

Uncertainty in the demand for Australian tourism

ABSTRACT

This paper conducts a visual examination of the data for both international tourist arrivals and for domestic tourism demand. The outcome of the examination suggests that the number of international tourist arrivals to Australia exhibits very volatile patterns, which is a similar outcome to a paper by Chan et al. (2005). As for domestic tourism demand, Witt et al. (1992) suggest that the data is less volatile and relatively more predictable than the data for international tourist arrival. However, interestingly, this paper discovers that the changing number of domestic tourists travelling within Australia shows considerable fluctuation and is somewhat unpredictable. This paper concludes that the demand for Australian tourism may be volatile (or uncertain) over time and is likely to remain so. In fact, such volatility makes it difficult for tourism policy-makers to predict the future demand for the industry. Therefore, investigating the nature of uncertainty in the demand for Australian tourism is imperative, especially, with a view to explaining why and how the demand remains volatile over time.

Keywords: Uncertainty, time-varying volatility, tourism demand, Australia

INTRODUCTION

In recent years, tourism in Australia has become increasingly important to the Australian economy. Tourism gross value added¹ has climbed gradually from \$21.9 billion in 1997 to \$26.5 billion in 2004, which represents an increase of 21%. Export revenue generated by travel services was ranked third, with a value of \$19.1 billion (Table 1). Moreover, the income generated from the tourism industries for individual states like Tasmania, Queensland, South Australia and Victoria have increased by 47%, 63%, 43% and 58%, respectively, in 2004 compared to 1998 (based on Australian National Accounts: State Accounts 2004-05). In terms of employment in the tourism sector, there were 550,000 people employed in 2005 compared to 508,800 people in 1998 (based on Australian National Accounts: Tourism Satellite Account 2004-05), which is an increase of 8%.

Table 1
Top five exports based on export revenue for the year 2004-2005

Ranking	Item	Export revenue (\$billion)
1.	Rural goods	25.7
2.	Metal ores and minerals	19.9
3.	Travel services	19.1
4.	Coal, coke and briquettes	17.2
5.	Other manufactured goods	14.0

Source: Based on International Trade in Goods and Services, Australia (ABS Cat. No. 5368.0)

¹ Tourism gross value added is measured as the value of the output of tourism products by industries less the value of the inputs used in producing these tourism products (Australian Bureau Statistics, 2004-2005). It indicates how much extra tourism goods and services have been produced by Australian tourism producers.

