Wealth Effect and Demand for Outbound Tourism

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ABSTRACT

As international tourism is generally considered a luxury good, models to date have shared an understanding that demand is dependent on discretionary income. Meanwhile, consumption theories predict that a shift in demand can be induced without changes in actual earnings when expectations for future income are adjusted. As a result, international tourism demand can be influenced by “wealth effects” from housing and financial assets. This study tests for the wealth effect on Korean outbound travelers between 1989 and 2009, as Korean households hold housing assets and financial assets actively traded in markets. The results support that housing had a significant effect on Korean outbound travelers, but financial assets seemed to have no effect. However, this could possibly be explained by data sensitivity and the relative importance of financial assets in wealth portfolios. Implications and suggestions for future research are provided along with the findings of the study.

Keywords: wealth effect, tourism demand modeling, consumption theory, permanent income hypothesis, life cycle hypothesis

INTRODUCTION

Literature on international tourism demand often share an implicit assumption in that the demand is a function of real disposable income. Although counterintuitive it would be to think otherwise that international tourism is somehow a requisite for subsistence, the syllogism that forms this assumption is based on two foundational premises. First, it is acknowledged that engaging in international tourism is consumption of a luxury good rather than a normal good (Lim, 1997) as in order to travel abroad, tourists must commit significant expenditure on non-necessity goods such as airfare and hotels (Bakkal and Scaperlanda, 2010). Second, since international tourism is a luxury good, demand for it is dependent on the discretionary income of the consumers (Crouch, 1992), which is the residual income after deductions for living necessities.

Accordingly the former, that international tourism has a higher sensitivity to income
than a normal good (income elasticity higher than unity) has been put to test a number of times by academics (Lanza, Temple and Urga, 2003, Smeral, 2003), who commonly found that income elasticity of international tourism is greater than unity. As the high income elasticity was shown in vast majority of studies on international tourism demand, many studies have advocated the use of real, disposable, and personal income in tourism demand models whenever available, rather than the crude income per capita variants such as Gross Domestic Product or Gross National Income (Durbarry, 2003; Song, Romilly and Liu, 2000; Lim, 1997; Witt, 1987).

However, a missing link is identified as the latter of the premises that complete the proposition have not been tested to date. We do not yet have evidence that demand for international tourism is solely dependent on real discretionary income, despite the high significance and compelling results many studies report (Crouch, 1996). Indeed, real discretionary income is likely to place a strict upper bound for international tourism demand. If an individual or household does not have the wealth to consume a luxury good, there will be no consumption without doubt. Yet, we also cannot safely extend that the potential demand will consistently expense a relative constant portion of their concurrent disposable wealth on certain luxury goods, which lies in the interest of current study is international tourism.

Meanwhile, a stream of studies on consumption literature argues that consumers’ spending behaviors are not sufficiently explained by contemporaneous income alone. If the spending of consumers are not guided by extreme myopia and liquidity constraints (Shea, 1995), distribution of wealth consumption in various stages of consumers’ lives should depend on not only the current earnings but also on the expectations of future or permanent income. For potential international tourism demand, this implies that while changes in real, disposable income will undoubtedly shift the aggregate consumption, the demand is also subject to the changes in expectations on future earnings.

The two popularly tested assets that guide the expectations on future earnings of aggregate consumer demand are financial and housing assets. Such ‘wealth effect’ of the financial and housing assets has been examined a number of times since the seminal work by Ando and Modigliani (1963), and empirically validated to some extent (Case, Quigley and Shiller, 2005). Nevertheless, there are reports of mixed results (Attanasio et al., 2009) and ongoing discussions and efforts by researchers to investigate the relationship between consumption and unrealized wealth.

There are a few inevitable challenges in verifying this relationship at the aggregate level as the wealth of consumers may responds differently to the asset prices. For example, Poterba (2000) contended that while increase in housing prices may lead to capital gains for house owners, housing costs such as rents would simultaneously increase. Consequently, for those who do not own houses, increase in housing price would imply a net negative wealth effect. Ogawa et al. (1996) further posited that liquidity of the unrealized wealth is also important in governing consumption. Even if the consumer’s house appreciates, illiquidity of the asset and the need for continued residence may lead to lack of comprehension as a capital gain.

