

CHAPTER 5

CONCLUSION AND SUGGESTION

5.1 Conclusion

With the rapid growth of bond markets in Asia, the issue of interest rate exposure is of concern. In order to manage interest rate risk effectively, it is necessary to understand the duration of each security. While the concept of bond duration is recognized for a long time, a solid understanding of equity duration, or the sensitivity of stock returns to interest rate, is still elusive.

This study is aimed to investigate the relation between stock returns and interest rate, and the impact of growth options on this relation as proposed by Hevert et al (1998a). Based on their hypothesis, because of the option-like characteristics, growth options alter the basic relation between stock returns and interest rate. Returns on high-growth portfolio, measured by the book-to-market ratios, would react differently from those on the low-growth portfolio to interest rate movement. The study uses the sample in Hong Kong, Indonesia, Malaysia, Philippines, Singapore, Taiwan, and Thai during July 1997 to June 2003.

The results from regression analysis show that the relation between stock returns and interest rate is not robust. The value of interest rate coefficients on high and low-growth portfolios is dependent on samples, and control variables. Specifically, when stock returns are regressed with market and nominal interest rate factors, stock returns in Indonesia and Singapore are associated with interest rate. If the interest rate is separated into real rate and inflation rate, the relation between stock returns and interest rate is also held in Singapore. For each portfolio, the coefficients of the real rate and inflation rate look like those of the nominal rate. However in Indonesia, the stock returns are not related with real interest rate and inflation rate. Possibly, the high inflation volatility in Indonesia makes the results changed. When stock returns are regressed with three-factor model and nominal interest rate change, stock returns in Hong Kong, Singapore, and Thai are correlated with interest rate.

The impact of growth options on interest rate exposure of stock returns is different among seven countries. The results in some countries are consistent with the hypothesis, while those in other countries are contradictory the hypothesis. Controlling for the overall market factor,

the evidence in Singapore is unique to other sample. Like Hevert et al (1998a) evidence, returns on the high-growth portfolio react differently to interest rate movement from those on low-growth portfolio. The high-growth portfolio has the positive interest rate sensitivity. Conversely, the low-growth portfolio has the negative interest rate sensitivity. In Indonesia, the empirical evidence is against the hypothesis. Returns on the low-growth portfolio are positively correlated with interest rate. In other countries, both high and low-growth portfolios have no statistical relation with interest rate.

When stock returns are controlled by three-factors, the conclusions are changed. In Hong Kong, the empirical results are consistent with the hypothesis since high-growth portfolio has interest rate sensitivity different from low-growth portfolio. Returns on high-growth portfolio are positively correlated with interest rate while those on low-growth portfolio are not. In other countries, the evidence is inconclusive.

Using the market return as the control variable, the country effect is strong. Many countries have the interest rate sensitivity dissimilar to others. In some portfolios, the positive relation between stock returns and interest rate is found in some countries, while in other countries, stock returns are negatively related with interest rate. Conversely, the three-factor model alleviates the country effect. The degree of interest rate sensitivity is small in most countries, implying that stock returns are less sensitive to interest rate. In addition, the difference in interest rate sensitivity among countries is not significant.

Conclusively, the evidence found in the study is mixed. The conclusion depends on the samples, and the control variables. Controlling for the market factors, the results support the hypothesis, especially in Singapore sample. On the contrary, most results for the models, which use three-factor model as control variable, are inconsistent with the hypothesis. However, when the nominal interest rate is split into the real interest rate and inflation rate, the conclusion changes a little except for Hong Kong and Indonesia sample. When the lagged effect of interest rate movement is investigated, the conclusion remains inconclusive. The relations between stock return and the past interest rate movement still vary across countries, control variables, and types of interest rate.

5.2 Suggestion

Since most countries in this study had suffered the financial crisis in 1997, the stock price during this period may not represent the intrinsic value and the value of growth options. Moreover, while there are many measures of growth opportunities, such as the ratio of book-to-market value of equity, earning-to-price ratio, dividend-to-price ratio, this study uses only one measure, which is the ratio of book-to-market value of equity.

Therefore, the further researches could be done in two extensions to this study. First, gathering data for a longer period could yield a better picture of the relation between stock return and interest rate. Second, employing other measures of growth opportunities or using other interest rate variables could better the understanding of how growth options affect the interest rate sensitivity of common stock return.



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