

# Do Exchange Rates Have Impact upon Financial Performance of Tourism in Taiwan?

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## Abstract

Since mainland China has introduced its Renminbi exchange rate reform and implemented the floating exchange rate system's management since 21 July 2005, this has resulted in a 2% preliminary appreciation of the Renminbi. This continual and slow appreciation (or depreciation) is also expected to continue in the future. The capital flows of the Peoples' Republic of China (PRC) has increased at a greater rate than that which could be explained by changes in the country's current account, and reserve holdings.

This research investigates that the impact of 2005 China exchange rate change on performance of Taiwan tourism. This study used OLS models to analysis for the effects of exchange rate and its volatility on business performance by extending previous studies in several ways. Our evidence supports a number of important conclusions. The finding of this research: the improving performance of Taiwan tourism enterprises from China exchange rate system change and the main reason is the decreasing tourism cost for Taiwan tourism enterprises, the change of business environment in Taiwan and China tourism. The results are consistent with the view that investment decisions influenced by exchange rates result in large scales business performance of Taiwan tourism enterprises from China.

**Keywords:** Exchange rates; performance of Taiwan tourism enterprises; China

## Introduction

As international real estate portfolio investors are likely to be sensitive to currency risk, we examine how performance of Taiwan tourism enterprises may be affected by changes in the exchange rate. The aim of this paper is to calculate the pure effects of various factors on performance of Taiwan tourism enterprises. We control for the impact of the exchange rate

using the following proxies: (i) the one year ahead exchange rate change (covered interest parity) and (ii) the interest rate differential between foreign and U.S. risk-free rates (uncovered interest parity: there is no parity in actuality but a tendency toward one because of arbitrage).

In addition, country-specific factors remain important, however, which explains the international benefits (Hamelin & Hoesli, 2004). Mainland China has introduced its Renminbi exchange rate reform and implemented the floating exchange rate system's management since 21 July 2005, this has resulted in a 2% preliminary appreciation of the Renminbi. This continual and slow appreciation (or depreciation) is also expected to continue in the future (see Figure 1). In addition, the policy adopted by mainland China for economic development has attracted the world's attention.

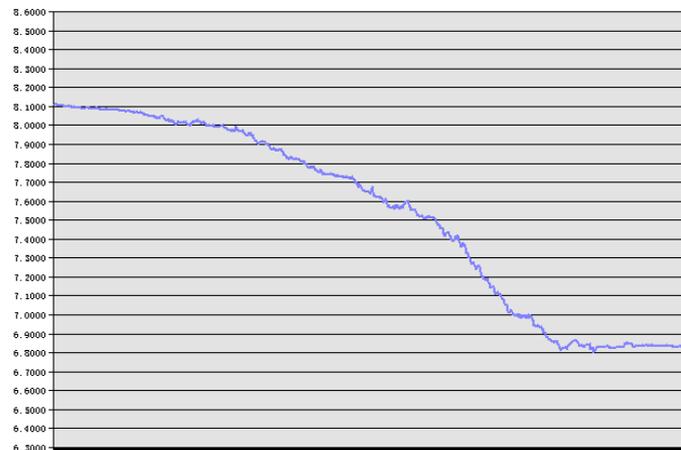


Figure 1 RMB exchange rates per U.S. dollar (Period Average) from 2005.7.21 to 2009.4.24

In particular, the exchange rate system involving the Renminbi in recent years has been the focus of attention of the international community. The continual increase of the exchange rate of the Renminbi versus the US Dollar as well as the expectation on the continuous appreciation of the Renminbi have resulted in greater foreign capital inflow that involves an attempt to make profit from the fluctuation of foreign exchange rates.

Thus, the second purpose of this study mainly interested in the extent to which exchange rate policy changes and changes in the performance of Taiwan tourism enterprises are influenced by previous exchange rate in China.

The remainder of the paper is organized as follows. The next section provides an overview of the international asset pricing literature focusing on the specification global multifactor models. The research methodology of the current study is outlined in the Methodology section. Conclusions follow.

## Literature Review

The China tourism increases more than the GDP growth is an interesting phenomenon to investigate. The obvious conclusion is that the phenomenon is a result of short-term capital for international capital inflow purposes. From a capital inflow view, large amounts of international capital flowed into the Taiwan tourism market. Especially, China's exchange rate policy changed due to growing short-term external debt and its exposure to the international capital market in 2005. This capital movement led to the increase in performance of tourism industry (Haber & Reichel, 2005). For the purpose of this paper, speculation is defined as a form of investment that is driven by expectations of short-term capital gain rather than one that is based on rational decision making as associated with the expectation of tourism occupation. This paper thus attempts to explain the phenomenon described above through an analysis of relevant data and suggests some lessons for performance of Taiwan tourism markets in both China and other emerging economies.

