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Macro and non-macro explanatory factors of Chinese hotel stock returns

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Abstract

This study investigates the link between macro and non-macro explanatory factors and Chinese hotel stock returns. Macro variables include growth rates of industrial production and imports, discount rates, yield spread and inflation rate. In addition, growth rate of total foreign tourist arrivals ($\Delta TA$) was introduced as another critical macro factor that may affect Chinese hotel stock returns, considering a tremendous growth of tourism in China. Empirical results indicated that the impact of $\Delta TA$ was positive, but insignificant. Thus, Chinese hotel stock returns were more sensitive to general macro variables. Non-macro events that could significantly impact Chinese hotel stock returns encompass financial crises, natural disasters, wars, terrorist attacks, political events, and sports mega-events. Discussions and conclusions are provided to guide hospitality investors.

Keywords: Hotel; Stock returns; Macro factors; Non-macro events; China

1. Introduction

There is a considerable amount of research that examines stock price behaviors. Among all, economic researchers, financial investors and policy makers have paid an increasing attention to the relationship between macroeconomic variables and stock returns.

The dividend discount model (DDM) states that the stock price index ($SPI$) is equal to the present value of all expected future dividends into perpetuity:

$$SPI_0 = \sum_{t=1}^{\infty} \frac{E(DV_t)}{(1+k)^t},$$  (1)

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where $E$ is the expectation operator, $DV_t$ is the dividend paid at the end of period $t$, and $k$ is the appropriate discount rate. Based on the theoretical framework of the DDM, Chen et al. (1986) suggested that macroeconomic (macro hereafter) factors have systematic influences on stock prices through the impact on future dividends and the discount rate. Those macro factors, as they reported, that could significantly affect US stock returns comprised industrial production growth rates, yield spread, term spread, expected inflation rates, and unexpected inflation rates.

Since the work by Chen et al. (1986), financial researchers have extended the investigation to a variety of international stock markets (for example, Hamao, 1988; Asprem, 1989; Chen, 1991; Booth and Booth, 1997; Bilson et al., 2001; Wongbangpo and Sharma, 2002; Chen, 2003; Ibrahim and Aziz, 2003; Chen, 2005b; Rapach et al., 2005). They revealed that macro explanatory factors of stock returns in several countries generally consist of industrial production growth rate, inflation rate, growth rate of money supply, yield spread, changes in unemployment rate, growth rate of imports and changes in exchange rates.

However, within hospitality literature, only two studies have examined the relationship between macro variables and hospitality stock returns (Barrows and Naka, 1994; Chen et al., 2005). Barrows and Naka (1994) hypothesized that five selected macro variables could explain stock returns of US hospitality firms, and found that inflation rates and growth rates of both money supply and domestic consumption were significant factors of stock returns of restaurant and lodging firms.

Chen et al. (CKK, 2005) examined the impact of macro and non-macro variables on hotel stock returns in Taiwan. Among five macro variables, only money supply growth rate and changes in unemployment rate significantly described the movement of Taiwanese hotel stock returns. They further showed that Taiwanese hotel stock returns were not only affected by macro forces, but also impacted by a variety of local and international events.

The existing hospitality literature has been conducted for the US stock market (Barrows and Naka, 1994) and the Taiwan stock market (CKK, 2005). This study aims to extend the examination of the linkage between macro and non-macro variables and hotel stock returns to the emerging stock market of China. There are two stock exchanges in China, namely the Shanghai Stock Exchange and the Shenzhen Stock Exchange, founded in December 1990 and July 1991, respectively. The launch of the China’s stock markets was part of the economic reform that intended to transform the Chinese economy from a centrally planned system to a socialist-market system. In the newly launched system, the Chinese government seeks to use the market to develop the economy, while maintaining some socialist characteristics.