The influence of wealth effect on the propensity to consume may also differ for various wealth levels and products. Starr-Mcluer (1998) reported from a 1997 Michigan survey, that only those who own considerable amount of equity investments were
significantly affected by the movements in capital asset prices. Also, Poterba (2000) suggested that luxury goods were the main products, the consumption of which affected by gain in household stock market wealth.

In essence, testing the wealth effect on consumption of a specific good becomes an increasingly difficult task as the assumptions on the type of good (i.e. luxury), household concentration of aggregate wealth on the asset, and broad ownership of the said asset throughout the consumer base in different age groups and social classes must hold.

To this end, we propose the Korean outbound tourism demand a suitable sample to examine the relationship between wealth effect and international tourism demand. Outbound tourism is considered a luxury good that carries certain prestige to the Korean people.

However, another stream of studies on consumption argues that current earnings alone do not sufficiently explain consumers’ spending behaviors. Expecting an increase in future income can also stimulate consumption of goods (Campbell and Cocco, 2007). Commonly cited as the ‘wealth effect,’ the phenomenon has been put to test by a number of studies. More specifically, the effects created by the housing and financial markets, which are connected to the wealth of many individuals have been investigated (Case et al., 2005).

Accordingly, there is a theoretical gap in the literature on international tourism demand. If consumption increases with unrealized gains, tourism demand cannot be explained exclusively by the current inflow of income. Instead, current income must be examined along with increases in financial and housing wealth that have not yet been realized. If such considerations are left unexamined, adverse consequences of considerable magnitude may follow. Researchers may attribute unexplained demand changes to other factors, on which critical planning and coordination of marketing efforts might be based on. Accordingly, there is a theoretical gap in the literature on international tourism demand. If consumption increases with unrealized gains, tourism demand cannot be explained exclusively by the current inflow of income.

Therefore, this study attempts to fill the existing gap in the literature by examining the wealth effect on the consumption of tourism products by using time-series data on Korean outbound tourism demand from 1989 to 2009. Specifically, the wealth effect from financial assets and apartments (i.e., condominium in the U.S.), the primary type of housing in Korea (Ham and Lee, 2010), were tested for their influence on outbound tourism demand.

LITERATURE REVIEW

Although it is never officially stated, Keynes’ absolute income hypothesis (AIH) and Duesenberry’s (1949) relative income hypothesis (RIH) on consumption are considered the norm in tourism demand models. AIH predicts that a consumer’s spending relies solely on the absolute size of current disposable income. Based on the premise of consumption independence and reversibility, AIH posits that consumption is not affected by relative wealth, which refers to a consumer’s location on the wealth distribution curve. Consumption is determined as a portion of wealth, increasing or decreasing contemporaneously with changes in wealth. RIH differs from AIH in that consumption is affected by a consumer’s past and relative wealth. Use of lagged income variables and adjustment for purchasing power parities are considered with RIH.

Friedman’s (1957) Permanent Income Hypothesis (PIH) and Ando and Modigliani’s
Life Cycle Hypothesis are the competing theories on consumption. According to PIH, aggregate consumption is dependent not only on current wealth, but also on expectations for future earnings. This implies that even when a consumer’s income remains constant, consumption may increase to adapt to expected gains in net wealth. This ‘adaptive expectations’ framework is also shared by Ando and Modigliani (1963). However, the Life Cycle Hypothesis also argues that in terms of expected permanent income, consumption is distributed along the life cycle of the person.

Essentially, a distinction can be made between AIH/RIH and PIH/LCH. AIH/RIH attributes consumption to earnings that are already realized. PIH/LCH postulates that consumption is affected by a person’s past, current, and future income, which can motivate expenditures even when there is no change in real income or gains.