### **Country -specific factors**

Many of studies investigates that the level of country international economic development has a significant impact on companies' tourism performance (e.g., Chen , 2007). For example Demirbag, Tatoglu, and Glaister (2007) study that cross-country analysis of the determinants of factors influencing perceptions of performance. This research tries to explain the effect of exchange rate and other factors on performance (ROI) of foreign-invested enterprises.

The literature on the returns-generating process for tourism performance is well developed at a country level, but multicountry studies are fewer in number. Reviewing previous researches related international tourism, many studies investigate the effect of the international economic factors influence on tourism investment, for example, Lerner and Haber (2000) study assesses environmental factors, including those of the particular industry, and the business factors associated with the success of tourism ventures. This study investigates the impact of exchange rate change on performance of Taiwan tourism enterprises and we take mainland China exchange rate system change as the example.

## **Research Method**

### **Models**

#### **Empirical Model**

The *empirical model* is specified as follows. Table 1,2 lists specific information about the key variables of this study, and the model that tests the influence extent of RMB

exchange rate's appreciation (depreciation) on performance of Taiwan tourism enterprises is a revision of Sarno and Taylor's model (2002). The regression model is as follows:

$$PER_t = \beta_0 + \beta_1 ER_t + \beta_2 R_t + \beta_3 M_t + \beta_4 CI_t + \beta_5 I_t + \beta_6 E_t \dots \dots \dots (Eq.1)$$

where PER is performance of Taiwan tourism enterprises, ER is the exchange rate, R is the real interest rate, M is the money supply, CI is the consumer product index, I is the import, and E is the export. In addition, this study also sets the restricted model as Eq. 2 and includes the exchange rate policy of different periods into the model. Mainland China implemented the foreign exchange retention scheme from 1980 to 1993, the fixed exchange rate system from 1994 to 2004, and the managed floating exchange rate system after July 2005.

$$PER_t = \beta_0 + \beta_1 ER_t + \beta_2 R_t + \beta_3 M_t + \beta_4 CI_t + \beta_5 I_t + \beta_6 E_t + \beta_7 D_1 + \beta_8 D_2 + \beta_9 D_1 \cdot ER_t + \beta_{10} D_2 \cdot ER_t \dots \dots \dots (Eq.2)$$

where  $D_1$  and  $D_2$  are dummy variables;  $D_1=1$ , when mainland China implemented the formal foreign exchange scheme from 1994 to 2004;  $D_1=0$ , the other period;  $D_2=1$ , when mainland China implemented the floating exchange rate system's management after July 2005; and  $D_2=0$ , the other period.

### Variables and Sample

This study investigates the impacts of exchange rate volatility on real estate returns. The measurement and data sources of exchange rate, real estate returns and other variables as shown in Table 1 are adopted from the literature.

This study collects the data from the balance of payments statistics (BOPS) of the International Monetary Fund (IMF) database and Financial Datastream. The International Monetary Fund (IMF) includes quarterly and monthly entries that generally begin in 1957 and most annual entries that begin in 1948.

### Measuring exchange rate uncertainty

Testing any of the above theories requires the construction of a specific measure of exchange rate volatility. The empirical literature began with a series of papers that assume the differences in the standard deviation of exchange rate across countries is a valid measure of the differences in exchange rate across countries. This research uses the Yuan per US Dollar in period average as proxies for the exchange rate and the data source are taken from the People's Bank of China.

## Empirical Analyses

Using the Datastream data set described above, results for estimation of the models outlined in the Methodology section are presented below. The estimates for these following models are obtained by the ordinary least-squares (OLS) technique, using all independent variables lagged by one year to allow for the regressors to be predetermined and to allow for a one-year lag between the regresses and the actual investment. The results are presented in Tables 1 and 2. The overall performance based on the estimations is good. The regression F-statistics are significant at the conventional levels of almost 100% in each model. The evidence in favor of the hypothesis is strong in the sense that a large amount of performance of Taiwan tourism enterprises is indeed associated with China’s specific advantages and that China’s location characteristics indeed receive different responses from returns in the foreign exchange rate market.

Tests show that the regression, with hot money as the dependent variable and all other variables as the independent variables, is relatively satisfying in terms of t-value, Durbin-Watson statistics, and R-squared. Table 1 reports the estimation results of Eq. 1 for the entire sample period, which is quite significant for the exchange rate; that is, the exchange rate has a positive impact on attracting performance of Taiwan tourism enterprises. Table 2 shows the result of OLS analysis that added two dummy variables into the regression model, and the managed floating exchange rate system implemented by Mainland China since July 2005 has exerted great influence on performance in Mainland China.