Since the beginning of 1990s, both stock exchanges in China have been growing rapidly in terms of size (market capitalization), trading volumes and number of stocks traded. Two types of shares, A and B shares, are listed in both Stock Exchanges. A shares are denominated in the local currency (Renminbi, RMB), whereas B shares are denominated in Hong Kong dollars. Foreign individuals or institutions are not allowed to buy and sell A shares. B share markets have not grown as rapidly as A share markets. According to the financial statistics taken from Taiwan Economic Journal (TEJ) database, the size and number of stocks listed for A shares are almost 10 times the corresponding figures for B shares as of the end of September 2003. Ma and Folkerts-Landau (2001) reported that China’s stock market is now the second largest in Asia, next to only Japanese stock market. They further speculated that China’s securities market has the potential to rank among the top four or five in the world within the coming decade.
Along with the fast growth of equity markets, China National Tourism Administration (2002) reported that, in 2000, the number of international tourists traveling to China reached 31.24 million and the tourism receipts were 16.23 billion in US dollars (US$), which ranked number five and seven, respectively, in the world. Based on the forecasts by World Tourism Organization (1997), Avelini Holjevac (2003) predicted that Europe would have the lowest tourist growth rate, whereas East Asia and the Pacific would have the largest tourist growth rate. Pizam (1999) believed that, by the year 2050, China would be one of four major tourist destinations. Accordingly, the newness and distinct features of the stock market and rapid tourism development make China a unique case to conduct research on the connection between macro and non-macro variables and hotel stock returns.

Based on the above illustration, three major objectives are intended in this study. First, this research attempts to provide a comparative analysis of the impact of macro forces on hotel stocks. To date, only US and Taiwanese hospitality stocks have been investigated. This study can provide more insights into the link between macro variables and hospitality stock returns by examining to what extent local macro factors (macro variables of US, Taiwan, and China) explain respective local hotel stock returns and whether the explanatory power of macro variables differ significantly across countries.

In addition to general macro variables, we included another economic factor, namely the total number of foreign tourist arrivals ($TA$). This variable is commonly considered as a proxy for tourism development or expansion (Wang and Godbey, 1994; Kim et al., 2006) and expected to have a more direct influence on the tourism and hospitality sector. For example, Kim et al. (2006) showed that tourism expansion and economic development, measured by growth in gross domestic product (GDP), reinforce each other. Chen (2006a) further found that business conditions (proxied by GDP growth) significantly affect financial performance of tourism firms. Therefore, the second objective is to investigate the impact of $TA$, as an additional critical and feasible macro variable, on hotel stock returns.

Hotel companies in China and Taiwan have experienced several common non-macro events, such as the outbreak of Severe Acute Respiratory Syndrome (SARS) in February 2003, sports mega-events (e.g. the 2000 Sydney Olympics and the 2002 Japan/Korea World Cup), the 1997–1998 Asian financial crisis, the Iraq war in 2003 and the terrorist attacks of September 11, 2001 in the US. The third objective is to examine the impact of those non-macro events on Chinese hotel stock returns and offer a comparison of this study with CKK (2005) to draw a more general conclusion of the influence of non-macro forces on hotel stock returns.

The rest of the paper is structured as follows. Section 2 reviews some financial studies in the hospitality literature. Section 3 describes the data and variables. Regression tests and empirical findings are presented in Section 4. Section 5 discusses major findings. The last section concludes the paper and provides some future research directions.

2. Literature review

Canina (1996) examined the initial public offerings (IPOs) in the US hotel industry. The author found that underwriters generally viewed the primary issue of most hotel and casino stocks as more risky than new stock offerings. Atkinson et al. (1998) studied the impact of option listings on 21 common stocks in the casino and gaming industry. They showed that prices significantly decreased during both 2-day and 5-day periods, following
the listing. Nonetheless, stock prices recovered right afterwards and no evidence of a permanent changes in stock prices was detected.

Kim et al. (2002) compared the performance of the US hotel real estate investment trusts (REITs) over the period from 1993 to 1999 with that of the overall market and six other REIT sectors. Empirical results revealed that hotel REITs exhibited the highest risk and underperformed office, industrial and diversified REIT sectors.

Rushmore (1992) assessed seven stock valuation measures used for the acquisition and appraisal of hotels in the US and offered a discussion of the strength and weakness of each technique. Elgonemy (2000) examined the pricing of lodging stocks. He noted that hotel stocks, by their nature, were not for day traders or momentum investors, who were seeking short-term high returns, but rather for investors who were focusing on long-term values. Borde (1998) and Gu and Kim (2002) examined whether particular financial characteristics of a restaurant firm, such as liquidity, dividend-payout ratio, return on assets, leverage and growth in earnings, could be used to predict the company’s investment risk.