While evidence supporting PIH/LCH has been reported, (OECD, 2000), the link to expenditures on tourism goods has yet to be tested. In this consideration, Korea constitutes a unique case. According to the National Statistics Office of Korea, average total household assets in Korea were 281,120,000 KRW in 2006. The most significant portion of this wealth was concentrated in real estate (76.8%) and financial assets (20.4%), while other assets accounted for only 2.7 percent. In this line of reasoning, we expected to find that Korean outbound tourism demand is affected primarily by changes in housing values and secondarily by the valuation of financial assets.

Accordingly, the hypotheses of the study were formulated:

**Hypothesis 1:** Appreciation of housing in Korea will increase outbound travel demand.

**Hypothesis 2:** Price gains of capital assets in Korea will increase outbound travel demand.

**METHODOLOGY AND DATA**

3-1. Model Specification

The following model tests for financial and housing wealth effects on outbound tourism demand in South Korea:

\[
\ln(\text{TOURIST}_t) = \alpha + \beta_1 \ln(\text{INCOME}_t) + \beta_2 \ln(\text{EX}_t) + \beta_3 \ln(\text{KOSPI}_t) + \beta_4 \ln(\text{APT}_t) + \beta_5 \ln(\text{FUEL}_t) + \beta_6 \sum Q_{1-3} + \beta_7 \text{AFC}_{\text{DUMMY}} + \beta_{10} 9/11_{\text{DUMMY}} + \beta_{11} \text{SARS}_{\text{DUMMY}} + \epsilon_t \tag{1}
\]

where INCOME is the average household income, EX is the real effective exchange rate that accounts for changes in purchasing power parity in both prices and currency valuation, KOSPI is the value of the Korean stock market, APT is the value of apartments in South Korea, FUEL is the jet fuel price, \(\sum Q_{1-3}\) are the quarter dummies, and AFC\(_{\text{DUMMY}}\), 9/11\(_{\text{DUMMY}}\), and SARS\(_{\text{DUMMY}}\) are the dummy variables for macro events.

Following a popular approach, the number of outbound tourist departures was used to measure tourism demand while income and purchasing power parities were expected to be significant in the model (Song and Li, 2008). The hypotheses on wealth effect from financial and housing assets were tested by coefficients on KOSPI and APT, \(\hat{\beta}_3\) and \(\hat{\beta}_4\) respectively. Following Wang’s (2008) approach, jet fuel price was used as a proxy for airfare and three
dummy variables were included to control for the effects of macro socioeconomic events on tourism demand, namely the Asian Financial Crisis (1997:Q3 – 1998:Q2), September 11 Attack (2001:Q4), and SARS (2003: Q2). A log-linear model was used to examine the elasticity of demand, as the units of data measurement were difficult to interpret.

3-2. Sample and Data

In order to examine the wealth effect of financial assets and apartments on Korean outbound tourism demand, time-series data between the first quarter of 1989 and the fourth quarter of 2009 (N=83) was obtained from the following sources: number of outbound tourists from the Korea Tourism Organization (KTO), average household income and apartment sales price index from the Bank of Korea, real effective exchange rates from the Bank for International Settlements, composite Korean stock price index from Korea Stock Exchange, and Singapore Kerosene-Type Jet Fuel spot price from U.S. Energy Information Administration. Average household income and apartment sales price index are monthly data and averaged throughout quarters for consistency. The fuel price is the Mean of Platts Singapore (MOPS), used as the jet fuel price index by airlines in Asia. Figure 1 shows the trends for the dataset, while summary statistics and Pearson correlation matrix of data are provided in Tables 1 and 2. It is shown that all the variables tend to be highly correlated, as they are collectively subject to greater movements of the economy.

