3.2 现实意义	(14)
1.4 研究内容及结构安排	(15)
1.4.1 主要研究内容	(15)
1.4.2 技术路线结构	(17)
1.5 研究方法与创新之处	(19)
1.5.1 采取的研究方法	(19)
1.5.2 研究的创新之处	(20)

第 2 章 公平偏好的理论基础	(23)
2.1 显示公平偏好的博弈实验	(23)
2.1.1 最后通牒博弈实验	(24)
2.1.2 礼物交换博弈实验	(25)
2.1.3 信任博弈实验	(27)
2.1.4 独裁博弈实验	(28)
2.1.5 公共品博弈实验	(29)
2.2 描述公平偏好的理论模型	(31)
2.2.1 基于收益公平的模型	(31)
2.2.2 基于动机公平的模型	(35)
2.2.3 同时基于收益公平和动机公平的综合模型	(38)
2.2.4 总结	(39)
2.3 对理论模型的博弈实验的再检验	(40)
2.3.1 如何判断收益分配是否公平	(41)
2.3.2 是追求公平还是效率	(42)
2.3.3 是追求公平还是报复	(44)
2.4 简要评述	(46)
2.5 本章小结	(49)
第 3 章 公平偏好下的单代理问题报酬契约设计	(51)
3.1 引言	(51)
3.2 比较基准: 纯粹自利偏好下的最优报酬契约	(54)
3.2.1 基本假设与模型	(54)
3.2.2 一级最优报酬契约	(55)
3.2.3 二级最优报酬契约	(56)
3.3 公平偏好下的最优报酬契约	(58)
3.3.1 基本假设与模型	(58)
3.3.2 一级最优报酬契约	(60)
3.3.3 二级最优报酬契约	(64)

3.3.4 扩展：委托人也具有公平偏好	(78)
3.4 对若干经济现象的理论解释	(81)
3.4.1 报酬契约的“超完全性”	(81)
3.4.2 报酬契约的“不完全性”	(84)
3.4.3 企业向低层雇员提供股票期权	(87)
3.5 本章小结	(89)
第4章 公平偏好下的多代理问题报酬契约设计	(91)
4.1 引言	(91)
4.2 基本假设	(93)
4.3 风险中性情形	(95)
4.3.1 模型建立	(95)
4.3.2 模型求解	(97)
4.3.3 最优报酬契约	(100)
4.3.4 激励效率分析	(105)
4.3.5 结论	(108)
4.4 风险厌恶情形	(108)
4.4.1 改进 FS 模型	(108)
4.4.2 模型建立	(110)
4.4.3 模型求解	(113)
4.4.4 最优报酬契约	(117)
4.4.5 激励效率分析	(121)
4.4.6 一个数值例子	(128)
4.4.7 案例研究：重庆××大学的教师薪酬制度改革	(134)
4.4.8 结论	(140)
4.5 本章小结	(140)
第5章 公平偏好下的锦标竞赛制度	(142)
5.1 引言	(142)

5.2	基本假设与模型	(143)
5.3	公平偏好对锦标竞赛制度激励效率的影响	(145)
5.3.1	参与效应	(145)
5.3.2	激励效应	(147)
5.3.3	代理效应	(149)
5.3.4	收益效应	(153)
5.3.5	一个数值例子	(154)
5.3.6	对垂直晋升与交叉晋升两种制度广泛并存的解释	(156)
5.4	公平偏好对锦标竞赛制度业绩评价精度的影响 ...	(159)
5.4.1	理论模型	(159)
5.4.2	案例研究：某研究中心期刊级别认定的演变过程	(162)
5.5	扩展讨论：好胜心理对锦标竞赛制度的影响	(163)
5.6	本章小结	(166)
第6章	公平偏好下的同事压力及团队合作机制	(168)
6.1	引言	(168)
6.2	团队生产中的搭便车问题	(171)
6.3	内部同事压力与团队合作	(173)
6.3.1	基本假设	(173)
6.3.2	内部同事压力的形成机制	(174)
6.3.3	内部同事压力对团队合作的促进作用	(176)
6.4	外部同事压力与团队合作	(178)
6.4.1	基本假设	(178)
6.4.2	外部同事压力的形成机制	(179)
6.4.3	外部同事压力对团队合作的促进作用	(184)
6.5	行为规范及其对团队合作的促进作用	(187)
6.5.1	行为规范的含义	(187)