Quite a few studies have also been devoted to the examination of the impact of non-macro forces on security returns. Krueger and Kennedy (1990) showed that the Super Bowl could serve as a useful predictor for stock market movements in US Investors, according to the study, could have outperformed the market simply by reacting to Super Bowl game outcomes from 1967 to 1988. Berman et al. (2000) investigated the announcement effect of the 2000 Sydney Olympic games on the Australian stock market. No significantly positive impact from the announcement was documented.

Chen (2002) further claimed that tourism stocks failed to benefit significantly during the game period. In contrast, Veraros et al. (2004) were able to attribute the abnormally positive performance of both the Athens Stock Exchange as a whole and infrastructure related industries to the announcement of the 2004 Athens Olympic games. Negative effect of sports mega-events such as the 2000 Sydney Olympics and the 2002 Japan/Korea World Cup on Taiwanese hotel stock returns was reported in CKK (2005).

Raab and Schwer (2003) studied the short- and long-term impacts of the Asian financial crisis on Las Vegas gaming revenues. Empirical results indicated that the devaluation of local currencies of Hong Kong, Japan, Korea and Taiwan failed to generate a significant long-term effect on gaming revenues in Las Vegas.

The influence of political risk on stock returns was investigated in Diamonte et al. (1996) and Erb et al. (1996). Diamonte et al. (1996) and Erb et al. (1996) documented that stock returns were correlated with political risk. Diamonte et al. (1996) further concluded that political risk represents a more crucial determinant of stock returns in emerging than in developed markets.

Chien and Law (2003) discussed the impact of the SARS on hotels in Hong Kong. Pine and McKercher (2004) presented a negatively profound influence of SARS on Hong Kong’s tourism industry. A similar result was produced in Chen et al. (2006) for the outbreak’s impact on hotel stock prices in Taiwan.

3. Hotel stock prices and explanatory factors

3.1. Hotel stock returns

As mentioned, China’s stock exchanges are relatively new players in the Chinese economy and in the world. Currently, there are only four hotel stocks traded in China’s
stock market, including stocks of Century Plaza Hotel, Dong Feng Hotel, Huatian Hotel and Jinjiang Hotel. Stocks of Century Plaza Hotel, Dong Feng Hotel and Huatian Hotel are listed in the Shenzhen Stock Exchange, whereas stock of Jinjiang Hotel is listed in the Shanghai Stock Exchange. All hotel stocks included in this study are A shares. The first stock of hotel company, Dong Feng Hotel, was traded in November 1993 and stocks of Huatian Hotel and Jinjiang Hotel were not listed until August 1996, and October 1996, respectively.

Taken from the TEJ financial database, monthly hotel stock prices covered the period from October 1996 to September 2003. We computed the value-weighted hotel SPI and then calculated hotel stock returns ($HR_t$) as

$$HR_t = (\ln SPI_t - \ln SPI_{t-1}) \times 100.$$  \hspace{1cm} (2)

3.2. Macro factors and non-macro events

The choice of macro variables in this study is in consideration of data availability. Seven monthly macro data covered in this study included industrial production ($IP$), imports ($IM$), discount rates ($DR$), 7-year Government bond yield ($LGB$), 3-month Treasury bill rate ($TB$), consumer price index ($CPI$) and total foreign tourist arrivals ($TA$). All data were also taken from the TEJ financial database. Based on those seven time series data, we derived six selected macro factors, namely $\Delta IP$, $\Delta IM$, $\Delta DR$, $\Delta SPD$, $INF$ and $\Delta TA$.

The growth rate of industrial production ($\Delta IP$) is calculated as: $\Delta IP_t = (\ln IP_t - \ln IP_{t-1}) \times 100$. The growing $IP$ suggests that the economy is expanding, which in turn offers firms with an ample opportunity to increase sales and incomes. As a result, we expected stock prices to go up, i.e. a positive impact of $\Delta IP$ on hotel returns.

