

2006—**中国保险市场论丛**

中央财经大学中国保险市场研究中心 编著

中国商业出版社

图书在版编目(CIP)数据

2006 中国保险市场论丛/中央财经大学中国保险市场
研究中心编著. —北京:中国商业出版社,2007.5

ISBN 978-7-5044-5923-7

I. 2… II. 中… III. 保险业—中国—文集 IV. F842-53

中国版本图书馆 CIP 数据核字(2007)第 070476 号

责任编辑:刘洪涛

中国商业出版社出版发行

(北京广安门内报国寺1号 邮编:100053)

北京科丰华文化发展有限公司激光照排

北京市南召印刷厂印刷

*

787×1092 毫米 1/16 27.25 印张 580 千字

2007年6月第1版 2006年7月第1次印刷

定价:68.00 元

* * * *

(如有印装质量问题可更换)

2006—让我们自豪和骄傲

2006年对于中央财经大学保险及相关专业的师生们是一个值得深藏在记忆中的年份。

这一年是中国第一个保险系建立20周年,也是保险系撤系建院之年。我们的保险专业一路走来,形成了今天拥有风险管理与保险系、精算与财务管理系、社会保险系、中国精算研究院、中国保险市场研究和中国社会保障研究中心的教学科研群。

这一年是中国第一个保险专业最值得骄傲和自豪的年份,我们的师生在国际和国内学术活动中大放异彩。二月,澳大利亚与新西兰保险与金融学会(ANZIIF)批准我校保险专业的本科毕业生可以免试申请成为该学会会员,获得研究生学位的学生可以免试申请成为该学会的高级会员。六月,我们承办第三届京津保险论坛在学校隆重举行,吴定富主席发表了《中国保险青年的历史使命》的专题演讲。七月,13名师生应邀前往日本东京参加第十届亚洲及太平洋地区风险管理与保险年会并发表专题演讲。九月,中国教育电视台CETV-1国视导航栏目——“新专业新梦想”播出长达15分钟的介绍中央财经大学保险专业的专题节目。十月,以学生为主体组建的保险研究会入选全国高校优秀学生学术社团。十一月,第三届“中国平安青年保险学术论文奖”揭晓,保险学院选送的论文在全部37个获奖名额中赢得8个奖项,居全国高校参赛单位之首。

这一年,师生们的科学研究工作在质量上有很大突破,在《人民日报》理论版、《保险研究》和海外的专业刊物上,我们的观点引起业界关注。许多师生频频在各种媒体出现,他们用自己的知识和智慧为推动中国保险事业的进步奉献着光和热,在这部记载着师生2006年公开发表的论文和文章中,可以看到我们的团队铿锵前行的脚印。同时,我们始终感激李继熊教授、陈继儒教授、张拴林教授和冯寒松老师在20年前为保险系做出的奠基贡献。

在这部文集编排结束的时候,9篇由师生撰写的论文入选2007北京大学CCISSR论坛,此次论坛36篇入选论文来自18个院校,我们入选论文的数量仍然位居榜首。同时,还有4位老师和7位学生的论文入选即将举行的第11届亚洲及太平洋地区风险管理与保险年会。可以预料,延续从2003年开始的师生暑假国际学术活动已经成为传统,来自中央财经大学保险学院师生的演讲仍将持续吸引国际保险业界关注的目光。

