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Role of tourism price in attracting international tourists: The case of Japanese inbound tourism from South Korea

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A B S T R A C T
Tourism price has been extensively used to predict tourism demand. However, there is no agreement on the proper indicators of its components. Use of different price indicators may be the reason for researchers’ apparently inconsistent results. The purpose of this study was to identify proper price indicators for the demand model of Japanese inbound tourism from South Korea. After comparing six models, each with different price indicators, the model with relative price and exchange rate but without transport cost was identified as the best model in which relative price, exchange rate, and per capita income were found to be significant.

1. Introduction
International tourism has experienced sustained expansion over the past six decades, substantially contributing to the world economy. International tourist arrivals reached the unprecedented milestone of 1 billion in 2013 and generated US$476 billion in gores (World Tourism Organization, 2014). Accordingly, many researchers have conducted studies on international tourism flows and their major determinants (Carey, 1991; Chatzianthoniou, Filis, Eeckels, & Apostolakis, 2013; De Vita & Kyaw, 2013; Garín-Muñoz, 2006; Law, Goh, & Pine, 2004; Lee, 1996; Wang, 2009).

Tourism demand forecasting is important for effective use of limited resources in both private and public sectors (Lee, Var, & Blaine, 1996; Song & Witt, 2006). Since many tourism products such as airline seats and hotel rooms are perishable, efficient planning based on accurate estimation of demand is critical for successful tourism businesses. An inability to meet demand often leads to business failure in the tourism industry (Song & Witt, 2006). For the public sector, tourism forecasting provides a basis for planning investments in tourism infrastructure such as airports and highways (Lee, Song, & Mjelde, 2008). Since such large-scale infrastructure projects require considerable public funds over the long term, the expected return on investment (ROI) should be spelled out in the planning stages, and ROI is in large part determined by forecasting tourism demand. Accordingly, accurate demand estimation is essential when appraising investment plans’ economic feasibility (Song & Witt, 2006).

Recognizing the importance of tourism demand forecasting, the econometric approach has been widely adopted to predict tourism demand (Song & Li, 2008). In econometric studies of tourism demand, per capita income, tourism price, promotional efforts, and external shocks have been identified as important determinants of tourism demand (Li, Song, & Witt, 2005; Lim, 1999; Song & Li, 2008). However, results regarding the effects of price variables (e.g., relative prices, exchange rates, transport cost) on international tourism demand vary widely. Some inconsistent results may be attributable to use of different variables as a proxy for the same tourism price factor. This inconsistent use of price variables suggests that more research needs to be done to identify the price variables that best represent international tourism price.

Given that previous empirical studies yielding the inconclusive results on price effect have been conducted in the context of different countries, proper price variables may be different from destination to destination. Indeed, tourists’ responses to changes in explanatory variables are country-specific and therefore the variables’ elasticity varies by destinations (Crouch, 1995; Dwyer, Forsyth, & Rae, 2000; Gil-Pareja, Llorea-Vivero, & Martinez-Serrano, 2007). Moreover, recent changes in economic circumstances such as currency depreciation resulting from unconventional monetary policy (US, Eurozone, Japan), shifts in exchange rate policy (Switzerland, Singapore, China), and drastic drops in oil prices triggered by expanded supplies of shale gas may substantially influence the cost of travel to the countries changing international tourism demand. Thus, choosing the proper price variables for the tourist destinations examined could be critical to the accurate estimation of tourism demand for those destinations.

The aim of this study is to address the selection of proper tourism price variables in identifying underlying factors in tourism demand.

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model. Specifically, this study estimates and compares several demand models of Japanese inbound tourism from South Korea (hereafter Korea), each of which includes different price variables. Japanese inbound tourism from Korea was chosen for the following reasons: (1) Korea is the largest tourism market for Japan; and (2) price variables have a clear effect on tourism demand, as shown by the fact that the Japanese yen (JPY) has depreciated against the Korean won (KRW) from the fourth quarter of 2011 to the third quarter of 2014. The findings of this study contribute to a better understanding of price variables when forecasting international tourism demand for a specific country. In addition, because the Japanese government intends to increase its annual tourist arrivals to 20 million by 2020 when Japan hosts the Tokyo Olympics (Ong, 2014), identifying determinants of tourism demand for Japan is of great importance for both policymakers and tourism practitioners.

