Strengthening the Australia-Korea Relationship through International Tourism

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Abstract: International travel raises awareness between Australia and Korea which enhances exchange between the two countries in trade and education, in particular. The major aim of the paper is to use econometric time series modelling to quantify the factors affecting the flow of international tourists between Australia and Korea. Estimates of the effects of changes in income, relative prices, exchange rates, seasonality and other factors are provided, and the significance of these explanatory variables is tested. Adequate seasonally unadjusted quarterly time series data are required for extended periods to generate more accurate estimates of the range of explanatory variables and to examine seasonal variations in international tourism demand. Such information is vital to the tourist industries, governments and tourism commissions of both countries, which need reliable estimates to take effective measures to stimulate tourism.

1. INTRODUCTION

The Republic of Korea (or South Korea), with a population of 47 million in 1998, is now the world's eleventh largest economy, and was ranked 51 in the world in 1999 in terms of Gross National Product (GNP) per capita. The country emerged from the 1950-53 Korean War as one of the poorest countries in the world, taking almost 10 years to recover from the ravages of the war. In 1962, the South Korean Government launched the first five-year economic development plan. The country which was then a largely agrarian economy, embarked on a highly successful export-oriented growth industrialization strategy that produced South Korea's 'economic miracle'. With a large population and widespread unemployment in the rural areas, South Korea used its surplus labour resource effectively in the labour-intensive manufacturing industries in the early stages of economic development. Over time, South Korea's export shift has changed radically, from light to heavy capital-intensive products in the 1980s and information technology products in the 1990s. The government's export-oriented policies targeted primarily the manufacturing industry through incentives such as preferential credits, indirect tax exemptions on raw materials, and tariff exemptions on imported raw materials used in the production of goods for export.

Semi-conductors were the single biggest South Korean export item prior to the Asian financial and economic crises. The country's major trading partners are the US and Japan. South Korea's sustained economic growth since the early 1960s is due largely to the government-driven industrialization and liberalization measures, namely trade, finance, and investment. In 1997, foreign investors and speculators lost confidence in South Korea as the financial market was shaken by a series of chaebok (family-run business group) bankruptcies. The country has recovered remarkably well from the Asian economic crisis and the nation's own banking crisis. Its impressive growth rate of 11 percent in 1999 was the highest in Asia [Veale, 2001; World Bank, 2001]. Inflation has decreased and remained moderately stable, from 6.1% in 1980-90 to 5.8% in 1990-99 (as measured by the GDP implicit deflator) in spite of the rise in global oil prices. South Korea is bracing itself for lower economic growth of less than 4 percent during 2001 because of the economic

Table 1: Departures of Koreans by Destination ('000)[*].

Year	Total	Japan		USA		China		Australia	
1985	661	289	(0.44)	152	(0.23)	-		-	
1990	1882	1004	(0.54)	327	(0.17)	10	(0.005)	3	(0)
1995	4156	1178	(0.28)	772	(0.19)	407	(0.10)	96	(0.02)
1998	3027	999	(0.33)	531	(0.18)	487	(0.16)	52	(0.02)
1999	4268	1227	(0.29)	671	(0.16)	824	(0.19)	79	(0.02)

[*] The percentages for each country are given in parentheses.

slowdown in the United States and Japanese economies. The lower rate of GDP growth is inevitable given that the USA is Korea's second largest export market. Moreover, there is mounting market pessimism with regard to the fragile financial state of the country's two largest conglomerates, Daewoo and the Hyundai Group.

Inbound tourism is a relatively recent (that is, post-1990) phenomenon, in that its economic importance has been recognised fully by the South Korean Government due to the 1988 Seoul Olympics. Outbound tourism had been strictly controlled by the government. In spite of South Korea's economic success, outbound travel by South Koreans was permitted only if it contributed to nation building. Traditionally, the tourism industry was seen not only as a frivolous consumption activity, but also one that was wasteful of valuable foreign reserves necessary for essential imports and foreign debt reduction [Economic Intelligence Unit]. Age and monetary restrictions permitted limited recreational travel abroad from 1983 to 1987. The hosting of the 1988 summer Olympics in Seoul was seen as a watershed event in South Korea's post-war development. International pressure on South Korea to engage in two-way tourism has seen a gradual lowering in overseas travel restrictions since 1988. With a complete relaxation of outbound travel restrictions by the South Korean government for pleasure travel in 1989 and the national obsession with globalization, overseas travel had increased at an annual average growth rate of 21.3% prior to the Asian economic downturn.