谨以此文作为《2006中国保险市场论从》的序言。

郝滨苏

2007年4月

目 录

第一篇 保险理论与实践	(1)
中国保险市场 2006 运行回顾	郝滨苏(2)
中国保险业市场约束力实证研究	刘兵/叶亮(6)
我国保险企业总法律顾问制度应用	熊志刚(14)
基于保险企业的杜邦财务分析体系	熊志刚(18)
投资规模、消费总量与保险购买	杨再贵(22)
未来中国保险业并购动因分析	陈超军(31)
建立符合我国国情的保险反洗钱制度	邱琪(35)
浅议商业保险在和谐社会建设中的作用	李琴芬(40)
当前中国保险市场问题分析及国际比较	王梅(44)
混业经营的制度安排	程溢(49)
保险人针对未如实告知的救济权利的法律分析	管贻升(52)
论保险合同中保险人的如实告知义务	张妮(58)
关于重复保险制度的理论探讨	胡海滨(63)
《保险法》第 56 条所存隐忧及其消除	杨再贵(67)
保单贷款相关问题初探	王玉玫(70)
澳大利亚指定精算师在保险法中的定位	管贻升(75)
第二篇 人身保险理论与实务	(78)
The Focus of Life, Risk Protection or Investment—Evidence from the Empirical Study on the Demand of the Life Insurance in China Emerging Markets	Zheng Yu(79)
借鉴美国经验 发展我国万能寿险	郭丽军/程溢(100)
英国投连险产品的发展及对我国的启示	郭丽军/程溢(103)
投连险在理性中迎接春天	张薇(107)
投连险与开放式基金的博弈	程溢(109)
银行保险产品如何创新	章俐(111)
第三篇 财产保险理论与实务	(114)
The Choice of Chinese Non—life Insurance Industry between Scale And Efficiency; Empirical Research on the Efficiency of Chinese Non—life Insurance Companies Under Globalization Of Insurance Market	Zhang hui/Ma Li miao(115)
我国财产保险公司应收保费的风险及其控制	张妮(139)
财险公司经营绩效的灰色关联分析模式	熊志刚(144)
油污损害赔偿责任的立法体系及我国的战略选择	郭丽军(151)

析船舶保险中的默示保证	郭丽军(159)
美国 A. R. T. 市场的产生及发展启示	薛梅(163)
风险证券化的国际实践和我国的发展选择	郭丽军(169)
发挥责任保险的社会管理功能 促进构建社会主义和谐社会	胡海滨(174)
机动车交通事故责任强制保险的保险费率与责任限额	郝演苏(178)
含义不确定导致费率居高不下	管贻升(181)
关于厘定交强险费率的若干相关因素	管贻升(183)
旅行社责任保险应改为法定保险	陈子荣(186)
强制实施 责任险优于意外险	齐玮(188)
走进车险新时代·前世今生	王丽丽(190)
车险变革时机悄然到来	郭丽军(193)
由车险限折令看费率走向	王梅(196)
发展农业保险,促进和谐社会建设	冯庆(200)
关于发展县域保险问题的若干思考	杜鹃(204)

第四篇 年金、健康保险与社会保障 (208)

Partially Funded Pension, Population and Economic Growth ... Yang Zai gui	(209)
人口结构与养老保险	李晨光(217)
对 2005 年中国养老保险新制度的客基本分析	杨再贵(225)
论商业保险在失地农民养老体系中的作用	李琴芬(230)
中国养老金投资与经济成长的实证研究	徐景峰 / 田存志(234)
养老保险关系应跨区衔接	褚福灵(247)
养老保险真的不缺钱吗?	李晨光(249)
补充养老保险为何受冷落?	褚福灵(252)
析我国医疗责任保险现状及发展趋势	李琴芬(254)
利用商业保险解决学生医疗保险问题的初步构想	赵婧(258)
新型农村合作医疗保险制度现存问题及对策	马姣艳(261)
用税收杠杆撬动医保难题	郝佳(264)
化解社会风险 走向社会和谐	褚福灵(266)
儿童大病呼唤社会医疗保障	贾海娜(279)
高校医疗保险现状及改革	李洁(281)
互助保险 解决大学生医保难题	杜鹃(284)
中国健康保险市场的突破与发展	郝演苏(287)
保监会力促专业化经营 健康保险回归保障本质	郑苏晋(290)
我国商业健康保险发展的策略研究	邓宏(293)
经济转轨时期我国的社会保障制度改革	刘钧(299)
中国农村社会保障制度的选择	曹晨(304)
社保基金怎样才能确保安全?	褚福灵(309)
私营企业主的保险选择	张楠楠(311)

第五篇 保险中介市场与实务	(314)
保险营销制度呼唤变革	郝演苏(315)
我国保险营销体制的完善与创新	郑宇(317)
如何通过广告来加强保险企业的品牌形象塑造	李兆章(320)
谈我国保险电子商务体系的建设	黄业勇/潘梦夏(323)
保险产品网上营销之法律障碍	管贻升(331)
中国非寿险市场营销模式创新研究	陈辉(333)
中外保险市场营销体制比较	张妮(350)
晨会——激情的盛宴	陈辉(354)
第六篇 保险经营与管理	(358)
如何看待银行业与保险业的资本融合	郝演苏(359)
外资在保险领域投资发展现状与前景	郝演苏/郝大为(364)
警惕外资隐形控制中资保险公司	郝演苏(372)
谁是“中意”合资保险的真正赢家	郝演苏(374)
论寿险公司风险与风险管理	赵曼伊(376)
寿险公司市场一致性内含价值评估研究	陈辉(381)
我国保险资金投资渠道的选择及分析	李博/唐涛(388)
加快我国保险资产管理的创新	陈辉(392)
国企投资寿险模式亟待转型	陈超军(396)
解读自保一再保险市场模式	徐涟漪(398)
中国再保险业面临的问题及发展对策	曹志波(402)
第七篇 金融市场及其他	(406)
商业银行应注意发展中间业务	李博/陈建男(407)
保险公司打赢卡特里娜飓风赔案官司	程溢(409)
恐怖活动保险——刀刃上的舞者	栗静(411)
药品价格为何居高不下?	张娜(413)
中国劳动报酬现状分析	褚福灵(415)
借他山之石攻医药体制顽疾	王岚岚(420)
论教师在大学生实践能力培养中的作用	王玉玫(424)