Following Asprem (1989) and Chen (2003), we employed imports as an alternative factor for consumption. They argued that changes in imports are primarily triggered by changes in consumption and investment. The increase in domestic private consumption could drive imports up, especially in those trade-oriented countries where imports account for a relatively large proportion of the national GDP. Accordingly, Asprem (1989) and Chen (2003) showed the negative correlation between $IM$ and stock prices. The growth rate of imports ($\Delta IM$) is defined as: $\Delta IM_t = (\ln IM_t - \ln IM_{t-1}) \times 100$.

We used discount rates to represent the monetary policy because the time series data of money supply was only available on quarterly or yearly basis. An increase in $DR$ represented a restrictive monetary policy. A more restrictive monetary policy implies that the discount rate used to value firm’s cash flows rises, making these cash flows worth less. Through this mechanism, we expected that $\Delta DR$ would be negatively linked to stock returns (Jensen and Johnson, 1995). We derived changes in discount rates $\Delta DR$ as: $\Delta DR_t = DR_t - DR_{t-1}$.

The yield spread ($\Delta SPD$) was computed by subtracting $TB$ from $LGB$: $\Delta SPD_t = LGB_t - TB_t$. As CKK (2005) stated, a high interest rate would decrease the present value of future cash flows, and thus reduce the attractiveness of investment opportunities. They observed a negative influence of $\Delta SPD$ on hotel stock returns in Taiwan. Note that the regression analysis requires that all variables involved are stationary. Hence, we used the variable of changes in yield spread $\Delta SPD$ rather than the $\Delta SPD$ because unit root test results indicates that $\Delta SPD$, not the level of $\Delta SPD$, is stationary.
We estimated the expected inflation rate (INF) using CPI as in Chen et al. (1986), Chen (1991) and CKK (2005). Economic theories and results of empirical studies demonstrated that the CPI might impact stock prices either positively or negatively. Asprem (1989) argued that stocks are claims on underlying real assets and should offer a hedge against inflation. Hence he expected that CPI would influence SPI positively. Conversely, empirical results from five out of 10 European countries in Asprem (1989) showed a positive link between SPI and CPI, and a negative link in the other five countries. Chen et al. (1986), Barrows and Naka (1994) and CKK (2005) also supported the negative relationship between SPI and CPI.

As mentioned in the introduction section, TA is generally considered as the variable of tourism expansion. Thus it is expected that TA factor would be more directly related to the tourism and hospitality sector. Kim et al. (2006) examined the relationship between tourism expansion and economic growth and found a positive impact of tourism development on the national economy. A positive economic impact generally leads to an increase in sales and hence income (and earnings), which in turn can improve the financial performance of hotel companies. Therefore, we expected a positive link between the TA variable and hotel stock returns. Similarly, the growth rate of tourism expansion (D_TA) was calculated as: 

\[ D_{TA_t} = \ln(TA_t) - \ln(TA_{t-1}) \]

Table 1 presents the summary statistics of hotel stock returns and six macro factors. The monthly hotel stock returns ranged from 41.31% to −56.11% with a mean of −0.05%. They were also volatile. The standard deviation was 15.60%, which was relatively higher than that of lodging returns in US (9.55%) and that of hotel returns in Taiwan (14.53%) although their respective sample sizes were different. Macro variables, except for DIM, were less volatile than hotel returns.

In addition to macro variables, some recent non-macro events were selected. Non-macro forces under consideration here covered the SARS outbreak in February 2003, political events (the takeover of Hong Kong and the takeover of Macao), the 1997–1998 Asian financial crisis, the Iraqi war in 2003, the terrorist attacks of September 11, 2001 in the US and sports mega-events (the 2000 Sydney Olympics, the 2002 Japan/Korea World Cup and the announcement of the 2008 Beijing Olympics).

