A Time Series Analysis of Chinese Outbound Tourism to Australia

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EXTENDED ABSTRACT

Economic development and improvement in living standards, as well as political liberation in China have contributed to the growth in international travel demand. Additionally, the supportive role of the Chinese government in outbound tourism development and China’s inclusion in the World Trade Organisation have and will ensure a continuing ease on travel restrictions, and enhance the opportunities for Chinese citizens to travel overseas. Since the implementation of the open door policy in 1982, tourism development in China has experienced rapid growth, making the country the fifth largest international tourism destination in terms of both tourist arrivals and tourism receipt in 2003 (WTO, 2004). In the meantime, China has also become an important international tourism source market, especially for countries in the Asia Pacific region.

Chinese outbound tourism has been managed and regulated by the Approved Destination Status (ADS) system, which is based on bilateral tourism agreement between China and overseas destinations. The ADS system restricts the overseas destinations Chinese nationals can travel to, monitors the travel balance account, and also restricts which foreign tour company is allowed to operate in the Chinese market.

It has only taken a decade for China’s outbound tourist numbers to increase at an annual growth rate of 19.4 percent from 3.7 million in 1993 to 20.2 million in 2003. China has emerged as one of the most significant tourist source countries for Australia. This market has been growing at an average rate of 23.7 percent per year between 1993 and 2003 (see Figure 1). In particular, the dramatic increase in the number of Chinese tourists to Australia has taken place after 1999 when Australia became the first western country to be granted Approved Destination Status by the Chinese government.

In 2002, China was ranked 7th in the world’s top spenders on international tourism. The total expenditure by Chinese outbound travellers reached US$15.4 billions, a 10.7 percent increase over 2001 (WTO, 2004). Even though a very small percentage of Chinese citizens travels abroad, this is considered by many destinations to be a lucrative market, outspending many major markets in the Asian and Western countries.

This paper describes the development of Chinese outbound tourism in general, and to Australia in particular. Box-Jenkins (1970) univariate time series modelling is used to analyse Chinese tourist arrival patterns to Australia for the period 1984-2004. This approach provides two simple and useful models for representing the behaviour of observed time series processes, namely the autoregressive (AR) and moving average (MA) models. Tests for stationarity in the time series of tourist arrivals are also conducted.
1. INTRODUCTION

In 1978, Deng Xiao-Ping introduced economic reforms and the open-door policy in China. Since then, the Chinese government started to recognize tourism as a means to economic development and international tourists started to flow to China. Although international travel by Chinese citizens for leisure purposes was not permitted immediately after the implementation of the open door policy, the government has gradually eased its control over outbound travel.

While the absolute number of outbound Chinese tourists is impressive, the percentage of Chinese people travelling abroad relative to their population is small. Nonetheless, it is considered by many destinations to be a lucrative market, outweighing many major markets in the Asian and Western countries. With China’s strong economic performance, there is a tremendous growth potential in the Chinese outbound travel, especially by the expanding middle class in China. As estimated by the World Tourism Organisation (WTO), China will be the fourth largest international tourism market in the world by 2020, representing 6.4 percent of the total market share, and nearly 100 million outbound travels will be undertaken by Chinese residents (WTO, 2000).

According to several studies on Chinese outbound tourism development (for instance, Zhang and Heung, 2001; Pan, 2003; WTO, 2003; Travel and Tourism Intelligence, 2004), there is a general consensus that outbound tourism in China started in the early 1980s and it has gone through three stages. The latter includes travel to Hong Kong and Macao, travel to the border regions and intra-Asia countries, and travel to foreign countries beyond Asia.

Travel to Hong Kong was technically permitted in 1983 when the Guangdong Provincial Travel Corporation began to operate “tours for visiting relatives in Hong Kong”. Chinese residents must travel with a tour organised by the China National Tourism Administration (CNTA) designated travel agencies and at the expense of their overseas friends or relatives. The following year, such tour was extended to Macao and made available to citizens in other provinces who had relatives or friends in Hong Kong and Macao. However, outbound travel by Chinese really came into existence in 1990 when bilateral tourism agreements with Singapore, Malaysia and Thailand were signed. The agreements allowed Chinese leisure tourists to travel to these countries as members of the Chinese Travel Service (CTS) organised group tours.