第四篇

年金、健康保险与社会保障

Partially Funded Pension, Population and Economic Growth

School of Insurance, Central University of Finance and Economics Yang Zaigui

Abstract: Within a framework of an overlapping generations endogenous growth model, this paper examines the effects of a partially funded public pension on the fertility, the economic growth and the family old-insurance in some developing countries. It introduces the habit of children appreciating parents into the model. It is shown that raising the firm contribution rate reduces the rates of fertility and intergenerational transfer, and increases the economic growth rate. The individual contribution has no effect on the above rates. An interesting finding is the proper firm contribution rate interval to promote economic growth, control population rationally and maintain family old-insurance.

1. Introduction

Some developing countries are confronted with low per capita GDP and very large population. It is argued that public pension system impacts economic growth and fertility rate (e. g. Nishimura and Zhang, 1992, 1995; Zhang et al, 2001; Zhang and Zhang, 2003; Yang, 2005; among others).

Many developed and developing countries have partially funded public pension systems. The World Bank (1997)^①, Feldstein (1999), Wang et al. (2004), among others analyze a partially funded public pension system combining social pool with individual accounts¹. It is different from the PAYG system and the fully funded one as follows: Government establishes an individual account for each employee and a social pool for all employees and retirees. Each firm contributes a percent of its payroll to the social pool, while each worker contributes another percent of her wage to her individual account. The social pool fund is used to pay the current retirees as pay-as-you-go pension benefits, whereas the accumulation in the individual account is used to pay the individual herself when she retires as fully funded pension benefits. Each retiree receives funded pension benefits from his individual account and PAYG pension benefits from the social pool.

Most of literature on pension, nevertheless, study pay-as-you-go (PAYG) public pension and/or fully funded public pension systems (e. g. , Blanchard and Fischer, 1989; Zhang and Zhang, 1995; Zhang et al, 2001; Groezen et al. , 2003; among others). Zhang and Zhang (1998) analyze the effects of social security in a model with alternative motives of having children. They show that social security increases per capita income growth when the social security tax is not too high. Wigger (1999) employs a model in which parents

^① The World Bank (1997) simulates several options for China and recommends a three-pillar system based on an actuarial model. Feldstein (1999) analyzes the economics of a mixed pension system, and considers several options to reform the pension system in China. Wang et al. (2004) use a computable general equilibrium model to compare various options for financing China's implicit pension debt and to estimate the effects of pension reform on the sustainability of the system and on economic growth.

derive utility from having children and expect support from children to study the interrelation between growth, fertility and PAYG-public pension size. It is shown that small sized public pensions stimulate per capita income growth, but further increases in public pensions reduce it. A rise in public pensions reduces fertility if they are either small or large, and stimulates fertility if they are medium sized

People in the developing countries generally satisfy for both having children and getting old-age support from children. This phenomenon is decided by economic development level. Individuals rear children for two basic motives: pleasure of enjoying children when young and obtaining some family security when old. It is also a behavior habit that the young appreciate their parents when they enter labor force. This behavior criterion can be called a self-evident or tolerant agreement between parents and children in many developing countries. The working-generation's income is much more than that of retirement-generation is another reason for intergenerational transfer running from the young to the old

Adopting an overlapping generations model with endogenous growth, this paper examines the effects of a partially funded public pension on the fertility, the economic growth and the family old-insurance in developing countries. It introduces the habit of material support from children to parents into the model, and the altruism is always operative because it is a behavior habit in many developing countries. It is shown that a rise in the firm contribution rate reduces the rates of fertility and intergenerational transfer from children to parents, and raises the growth rate of output per worker. The individual contribution has no effect on the rates of intergenerational transfer, fertility and output per worker growth. At last, this paper finds the proper firm contribution rate interval to promote economic growth, control population rationally and maintain family old-insurance. For the developing countries with too large population and low per capita GDP, it is necessary to choose an appropriate firm contribution rate in the proper firm contribution rate interval. The rest of this paper is organized as follows: Section 2 presents the model. Section 3 examines the balanced growth equilibrium. Section 4 analyzes the proper firm contribution rate. Section 5 concludes the paper.

