



## CHAPTER I

### INTRODUCTION

At the core of the ideas describing the nature of international capital markets are the definitions of international market integration. The definitions--to determine whether markets are integrated or segmented--are essential to the development of most international finance and macroeconomics theories. For instance, projects with perfectly correlated cash flows are valued in the same way regardless of the country in which they are undertaken only if markets are fully integrated. As another example, in order to test how home country assets are priced, it is correct to use some proxy of the domestic market portfolio only if the markets are completely segmented. The number of studies designed to determine whether markets are integrated or segmented have been increasing.

While it is obviously true that there is a trend toward financial deregulation which should lead to more integrated financial markets, no conclusive evidence exists to show that the hypothesis of segmented national markets can be rejected. One of the reasons why previous studies found the evidence incompatible with the observed facts is that the models used to test segmentation offer an insufficient description of how the assets are priced in imperfect markets which might in itself create the segmentation within the market. Thus, the level of integration is unequal among the assets in the same market. These issues are related to one concept of market integration: if markets are completely integrated, assets with identical risk characteristics will have identical expected returns regardless of the markets in which they are issued. On the other hand, a second concept of market integration states that markets are also said to be integrated if global factors play a dominant

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role determining an asset's return. The earlier studies that attempted to answer the segmented versus integrated issue by this second concept provided an unjustified methodology, making their findings difficult to support.

✂ In this paper, my objective is to develop and test for international market integration in these two approaches. This paper offers three unique contributions: use of the more appropriate data set to test for segmentation, identifying the amount of integration using a novel approach, and an exclusive focus on Thailand financial markets, including the period after financial reforms were implemented.

The appropriate data set is important because previous studies often used market indices to test for integration. This paper constructs the new data set that is more appropriate to test international market integration, incorporating the effects of segmentation within the market. This data set reduces the possibility of biased conclusions from market integration tests as a result of a wrongly specified data set. For example, use of an index implies integration within a market--the index is not complete because an index is calculated from a weighted average of all asset prices in the market. All stocks listed on the Stock Exchange of Thailand (SET) are included the SET Index. In reality, the market is segmented between, for example, active and inactive stocks. Some stocks may only be purchased by domestic investors; foreign investors prefer not to acquire these assets.

This study uses an asset pricing model which takes barriers to international investment into account. The model relates to the specific imperfection in which of a class of investors trades in a subset of securities and the model is an essential tool to explain why assets with identical risks do not have identical returns across country markets. The methodology used in this test also provides a more powerful

analysis than the traditional methodology since it avoids the problem of joint tests by separately testing the model specification before testing market integration. To test this market integration hypothesis, a binational system between the Thai equity market and its five major investor equity markets is examined .

A second concern that is addressed in this paper is the degree of integration. Previous studies have tried to measure the degree of integration by investigating the assumption of market integration in which exclusively external factors should influence the domestic asset's return if the market is completely integrated. However, empirical difficulties arise when researchers attempt to measure the amount (degree) of integration since the degree of integration is not observable. The tests that interpret the weighted average of domestic and foreign factors as the degree of market integration are not appropriate and will give inconclusive results since the weights are constant while the indicator of market integration should vary over time, a perfectly logical concept. This paper proposes an alternative methodology that will test a variable that can be measured and permitted to change through time; a variable that can act as an indicator of integration. Therefore, the results should be more useful.

To apply this alternative test, the mechanism for determining Thai interest rates will be examined. It is obviously true that if markets are fully integrated, the foreign conditions alone should influence the behavior of local interest rates. On the other hand, if only the domestic factors influence the domestic rates, markets are completely segmented. I apply the model developed by Edwards and Khan (1985) to estimate the degree of capital mobility using the Markov Switching model. This technique can avoid the problem of unobservable states of either

integration or segmentation. Also, the procedures allow the level of integration to vary through time, unlike tests in previous studies where the analysis tried to capture the increasing degree of openness.

The Thai market is an excellent choice for this type of study because there is an exact record of when important financial market deregulation events occurred. Once the deregulation policies were implemented, we can look for evidence to test the belief that market integration is changing over time.

The paper will be structured as follows: Chapter 2 presents a brief review of the structure of Thai capital markets and prior empirical work examining market integration. Chapter 3 presents a thorough discussion of the concept of market integration, development of the market integration model, and creation of the correct data set to test for integration. The study itself is presented in Chapter 4, using the international CAPM of Black (1974) and Stulz (1981). Chapter 5 presents the study of money market integration as an alternative view of market integration. The conclusions, discussion, and policy implications are presented in Chapter 6.