2. Literature review

Tourism demand studies fall into two categories: qualitative and quantitative (Peng, Song, & Witt, 2012). Quantitative demand studies are dominant in the tourism demand literature (Song & Turner, 2006) and two forecasting approaches are the most commonly used: time-series and econometric (Song & Li, 2008). The time-series approach is useful in that estimation procedures are relatively simple and only one data series is needed for estimation (Peng et al., 2012). In this approach, demand forecasting is performed by analyzing the patterns of past demand movements and then, from that, predicting future movements (Song & Li, 2008). On the other hand, the econometric approach predicts tourism demand based on the causal relationship between dependent (e.g. tourists) and explanatory (e.g. income) variables with sound theoretical basis (Peng et al., 2012). The empirical usefulness of this approach lies in identifying which factors contribute most to tourism demand (Lee et al., 1996; Song, Witt, and Li, 2009).

2.1. Price factors affecting international tourism demand

In econometric tourism demand studies, several economic factors have been found to be significant determinants of international tourism demand (Prideaux, 2005). Based on classic economic demand theory (i.e. the higher the prices of goods and services, the lower the demand for those products), tourism price has been commonly used in demand models as a primary determinant (Hui & Yuen, 1998; Uzama, 2009). The approach predicts tourism demand based on the causal relationship with tourism demand. The relationship may be sensitive to changes in relative prices adjusted by movements in exchange rate. Therefore, the destination price level that potential foreign tourists pay attention to is relative prices adjusted by exchange rates. In addition, Lee (1996) developed several demand models for inbound tourism to Korea and the results of exchange rate were inconsistent. These results indicate that the effects of exchange rates are asymmetric across countries and even across different markets in a single country.

It has generally been held that relative prices and exchange rates should be considered in tourism demand models, but it remains controversial whether these two components of living cost should be examined separately or combined as effective relative prices (Durbarr & Sinclair, 2003; Gray, 1966; Tan et al., 2002). According to Song and Witt (2000), price changes in a destination country can be calibrated by movements in exchange rate. Therefore, the destination price level that potential foreign tourists pay attention to is relative prices adjusted by exchange rates. Based on this argument, many researchers (e.g. Chang, Khamkaew, & McAleer, 2010; Divisekera, 2003; Garin-Muñoz, 2006; Kliman, 1981) convert relative prices into the currency of an origin country in tourism demand equations. Numerous studies (e.g. De Vita, 2014; Divisekera, 2003; Durbarr & Sinclair, 2003; Hiemstra & Wong, 2002) have argued for the significance of effective relative prices. Tan et al. (2002) concluded that effective relative prices were a better measure of living costs for Malaysian and Indonesian tourism. In contrast, Eilat and Einav (2004) and O’Hagan and Harrison (1984) argue that relative prices and exchange rates should enter separately into tourism demand models because it is highly likely that tourists will have more up-to-date information on exchange rates than on relative prices. Accordingly, they are more likely to use exchange rates to estimate cost of travel to the destination. Moreover, it has been noted that responsiveness of tourists to exchange rates is distinctive from their responsiveness to changes in relative prices (Gray, 1966; Lee, 1996; Muchapondwa & Pimhidzai, 2011). With this in mind, many researchers (e.g. De Vita & Kyaw, 2013; Di Matteo & Di Matteo, 1996; Dritsakis & Gialetaki, 2004; Edward, 1995; Wang, 2009; Yap, 2011). When the currency of a country devalues, its tourism becomes more price competitive and therefore travel demand for the country is likely to increase (De Vita & Kyaw, 2013). Conversely, as the value of a country’s currency rises, the decreased price competitiveness of its tourism results in a reduction in inbound tourism (De Vita, 2014). However, this view has not always been borne out in international tourism markets. Some researchers (e.g. Di Matteo & Di Matteo, 1996; Eilat & Einav, 2004; Hiemstra & Wong, 2002; Roselló-Villalonga, Aguilo-Pérez, & Riera, 2005; Wang, 2009) have found evidence that exchange rates have a significant effect on tourism demand, while others (e.g. Hui & Yuen, 1998; Muchapondwa & Pimhidzai, 2011; Webber, 2001) failed to find such evidence. In addition, Lee (1996) developed several demand models for inbound tourism to Korea and the results of exchange rate were inconsistent. These results indicate that the effects of exchange rates are asymmetric across countries and even across different markets in a single country.
Transport cost is also a component of tourism price. As transport cost accounts for a large proportion of total travel cost, an increase in transport cost tends to negatively affect destination choice with a subsequent decline in tourism flows (Covington, Thunberg, & Jauregui, 1995; Divisekera, 2003). Airfares, oil prices, or distance have been typically used as proxies for transport cost (Durbarry & Sinclair, 2003; Kuleanrd & Witt, 2001; Song & Witt, 2000). Kuleanrd and Witt (2001) compared the forecasting performance of cointegration and least-squares regression models, indicating that transport cost represented by airfares significantly influenced outbound tourism flows from the U.K. Nelson, Dickey, and Smith (2011) conducted time-series and cross-section analyses to investigate tourism from the US mainland to Hawaii. Airfare was found to be a significant determinant of tourism demand for Hawaii.