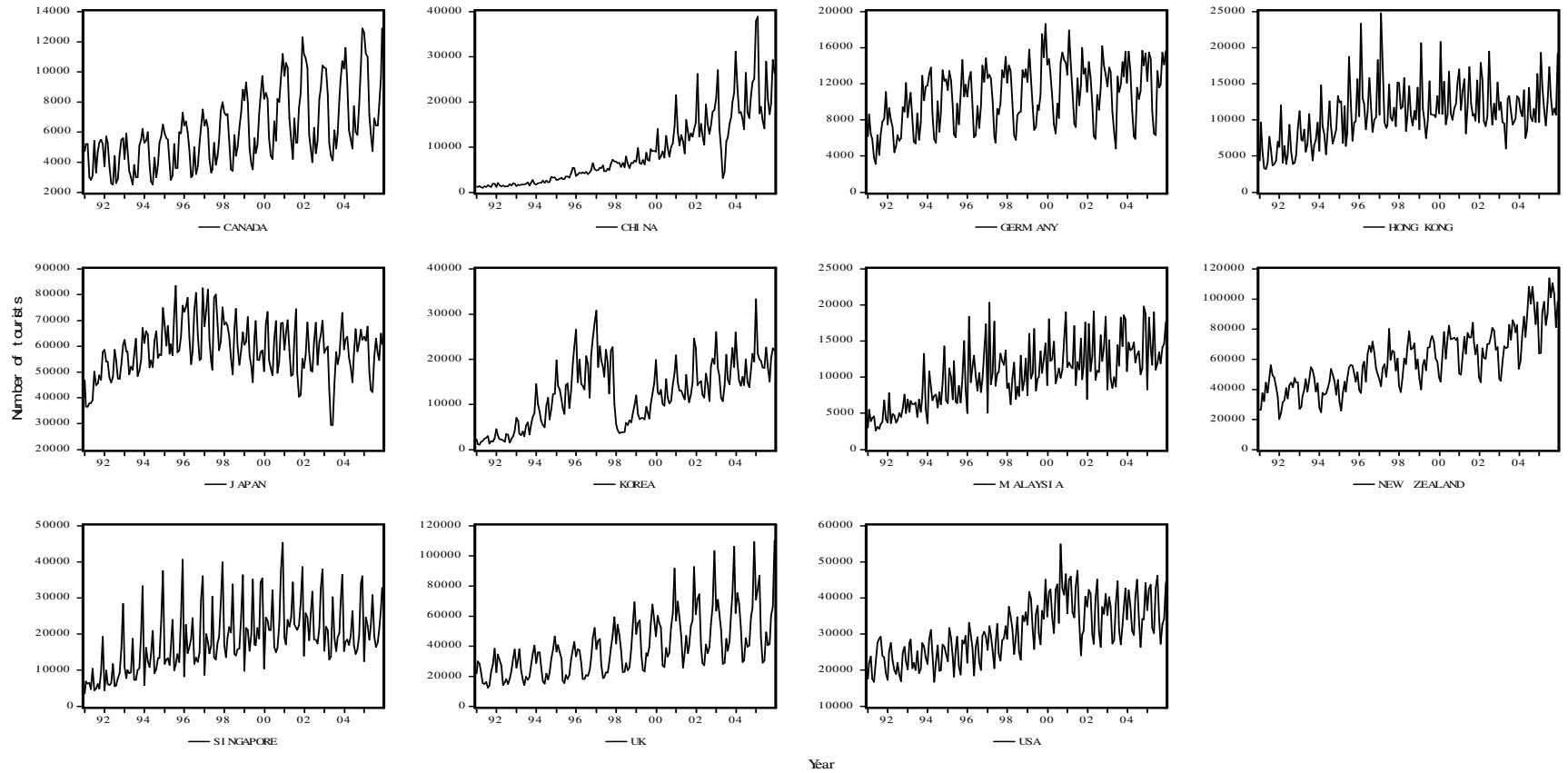
Despite the importance of tourism to the Australian economy, this paper discovers that the number of tourists travelling to and within Australia fluctuates widely over time, which indicates an uncertainty in demand for Australian tourism. For international tourist arrivals, the number of international tourists from different countries of origin varies over time (Figure 1). In fact, some of the data show strong variation such as tourist arrivals from Hong Kong, Japan, Malaysia, Singapore and the USA. For tourist arrivals from China and Korea, the data show structural breaks, namely a drastic decline in the number of Chinese tourists in 2003 due to the outbreak of the SARS virus and a sharp decrease in the number of Korean tourists in 1998 that could be attributed to the Asian Financial Crisis. In terms of tourist arrivals to individual Australian States, the number of international tourist arrivals to Australian Capital Territory (ACT), South Australia (SA), Tasmania (TAS) and Northern Territory (NT) seem to have strong variations, whereas the data for tourist arrivals to Victoria (VIC), New South Wales (NSW) and Western Australia (WA) exhibit seasonality (Figure 2). For domestic tourism demand, on the other hand, some of the data for domestic day-trippers, overnight intrastate visitors and overnight interstates exhibit volatile patterns and seasonality. In fact, the data are generally somewhat unpredictable (Figures 3 to 12).

The fluctuation in the number of tourists in Australia might cause significant impacts on the Australian economy. The first and most direct impact could be the employment opportunities in the tourism industry. As the patterns of Australian tourism are uncertain and unpredictable, tourism business managers might attempt to restrict employment opportunities. As an extreme, they might further reduce the number of jobs in such a way that they can avoid the risk of bearing high labour costs while losing profitability. In other words, uncertainty in demand for Australian tourism might affect the sustainability of employment in the tourism sector.

A second impact of this uncertainty could be in government revenue from tourism taxes. Tourism taxes may be defined as “taxes which could be described as applicable specifically to tourists and the tourism sector or, alternatively, if not specific to the tourism sector, those which are applied differently in tourist destinations” (Ihalanayake and Divisekera, 2006, p. 249). To sustain tourism development in Australia, tax revenue from tourism is one of the most important sources of government revenue used to finance development expenditures. The National Tourism Alliance (NTA) reported that the Australian government utilises tourism tax revenue to provide funding for several tourism incentive programs such as the ‘See Australia’ campaign and the regional tourism programs (NTA, 2003).

