

## Chapter 5 Conclusion and discussion

### 5.1 Introduction

This chapter summarises and discusses the main empirical findings. The analysis is conducted by using monthly commercial bank stock index return (hereafter called Index) and interest rate (or the inter-bank rate: IB) from Thailand and other two developing countries (Indonesia and Malaysia). The study period is between September 1993 and March 2010 and the total number of observations is 199 per variable. This chapter is organised into three sub-sections as follow:

### 5.2 Conclusion and discussion

The unit root test (the ADF test) results show that most variables in the level form are stationary, except for the IB of Malaysia and Thailand. For these two IB variables, they are stationary in the first difference form (hereafter called  $\Delta IB$ ). Schwarz (1978) information criterion value suggests the use of Markov switching model (hereafter called the MS model) with two regimes and one lag on both IB and GF for Indonesia, while the MS model with two regimes and without any lag on both  $\Delta IB$  and GF is suitable for Malaysia and Thailand. These two regimes are labelled as normal and volatile market conditions. The most interesting finding of these three developing countries is the direction in which the Index responds to uncertainty in IB changes across two regimes.

The result from the analysis is consistent with the literature. The results from Thailand, for example, suggest that the Index responds to changes in  $\Delta IB$  in a positive manner during normal market conditions, while its response is negative in volatile market conditions. This suggests that during volatile market conditions, any change in  $\Delta IB$  could increase uncertainty of interest rate. In this situation, the Index will decrease due to most commercial banks could not increase their profitability. It suggests that the monetary policy that the central bank employs during volatile market conditions is not efficient enough to maintain stable economy. The monetary policy conducted during normal market conditions, however, could support the economy as the Index responds positively to any changes in  $\Delta IB$ . This suggests that any monetary sentence announced by the central bank could reduce uncertainty of interest rate. As a result, most commercial banks could increase their profitability.

In the case of Indonesia and Malaysia, changes in IB create only a negative impact on the Index during both normal and volatile market conditions. This implies that during both market conditions, any change in IB could increase uncertainty of interest rate. In this situation, the profitability of commercial banks could not increase, leading to a decline in the Index. It suggests that the monetary policy that central banks employ during both normal and volatile market conditions is not efficient enough to maintain stable economy.

There are two hypotheses in this study. The first hypothesis is about the direction of responses, which is the response of Index to changes in IB in volatile market conditions is different from that in normal market conditions. The second hypothesis is about the magnitude of responses, which is the magnitude of response of Index is smaller in volatile market conditions than in normal market conditions. The MS model that allows for time varying regime changes is employed to investigate this relationship. The results show that the first hypothesis is accepted only for the case of Thailand since the response of Thai Index is different across market conditions. In the case of Indonesia and Malaysia, however, the first hypothesis is rejected as the directions of responses are the same during both normal and volatile market conditions. The second hypothesis is also rejected as all responses of Indices from three developing countries during both market conditions are not significant. This implies that the magnitudes of responses from three Indices are the same in both normal and volatile market conditions.

The comparison between the results from Thailand and other two developing countries, namely Indonesia and Malaysia, shows the same magnitude of response. During both normal and volatile market conditions, for example, the effects of changes in IB on all three Indices are not significant. This implies that the magnitudes of responses are the same, which is zero, in both market conditions. The results, however, show different direction of responses. In normal market conditions, for instance, the Thai Index responds positively to changes in IB, while other Indices respond negatively. During volatile market conditions, all three Indices also respond negatively to changes in IB.

Some explanations for the difference among these three developing countries could be made. First, the economic background of these developing countries is different from each other. The Thai economy, for example, has developed in a positive trend while the Indonesia and Malaysia sovereign rating have been downgraded in some periods. Second, these three developing countries have different degree of central bank independence and governance. Thailand, for example, operates within an explicit inflation-targeting framework while Malaysia operates without it. These three developing countries also seek to stabilise the inflation rate, which is their objective. At the same time, Indonesia and Malaysia have also pursued to stabilise the exchange rate while Thailand has not. These might cause the result of these three developing countries to be different from each other.

### **5.3 Recommendations for further study**

Future research into the issue of the asset price channel of monetary transmission has scope in at least two areas:

First, one of the assumptions of the Maximum Likelihood method (hereafter called the ML method) for estimating MS model is that the error term should be a normal distribution. Thus, if we estimate the coefficient of parameters and the error term is not the normal distribution, the estimated coefficient parameters by this method may be not appropriate. In order to avoid this problem, the use of another estimation method called the Bayesian estimation method, which may overcome this problem, is recommended. Therefore, comparing the results from the MS model to the Bayesian method should assess the appropriateness of this normality assumption in the ML method.

Second, we now know that the IB can affect the Index from the MS model. It will be interesting if some factors that influence the IB could be identified so the estimation could be improved. Third, the MS model is now able to achieve a reliable in-sample representation of the dynamic relationship between the Index and IB. In order to assess the usefulness of this model, it is essential to forecast the Index by using out-of-sample data. Therefore, by comparing the results from the MS model to the actual data can be judged which model is more appropriate.

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