Table 1 Results of OLS regression of performance (Eq.1)

Dependent variables	PER
Coefficient(t-Statistic)	
ER	-213.41 ***
R	192.25**
CI	556.38***
GDP	2.456**
I	5.159*
E	3.857
Adj. R-squared	0.48
Durbin-Watson	1.47

Notes: The asterisks \*\*\*, \*\*, and \* indicate significantly different from zero at the 1%, 5%, and 10% levels of significance, respectively. The coefficient estimates of constant terms are omitted to save the space.

$$PER_t = \beta_0 + \beta_1 ER_t + \beta_2 R_t + \beta_3 M_t + \beta_4 CI_t + \beta_5 I_t + \beta_6 E_t \dots \dots \dots (Eq.1)$$

where PER is performance of Taiwan tourism enterprises, ER is the exchange rate, R is the real interest rate, M is the money supply, CI is the consumer product index, I is the import, and E is the export.

Table 2 Results of OLS regression of performance (Eq.2)

Dependent variables	PER
	Coefficient
ER	-586.62*
R	2453.55 **
CI	-541.24*
GDP	3.246**
I	1.499*
E	0.872
D1*ER	1.598
D2*ER	68.089**
Adj. R-squared	0.69
Durbin-Watson	1.67

Notes: The asterisks \*\*\*, \*\*, and \* indicate significantly different from zero at the 1%, 5%, and 10% levels of significance, respectively. The coefficient estimates of constant terms are omitted to save the space.

$$PER_t = \beta_0 + \beta_1 ER_t + \beta_2 R_t + \beta_3 M_t + \beta_4 CI_t + \beta_5 I_t + \beta_6 E_t + \beta_7 D_1 + \beta_8 D_2 + \beta_9 D_1 \cdot ER_t + \beta_{10} D_2 \cdot ER_t \dots \dots \dots (Eq.2)$$

where  $D_1$  and  $D_2$  are dummy variables;  $D_1=1$ , when mainland China implemented the formal foreign exchange scheme from 1994 to 2004;  $D_1=0$ , the other period;  $D_2=1$ , when mainland China implemented the floating exchange rate system's management after July 2005; and  $D_2=0$ , the other period.

## Discussion

The results of this study find that performance of Taiwan tourism enterprises is significantly influenced by exchange rate change and that China's 2005 floating exchange rate policy change has a significant influence on real estate return (see Table 1 & 2). This result is related to the degree of China's economic liberalization. In recent years, since the Chinese government allowed the free inflow and outflow of capital into China, the adoption of a floating exchange rate in China in 2005 facilitated the appreciation of the Renminbi.

In addition, the flow of international capital into the Tourism markets in Taiwan was greatly influenced by the floating exchange rate in July 2005. This is also reflected in the fact that in the mid-1980s, the officially sanctioned parallel foreign exchange market has provided not only an alternative source of foreign exchange but also information on the degree of overvaluation of the official exchange rate.

A period of overvalued exchange rates can be expected to lead to increased capital flight as wealth holders attempt to escape the expected devaluation of the Yuan (Gunter, 1996). The narrowing of the overvaluation of the PRC currency which began toward the end of 1993 and which continued through 2005 did not lead to a deceleration of capital inflow in 2005.

When capital flows go both ways, like normal capital flows, a dual direction in the flows can be expected when capital is mobile and when economies are open and integrated. In other words, capital flows into and out of the country are normal, especially when the economy is growing, and these should be encouraged (FitzGerald & Cobham, 2000). On the other hand, when the capital flows are mainly or are dominantly outflows, there is a presumption of abnormality since large net capital outflows arise because of the higher risks involved in the domestic economy.

Apparently, a further increase in economic and political uncertainty more than offsets the adoption effects of a more reasonable exchange rate policy. It should also be noted that overvaluation of the official exchange rate will tend to increase hot money even if the PRC economy continues to improve.

*Suggestions for future studies:*

Hong Kong's role has significant implications for future international capital flow and indicates three other roles with respect to PRC capital. Some of this capital simply passes through Hong Kong on its way to other foreign havens. Meanwhile a second portion is actually invested in the Hong Kong economy, and a third portion of PRC capital inflow is eventually reinvested in the PRC. Another aspect that has significant implications is the adjustment of China's official overvaluation exchange rates. Gunter (1996) reports that an inappropriate exchange rate results in large-scale capital flight from China, for example, overvaluation exchange rates. Since the implementation of RMB floating rate management in July 2005, the major aim of changing RMB exchange rate is to revise the overvaluation exchanges set by the Chinese government (Funke & Rahn, 2005).

In other words, the change of RMB exchange rates this time is intended to revise the inappropriate exchange rate system; thus, capital flight could be reduced gradually along with the Chinese government's revision of RMB exchange rates. However, Fama and French (1992) points out that an efficient market could reflect market information completely. In contrast, an inefficient market cannot reflect market information into the market transaction. That is, if the change of the RMB exchange rate system cannot be reflected into the actual capital flow through free market mechanism, especially in China's market that features a high degree of government manipulation, this reform would attract more short-term speculators due to the change in the RMB exchange rate system.

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