4. Regression tests and findings

Prior to the regression analyses, we employed the Augmented Dickey–Fuller (Dickey and Fuller, 1981) unit root tests to examine the stationarity of all variables. Test results (not reported here) indicated that HR, ΔIP, ΔIM, ΔDR, ΔSPD, INF and ΔTA are all stationary. Table 2 shows correlations among exploratory macro variables over the entire sample period. In general, correlations among macro variables were relatively high
between $\Delta DR$ and $\Delta SPD$ (0.48), between $\Delta IM$ and $INF$ (−0.50), between $\Delta IM$ and $\Delta TA$ (0.55) and between $INF$ and $\Delta TA$ (−0.63). We hence carry out several separate multiple regressions to avoid the possible presence of multicollinearity.

### 4.1. Macro explanatory factors

To examine the explanatory power of macro factors on hotel stock returns in China, we run regressions based on Eq. (3):

$$HR_t = a_0 + a_1 \Delta IP_t + a_2 \Delta IM_t + a_3 \Delta DR_t + a_4 \Delta SPD_t + a_5 INF_t + a_6 \Delta TA_t + \epsilon_t. \quad (3)$$

Following CKK (2005), we used the approach proposed by Newey and West (1987) to obtain consistent estimates in regression coefficients, standard errors, and associated $t$-statistics by correcting the possible presence of autocorrelation and heteroscedasticity.

Table 3 reported results of the multiple regressions of hotel stock returns on macro variables. Empirical results of the first regression indicated that, among six macro factors, $\Delta IP$ and $\Delta TA$ were positively correlated to hotel returns, whereas $\Delta IM$, $\Delta DR$, $\Delta SPD$ and $INF$ had a negative influence on hotel returns. These findings supported the hypotheses we made. Of all six macro variables, only $\Delta IP$, $\Delta IM$, $\Delta DR$ and $\Delta SPD$ could significantly explain the hotel returns. The overall explanatory power of macro factors on the hotel return was about 7%.

| Variable | $\Delta IP$ | $\Delta IM$ | $\Delta DR$ | $\Delta SPD$ | INF | $\Delta TA$ | $\bar{R}^2$ |
|----------|-------------|-------------|-------------|-------------|-----|-------------|-----------|
| Regression I | 0.66 | −0.32 | −4.75 | −5.12 | −0.74 | 1.22 | 0.0719 |
| (1.81)* | (−2.56)** | (−2.75)** | (−2.74)** | (−0.58) | (0.29) |
| Regression II | 0.74 | −0.24 | −5.52 | −4.09 | – | – | 0.0724 |
| (2.53)** | (−2.35)** | (−3.30)** | (−2.17)** |
| Regression III | 0.65 | −0.23 | – | −7.10 | – | – | 0.0747 |
| (2.18)** | (−2.26)** | (−3.36)** |
| Regression IV | 0.77 | −0.24 | −7.30 | – | – | – | 0.0800 |
| (2.61)** | (−2.34)** | (−2.83)** |

Note: Numbers in parentheses are $t$-statistics. The symbols (*), (**) and (***) indicate statistical significance at the 10%, 5% and 1% level, respectively.
Regression II excluded the insignificant influential variables of \( INF \) and \( \Delta TA \). Test result did not change significantly. Since \( \Delta DR \) was highly correlated with \( \Delta SPD \), we used regression II to run regressions III and IV, which excluded \( \Delta DR \) and \( \Delta SPD \), respectively. Result of regression III was similar to that of regression II. However, result of regression IV showed that the explanatory power increased from 7% to 8%. We hence employed regression IV to test the impact of non-macro events on hotel returns.

4.2. Tests of non-macro factors controlling for effects of macro factors

To test whether non-macro forces affect hotel stock returns, we incorporated non-macro events into the model along with significant macro variables (\( \Delta IP \), \( \Delta IM \) and \( \Delta DR \)). The following multiple regression is executed

\[
HR_t = b_0 + b_1 \Delta IP_t + b_2 \Delta IM_t + b_3 \Delta DR_t + b_4 SARS + b_5 US911 + b_6 \text{AsianCrisis} \\
+ b_7 \text{IraqiWar} + b_8 \text{Sydney} + b_9 \text{WorldCup} + b_{10} \text{Beijing} + b_{11} \text{HongKong} \\
+ b_{12} \text{Macao} + \mu_t, \tag{4}
\]