2. The model

This model extends those of Zhang and Zhang (1998) and Wigger (1999) by introducing operative transfers from children to parents and replacing the PAYG or fully funded pension systems with the partially funded pension system. There exists a closed economy composed of individuals, firms and a government. The generation born at the beginning of period t is called generation t with population N_t . Individuals in the same generation are identical. The fertility rate for each of generation t is .

2.1 Individuals

Individuals live for two periods: work period and retirement period. Each individual earns wage by supplying inelastically one unit of labor, makes pension contribution, consumes

part of her incomes, rears her children, makes gifts to her parent, and saves the rest of the incomes in her work period. In her retirement period, she consumes the fruits of her savings, gifts from her children, individual account pension benefits and social pool pension benefits.

Each individual of generation t derives utility from her work-period consumption C_{1t} , retirement-period consumption C_{2t+1} , the number of children $1+n_t$, and the retirement-period consumption of her parent C_{2t} . Each individual maximizes her utility by choosing the number of children, and the rates of saving and gift:

$$\max_{(s_t, q_t, n_t)} U_t = \ln C_{1t} + \theta \ln C_{2t+1} + \rho \ln(1+n_t) + \beta \ln C_{2t} \quad (1)$$

$$s. t. \quad c_{1t} = (1 - \tau - h_t - q_t - s_t) W_t \quad (2)$$

$$c_{2t+1} = (1 + r_{t+1}) s_t W_t + (1 + n_t) q_{t+1} W_{t+1} + (1 + r_{t+1}) I_t + P_{t+1} \quad (3)$$

where $\theta \in (0, 1)$ denotes the discount rate, and ρ, β the weights for the number of children and the retirement-period consumption of her parent. $0 < \beta < \rho < \theta$ since individuals care themselves more than their parents. W_t is the wage, τ the individual contribution rate, q_t the gift rate to her parent, s_t the saving rate, r_{t+1} the interest rate, I_t the individual account principal per worker, P_{t+1} the PAYG pension benefits. The child-rearing cost rate is assumed to be

$$h_t = \delta(1+n_t)^d, \quad (4)$$

where $\delta > 0, d \geq 1$, such that the costs of rearing children are either linear or convex^①. $1+n_t > 0$ is the condition for population to last forever. $q_t > 0$ for all t because the young appreciate their parents according to the tolerant agreement.

Substituting equations (2)–(4) into equation (1), and differentiating with respect to s_t, q_t, n_t gives the first-order conditions:

$$1/C_{1t} = \theta(1+r)/C_{2t+1}, \quad (5)$$

$$1/C_{1t} = \beta(1+n_{t+1})/C_{2t}, \quad (6)$$

$$(dh_t/(1+n_t))(W_t/C_{1t}) = \theta q_{t+1} W_{t+1}/C_{2t+1} + p/(1+n_t), \quad (7)$$

Equation (5) states the tradeoff between the marginal utility of work-period consumption and that of retirement-period consumption through savings. Equation (6) states the tradeoff between the marginal utility of the representative individual's work-period consumption and that of her parent's retirement-period consumption through gifts. Equation (7) states the tradeoff between the marginal utility of child-rearing costs and the marginal utilities of gifts from children to parent and number of children.

2.2 Firms

Firms produce a single commodity in competitive markets. The production function F

① Zhang and Zhang (1995) and Wigger (1999) use the same type of child-rearing cost rate function.

$(K_t, A_t N_t) = A_t N_t f(K_t)$ is homogeneous of degree one, where K_t denotes capital stock in period t , A_t labor productivity, $k_t = K_t / (A_t N_t)$ capital per unit of effective labor. Firms make pension contributions at rate $\eta \in (0, 1)$ on their payroll. According to the product distribution, one can get that $F(K_t, A_t N_t) = r_t K_t + (1 + \eta) w_t A_t N_t$. Euler's theorem gives

$$r_t = f'(k_t), \quad (8)$$

$$w_t = W_t / A_t = [f(k_t) - k_t f'(k_t)] / (1 + \eta), \quad (9)$$

where w_t is the wage rate per unit of effective labor.