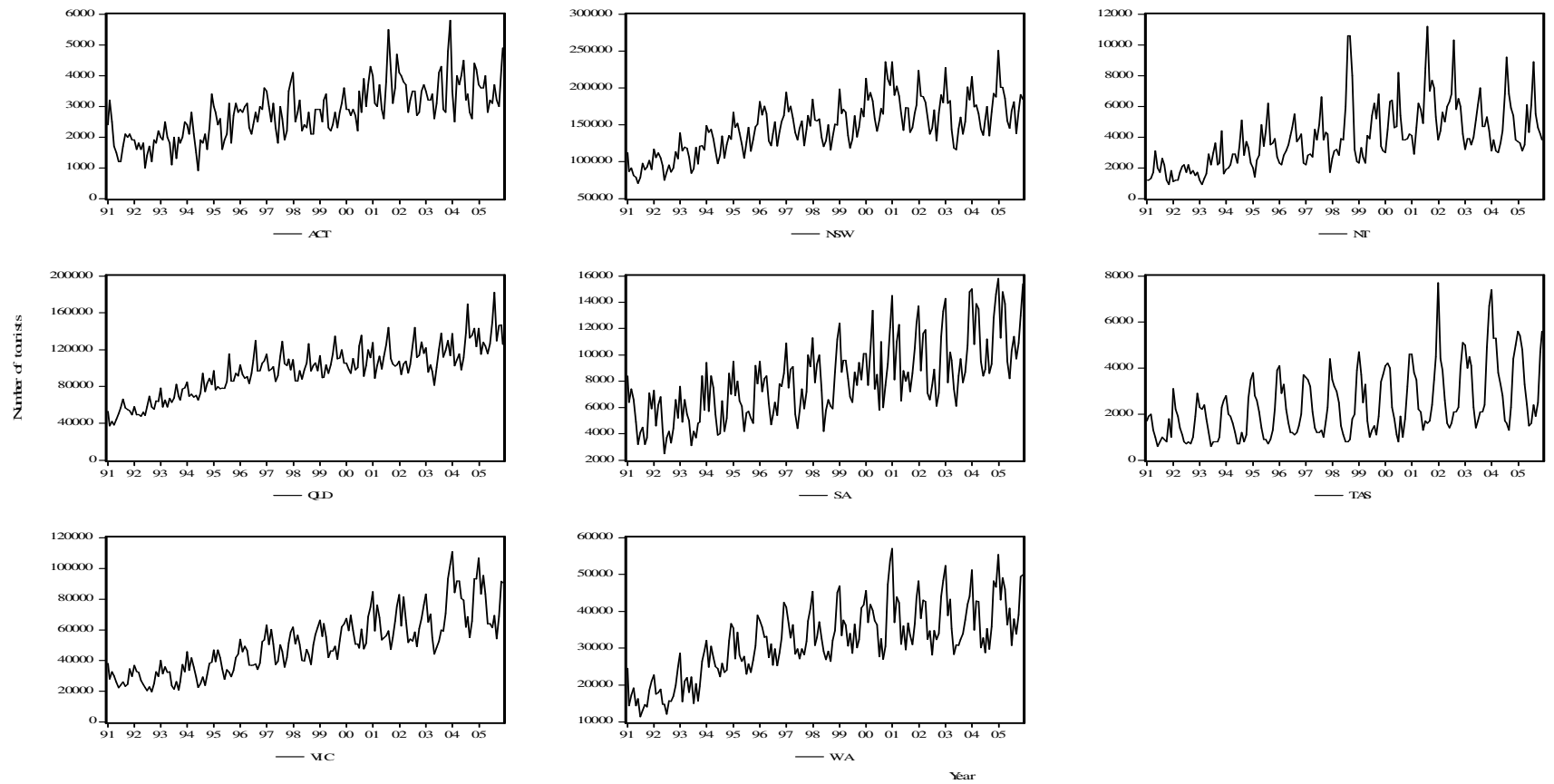
However, the fluctuation in the number of domestic and international tourists in Australia might cause variation in tourism tax revenue. Ihalanayake and Divisekera (2006) provided evidence that the growth rate of tourism tax revenue in Australia seems volatile. For instance, the revenue grew by 146% during 2000, which is a high rate of growth, and was possibly due to tax reform and the large number of international tourists during the Sydney Olympics. However, in the subsequent year, the revenue declined by 1.58% and this was attributed to the large fall in the number of tourists when terrorist attacks occurred in the USA. In conclusion, a variation in tourism tax revenue, which could be caused by a fluctuation in the number of tourists, would affect public policy-makers in terms of strategic planning and financing tourism development in Australia.

Figure 1
Number of international tourist arrivals by source of country from 1991 to 2005