where \( SARS, US911, \text{AsianCrisis}, \text{IraqiWar}, \text{Sydney}, \text{WorldCup}, \text{Beijing}, \text{HongKong} \) and \( \text{Macao} \) denotes the dummy variable of the SARS outbreak (2/2003), the 911 terrorist attacks in the US (9/2001), the Asian financial crisis (8/1997), the Iraqi war (3/2003), the 2000 Sydney Olympics (7/2000), the 2002 Japan/Korea World Cup (6/2002), announcement of the 2008 Beijing Olympics (7/2001), the takeover of Hong Kong (6/1997), the takeover of Macao (12/1999), respectively. All non-macro dummy variables take the value of one during the corresponding month on the event date and zero otherwise.

Table 4 reports regression results of the hotel stock returns on non-macro forces by controlling for effects of macro risks. Among nine non-macro factors, only two events (the Iraqi war and the 2002 Japan/Korea World Cup) impacted the hotel returns positively. Of all nine events, only the 2002 Japan/Korea World Cup could not significantly affect the hotel returns. Another sports mega-event, the 2000 Sydney Olympics impacted hotel returns negatively.

As expected, hotel returns reacted negatively to the SARS outbreak, the 9/11 terrorist attacks in the US and the Asian financial crisis. Hotel returns in China were most seriously damaged by the 9/11 terrorist attacks in the US. Furthermore, Chinese hotel returns were negatively correlated to two political events, the takeover of Hong Kong and the takeover of Macao. Some other interesting results were revealed. First, we found that the Iraqi war

| Variable     | Constant | \( \Delta IP \) | \( \Delta DR \) | \( \Delta IM \) | US911 | SARS     | AsianCrisis |
|--------------|----------|----------------|----------------|----------------|-------|----------|-------------|
| Coefficient  | 1.63     | 0.77           | -6.05          | -0.26          | -34.19| -12.94   | -13.99      |
|              | (0.92)   | (2.52)***      | (-2.36)**      | (-2.23)**      | (-17.63)*** | (-3.17)*** | (-4.52)*** |

| Variable     | IraqiWar | Sydney | WorldCup | Beijing | HongKong | Macao | \( R^2 \) |
|--------------|----------|--------|----------|---------|----------|-------|----------|
| Coefficient  | 11.19    | -6.73  | 3.40     | -14.22  | -5.45    | -7.05 | 0.1043   |
|              | (1.80)***| (-3.38)*** | (0.74)   | (-8.26)*** | (-2.79)*** | (-2.93)*** |        |

Note: Same as in Table 3.
had a positive influence on hotel returns. Second, hotel returns responded negatively to the announcement of the 2008 Beijing Olympics.

5. Discussions

5.1. Macro explanatory factors and hotel stock returns

This study examined macro and non-macro explanatory factors of Chinese hotel stock returns. Empirical results indicated that ΔIP, ΔIM, ΔDR and ΔSPD, were significant macro explanatory factors of Chinese hotel stock returns. The rising IP implies that the economy is expanding. The growing economy provides firms with plenty opportunity to increase sales and earnings, which in turn drives stock prices up according to the basic financial theory. The hypothesized relationship was supported.

The consumption-based asset pricing model (Lucas, 1978; Breeden, 1979) posits that asset return is negatively correlated to the marginal propensity to consumption. As mentioned earlier, imports serve as an alternative factor for consumption. The increase in imports suggests that domestic private consumption grows and hence drive stock prices down. This negative correlation between IM and stock prices was consistent with findings in Asprem (1989) and Chen (2003).

As for the negative influence of ΔSPD, since the interest rate determines the discounted present value of firms’ future earnings or cash flows, a high interest rate shrinks the present value of future cash flows, thereby decreasing stock prices. Moreover, a rise in DR implies a restrictive monetary policy and higher future interest rates, thereby hampering economic activity and reducing stock prices. Thus, ΔDR impacted hotel returns negatively.

It is also worth noting that while ΔTA had a positive impact on hotel returns, its influence was not statistically significant. Previous studies showed that the tourism development could boost the economic development. We hence speculated that ΔTA might have a more significant effect on hotel stock returns than general macro factors. However, it was found that hotel stock returns were actually more sensitive to general macro variables.