Since transport cost changes as a function of fuel costs and geographical distance, oil prices and distance between two countries have been added to demand models as a proxy for transport cost (Hiemstra & Wong, 2002). For example, Wang (2009) employed the autoregressive distributed lag model to identify the determinants of Taiwan’s inbound tourism, particularly focusing on the effect of disastrous events. The study reported that oil prices had a significantly negative effect on Taiwan tourism indicating that foreign tourists are less likely to visit Taiwan as transport costs rise. De Vita (2014) used a distance variable to approximate transport cost through a gravity-type tourism demand equation and found distance was significant on tourism demand for 27 countries. The popular use of gravity models in tourism demand studies has allowed extensive investigation of the explanatory power of distance. Such studies include Eryiğit, Kötül and Eryiğit (2010), Park and Jang (2014), and Uysal and Crompton (1984). However, oil prices and distance may be inappropriate for representing transport costs since neither variable considers the other, but both are main elements of the fuel cost function. Airfares are also limited due to complex fare structures and lack of data availability (Song & Witt, 2000; Webber, 2001).

2.2. Japanese inbound tourism and its relation to Korea

As one contributor to the increasing trend in international tourism, Japanese inbound tourism has increased from 0.7 million arrivals in 1971 to 13.4 million arrivals in 2014 (Japan National Tourist Organization, 2015). Despite occasional crisis events (e.g. the 9/11 terrorist attacks, the outbreak of severe acute respiratory syndrome (SARS), the meltdown of the Fukushima nuclear power plant), Japanese inbound tourism continues to grow. From 1971 to 2014, the annual growth rate was 7.2% on average and the figure has accelerated in recent three years averaging 29.3% along with considerable depreciation of the currency (50.3%). As a result, Japan has the sixth largest international tourism share among Asian countries (World Tourism Organization, 2014).

Three East Asian countries – China, Korea, and Taiwan – accounted for approximately 60% of Japan’s inbound tourism market in terms of number of tourist arrivals (Japan National Tourist Organization, 2014). Among these countries, Korea has been the biggest market for Japan for the last two decades. Korean tourists to Japan has increased from 0.7 million in 1990 to 2.5 million in 2013 (see Fig. 1) and their share of the Japanese inbound tourism market was between 17.6% and 31.2% (Japan National Tourist Organization, 2014). Despite the importance of Korea in the Japanese tourism industry, few studies have examined the determinants of the Korean demand for Japan tourism.

There has been extensive exchange between Korea and Japan and in various areas such as economy, culture, politics, and diplomacy because of their geographic proximity. The major presence of Korea in Japanese tourism may be a result of the strong ties established in the various areas (Lee, Song, & Bendle, 2010). Moreover, due to geographic proximity and the strong ties between the two countries, Koreans are likely to be aware of Japanese economic conditions and thus reasonably responsive to changes in Japanese tourism price. Accordingly, the impact of the different price variables of Japan tourism, whether positive or negative, can be readily captured in relation to Korea.

3. Methodology

3.1. Model estimation

This study developed tourism demand models from Korea to Japan between the first quarter of 2000 and the fourth quarter of 2014. The dependent variable (RTOUR) was the number of Korean tourists divided by the total population of Korea. The use of population as a deflator was done to control for the increase in Korean tourists caused merely by population growth.

Based on classic demand theory in which demand is a function of product price and individual income, two economic variables influencing demand for international tourism were added to the models: per capita income and tourism price. As the most important determinant of international tourism, per capita income is a measure of individual spending power. An increase in individual income is likely to lead to greater spending power creating tourism demand. This variable was calculated as the gross domestic product (GDP) of Korea divided by its population and then converted into real per capita income (RINCOME,) by dividing per capita income by Korean CPI.

