

The Foreign Operation Strategy under Correlated Stochastic Price and Foreign Exchange Rate

Po-yuan Chen and Horng-jinh Chang

Jinwen University of Science and Technology and Tamkang University

Abstract

The multinational firms facing domestic currency appreciation may move their operations to foreign countries. To investigate such a shift, we propose a framework to explore how the fluctuations and cross-correlation between the foreign exchange rate and the foreign price impact the entry strategy and the value of a foreign direct investment. The sensitivity analyses for the corporate value, the entry threshold, and the real option value are then performed in illustrations. The results indicate that the effects of characteristic parameters on corporate value, entry threshold, and real option value may depend on the degree of cross-correlation between the foreign exchange rate and the foreign price under a certain range of these parameters: drifts and volatility for foreign exchange rate and foreign price.

Keywords: Foreign operation, stochastic foreign exchange rate, stochastic foreign price, cross-correlation.