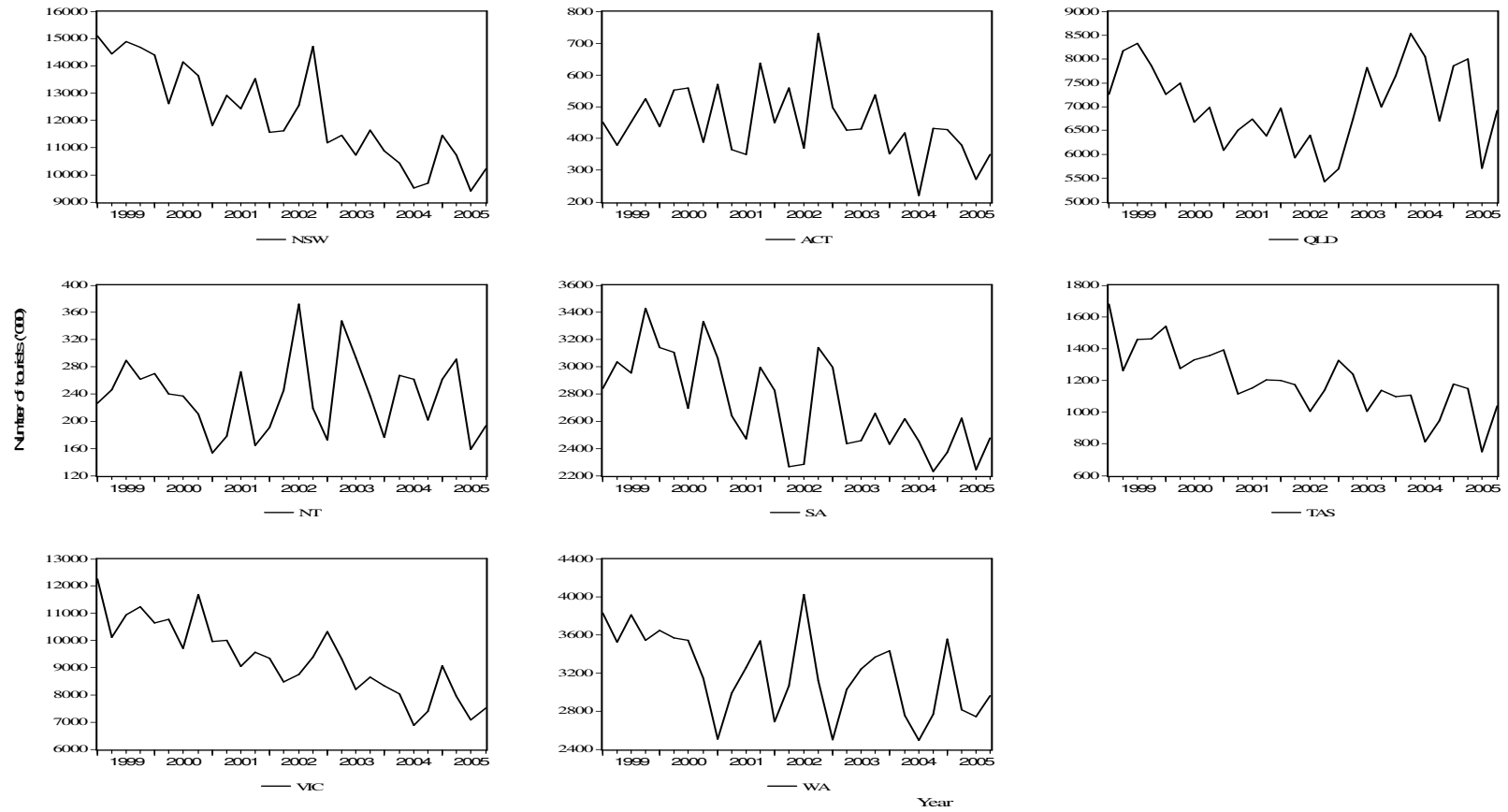
Source: Based on monthly Short-term Overseas Arrivals and Departures (1991-2006)

Figure 2
Number of international tourist arrivals to individual Australian States from 1991 to 2005