Chinese outbound tourism has been managed and regulated by the Approved Destination Status (ADS) system, which is based on bilateral tourism agreement between China and overseas destinations. The purposes of ADS include “controlling the mobility of Chinese citizens, protecting the national tourism sector, and limiting the outflow of foreign currency” (WTO, 2003, p.20). Another major breakthrough in outbound travel came in 1997 when Australia and New Zealand signed the ADS-agreements with China, which became operational in 1999. Since then, Chinese people were able to travel outside of Asia (WTO, 2003; Travel and Tourism Intelligence, 2004). Additionally, with the approval of the State Council, the Public Security Bureau (PSB) and CNTA announced in 1997 the “Temporary rules on Mainland Chinese outbound travel on self-financed mode”, which signified that Chinese outbound travel had evolved from a trial to an official basis (Travel and Tourism Intelligence, 2003). The ADS-agreement with the European Union was signed in February 2004 and became effective in September 2004. This agreement will facilitate Chinese group tourism to 26 member states of the European Union through simplified visa application procedures. By mid September of this year, 76 countries would have been granted ADS by the CNTA, with some Latin American countries being the most recent countries to join the ADS system.

Overseas destinations visited by Chinese tourists can be broadly grouped into two categories. The first group includes Taiwan and China’s two special administrative districts (SAD), namely, Hong Kong and Macao, while the second group consists of all the foreign countries. Hong Kong and Macao have always been the top two destinations for Chinese outbound tourists. However, there has been numerous debates whether SADs should be regarded as domestic rather than international tourist destinations. Excluding Hong Kong and Macao, Thailand, Russia, Japan, South Korea, USA, Singapore, North Korea, Australia, Germany and Canada were the top ten overseas destinations for Chinese tourists in 2000 (see Table 1).

Chinese outbound tourism has been predominantly business travels until 2002. Since the relaxation on overseas travel and increase in disposable income, the market share of self-funded private travel has grown rapidly. In 2002, private travel accounted for 61 percent of total outbound trips made by Chinese citizens. In the same year, trips purely for leisure and holiday accounted for 50 percent of the total outbound
travel, rising by 45 percent over the previous year (Travel and Tourism Intelligence, 2004).

Table 1: Top destinations by Chinese outbound tourists in 2000

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hong Kong</td>
</tr>
<tr>
<td>2</td>
<td>Macao</td>
</tr>
<tr>
<td>3</td>
<td>Thailand</td>
</tr>
<tr>
<td>4</td>
<td>Russia</td>
</tr>
<tr>
<td>5</td>
<td>Japan</td>
</tr>
<tr>
<td>6</td>
<td>South Korea</td>
</tr>
<tr>
<td>7</td>
<td>USA</td>
</tr>
<tr>
<td>8</td>
<td>Singapore</td>
</tr>
<tr>
<td>9</td>
<td>North Korea</td>
</tr>
<tr>
<td>10</td>
<td>Australia</td>
</tr>
<tr>
<td>11</td>
<td>Germany</td>
</tr>
<tr>
<td>12</td>
<td>Canada</td>
</tr>
</tbody>
</table>

Source: CNTA, 2004

In the early 1990s, several government policies implemented had great impact on the outbound visitor numbers, especially for business travellers. For instance, the China’s Travel Abroad campaign was launched in 1991 to encourage more Chinese to travel overseas. The Chinese government had encouraged professionals and government officials to broaden and advance their knowledge and skill by engaging in more economic and cultural activities such as participating in international conferences and sport events. As a result, there was enormous growth in overseas travel in 1992 and 1993, with most of the outbound travellers being government officials and employees of State-Owned companies. The government subsequently tightened the control of overseas business travels due to abuses of public funds for unnecessary trips abroad. In 1994, a decline was seen in outbound business travel along with an increase in private travel abroad (Zhang and Lew, 1997).

2. DEVELOPMENT OF CHINESE OUTBOUND TOURISM

Since the introduction of economic reform and decentralized economic decision-making in 1978 by the Chinese leader Deng Xiao-Ping, China has gradually moved from a Soviet-style centrally planned economy to a more market-oriented system. Although political control remained tight, the economic influence of non-state organizations and individual citizens have been increasing, and the economy is opened to rising foreign trade and investment. China has experienced rapid economic growth with an average annual growth rate of real GDP of 9.42 percent between 1978 and 2000 (World Bank, 1978-2000). As a result, China’s economic output had more than quadrupled during this period.