Following Saint-Paul (1992), Zhang and Zhang (1995, 1998, 2001), Wigger (1999), among others, this paper adopts the endogenous growth model with Romer's (1986) type of capital externality. In order to ensure the existence of a balanced growth path for the economy, the following particular form of A_t is adopted:

$$A_t = K_t / (a N_t) \quad (10)$$

where a is a positive technological parameter. Therefore $k_t = a$, and

$$r_t = f'(a) = r, \quad (11)$$

$$w_t = W_t / A_t = [f(a) - a f'(a)] / (1 + \eta) = w \text{ for all } t. \quad (12)$$

2.3 The government

The government credits the individual contributions $\tau W_t N_t$ into each individual account, and the firm contributions $\eta W_t N_t$ into the social pool. The individual account balance is paid to the individual as funded pension benefits when she retires in the next period:

$$I_t = \tau W_t, \quad (13)$$

The social pool is paid to the retirees in the current period as PAYG pension benefits:

$$P_t = \eta(1 + n_{t-1}) W_t \quad (14)$$

2.4 The goods market

The savings and the individual account principal of the young in period t generate the capital stock in period $t+1$,

$$(s_t + \tau) W_t N_t = K_{t+1} \quad (15)$$

3. Equilibrium analysis

Combining equations (10), (12), (15) and the labor force $N_{t+1} = (1 + n_t) N_t$ yields the growth rate of capital per worker:

$$1 + g_t = \frac{K_{t+1} / N_{t+1}}{K_t / N_t} = \frac{w(s_t + \tau)}{a(1 + n_t)} \quad (16)$$

Analogously, the growth rates of wage and output per worker are also $1 + g_t$.

A balanced growth equilibrium is a competitive equilibrium in which intensive variables such as the gift rate, the fertility rate and so on are constant, while extensive variables such as the wage, the retirement-period consumption and so on grow at the same en-

dogenously determined and constant growth rate of capital per worker. The following analysis focuses on the balanced growth equilibrium.

3.1 Effect on fertility

Equating equations (5) and (6), and using the wage growth rate gives

$$(1+n)(1+g) = \frac{\theta}{\beta}(1+r) \quad (17)$$

Substituting equations (17) and (12) into equation (16), arranging yields

$$s + \tau = \frac{\theta}{\beta} z(1+\eta), \quad (18)$$

where $z = \frac{a(1+r)}{f(a) - af'(a)}$.

Some manipulation gives

$$h = \frac{-\theta\eta + \beta(\theta + \rho + \rho\eta) - z(1+\eta)(\theta + \theta' - \beta\rho + \theta\rho)}{\beta(d + \rho + \theta + \beta d)}, \quad (19)$$

$$q = \frac{-d[\eta - \beta + z(1+\eta)(1+\theta)] + \rho(z + \eta + z\eta)}{d + \rho + \theta + \beta d}. \quad (20)$$

Differentiating h with respect to η gives

$$\partial h / \partial \eta < 0. \quad (21)$$

Using equation (4) yields

$$\partial n / \partial \eta < 0. \quad (22)$$

Raising the firm contribution rate reduces the fertility rate. It is because that a rise in the firm contribution rate decreases the wage income. Thus, workers decrease the child-rearing costs by reducing the fertility. Moreover, an increase in the firm contribution rate means higher PAYG pension benefits, which renders children as a means of securing old age income less important and tends to reduce the fertility.

3.2 Effect on growth rate

Applying equation (17) and the effect on fertility gives

$$\partial g / \partial \eta > 0. \quad (23)$$

Raising the firm contribution rate increases the growth rate of output per worker. This is because there exists a negative relationship between the growth rate of output per worker and the fertility, and raising the firm contribution rate reduces the fertility. It can also be interpreted by equation (16): Raising the firm contribution rate induces a fall in the denominator of the right-hand side and a rise in the numerator, thereby the growth rate of output per worker increases.

3.3 Effect on gift rate

Differentiating q in equation (20) with respect to η yields

$$\partial q / \partial \eta < 0. \quad (26)$$

Raising the firm contribution rate reduces the gift rate. There are two reasons: On the one hand, a rise in the firm contribution rate induces the decrease in the wage, which leads to the young makes fewer gifts to their parents. On the other hand, raising the firm contribution rate induces the increase in the PAYG pension benefits, which renders the gifts less important for the old.