5.2. Non-macro forces and hotel stock returns

Regression test results also supported that non-macro events are significant explanatory factors of hotel stock returns. As anticipated, hotel stock returns had a negative response to the SARS outbreak, the 911 terrorist attacks in the US and the Asian financial crisis. The same consequences were found in Taiwan (CKK, 2005). While hotel returns were most seriously hurt by the SARS outbreak in Taiwan, the 911 terrorist attacks in the US damaged Chinese hotel returns most. Moreover, the Asian financial crisis had a minimum negative impact on the Taiwan hotel stock returns among all non-macro variables, but it was the second most influencer in China.

CKK (2005) further argued that safety is the most important factor when international tourists make travel decisions, therefore a negative impact of the SARS outbreak, natural disasters and the terrorist attacks on hotel returns is expected. In general, this study supported CKK’s (2005) notion on the negative link between hotel stock returns and non-macro forces, which threaten traveler’s safety, except for the event of the Iraqi war. The Iraqi war had a significantly beneficial influence on Chinese hotel returns. It is suspected
that during the war period, international tourists might have considered that traveling to China is safer than to the Middle East when making travel decision. Similar result was found in Chen (2006c). Chen (2006c) detected that the international tourism demand (total tourist arrivals) for Taiwan significantly increased after the devastating earthquake struck deep under the Indian Ocean on December 26, 2005 and severely harmed the tourism industry of countries in the Southern Asia.

Chinese hotel stock returns were also sensitive to political events. Two political events (the takeover of Hong Kong and the takeover of Macao) impacted Chinese hotel returns negatively. CKK (2005) reported a significant effect of the political event (two presidential elections) but a positive influence. These empirical results are consistent with findings in Diamonte et al. (1996) and Erb et al. (1996) that equity returns are correlated with political risk. However, political events seem to bring mixed results on the basis of how local people or investors perceive the events.

Regarding international sports mega-events, during the 2000 Sydney Olympics, Sydney was likely a major travel destination drawing an international attention, which consequently might decrease the international visitors to China and result in a negative impact on the hotel industry. This result is similar to the outcome of CKK’s (2005) study. However, Chinese hotel returns had a positive reaction to the 2002 Japan/Korea World Cup. The result might be due to the fact that, after 44 years of failure, China finally played the first World Cup finals match (Larmer, 2002). Larmer (2002) argued that for China, the 2002 World Cup was much than a game. He further stated that the whole world would be watching, putting the pride of the soccer-mad China at stake. Chen (2005a) also found that the 2002 World Cup games had a stronger impact on emerging stock markets than developed stock markets among all countries that participated in the 2002 World Cup. The upward swing of the overall stock market movement might help drive the hotel stock prices up.

One of the interesting findings relates to announcement of the 2008 Beijing Olympics. To date, links between the announcement of the Olympics and stock returns have been inconclusive (Berman et al., 2000; Veraros et al., 2004). Veraros et al. (2004) argued that the announcement of the Olympics should have a positive effect on the stock exchange of the hosting country. Both Berman et al. (2000) and Veraros et al. (2004) reported a positive effect of announcement of the Olympics in Australia and Greece respectively, although the positive impact in Australia was insignificant. Nonetheless, the impact of the announcement of the 2008 Beijing Olympics on hotel stock returns in China was negative.

As matter of fact, the public’s reaction of the Beijing bid for the 2008 Olympics was not all positive. Prior to the announcement, Hopkins (2003) reported that China’s bid for the 2008 Olympics has attracted heavy criticism from many perspectives, especially China’s poor human rights record. As he noted, human rights groups showed evidence that China executed more people every year than any other country, and they further criticized China’s policy of enforced sterilization and abortion as well as China’s treatment of Tibet and of the Falun Gong movement. According to CNN news (2001), “We deeply regret that Beijing is awarded the 2008 Olympic Games,” spokesman for the India-based Central Tibetan Administration Kalon T.C. Tethong said in a statement right after the announcement. He further stated, “This will put the stamp of international approval on Beijing’s human rights abuses and will encourage China to escalate its repression.” Anthony Ozimic, political secretary of the Society for the Protection of Unborn Children in England, further argued: “We believe that awarding the games to Beijing will boost this
regime and provide cover for its human rights abuses, just as the 1936 Berlin games boosted Hitler’s regime” (CNN news, 2001).