The living standards of the Chinese people have also improved rapidly. In the period of 1978 to 2000, the average growth rate of the Gross National Income (GNI) per capita for China was 7.15 percent. In 2000, the GNI per capita of Chinese citizens was US$840, which was more than 4 times that in 1978 (World Bank, 1978-2000). Another economic phenomenon in China that cannot be overlooked is the geographic imbalance in economic development, and income disparity in different regions. The economic reforms were first implemented in China’s coastal areas. According to Wang and Sheldon (1995), urban GDP per capita was 2.5 times of rural GDP per capita in 1993. The gap between the wealthy and poor areas has widened over time. In 2002, the average annual disposable income of city households was 3 times more than that of rural households (National Bureau of Statistics of China, 2003). In spite of the uneven distribution of wealth, a large proportion of the Chinese population has incomes which are sufficiently high to make international travel affordable (Chai, 1996). According to WTO (2003), three major urbanized coastal economic areas have generated most of the outbound tourists. They include the Beijing-Tianjin area, Yangtze River Delta economic area with Shanghai as its centre, and the Pearl River Delta economic area.

The tremendous increase in personal disposable income has been a strong impetus for Chinese outbound travels. However, getting a passport was once the biggest obstacle to overseas travel (Zhang and Lew, 1997). Visa issuance is linked to the ADS, and travel agencies usually lodge the application on behalf of the travellers. The application for private passport has gradually been made easier, with the processing period being reduced from six months to one month or within ten days for urgent situation. For some destinations such as Hong Kong and Singapore, conditional visa-free entry was introduced. The liberalisation of visa issuance for Chinese citizens is an ongoing process as more foreign countries joined the ADS.

Given that the Chinese currency (RMB) is not traded in the money market, Chinese tourists can only obtain limited amount of foreign currency from the Bank of China due to the exit currency restriction. In 1993, the Chinese government officially allowed a maximum of US$1000 to be
taken out of the country on the condition that a traveller was able to show a valid passport and visa (Wang and Sheldon, 1995). From June 2003, the amount of foreign currencies that Chinese travellers can bring overseas had increased to US$5000, a considerable rise from the previous limit of $2000 (Travel and Tourism Intelligence, 2004). Another change in the government policy which has promoted higher expenditure by outbound Chinese, is to allow outbound package to be paid in RMB instead of US dollars.

Ryan (2003) argued that more travels are only possible when the increases in leisure time are accompanied by increases in income. In the early 1990s, the Chinese government and State-Owned companies in some cities started to implement an 11-working day fortnight (Zhang and Lew, 1997). This was subsequently changed to a 5-working day week. In 2002, the Chinese government introduced the ‘Golden Week Holiday’ policy. The latter has increased the three national celebrations (namely International Labour Day in May, China’s National Day in October, and the Spring Festival between January and February) from four-day to seven-day holidays for each occasion (Travel and Tourism Intelligence, 2004). These three holiday periods have become distinct holiday seasons for the Chinese people to undertake either domestic or outbound travel.

Annual leave entitlement is not a countrywide labour market policy. For Chinese civil servants, paid annual leave has been part of their non-wage benefits. This can vary from 5 to 25 days according to the length of services. In 2004, some prosperous cities/provinces such as Shanghai, Jiangsu, and Zhejiang have made the granting of annual leave entitlement compulsory for civil servants. The employees of the Baoshan district in Shanghai are also entitled to an allowance for travel on top of their paid leave. Although the new policy is intended to increase employees’ productivity, it also has a positive effect on tourism as it gives more free time to employees of the public sector to undertake travel.

3. CHINESE OUTBOUND TRAVEL TO AUSTRALIA

In the past decade, China has emerged as one of the most significant tourist source countries for Australia, with the number of Chinese tourists to Australia increased dramatically. In 1984, only 3000 Chinese visited Australia (Chai, 1996). The number of tourists from China peaked at 190100 in 2002, making China Australia’s 6th largest international tourism source market. This market experienced a decline in 2003 by 7.4 percent, due to the outbreak of Severe Acute Respiratory Syndrome (SARS). However, the market has quickly recovered in 2004 with a noticeable 43 percent increase compared to the year before. Apparently, Chinese visitors have the highest per tourist expenditure among all international visitors. An average Chinese traveller spent AU$6070 on their trip to Australia in 1999-2000 (ABS, 2002b, as cited in Pan, 2003).

It is estimated that the Chinese market would continue to grow at an average of 18.5 percent annually from 2003-2013. It is projected that China would become Australia’s third largest source country for international tourism by 2013, with visitor numbers from China reaching 960000 (Tourism Forecasting Council, 2004, April).