Individual contribution has no effect on the rates of fertility, output per worker growth and gift because mandatory savings (individual contributions) crowd out private savings by one-for-one. Summarizing the above results yields the following proposition.

Proposition 1: Raising the firm contribution rate decreases the rates of fertility and gift, and increases the growth rate of output per worker. The individual contribution has no effect on the three rates.

4. Proper firm contribution rate

4.1 Economic goals

The proper firm contribution rate depends on economic goals. First, the developing countries with low per capita GDP and over-population need high economic growth. Second, it is necessary for these countries to rationally control population size. Third, some family old-insurance is necessary for developing countries because the governments cannot bear heavy pension burden.

On the one hand, the population should be reduced or maintained at the original level, namely, $1+n \leq 1$. Substituting it into equation (19) and arranging gives

$$\eta \geq \frac{\beta(\theta+\rho)(\theta+\theta^2+\theta\rho-\rho\beta)z-\delta\beta(d+\rho+\theta+\beta d)}{\theta-\rho\beta+(\theta+\theta^2+\theta\rho-\rho\beta)z} = \underline{\eta}. \quad (27)$$

On the other hand, the population cannot be reduced unboundedly. Substituting the condition for population to last forever, $1+n > 0$ into equation (19) and arranging yields

$$\eta < \frac{\beta(\theta+\rho)-(\theta+\theta^2+\theta\rho-\rho\beta)z}{\theta-\rho\beta+(\theta+\theta^2+\theta\rho-\rho\beta)z} = \bar{\eta}. \quad (28)$$

The correspondence relation between the intervals of η and n is $\underline{\eta} \leq \eta < \bar{\eta}$ for .

The family old-insurance hypothesis means that $q > 0$, namely, workers certainly provide some material support to their retired parents. Substituting $q > 0$ into equation (20) and arranging gives

$$\eta < \frac{d\beta-(1+\theta)dz-\rho z}{d+(1+\theta)dz+\rho(1+z)} = \hat{\eta}. \quad (29)$$

4.2 Economic goals and η

Comparing $\bar{\eta}$ with $\hat{\eta}$ gives $\bar{\eta} > \hat{\eta}$. Comparing $\underline{\eta}$ with $\hat{\eta}$ gives $\underline{\eta} < \hat{\eta}$ if $\delta >$

$\frac{\rho}{(1+z)(d+\rho)+d\theta z}$ and $\theta > \beta$. Consequently, if the firm contribution rate is $\underline{\eta}$, the

population and the economic growth maintain their original levels. If the firm contribution rate is in the interval, $(\underline{\eta}, \bar{\eta})$, the population decreases and the economic growth increases. If the firm contribution rate is in the interval, $(\underline{\eta}, \hat{\eta})$, the population falls in a rational extent, the economy grows rationally, and some family old-insurance is maintained.