The rise in the affluent middle class has been the main contributing factor of outbound travel growth in South Korea, where its citizens tend to travel overseas mainly in July and August. The most popular destination is Japan, followed by China. The USA was ranked second prior to 1999 (see Table 1). Australia's market share of South Korea's total outbound travel to East Asia and the Pacific region increased from 0.86% in 1989 to 5.39% in 1996 [National Statistical Office, 2000]. Although South Korea is an emerging tourist market, it is one of the top five source countries of student arrivals to Australia. The largest increase in young adult overseas tourists (aged between 18 and 34) to Australia from 1986/87 to 1996/97 was from South Korea (from 251 to 61,773 during this period).

The decline in the Japanese and South Korean markets has had the greatest impact on intra-regional tourism performance. For instance, in the first half of 1998, tourist arrivals from South Korea to Australia decreased by 80%. The decline was particularly severe given Australia's market share had risen substantially in the last five years prior to the Asian economic turmoil. Outbound travel from South Korea had decreased considerably, largely due to the decimation of the middle class. South Korea had been one of the worst-affected countries in terms of air transportation service withdrawals, with at least eight carriers known to have suspended flights (including Ansett International, Qantas, Air New Zealand, Swissair, Garuda and British Airways) or reduced the number of flights sharply to Seoul. The discontinuation of many flights to Asia had a considerable impact on the volume of travel and tourism traffic in the Asia-Pacific region, and had left many airlines with excess capacity. The crippling impact on the airlines had spill-over effects on travel agents and tour operators. Omnori Travel, the largest outbound operator in South Korea, and many travel agents specialising only in the outbound travel business went bankrupt. The marketing budgets of the Australian Tourist Commission were subsequently reallocated from South Korea to the USA and Europe.

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2. KOREAN INTERNATIONAL TOURISM DEMAND FOR AUSTRALIA

Inbound tourism is one of the fastest growing industries in Australia. Tourist arrivals from South Korea have become an important source of the inbound tourist market, increasing by more than 50% in 1999 after a sharp decline in tourist arrivals in 1998 (see Figure 1). Most South Koreans regard Australia as a holiday destination, with the main stated purpose of travel being recreation (see Figure 2). Previous studies of South Korean tourists to Australia have examined the characteristics of tourists, their travel behaviour, motivation, expectations and images of Australia using focus groups and questionnaire surveys [see, for instance, Kim, 1997; Kim and Prideaux, 1999].
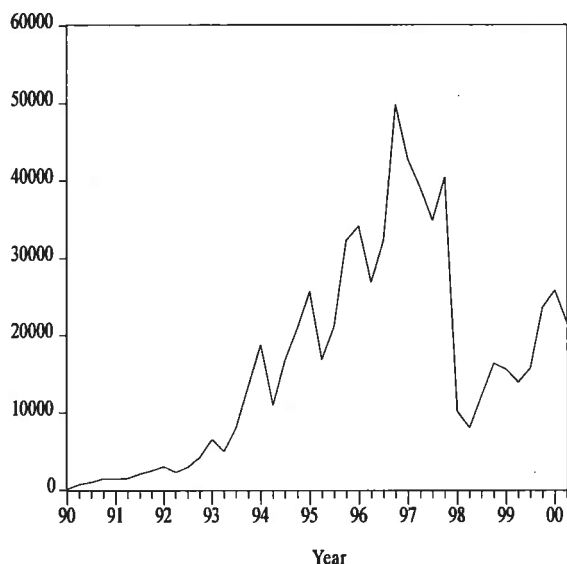
Figure 1. International short-term tourist arrivals from the Republic of Korea to Australia, 1990-2000.