As mentioned earlier, Australia and New Zealand were granted ADS in April 1999 and became the first two Western countries the Chinese government allowed its citizens to visit. This was a milestone for Australia in developing the Chinese market. Under the ADS scheme, Australia first gained access to the markets of Beijing, Shanghai and Guangdong Province, which together have a population of 117 million people (Australian Tourism Commission, 2003, November 13). The ADS has allowed Australia to promote itself as a leisure holiday destination in China with a legal status and broadened Australia’s market base in China by adding leisure tourism to the two existing markets, namely business, and visit friends and relatives (VFR) tourism.

A decomposition of the total inbound tourists from China in Table 2 shows that in 1994, almost half of all the visitors from China came to Australia for business purposes and less than 30 percent came for holidays. The share of holiday travellers increased to more than 45 percent in 1999. By the end of 2003, more than half of the Chinese visitors travelled to Australia for holidays. In contrast, the market share of business travellers shrank by 14 percent to less than one quarter of total tourist arrivals from China. Australia has become a more attractive holiday destination to Chinese tourists. New South Wales, Victoria and Queensland were the top three States visited by Chinese tourists in both 1994 and 2003.

The shift of Australia from a business to a holiday destination is a consequence of Australia being granted ADS. Moreover, the latter has provided the Australian tourism industry a
competitive edge over other western countries, at least in the short term. In July 2004, the ADS operation has extended to six other tourists generating regions in China for Australia. This includes Jianjin Municipal, Hebei Province, Shandong Province, Chongqing Municipal, Jiangsu Province, and Zhejiang Province. This has further opened up an urban market of 350 million people for Australia’s inbound operators (ATC, 2003, November 13).

The economic relationship between Australia and China has become increasingly important over time and trade between the two countries has experienced strong growth in recent years. In 2003-2004, China was Australia’s third largest trading partner in merchandise trade, with two-way trade totalled $25.2 billion. China was also Australia’s second largest export market in the same period, importing over $9.9 billion of goods and services from Australia. In terms of foreign investment, China was the 14th largest investor in Australia in 2003 (Department of Foreign Affairs and Trade, Australia, 2004). It is expected that the direct investment ties between the two countries will become stronger as China shows immense investment interests in Australia’s energy, mining, agriculture, education, and tourism sectors. The increase in bilateral Sino-Australia trade has promoted more trips between the two countries for business purposes. Furthermore, business travel also generates additional leisure tourism, and up to 80 percent of all outbound Chinese business groups have some leisure activities associated in their travel itineraries (Travel and Tourism Intelligence, 1998).

Table 2: Chinese visitors by purpose of visit (thousands)

<table>
<thead>
<tr>
<th>Year</th>
<th>Visitors</th>
<th>Business Share</th>
<th>Holiday Visitors</th>
<th>Share</th>
<th>VFR Visitors</th>
<th>Share</th>
<th>Other Visitors</th>
<th>Share</th>
<th>Total Visitors</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>14.1</td>
<td>47.47%</td>
<td>8.8</td>
<td>29.63%</td>
<td>5.0</td>
<td>16.84%</td>
<td>1.8</td>
<td>6.06%</td>
<td>29.7</td>
<td>100%</td>
</tr>
<tr>
<td>1999</td>
<td>28.7</td>
<td>30.99%</td>
<td>42.2</td>
<td>45.57%</td>
<td>14.7</td>
<td>15.87%</td>
<td>7.0</td>
<td>7.56%</td>
<td>92.6</td>
<td>100%</td>
</tr>
<tr>
<td>2003</td>
<td>42.0</td>
<td>23.85%</td>
<td>89.4</td>
<td>50.77%</td>
<td>21.2</td>
<td>12.04%</td>
<td>23.6</td>
<td>13.40%</td>
<td>176.1</td>
<td>100%</td>
</tr>
</tbody>
</table>


4. CHINESE TOURISM DEMAND STUDIES

Although much has been written on China’s tourism development, most of the studies focused on inbound tourism to China and the contributions of tourism to China’s economic development. Chai (1996), Wang and Sheldon (1995) and Zhang and Heung (2001) are among the few studies which analysed the contributing factors of Chinese outbound tourism. They include population growth, income, investment and trade, changes in the structure of the economy, price, interest rates, as well as regulatory factors.