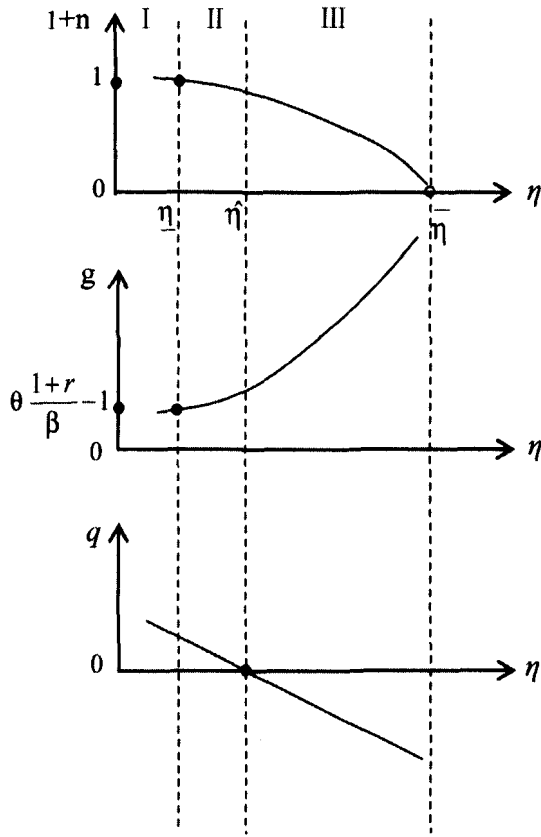


Figure 1. The relationship between $1+n, g, q$ and η

The relationship between $1+n, g, q$ and η is shown as Figure 1. In Region I, $\eta < \underline{\eta}$, the population continues to increase, and the economic growth rate is very low. If $\eta = \underline{\eta}$, the population maintains at the original level and the output per worker growth rate is $(1+r)\theta/\beta - 1$. In Region II, $\underline{\eta} < \eta < \hat{\eta}$, the population is reduced in medium size, the economic growth rate is high but not too high, and the intergenerational transfers from children to parents are positive. If $\eta = \hat{\eta}$, the intergenerational transfers vanish. In Region III, $\hat{\eta} < \eta < \bar{\eta}$, the population is reduced largely, and the economic growth rate is very high. Obviously, Region II is desirable because it satisfies the three economic goals.

Proposition 2: The proper firm contribution rate interval to promote economic growth, control population rationally and encourage some family old-insurance is $(\underline{\eta}, \hat{\eta})$ if the parameters satisfy certain conditions.

5. Conclusions

Under an overlapping generations model with endogenous growth, this paper examines the effects of a partially funded public pension on the fertility, the economic growth and the family old-insurance in developing countries. In such a pension system, individual contribution is accumulated in the individual's account, while firm contributions are collected into the social pool. This paper introduces the habit of material support from children to parents into the model, and the altruism is always operative because it is a behavior habit in many developing countries. Individuals and firms make pension contributions in this model instead of individuals only make in the literature.

This paper shows that a rise in the firm contribution rate reduces the rates of fertility and intergenerational transfer from children to parents, and raises the growth rate of output per worker. This result is different from those of Zhang and Zhang (1998) and Wigger (1999). In this model, the individual contribution crowds out the private savings by one-for-one; it has no effect on the rates of intergenerational transfer, fertility and output per worker growth. A more interesting finding is the proper firm contribution rate interval corresponding to the three economic goals.

The population size of some developing countries is too large and the per capita GDP is low. It is necessary for such countries to choose a proper firm contribution rate in the interval shown in Proposition 2. By virtue of that, these countries can not only promote economic growth, but also control its population rationally and encourage family old-insurance to reduce the governments' heavy pension burden. As for the individual contribution, its rate should be set on the level at which workers can bear, and when they retire, the sum of the accumulation in individual accounts and the social pool benefits can maintain a basic subsistence.

Asia-Pacific Risk and Insurance Association Annual Conference Proceedings, 2006. 8

人口结构与养老保险

中央财经大学保险学院讲师 李晨光

【内容摘要】人口理论是养老保险的理论基础,其中人口结构理论对养老保险的影响最大,本文在界定养老保险概念的基础上主要探讨了人口年龄结构变动对养老保险不同筹资模式即现收现付式、完全基金式和部分基金式产生的影响,并分析了人口年龄结构变动对养老保险现收现付筹资模式产生影响的具体过程。

【关键词】人口年龄结构 养老保险 现收现付式

人口理论是养老学说的理论基础,在实践中,任何养老形式的制度安排,都必须考虑当时的人口因素,并根据人口因素的变化不断做出调整,现代的社会养老保险更是如此。在这些因素中人口结构的变动对养老保险的影响最大。

人口结构又称人口构成,是指从一定的规定性来看人口的内部关系。更具体的说它是按照人口的不同标志,研究一定地区、一定时点的人口内部结构及其比例关系。就人口结构所依以形成的性质,大体上可以分为三个大类:人口的自然结构、人口的地域结构和人口的社会经济结构。人口的自然结构包括人口的性别结构和年龄结构,人口的地域结构主要包括人口的自然地理结构、行政区域结构和城乡结构,人口的社会经济结构主要包括人口的阶级结构、民族结构、劳动力资源结构等^①。按不同标志划分的人口结构与养老保险都存在一定程度的关系,其中人口年龄结构、城乡结构、劳动力资源结构与养老保险联系较为密切,而人口年龄结构的变动对养老保险的影响最大。并且这几种人口结构本身又存在着相互依存和相互制约的关系,因此本文主要分析了人口年龄结构与养老保险之间的关系,探讨人口年龄结构的变动对养老保险的影响,并适当引入人口城乡结构、劳动力资源结构的影响因素。