To investigate the price effect on Japanese inbound tourism from Korea, this study used relative prices, effective relative prices, exchange rates, oil prices, and jet-fuel prices. For the selection of adequate price variables, this study developed and compared six demand models with different price variables as follows:

\[
\ln \text{TOUR}_{it} = \beta_0 + \beta_1 \ln \text{EXC}_{it} + \beta_2 \ln \text{RPRC}_{it} + \beta_3 \ln \text{RINCOME}_{\text{Korea}i} + \beta_4 \text{DM}_{\text{WCUP}} + \beta_5 \text{DM}_{\text{JET}} + \beta_6 \text{DM}_{\text{SARS}} + \beta_7 \text{DM}_{\text{CRISIS}} + \beta_8 \text{DM}_{\text{NUCLEAR}} + \sum_{j=1}^{3} \beta_{9+j} \text{DEAL,}_i + \epsilon_i \quad \text{(Model 1)}
\]

\[
\ln \text{TOUR}_{it} = \beta_0 + \beta_1 \ln \text{EXC}_{it} + \beta_2 \ln \text{RPRC}_{it} + \beta_3 \ln \text{RINCOME}_{\text{Korea}i} + \beta_4 \ln \text{OIL}_{it} + \beta_5 \text{DM}_{\text{WCUP}} + \beta_6 \text{DM}_{\text{JET}} + \beta_7 \text{DM}_{\text{SARS}} + \beta_8 \text{DM}_{\text{CRISIS}} + \beta_9 \text{DM}_{\text{NUCLEAR}} + \sum_{j=1}^{3} \beta_{9+j} \text{DEAL,}_i + \epsilon_i \quad \text{(Model 2)}
\]

\[
\ln \text{TOUR}_{it} = \beta_0 + \beta_1 \ln \text{EXC}_{it} + \beta_2 \ln \text{RPRC}_{it} + \beta_3 \ln \text{RINCOME}_{\text{Korea}i} + \beta_4 \ln \text{OIL}_{it} + \beta_5 \text{DM}_{\text{WCUP}} + \beta_6 \text{DM}_{\text{JET}} + \beta_7 \text{DM}_{\text{SARS}} + \beta_8 \text{DM}_{\text{CRISIS}} + \beta_9 \text{DM}_{\text{NUCLEAR}} + \sum_{j=1}^{3} \beta_{9+j} \text{DEAL,}_i + \epsilon_i \quad \text{(Model 3)}
\]
null
Table 2
Results of model estimation.

| RTOUR, | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|--------|---------|---------|---------|---------|---------|---------|
| EXC, | 0.72** (4.78) | 0.72** (4.51) | 0.83* (3.47) | – | – | – |
| RPRC, | –2.26** (-5.12) | –2.25** (-4.49) | –2.54** (-3.85) | – | – | – |
| RINCOME, | 1.15** (2.26) | 1.14** (2.22) | 1.16** (2.27) | 1.51** (3.00) | 1.42** (2.78) | 1.46** (2.84) |
| ERPRC, | – | – | – | –0.78** (-4.00) | –0.69** (-3.41) | –0.54** (-1.98) |
| ROH, | – | – | –0.00 (0.03) | – | – | 0.13 (1.14) |
| RRET, | – | – | 0.23 (0.56) | – | – | 0.47 (1.19) |
| DMNULCUP | 0.01 (0.09) | 0.01 (0.09) | 0.00 (0.00) | 0.03 (0.22) | 0.03 (0.23) | 0.04 (0.29) |
| DMVFE | 0.09 (0.99) | 0.09 (0.92) | 0.09 (1.09) | 0.29* (2.62) | 0.23* (2.41) | 0.22* (2.22) |
| DMDWARE | –0.09 (-1.03) | –0.09 (-1.01) | –0.10 (-1.12) | –0.11 (-1.11) | –0.09 (-0.97) | –0.09 (-0.88) |
| DMCRISIS | –0.17** (-2.09) | –0.17** (-2.06) | –0.18** (-2.15) | –0.13 (-1.33) | –0.12 (-1.31) | –0.11 (-1.15) |
| DMMNUCLEAR | –0.26** (-3.22) | –0.26** (-3.18) | –0.26** (-3.20) | –0.07 (-0.80) | –0.09 (-1.04) | –0.10 (-1.18) |
| DMMGOLA,1 | 0.09* (2.40) | 0.09* (2.37) | 0.10* (2.32) | 0.10* (2.61) | 0.16* (2.55) | 0.10* (2.63) |
| DMMGOLA,2 | –0.08 (-1.92) | –0.08 (-1.89) | –0.09 (-1.93) | –0.09 (-1.99) | –0.09 (-2.07) | –0.08 (-1.83) |
| DFOSTER | 0.12** (3.23) | 0.12** (3.15) | 0.12** (3.20) | 0.12** (3.05) | 0.11** (2.82) | 0.12** (3.02) |
| F-statistic | 19.28** | 17.30** | 17.49** | 13.39** | 12.56** | 12.82** |
| DW statistic | 1.95 | 1.95 | 1.95 | 1.86 | 1.88 | 1.87 |
| R² | 0.82 | 0.82 | 0.82 | 0.73 | 0.74 | 0.75 |

