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中国管理科学  2015, Vol. 23  Issue (8) :39-45

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## DC型企业年金最优资产配置和给付方案问题研究

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### Optimal Asset Allocation and Benefit Outgo Policies of the DC Pension Plan

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**摘要** DC型企业年金管理者如何选择最优的资产配置策略和给付方案,以实现参保者最大的效用,是理论界和实务界都关注的问题。本文首次将生存者利益部分的精算规律考虑到个人年金账户余额变动满足的随机微分方程中,并将实际给付金额与预期给付中枢的二次偏差最小化作为优化目标。通过HJB变分方法,得到了最优的资产配置比例和最优给付方案的解析形式,并利用蒙特卡洛模拟方法研究了个人年金账户余额和预期给付中枢对最优策略的影响。结果表明:个人年金账户余额对实际给付金额和无风险资产配置比例存在正向影响;预期给付中枢对无风险资产配置比例存在负向影响。

**关键词:** DC型企业年金 最优资产配置 最优给付方案 随机最优控制

**Abstract:** In the paper, the optimal asset allocation and benefit outgo policies of the pension management are proposed to maximize the utility of the pension member after retirement. It is the first time to explore the actuarial principles of the mortality credit in the pension management framework. The square deviation between the actual and the expected benefit outgo is chosen as the objective functions. Using HJB variational methods, the optimal asset allocation and the benefit outgo policies are established. According to the simulation results, the accumulation of the pension fund has positive influence on the optimal benefit outgo as well as the proportion allocated on the risk-free asset. Meanwhile, the expected benefit outgo has negative influence on the proportion allocated on the risk-free asset.

**收稿日期:** 2013-01-29;

**基金资助:**

2013年社科基金重大项目(13&ZD164);北京市教委"北京市高校青年英才计划"(YETP0181)

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**引用本文:**

.DC型企业年金最优资产配置和给付方案问题研究[J] 中国管理科学, 2015,V23(8): 39-45

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