Additionally, Leung and Lee (2005) and Chen (2006b) found that institutional investors and foreign institutional holding had a significantly positive effect on the performance of hospitality stocks. Therefore, the negative response of Chinese hotel stocks may suggest that local and foreign institutional investors temporarily interpret the announcement as a political risk and react to it negatively. In conclusion, the various effects of the announcement of the Olympics are in line with the mixed impact of political events. Outcomes may depend on how markets and investors perceive those forces.

6. Conclusion and future research directions

Following Barrows and Naka (1994) and CKK (2005), this study is conducted to validate the results of previous studies by investigating macro and non-macro explanatory variables of Chinese hotel stock returns. The findings could offer not only a more general conclusion on the links between hotel stock returns and macro and non-macro forces, but also a valuable information for those financial institutions and individual stock investors who search for investment opportunities in the hospitality industry. The majority of results are generally in line with previous outcomes and confirm that both macro and non-macro factors can serve as significant determinants of hotel stock returns.

First, while money supply growth rates and INFs were significant factors of US lodging returns (Barrows and Naka, 1994) and Taiwanese hotel stock returns were sensitive to money supply growth rates and changes in unemployment rates (CKK, 2005), Chinese hotel stock returns were significantly related to growth rates of both industrial production and imports, changes in discount rates and changes in yield spread. Among macro factors, monetary policy variable appears to be the only macro factor that consistently and significantly explain hotel stock returns in all three counties. The 8% of explanatory power of macro factors on hotel returns in China is very similar to the value found in US (7.8%) and in Taiwan (7.6%).

Second, since the hospitality industry may rely more directly on tourism expansion, it is hypothesized that the tourism expansion factor \( \Delta TA \) should have a significant influence on hotel returns by stimulating hotel firm’s earnings. The positive impact was detected after controlling for the effects of general macro variables, yet its influence was not statistically significant. Although, \( \Delta TA \) did not significantly explain hotel stock returns in China, future research could use data from different countries to validate this finding.

Third, the relationship between hotel stock returns and non-macro events was indecisive. Among non-macro events, the 9/11 terrorist attacks in the US, the SARS outbreak, the Asian financial crisis and the 2000 Sydney Olympics had a significant negative effect on hotel returns in both China and Taiwan. While Taiwanese hotel stocks were sensitive to presidential elections (CKK, 2005), Chinese hotel stock returns had a negative reaction to the takeovers of Hong Kong and Macao, and the announcement of the 2008 Beijing Olympics. Moreover, hotel stock returns responded to the 2002 Japan/Korea World Cup and the Iraqi war negatively in Taiwan, but positively in China.

Indeed, mixed results of the impact of non-macro factors on hotel returns in different stock markets might not be surprising. Note that stock prices reflect the national investors’ expectations about expected future earnings of companies in each country. Nonetheless, every country had its own national risk (Diamonte et al., 1996; Erb et al., 1995, 1996),
which in turn could have different influences on formation of investors’ expectations. Thus, it is not unexpected to see that similar events that happened in various countries and/or markets may result in different consequences, depending on how stock markets and investors perceive those forces. For example, Diamonte et al. (1996) reported that political risk had a more significant impact on stock returns in emerging markets than in developed markets.

In addition, Leung and Lee (2006) and Chen (2006b) reported that local and foreign institutional investors played an important role in improving stock performance of tourism companies in the US and Taiwan, respectively. These findings may suggest that not only local investors, but also foreign institutional investors could impact domestic hotel stock prices. Whether local and foreign institutional investors significantly affect Chinese hotel stock returns and hence the response of hotel returns to non-macro events may deserve a further examination.

After all, given that empirical findings and conclusions in this study were induced based on a limited number of papers, more studies using data from different countries and markets are still recommended.

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