Note. RTOUR, is the dependent variable for all six models. *p < 0.05; **p < 0.01.

Table 4
Results of AIC and BIC.

| Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|--------|---------|---------|---------|---------|---------|
| AIC | –75.06 | –73.06 | –73.47 | –65.45 | –64.96 | –64.91 |
| BIC | –49.93 | –45.84 | –46.24 | –42.41 | –39.82 | –39.78 |

Table 3
Results of partial F-tests.

| Model 1– Model 2 | Model 1– Model 3 | Model 4– Model 5 | Model 4– Model 6 |
|------------------|------------------|------------------|------------------|
| F-statistic | 0.00 | 0.32 | 1.22 | 1.18 |

Note. Model 1 is the restricted model for the full models of Models 2 and 3, and Model 4 is for Models 5 and 6.

decrease in relative price (RPRC,) results in a 2.3% increase in Japanese inbound tourism from Korea and that a 1% depreciation in JPY (or a 1% appreciation in KRW) leads to a 0.7% increase in Japanese inbound tourism from South Korea. Real per capita income (RINCOME,) also had a significant impact on international tourism demand to Japan from Korea: a 1% increase in Koreans’ individual income results in a 1.2% increase in tourism demand for Japan.

The coefficients of dummy variables for the special events had the expected signs except for the dummy for 2002 World Cup. However, only the dummies for the financial crisis (DMCRISIS) and the Fukushima nuclear disaster (DMMNUCLEAR) had a significant effect on Japanese inbound tourism from Korea. Seasonal dummy variables were also significant. Specifically, the dummies for the first and the third quarters were significantly positive, implying that Korean tourists visit Japan mainly in summer and winter.

5. Conclusions and implications

This study compared six tourism demand models, each with different price variables, to identify proper price variables affecting Japanese inbound tourism from Korea. Partial F-test based on the nested (or hierarchical) relationship of demand models and AIC analysis were used for model comparison. The results of this study showed that separate inclusion of relative prices and exchange rates was more effective in accounting for the changes in Japanese inbound tourism from Korea than a price variable combining these two price indicators. Model comparison results also showed that exclusion of a transport cost variable did not decrease the explanatory power of the models. This study has several theoretical, methodological, and practical implications.

In terms of theory, the results confirm the view that exchange rates should be treated separately in tourism demand models because exchange rates are often used for destination selection apart from relative prices (Muchapondwa & Pimhidzai, 2011; O’Hagan & Harrison, 1984; Witt & Witt, 1990). Some researchers (Gray, 1966; Lee, 1996) argue that the price level actually recognized in origin
countries is highly dependent on exchange rates and therefore foreign tourists’ responses to changes in exchange rates are very different from their responses to relative prices. This view is supported by the argument that when potential tourists cannot obtain updated information on tourism prices, they tend to use the exchange rates, which is readily available to the public (Muchapondwa & Pimhidzai, 2011; Webber, 2001). Considering this, it is notable that exchange rates are an important consideration in destination selection even though Koreans may be well aware of the prices of Japanese tourism products due to the two countries’ proximity and sustained active relationship. This suggests that it is not easy, even between closely associated countries, for foreign consumers to gain knowledge of destination prices or accurately update their existing price knowledge over time. Either case may lead them to use the current exchange rates in their travel decisions. Thus, this study’s significant contribution is to extend existing tourism demand literature by empirically identifying two price variables used for tourism destination choice in the Korea-to-Japan context.