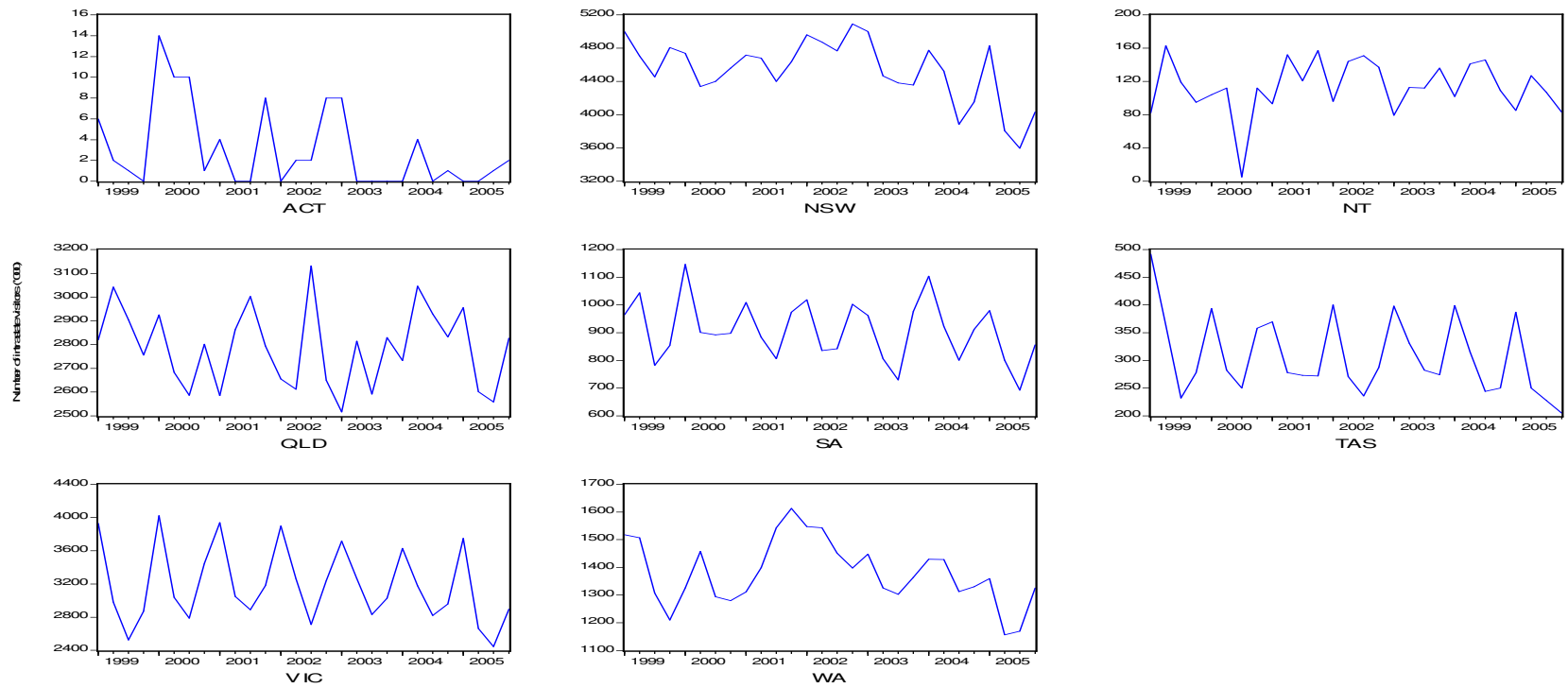
Source: Based on monthly Short-term Overseas Arrivals and Departures (1991-2006)

Figure 3
Number of domestic day-trippers by states



Source: Based on *Travel by Australians*, quarterly series from March 1999 to December 2005

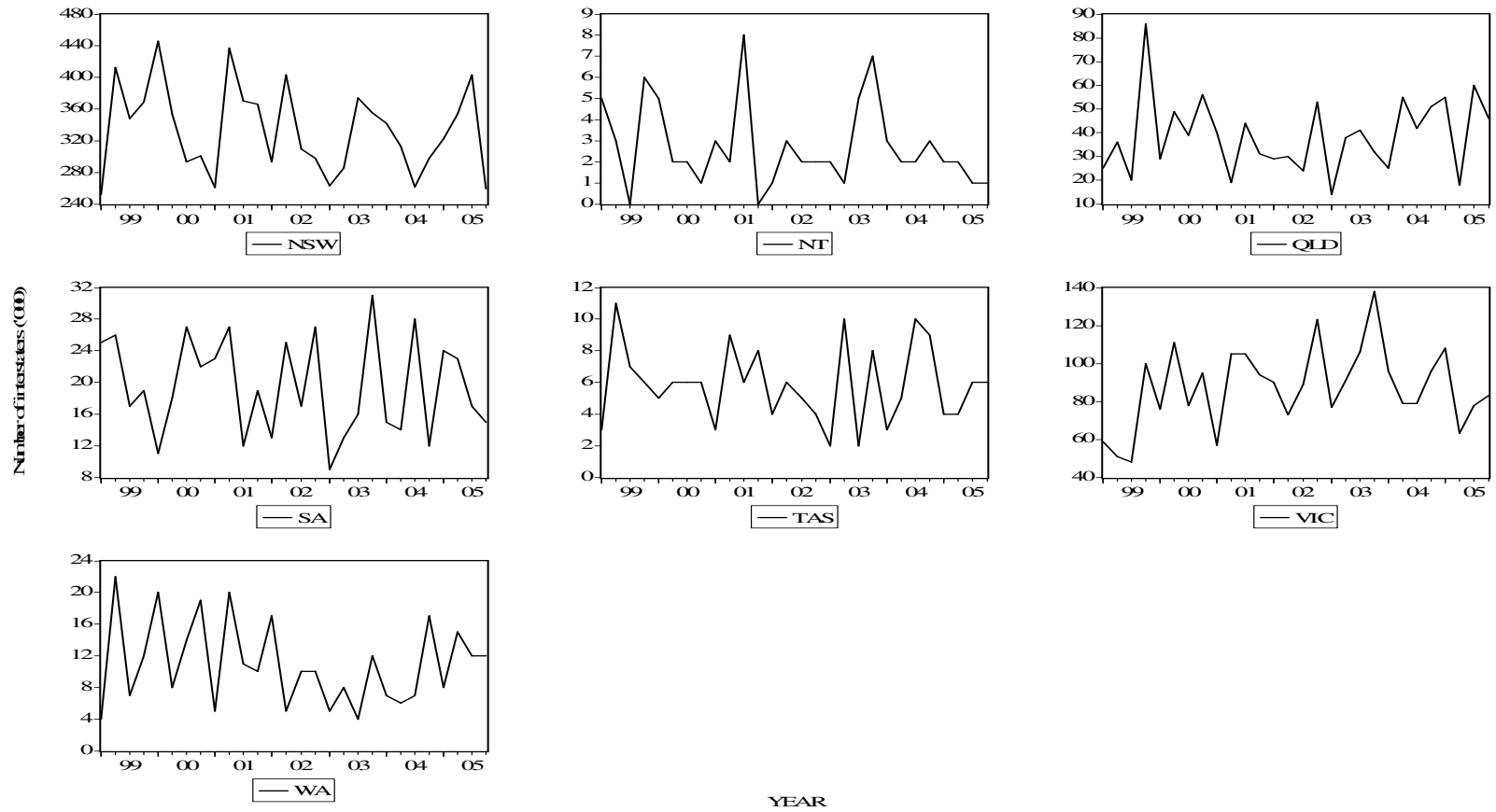
Figure 4
Number of domestic overnight intrastate visitors by state