The purpose of this paper is to use time series econometric modelling of inbound tourism based on seasonally unadjusted quarterly data for 1980(1) to 1999(4) to obtain estimates of income and tourism price elasticities of travel to Australia by South Korean residents. The plan of the paper is as follows. Ordinary least squares (OLS) is used to estimate the influence of economic variables on tourism demand by South Korea for Australia. The sensitivity of tourist arrivals from South Korea to
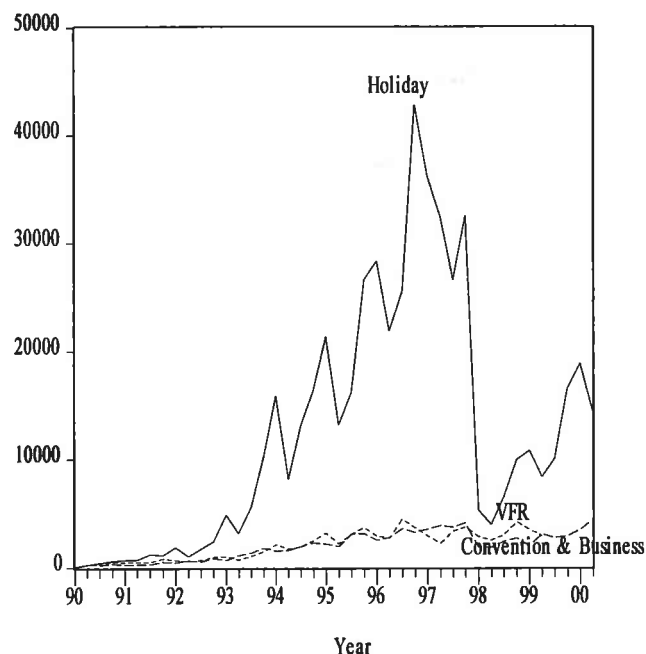
Figure 2. South Korean Inbound Tourists to Australia by trip purpose, 1990-2000.

changes in the economic variables will also be evaluated. As a guide to model selection, the Akaike Information Criterion (AIC) and Schwarz Bayesian Criterion (SBC) are useful, and so the model with the smallest AIC and SBC values is preferred.

The demand by origin j for international tourism services in destination i can be expressed as:

$$DT_{ij} = f(Y_j, TC_{ij}, TP_{ij}, QF_i) \qquad (1)$$

where

DT_{ij} = demand for international travel services by origin j for destination i;

Y_j = income in origin j;

TC_{ij} = transportation costs between destination i and origin j;

TP_{ij} = tourism prices (that is, the ratio of prices in destination i to prices in origin j and in alternative destinations);

QF_i = qualitative factors in destination i.

A review of 100 published papers from 1961 to 1994 showed that income, transportation costs and tourism prices are the most frequently used explanatory variables in international tourism demand studies [see Lim, 1999]. Using the EViews 3 software package to estimate a single-equation model by OLS, the major influences of economic factors on tourism demand by South Korea are given as follows:

$$\ln A_t = \alpha + \beta \ln\{GNP_t \text{ or } GNI\}$$
$$+ \delta \ln\{RP_t, ER_t \text{ or } RER_t\}$$
$$+ \phi \ln A_{t-1} + u_t \qquad (2)$$

where

$\ln A_t$ = logarithm of tourist arrivals from South Korea to Australia at time t;

$\ln\{GNP_t \text{ or } GNI_t\}$ = logarithm of South Korean real Gross National Product or Gross National Income at time t;

$\ln RP_t$ = logarithm of relative prices [or CPI (Australia)/CPI (South Korea)] at time t;

$\ln ER_t$ = logarithm of exchange rate (Korean Won per Australian dollar) at time t;

$\ln RER_t$ = logarithm of real exchange rate [or CPI (Australia)/CPI (South Korea) * 1/ER] at time t;

u_t = independently distributed random error, with zero mean and constant variance σ_u^2 at time t;

$\alpha, \beta, \delta, \phi$ = parameters to be estimated.