In the identified model, per capita income was significant on Japanese tourism demand from Korea. This result is consistent with previous studies (e.g. Garin-Muñoz, 2006; Lee, 1996; Webber, 2001) which found this variable to be an important determinant of tourism demand. Two separate price variables were also significant determinants. The significant results for relative prices, exchange rates, and per capita income support the application of the classic demand theory to Japanese inbound tourism. The results also indicate that the demand for Japan tourism by Koreans can be effectively estimated without considering transport cost. This implies that changes in transport cost do not affect Japanese inbound tourism from Korea. Two different measures of transport cost, oil price and jet-fuel price, were indeed found to be unrelated to changes in Japanese inbound tourism from Korea in the full models. The results suggest that tourists planning short-haul international travel are less likely to take into account the cost of transport to their destination. As a result, caution should be exercised in including transport cost in modeling the demand for short-haul international travel.

In addition to the theoretical implications previously discussed, this study has important methodological implications. In an attempt to identify proper price variables, this study demonstrated model comparison methods for nested models (partial F-test and AIC) and for un-nested models (AIC) (Bowerman & O’Connell, 1990; Burnham & Anderson, 2004). By developing new measures of transport cost which consider actual aircraft fuel prices and the distance between two countries, this study tried to address the limitations of using oil price and distance as a sole proxy for transport cost.

Practical implications are also evident from the results of this study. This study found evidence for the significance of per capita income. In other words, outbound tourism from Korea to Japan is sensitive to movements in the Korean economy. This suggests that economic growth in Korea generates a significant increase in the Korean demand for tourism to Japan. Although destination countries have limited ability to influence per capita income of inbound tourists, since it is mainly affected by economic conditions in origin countries, destination countries can still take advantage of this characteristic. For example, when Japanese inbound tourism from Korea shrinks due to a local or global recession, Japan’s tourism industry could counter this loss by reallocating their promotional resources to tourism markets experiencing an economic boom or less economy-sensitive markets. To implement this strategy, Japan would need to monitor economic conditions in Korea and its other major tourism markets such as China, Taiwan, and the US.

As discussed earlier, relative prices and exchange rates had a significant effect on Japanese inbound tourism demand from Korea. Combined with the results for other explanatory variables in the most appropriate model, this shows that relative prices contribute the most to Japan’s inbound tourism in terms of elasticity and indicates that prices of tourism products are the most important factor in the choice of destination by tourists. Given that prices of tourism products are manageable by destination country or tourism industry to a certain extent, and the importance of price in attracting international tourists to Japan, a solid pricing strategy is critical for the Japanese tourism industry to maintain destination competitiveness. Some researchers (e.g. Bowen, 1998; Griffin, Shea & Weaver, 1997; Papadopoulos, 1989) have emphasized the importance of the price competitiveness of Japanese tourism products with those of neighboring countries such as China and Korea, which provide relatively cheap tourism products. For price competitiveness, the relentless efforts of the private sector, including cost reduction, new technology adoption, and research and development, should be made on a continuous basis (Blake, Sinclair, & Soria, 2006; Dwyer & Kim, 2003). In the same vein, government is of great importance in providing sustainable price-competitive tourism products. The recent jump in tourist arrivals to Japan, for example, was triggered by a sharp decline in the value of JPY resulting from Japanese prime minister Shinzo Abe’s economic policy known as ‘Abenomics’ (Ong, 2014). This indicates that government economic policy is likely to influence tourism demand by altering economic conditions, which are responsible for the prices of tourism products (Edward, 1995; Eliat & Einav, 2004). Furthermore, governments could offer tax credits for international tourists’ expenditures (Dimanche, 2003) and tax incentives to tourism firms which undertake extensive overseas marketing campaigns, hold international meetings, and renovate or replace their facilities (Blake & Sinclair, 2003; McKehee & Kim, 2004). Great care must therefore be taken in formulating tourism and economic policies in order to promote international tourism through price competitiveness and stability.