Year

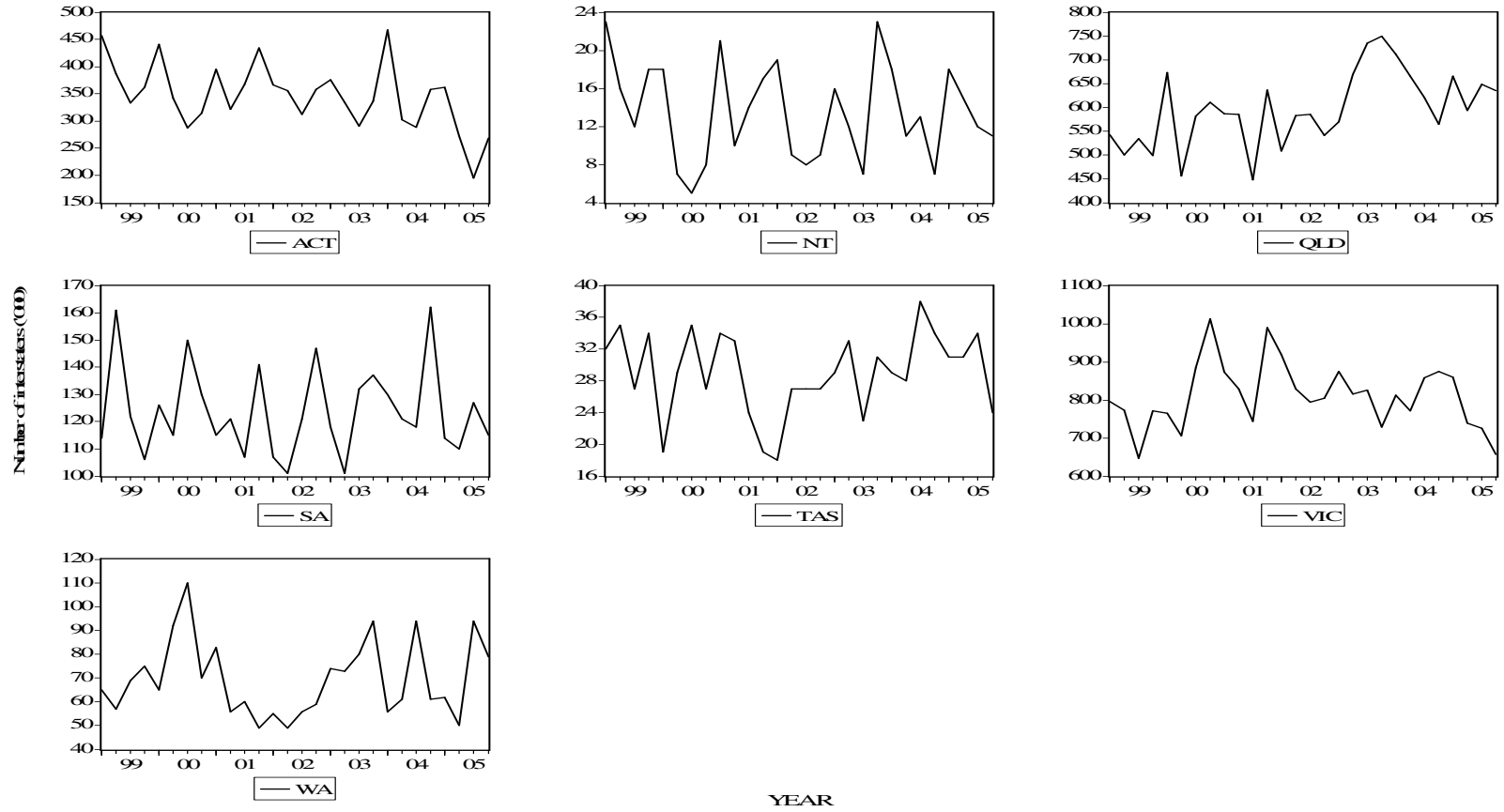
Source: Based on *Travel by Australians*, quarterly series from March 1999 to December 2005