In this model, tourist arrivals are a proxy for international demand for tourism, real GNP and GNI are proxies for real income, and relative prices, exchange rate and real exchange rate are proxies for tourism prices. The cost of air transportation between Seoul and Sydney is not taken into account as the information is not available. Since standard consumer theory and time series stationarity are used to specify South Korean demand for international tourism for Australia, $\beta > 0$, $\delta < 0$, $0 < \phi < 1$ are the prior beliefs for the parameters. The 'hallmark' events considered in this paper include the complete removal of travel restrictions on South Korean residents in 1989

(D89), and the currency crisis in the latter half of 1997 (D97). With the inclusion of seasonal dummy variables, D_{2t}, D_{3t} and D_{4t} in the model, the following estimates are obtained by OLS (with absolute t-ratios in parentheses):

$$\ln A_t = -38.5 + 6.20 \ln GNP_t - 6.05 \ln RP_t$$
$$\quad (3.85) \quad (3.84) \qquad (3.21)$$
$$+ 0.68 \ln A_{t-1} - 0.51 D_{2t} - 0.55 D_{3t}$$
$$\quad (7.89) \qquad (2.04) \quad (1.98)$$
$$- 1.02 D_{4t} - 0.40 D89 - 0.90 D97,$$
$$\quad (2.33) \qquad (1.18) \qquad (1.97) \quad (3)$$

$$\overline{R}^2 = 0.963, \qquad AIC = 1.95, \qquad SBC = 2.22.$$

Of the two hallmark events, only D97 has a marginally significant impact on tourist arrivals from South Korea to Australia. Deletion of the insignificant D89 yields the following results:

$$\ln A_t = -37.0 + 5.95 \ln GNP_t - 6.10 \ln RP_t$$
$$\quad (3.72) \quad (3.71) \qquad (3.23)$$
$$+ 0.69 \ln A_{t-1} - 0.49 D_{2t} - 0.52 D_{3t}$$
$$\quad (8.08) \qquad (1.95) \quad (1.88)$$
$$- 0.96 D_{4t} - 0.92 D97,$$
$$\quad (2.20) \qquad (2.00) \qquad (4)$$

$$\overline{R}^2 = 0.963, \qquad AIC = 1.94, \qquad SBC = 2.18.$$

Not surprisingly, the research undertaken by the Tourism Forecasting Council has shown that overseas income is the most crucial determinant of international tourism demand for Australia. Significant declines in overseas income caused by economic problems in South Korea (and elsewhere in Asia) in the latter half of 1997 due to substantial currency devaluations (for instance, the South Korean Won depreciated by 66% against the Australian dollar between 31 October 1997 and 27 Jan 1998), capital losses in equity markets, loss of investor and consumer confidence, and the tightening of fiscal policies, had significant adverse effects on discretionary expenditures on overseas travel to Australia. The adjusted R-squared $(\overline{R}^2)$ values, as measures of goodness of fit, are quite high, with the results in (3) and (4) exceeding 0.96. None of the models has serial correlation in

the residuals, as indicated by the Lagrange multiplier test for serial correlation (LM(SC)). The Breusch-Godfrey LM test statistics for (3) and (4) are 2.76 (probability value = 0.07) and 2.41 (probability value = 0.10), respectively.

The sensitivity of tourist arrivals from South Korea to changes in income and tourism prices in the origin country are evaluated as follows:

$$H_0 : \beta = 1, \qquad H_1 : \beta > 1;$$
$$H_0 : \delta = -1, \qquad H_1 : \delta < -1.$$

Based on equation (4), the t-ratio for testing the null hypothesis for the income variable is 2.98 and for the tourism price variable is –2.54. Thus, both null hypotheses are rejected at the 5% significance level, implying that international tourism demand by South Korea is both income elastic and price elastic.

3. CONCLUSION

Unlike many developing countries which embarked on import-substitution industrialization in the early stages of economic development, the Republic of Korea chose an export-oriented industrialization strategy. South Korea had emerged as a booming source market of tourists for Australia prior to the Asian economic crisis. Strong economic growth, rapidly rising income and the easing of overseas travel restrictions are some of the developments in South Korea which have benefited Australia's inbound tourism. Given South Korea's ability to adapt quickly to changing domestic and international environments, an optimistic outlook is promising for Australia's tourism future.

4. ACKNOWLEDGEMENT

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