

摘要

本研究運用的投資組合理論(Portfolio Theory)與免疫理論(Immunization Theory)建構資產負債管理模型，希望在於免除利率風險下，能夠極大化勞保基金的投資報酬率。本研究探討勞保老年給付年金制實行後，勞保基金在資產負債管理之下最適資產配置。我們以勞保局編印之「勞工保險統計年報」中勞保基金民國81年到91年實際投資的資料及勞保局委託研究之精算報告對於老年給付年金制實行後未來勞保基金的給付預測值，在不同年金選擇率以及不同的費率與控管年限下，根據勞保基金資產與負債的存續期間，建議勞保基金最適的投資組合，並計算資產負債管理成本，研究結果發現：

1. 年金選擇率為 100% 及 80% 時，勞保費率提高至 8.3% 僅能確保未來 30 年與 40 年勞保基金不會因為利率變動而導致基金破產甚至無力清償，但考慮年限為 50 年時，國內市場無法找到存續期間可以配合的投資工具，無法規避利率風險。年金選擇率為 50% 時，由於未來各年之勞保的給付獲得舒緩，使得資產配置所需的存續期間也降低，故當勞保費率提高至 8% 即可確保勞保基金未來 50 年可以規避利率風險的危機，且在國內市場上可以找到投資工具配合。
2. 要使勞保基金免於利率風險的考慮年限越長，其投資組合的重心應該從現行的銀行存款移轉到債券及股票與受益憑證。
3. 進行資產負債管理是需要成本的，若以資產負債管理前後效率前緣下的投資報酬率的差異為資產負債管理成本，在年金選擇率 100% 時資產負債管理平均成本為 0.3695%；選擇率 80% 時平均成本為 0.434%；年金選擇率為 50% 時資產負債管理平均成本為 0.384%，研究結果顯示資產負債管理平均成本都低於 0.5% 以下，故建議勞保基金應盡早進行資產負債管理以因應老年給付年金化後利率風險對於勞保基金財務上的衝擊。

Abstract

This paper investigates the Asset-Liability Management for Labor Insurance Fund. We utilize Immunization Theory and Portfolio Theory selection model to immunize the surplus of Labor Insurance Funds against interest-rate fluctuations and to maximize expected return of Labor Insurance Funds simultaneously. In addition, we use the data from Labor Insurance Funds from 1992 to 2002 to demonstrate the implementation of our model. We calculate the optimal asset allocation and the ALM cost under different lump-sum/annuity selection ratio, time horizon and contribution rates. The empirical results from this study show that :

1. Assuming 100% and 80% participants choice annuity, to prevent the insolvency of Labor Insurance Fund from interest-rate fluctuations in 30 and 40 years, the Labor Insurance premium must increase to 8.3%. Assuming 50% participants choice annuity, to prevent the insolvency of Labor Insurance Fund from interest-rate fluctuations in 50 years, the Labor Insurance premium must increase to 8%.
2. To prolong the period over which the Labor Insurance Funds can immunize its surplus against interest-rate fluctuations, a large proportion of the investment asset should be allocate from bank deposit to bond and stock.
3. ALM needs cost. Assuming 100% participants choice annuity, the average ALM cost is 0.3695%. Assuming 80% participants choice annuity, the average ALM cost is 0.434%. Assuming 50% participants choice annuity, the average ALM cost is 0.384%. We find the average ALM cost is very small under any lump-sum/annuity selection ratio. Therefore, we suggest Bureau of Labor Insurance should start to implement ALM as soon as possible to avoid the affect of interest-rate fluctuations.