Figure 5
Number of domestic overnight interstaters from State of origin to ACT



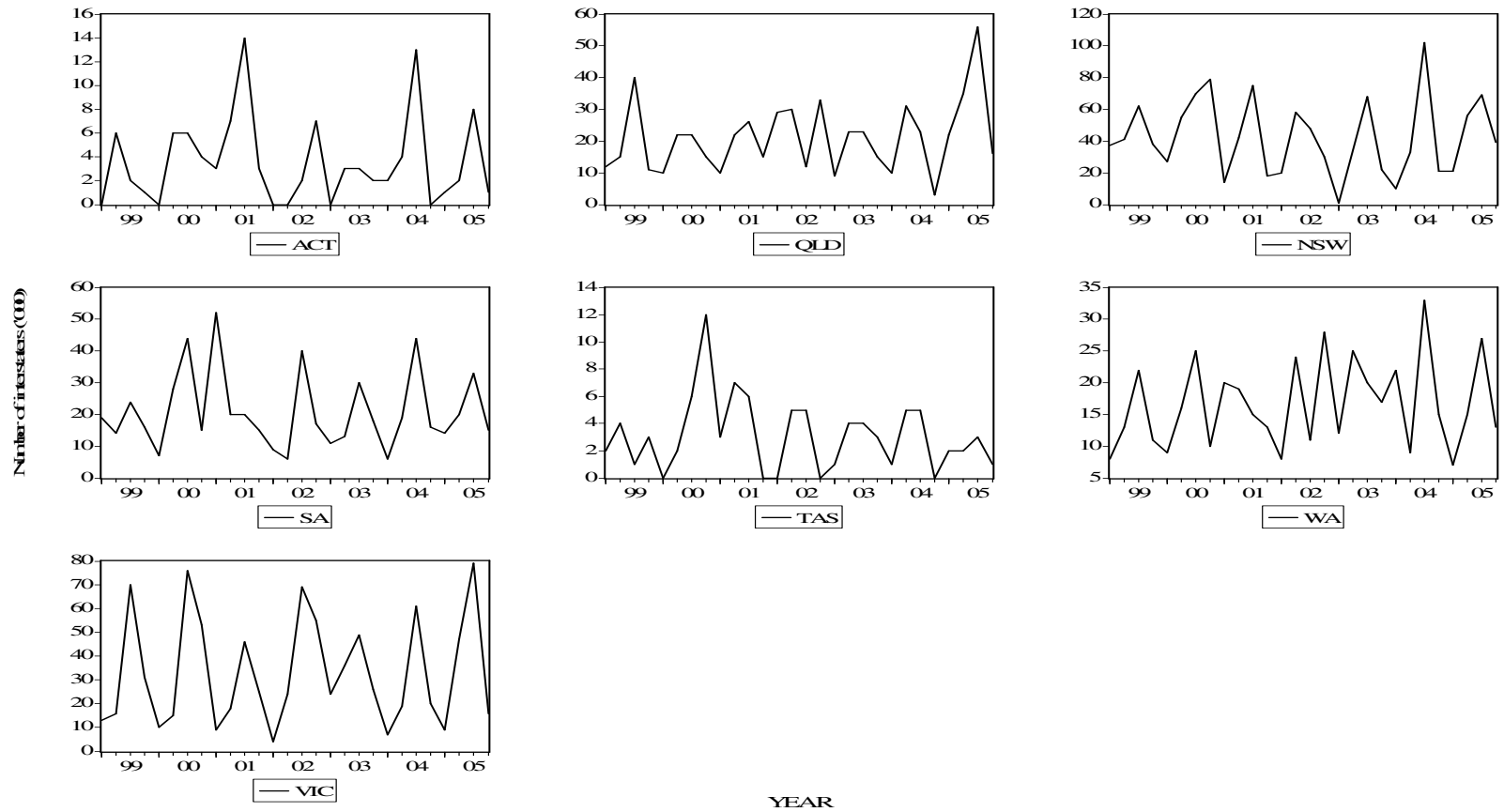
Source: Based on *Travel by Australians*, quarterly series from March 1999 to December 2005

