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Research Paper

The Relationship between Exchange Rate Regimes and Capital Market in Iran[1]

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INTRODUCTION

The purpose of this study is to provide a model for better identifying the pattern of exchange rate effects on the capital market and forecasting the next one to two years of the Iranian capital market. To achieve this, we compare the fitness of two-regime Markov switching models (2R-MSM) with three-regime Markov switching models (3R-MSM) using four specification criteria (Maximum likelihood, Akaik, Schwartz, and Hannan Quinn) that relate to exchange rate fluctuations and the relationship between exchange rate fluctuations and the capital market. We then forecast the regime for the relationship between exchange rates and the capital market. The results show that in recognizing the pattern of exchange rate effects on the capital market, 3R-MSM outperforms 2R-MSM. According to the research findings, if the foreign exchange market fluctuates severely, an increase in the exchange rate will certainly increase capital market returns. However, when the foreign exchange market is almost stable, the effect of this variable on the capital market can be positive or negative. According to the estimated probabilities, in the coming years, we expect to see a positive effect of the exchange rate on the capital market in a low volatility environment.

MATERIALS AND METHODS

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To identify the pattern of the Rial, we use a Markov switching model due to structural failures and different fluctuations in different periods. We compare the performance of 2R-MSM with 3R-MSM using the Maximum Likelihood, Akaik, Schwartz, and Hannan-Quinn criteria. We use these four criteria to compare the performance of 3R-MSM with 2R-MSM in identifying the pattern of exchange rate impacts on the capital market. We estimate the probability of being in the currency crisis regime in the next one to two years and predict the Iranian capital market using the transition probability matrix of MSM.

RESULTS AND DISCUSSION

The values of the Maximum Likelihood, Akaik, and Hannan-Quinn criteria show that the 3R-MSM outperforms the 2R-MSM model in explaining Rial fluctuations. In the Rial time series, three regimes can be defined as "severe devaluation" (currency crisis), "relative stability," and "low devaluation," and the duration of staying in these regimes is 12, 51, and 1.5 months, respectively. Based on the history of severe devaluations of the Rial in the years 1390-1392 (approximately 70% devaluation in two years), mid-1396 to mid-1397 (approximately 80% devaluation in one year), and mid-1398 to mid-1399 (approximately 60% devaluation in one year), the 3R-MSM has correctly identified the time of remaining in the currency crisis regime (about 12 months).

CONCLUSION

The results show that for explaining the fluctuations of the Rial, we should use the 3R-MSM instead of the 2R-MSM, and for explaining the Euro and Pound currencies, we should use the 2R-MSM. Due to the difference between the exchange rate system of Iran (managed float) and the exchange rate system of European countries and England (free float), we can relate this difference to the type of exchange rate system of these countries. Forecasts show that the probability of the severe devaluation regime has a downward trend, and the probability of a relatively stable regime has an upward trend. In other words, we predict that in the coming years, as in the past, we will enter a period of relative stability regime for the Rial rate.

Considering that capital market participants have repeatedly seen the inverse relationship between the foreign exchange market and the capital market, and based on the significance of fitted regression coefficients and the values of the specification criteria, the 3R-MSM outperforms the 2R-MSM for identifying the exchange rate's impact on the capital market.

Keywords: Markov Switching Model; Currency Crisis; Exchange Rate Pattern, Capital Market.
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