![Historical Data Series, Index Figures 1989 1Q - 2009 4Q](image)

**Figure 1. Historical Movements of Data Series**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOURIST</td>
<td>Number of outbound tourists</td>
<td>1,514,809.00</td>
<td>984,259.80</td>
<td>270,331.00</td>
<td>3,621,712.00</td>
</tr>
<tr>
<td>INCOME</td>
<td>Average Household Income Index</td>
<td>173,041.80</td>
<td>44,214.93</td>
<td>92,180.60</td>
<td>246,164.30</td>
</tr>
<tr>
<td>EX</td>
<td>Real Effective Exchange Rate</td>
<td>89.24</td>
<td>10.47</td>
<td>59.38</td>
<td>106.70</td>
</tr>
<tr>
<td>KOSPI</td>
<td>Korea Stock Exchange Index</td>
<td>89.26</td>
<td>35.54</td>
<td>29.69</td>
<td>193.79</td>
</tr>
<tr>
<td>APT</td>
<td>Apartment Sales Price Index</td>
<td>174.47</td>
<td>51.77</td>
<td>100.00</td>
<td>274.14</td>
</tr>
<tr>
<td>FUEL</td>
<td>Fuel Price Index</td>
<td>176.66</td>
<td>121.54</td>
<td>64.15</td>
<td>658.74</td>
</tr>
</tbody>
</table>
As autocorrelation of the dependent variables is expected even in quarterly data, many studies use the lagged dependent variable as an explanatory variable (Witt and Witt, 1995). Although including the lagged dependent variable does not create a bias in the coefficients, it is expected to underestimate the variance of the estimator in the presence of positive autocorrelation, thereby overstating the significance of the coefficients (Wooldridge, 2002). Therefore, this study implemented two estimation techniques, Prais-Winsten (PW) and ordinary least squares (OLS) with Newey-West standard errors (NW). Estimators and statistics from PW procedure are asymptotically efficient and valid for autoregressive models of the first order, while NW provides a robust inference of serial correlations of a higher order (Traub and Jayne, 2006).

For the PW estimation, a Cochrane-Orcutt was transformation done on (1) after estimation of the autocorrelation parameter, $\rho$. For data quarters $t$ and $t-1$ this can be written as:

\[
\ln(\text{TOURIST}_{t-1}) = \alpha + \sum \beta_i x_{ist-1} + \varepsilon_{t-1}
\]

\[
\ln(\text{TOURIST}_t) = \alpha + \sum \beta_i x_{ist} + \varepsilon_t
\]

(2)

where $\sum x_{1-11}$ are all independent variables on the right-hand side of (1). By expressing the first-order autocorrelation in the error term as $\rho$, the error term is expressed as a Markov scheme:

\[
\varepsilon_t = \rho \varepsilon_{t-1} + u_t
\]

(3)

where $u_t$ is serially independent random disturbances. Therefore, (2) is rewritten as:

\[
\ln(\text{TOURIST}_t)^* = (1 - \rho)\alpha + \sum \beta_i x_{ist}^* + u_t
\]

(4)

\[
\ln(\text{TOURIST}_t)^* = \ln(\text{TOURIST}_t) - \rho \ln(\text{TOURIST}_{t-1})
\]

(5)

\[
\sum \beta_i x_{ist}^* = \sum x_i - \rho \sum x_i
\]

(6)

Estimation of (4) through OLS yields coefficients and variance structure unaffected by autocorrelation parameter $\rho$.

RESULTS AND DISCUSSION

Results of estimation by both PW and NW methods are shown in Table 3. The results are largely the same, while some difference in significance and magnitude of the coefficients for variables EX, APT and the dummy variables are noted. The adjusted $R^2$ of the model is

<table>
<thead>
<tr>
<th></th>
<th>FUEL</th>
<th>APT</th>
<th>KOSPI</th>
<th>EX</th>
<th>INCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOURIST</td>
<td>0.8042***</td>
<td>0.9403***</td>
<td>0.7399***</td>
<td>-0.1334</td>
<td>0.9473***</td>
</tr>
<tr>
<td>INCOME</td>
<td>0.7084***</td>
<td>0.8809***</td>
<td>0.6071***</td>
<td>-0.3111***</td>
<td></td>
</tr>
<tr>
<td>EX</td>
<td>0.1232</td>
<td>-0.0942</td>
<td>0.2753**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KOSPI</td>
<td>0.8281***</td>
<td>0.7381***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APT</td>
<td>0.8515***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Superscripts denote: ***-p<0.01; **-p<0.05
very high at approximately .9357, while the F–statistic is highly significant, even at <0.001. First-order autocorrelation parameter \( \rho \) is estimated at .6846, while the resulting Durbin-Watson statistic of 2.1787 suggests that after Cochrane-Orcutt transformation, autocorrelation is no longer a problem. Inferences are subsequently made based on the PW estimation results.