The only empirical study that analysed Chinese outbound tourism demand is undertaken by Qu and Lam (1997). The authors examined tourism demand from Mainland China to Hong Kong from 1984 to 1995 using the multiple regression method. The study has found that disposable income and relaxation of visa requirements are the only two significant determinants of tourism demand from Mainland China. Exogenous variables such as cost of travel, relative price, and exchange rate are not significant in their model. However, the major drawback of the study is the use of annual data of 12 years. The empirical results of the study using such small sample size are deemed to be unreliable.


Unlike the above study, Cai, et al. (2001) tested the relationship between economic development and domestic tourism expenditures in China for the same period. Their study suggests that economic development in China’s 35 urban centres and special economic zones are positively related to the travel expenditures by residents of these areas.

5. TIME SERIES MODELLING

The purpose of this section is to use the Box-Jenkins (1970) time series analysis to determine the most appropriate autoregressive integrated
moving average (ARIMA) model to describe the quarterly tourist arrival series from China to Australia for the period 1984(1) to 2004(4). As the natural logarithmic transformation of the series, given in Figure 3 appears to be non-stationary, the augmented Dickey-Fuller (ADF) unit root test is used for the formal testing of stationarity and order of integration of the variable. As the reported ADF statistic of -2.31 (with a deterministic trend and intercept at lag length 4) is greater than the critical value of -3.47 at the 5% significance level, the null hypothesis of a unit root is not rejected. And this implies that the series are nonstationary. Using first differences, at the fourth lag, the null hypothesis of a unit root is clearly rejected at the 5% level, with an ADF statistic of -4.67 compared with a critical value of -2.90 at the 5% significance level. Thus, the logarithmic tourist arrivals from China to Australia is integrated of order one, whereas the first difference of the logarithmic tourist arrival series is integrated of order zero, I(0), and hence is stationary.

A sensible strategy for estimating reasonably simple autoregressive integrated moving average (ARIMA p,q) models with values for p and q from 0 to 4, is to start with small p and q and work upwards to larger values. Only models with statistically significant (at 5%) AR and MA coefficients are selected, ensuring that the estimated residuals do not have serial correlation at the 5% level. Twenty-four appropriate ARIMA models have been selected for the logarithms of tourist arrivals from China to Australia. The 'best' model selected is ARIMA(4,1,4) as it has the lowest Akaike Information Criterion (AIC) or ARIMA (4,1,1) with the lowest Schwarz Bayesian Criterion (SBC), namely (with absolute t-ratios in parentheses):

\[
(1 - 0.55L^2 + 0.45L^3)(1 - L)C, \\
(4.01) (3.3)
\]

\[
= 0.05 + (1 - 0.47L + 0.62L^2 - 0.49L^3 - 0.37L^4)\hat{\epsilon}_t. \\
(5.54) (3.92) (4.50) (4.06) (2.34)
\]

AIC = 0.20, SBC = 0.41

\[
(1 + 0.40L + 0.34L^4)(1 - L)C, \\
(4.04) (3.56)
\]

\[
= 0.047 + (1 - 0.99L)\hat{\epsilon}_t. \\
(8.56) (42.5)
\]

AIC = 0.26, SBC = 0.38

6. CONCLUSION

The aim of this paper is to discuss the development of Chinese outbound tourism in general, and to Australia in particular. A time series analysis of Chinese tourist arrivals to Australia has also been undertaken to identify suitable univariate models to quantify tourist flow patterns from China to Australia from 1984-2004.

One of the primary challenges facing tourism management is to generate accurate forecasts of tourism demand. Future research will include estimation and testing of alternative models for forecasting Chinese outbound tourism to Australia. Another challenge facing empirical tourism demand management research is the lack of studies on the determinants of expenditure by international tourists at the micro level, which needs to be addressed.

Several tourism studies have examined the unique behaviour of Chinese travellers. Among these studies, only Yu and Weiler (2001) investigated the travel behaviour of Chinese leisure travellers to Australia. Based on the survey data collected, the authors compiled the social-demographic profile of Chinese outbound tourists to Australia. Using Importance-Performance Analysis, the study has also identified Chinese visitors’ travel characteristics, lifestyles, and travel benefits sought. Moreover, the perceived importance of, satisfaction with, and actual participation in leisure activities by Chinese travellers were also assessed. The findings of the study, such as most favourable leisure activities and key benefits sought by Chinese leisure tourists, provide some useful information for tourism marketing and management.
7. ACKNOWLEDGMENTS

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