Abstract

This paper investigates the role of skewness of credit loss distribution on investors' portfolio decision. The empirical evidences indicate that the incorporation of skewness of credit loss distribution into investors' portfolio decision causes a major change in the resultant optimal portfolio. The findings also suggest that investors do trade expected and unexpected losses for skewness of loss. Moreover, they do require higher expected return as a compensation for incurring higher skewness of loss.

In order to achieve the above investigations, it requires a programming that allows incorporating skewness of loss into portfolio selection process. This paper provides such an *ex ante* portfolio programming in which credit risk up to the third moment of credit loss distribution is diversified. Polynomial goal programming (PGP) is employed in our model to determine the optimal portfolios for the sample of 16 corporate bonds in Thai capital market. By using PGP that allows changes in investors' preference set over moments of loss distribution, our programming offers several optimal portfolios that can actually meet investors' preferences.

In addition, our programming simultaneously constrains the degree of market risk of the constructed optimal portfolio equal to that of a well-diversified portfolio. This objective can be achieved through using of reliable measures of interest rate risk, instead of duration which requires a strong assumption on parallel shift in yield curve. As a result, this paper empirically investigates pattern of yield change in Thailand and tests measures of interest rate risk. The empirical evidences show that movements of yield curve in Thailand do not conform well to the parallel shift, and can be explained by two factors. These factors are shift risk, which represents level shift, and twist risk, which

represents shape change in yield curve. Moreover, the measures obtained through principle components analysis over historical data of yield movements can measure out-of-sample interest rate risk better than duration.