1. 养老保险概念界定

在分析之前,还需要对养老保险作一界定。本文的“养老保险”是指“基本社会养老保险”,严格地说应称之为“公共养老金制度”。

第一,“养老保险”是一种制度化、社会化养老安排,其区别于任何非制度化、非社会化养老形式(如家庭养老)。自从人类诞生以来,就存在养老问题,出现了各种各样的养老形式,但真正制度化、社会化的养老保险安排,则是伴随着近代工业化革命而产生的,这才是本文要讨论的。之所以这样界定,是因为理论界存在着“实物养老”与“货币养老”争论^②。从“实物养老”角度看,任何形式的养老安排归根结底都要消耗当时劳动人口创造的物质产品(包括劳务),养老保险如此,家庭养老如此,其他形式养老也是如此。这样的话,“人口年龄结构与养老保险”的问题就变成了“人口年龄结构与养老”,这个问题古而有之,伴随人类产生直到现在。可见,从“实物养老”角度探讨问题已经远远超出了本文的范围,也非本文

^① 刘铮,《人口理论教程》,中国人民大学出版社,1985年,第149页。

^② 朱青,《养老金制度的经济分析与运作分析》,中国人民大学出版社,2002年,第83页。

力所能及。因此本文作如上界定,关心的是从“货币养老”角度分析人口年龄结构变动对养老保险财务机制安排的影响,具体的说是探讨人口年龄结构变动与养老保险不同筹资模式的关系。

第二,本文“养老保险”是指“基本养老保险”,是一种“公共养老金制度”,其区别于“补充养老保险”、“企业年金”、“私人养老金计划”。这样界定是因为私人养老金计划形式更加多样,且举办主体多为企业和个人,相对而言处于微观层面,受人口年龄结构变动的影响不如政府举办的公共养老金计划直接,因此排除在本文的分析之外。

第三,严格讲,本文的“养老保险”应称之为“公共养老金计划”。政府举办公共养老金计划可以采取四种方式:社会保险、社会救济、普遍津贴和节俭基金^①。纯粹的“养老保险”是政府按社会保险方式举办的公共养老金计划,只是其中的一种方式,本文却把之扩大到整个公共养老金计划,还包括其他三种方式。原因是政府举办的任何方式的公共养老金计划都不可避免地与人人口结构相联系,并受其影响,且这种理解与中国通常所说的养老保险含义相符。

2. 人口年龄结构对不同养老保险筹资模式的影响

由前面界定,本文主要是从“货币养老”角度考察问题,关心的是养老保险制度在财务上是否可行,人口年龄结构会不会以及如何对养老保险的财务安排构成冲击。这就不可避免地涉及到养老保险的筹资模式。

公共养老金计划的资金来源取决于政府举办公共养老金计划的方式,如前所述政府举办公共养老金计划有社会保险、社会救济、普遍津贴和节俭基金四种方式。普遍津贴和社会救济方式的公共养老金计划的资金来源全部为政府的一般预算拨款,公共养老金开支要列入政府的一般预算支出,这样这两种方式的养老金计划就要在一般预算中列收列支^②。而社会保险和节俭基金方式的公共养老金计划却需要雇主和雇员缴费,有独立的收入来源。这种缴费型养老金计划按收支对比关系可以分为三种模式:现收现付式、完全基金式和部分基金式。

2.1 人口年龄结构与现收现付式

“现收现付式”即养老金计划按照“以支定收”的原则确定缴费收入,当期的缴费收入只能满足当期的养老金支出(包括管理费用),收支相抵后,没有过多的结余,只留少量的储备基金,以应付保险计划临时性的支大于收的局面^③。以社会保险方式举办的公共养老金计划多采取这种筹资模式。从资金看,现收现付式公共养老金计划实际上是一种靠后代养老的方式。因为在这种筹资模式下,当前在职职工缴纳的养老保险费并没有作为他们的养老储备基金被政府存储起来,而是在当期就作为养老金支付给了已经退休的老年人,等这些缴费的年轻职工退休以后,其养老金同样来源于未来年轻职工的缴费收入。这样看人口年龄结构的变动会影响到现收现付式,因为老年人口与劳动年龄人口对比关系的变动会影响到在职职工与退休职工的比例,进一步有可能影响到现收现付式的财务安排(具体过程后文有详细论述)。当然这种影响并不是必然的,其间还要考虑其他因素如工资变动的的影响。

^① 朱青:《养老金制度的经济分析与运作分析》,中国人民大学出版社,2002年,第31页。

^② 朱青:《养老金制度的经济分析与运作分析》,中国人民大学出版社,2002年,第72页。

^③ 朱青:《养老金制度的经济分析与运作分析》,中国人民大学出版社,2002年,第72页。