As with many other tourism demand studies, this study is not without limitations. First, the relatively small subject pair and sample observations may limit the generalizability of the results. Second, although none of the explanatory variables could be excluded due to multicollinearity, the variables may not be totally free from the multicollinearity problem given that significant correlations exist between the variables. One way to overcome the first limitation would be to use panel data. Examining the relationship between different price variables and tourism arrivals in the context of multiple tourism markets would improve the generalizability of the variable selection results. For the second limitation, it would be worthwhile employing dynamic factor analysis, a time-series extension of factor analysis proposed by Geweke (1977). By applying factor analysis to multivariate time series data, dynamic factor analysis can address the correlation between explanatory variables and data stationarity (Stock & Watson, 2011). Third, this study used primarily economic variables to explain Japanese inbound tourism from Korea. Over the course of their history, politically sensitive issues have arisen between Korean and Japan, such as the use of Korean ‘comfort women’ under Japanese colonial rule and the territorial dispute in the East Sea (Lee et al., 2010). Korean public opinion (or sentiment) regarding these sensitive issues may affect Korean tourism to Japan. Future studies could consider this intangible aspect in modeling tourism demand between Korea and Japan. In addition, it would be interesting to test the effect of jet-fuel prices, our new proxy for transport cost, in different tourism destinations.

References

Aakis, S. (1998). A compact econometric model of tourism demand for Turkey. *Tourism Management, 19*(1), 99–102. http://dx.doi.org/10.1016/S0261-5177(97)80009-6.

Blake, A., & Sinclair, M. T. (2004). Tourism crisis management: US response to September 11. *Annals of Tourism Research, 30*(4), 813–832. http://dx.doi.org/10.1016/S0093-8628(03)00056-2.

Blake, A., Sinclair, M. T., & Soria, J. A. C. (2006). Tourism productivity: Evidence from the United Kingdom. *Annals of Tourism Research, 33*(4), 1099–1120. http://dx.doi.org/10.1016/j.annals.2006.06.001.

Bowen, J. T. (1998). Market segmentation in hospitality research: No longer a sequential process. *International Journal of Contemporary Hospitality Management, 10*(7), 289–296. http://dx.doi.org/10.1108/13676119810249924.
Song, H., & Witt, S. F. (2006). Forecasting international tourist flows to Macau. *Tourism Management, 27*(2), 214–224. http://dx.doi.org/10.1016/j.tourman.2004.09.004.

Song, H., Witt, S. F., & Li, G. (2009). The advanced econometrics of tourism demand. *London: Routledge*.

Statistics Korea (2015). *Resources*. Retrieved from <http://kostat.go.kr/portal/english/resources/1/index.static>.

Stock, J. H., & Watson, M. W. (2011). Dynamic factor models. in: Clements, M. J., & Hendry, D. F. (Eds.). (2011). *Oxford Handbook on Economic Forecasting* http://dx.doi.org/10.1016/0619-2070(95)00591-7. Oxford: Oxford University Press, 35–59.

Tan, A. Y., McCalon, C., & Miller, J. (2002). Modeling tourist flows to Indonesia and Malaysia. *Journal of Travel Tourism Marketing, 13*(1-2), 61–82. http://dx.doi.org/10.1300/J073v13n01_05.

World Tourism Organization (2014). *Tourism highlights*. Retrieved from <http://mkt.unwto.org/publication/unwto-tourism-highlights-2014-editionWTO>.

Uysal, M., & Crompton, J. L. (1984). Determinants of demand for international tourist flows to Turkey. *Tourism Management, 5*(4), 288–297. http://dx.doi.org/10.1016/0261-5177(84)90025-6.

Uzama, A. (2009). Marketing Japan’s travel and tourism industry to international tourists. *International Journal of Contemporary Hospitality Management, 21*(3), 356–365. http://dx.doi.org/10.1108/09596110910948434.

Wang, Y. S. (2009). The impact of crisis events and macroeconomic activity on Taiwan’s international inbound tourism demand. *Tourism Management, 30*(1), 75–82. http://dx.doi.org/10.1016/j.tourman.2008.04.010.

Webber, K. (2001). Outdoor adventure tourism: A review of research approaches. *Annals of Tourism Research, 28*(2), 360–377. http://dx.doi.org/10.1001/S0160-7383(00)90051-7.

Witt, C. A., & Witt, S. F. (1990). Appraising an econometric forecasting model. *Journal of Travel Research, 28*(3), 30–34. http://dx.doi.org/10.1177/004728759028000305.

Witt, S. F., & Witt, C. A. (1995). Forecasting tourism demand: A review of empirical research. *International Journal of Forecasting, 11*(3), 447–475. http://dx.doi.org/10.1016/0169-2070(95)00059-7.

Yap, G. (2011). Modelling the spillover effects of exchange rates on Australia’s inbound tourism growth. Retrieved from <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1789645>.