Coefficients on income and real effective exchange rates are the greatest in size and highly significant, consistent with preceding studies. A one percent increase in average household income causes an approximately 1.5 percent increase in the number of quarterly outbound travelers, while the effect from purchasing parity changes is relatively smaller at .65 percent. Hypothesis 1 is supported as the coefficient on APT is significant and stable across both models. A one percent increase in apartment prices leads to approximately .39 percent more outbound travelers per quarter. These findings evidenced that Koreans’ expenditures on tourism not only rely on current income, but also on expected future earnings through housing price gains.

### Table 3. Estimation Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Prais–Winsten FGLS</th>
<th>OLS with Newey-West errors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Parameter Estimates</td>
<td>Standard Error</td>
</tr>
<tr>
<td>ln(INCOME)</td>
<td>1.5036***</td>
<td>0.0914</td>
</tr>
<tr>
<td>ln(EX)</td>
<td>0.6531***</td>
<td>0.1344</td>
</tr>
<tr>
<td>ln(KOSPI)</td>
<td>–0.0281</td>
<td>0.0465</td>
</tr>
<tr>
<td>ln(APT)</td>
<td>0.3866**</td>
<td>0.1509</td>
</tr>
<tr>
<td>ln(FUEL)</td>
<td>0.0078</td>
<td>0.0483</td>
</tr>
<tr>
<td>Q1</td>
<td>0.0053</td>
<td>0.0154</td>
</tr>
<tr>
<td>Q2</td>
<td>0.0370**</td>
<td>0.0178</td>
</tr>
<tr>
<td>Q3</td>
<td>0.1160***</td>
<td>0.0151</td>
</tr>
<tr>
<td>AFC(_{DUMMY})</td>
<td>–0.1051***</td>
<td>0.0502</td>
</tr>
<tr>
<td>9/11(_{DUMMY})</td>
<td>–0.0726</td>
<td>0.0553</td>
</tr>
<tr>
<td>SARS(_{DUMMY})</td>
<td>–0.4191***</td>
<td>0.0552</td>
</tr>
<tr>
<td>( \rho )</td>
<td>0.6846</td>
<td></td>
</tr>
<tr>
<td>DW</td>
<td>2.1787</td>
<td></td>
</tr>
</tbody>
</table>

Superscripts denote: ***-p<0.01; **-p<0.05; *-p<0.1,  abbreviation denotes: DW-Durbin-Watson statistic

Hypothesis 2 on the wealth effect from the Korean stock market was rejected in both models with low probability. This may be attributed to low data sensitivity, as stock prices are highly volatile in nature. Alternatively, a relatively low allocation of personal wealth in the stock market by Koreans may lead to an insignificant effect on consumption even when financial wealth is increased. Among the quarter dummies, the third quarter was the most sizable and significant, while the effects of macro events were also significant except for 9/11. A possible explanation for the insignificant 9/11\(_{DUMMY}\) is substitution effect. Although trips to the US significantly declined immediately after the 9/11 attack, total outbound demand may have been sustained by substituting other destinations.
CONCLUSION

Results from the analysis support the hypothesis that since the wealth of the Korean people is primarily tied to housing, appreciation of housing will positively influence outbound tourism demand. The results, however, do not support a significant relationship between appreciation of financial assets and consumption. This may be attributable to the aggregation of data over the sample period or relatively smaller investments in financial assets.

Meaningful implications are accordingly drawn from the study. When the wealth effect is significant, deterministic demand models should take it into account to prevent misspecification bias and improve precision. Marketing and forecasting efforts regarding tourists can be better coordinated and calibrated by considering wealth and its allocation across different asset classes. While this study tested only the major effects of housing and financial assets, it is easily generalizable that major asset categories differ by country and, therefore, further investigation of the wealth effects of different countries and asset classes on tourism demand are warranted.

REFERENCES


