

ABSTRACT

Most empirical studies on credit spread change with idiosyncratic and systematic risk factors have failed to explain the credit spread puzzle. Compared to the other macroeconomic indices, credit spread change varies in response to the credit cycle which is different from the business cycle. This study poses two questions: What are the determinants of credit spread change? and What are the determinants of credit spread change in a low and a high regime?

To enhance the explanatory power of the model, this study proposes the application of a two-state switching regime model to explain the variation of credit spread change in Thailand. The model includes systematic risk factors including interest rate, macroeconomic, and liquidity risk factors with interaction terms representing the marginal effect when the cycle regime shifts to the another state. The credit spread cycles are not observed with direct indicators and thresholds, but rather are distinguished under a Markov Switching specification. Consequently, the credit spread cycle of low and high regimes can be obtained.

The results from a single-regime model show that interest rate, macroeconomic, and liquidity factors can explain small part of credit spread change. They are statistically significant throughout credit rating and time-to-maturity portfolio, except for the low credit rating portfolio. Only the macroeconomic factor can explain credit spread change of the low credit rating portfolios. The sensitivities of the determinants are consistent with the related theories. The multiple-regime model can explain the variation of credit spread change more efficiently than the single-regime model. In the low regime, only the interest rate and liquidity factors can explain the variation of credit spread. The systematic risk cannot explain the variation of credit spread change of low credit rating portfolio. In the high regime, the sensitivities of interest rate, macroeconomic, and liquidity factors are more sensitive than the low regime. Most of the signs of the explanatory variables are consistent with the related theory, except for the sign of slope of the term-structure.

The conclusions are, firstly, the credit spread puzzle exists in Thai corporate bond market through the low R-square in single-regime model. Secondly, in the low regime, the interest rate and liquidity factors affect the credit spread change, while the macroeconomic factor cannot explain variation of credit spread change. Thirdly, the credit spread change of the low credit rating portfolio cannot be explained by systematic risks. Fourthly, in the high regime, the rising of the interest rate increases the firm value; therefore the credit spread narrows. Fifthly, the positive relationship between the slope of the term-structure and credit spread change during the high volatile credit spread can be interpreted that the rising in the future interest rate can slow down the growth of the economy. Therefore the credit spread increases. Sixthly, The two-month lag return of equity market as well as its volatility can explain the correlation between equity market and corporate bond market as in the efficient market hypothesis. They are leading indicators of credit spread change. Lastly, the market and portfolio liquidity factors can explain only the high credit rating groups For the low credit rating portfolio with very less trading, liquidity factors cannot explain credit spread change.

The main implications for the academic world is the explanation of credit spread puzzle when using the multiple-regime model for Thai corporate bond market. For the investors and corporate bond issuers, they can use the information of credit cycle and the sensitivities of the dependent variables in different regimes in portfolio management and new corporate bond issuance. For the regulators, they should be aware of changing the monetary policy, in particular, during a high regime.

The study has some limitations that, firstly, the samples do not include all corporate bonds due to their additional risks. The sample period contains only one credit cycle, which may cause imprecise cycle detection. Secondly, the mark-to-market data is used instead of using the quoted data, since the trading data are very few. Thirdly, the term-structure of credit spread is assumed to be lognormal function, which may not be realistic for some periods. Lastly, the Markov-switching model is used in detecting credit cycle. There may be other systematic risk factors explaining the unexplained part of credit spread change.