Figure 6
Number of domestic overnight interstaters from State of origin to NSW



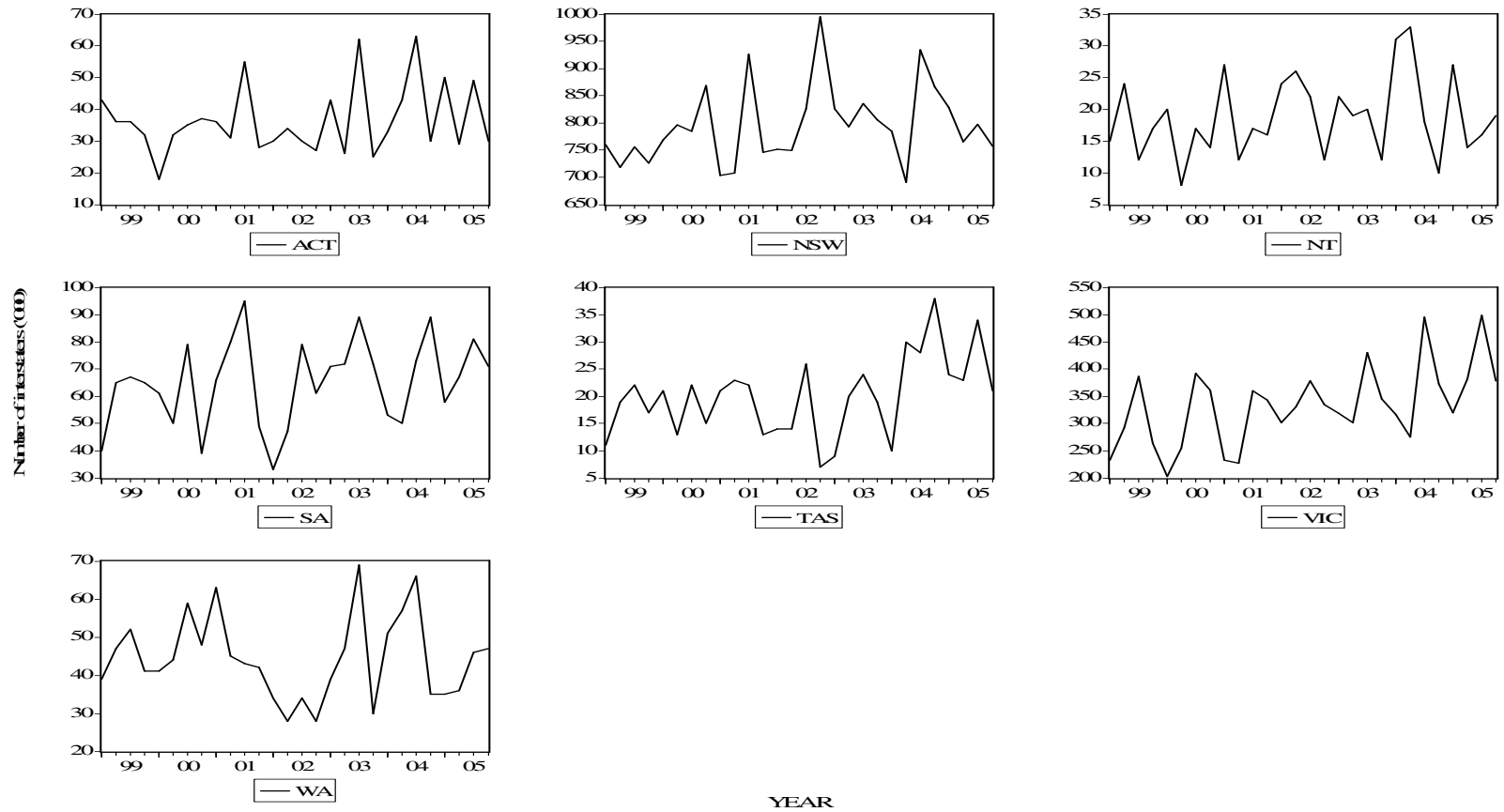
Source: Based on *Travel by Australians*, quarterly series from March 1999 to December 2005

Figure 7
Number of domestic overnight interstaters from State of origin to NT



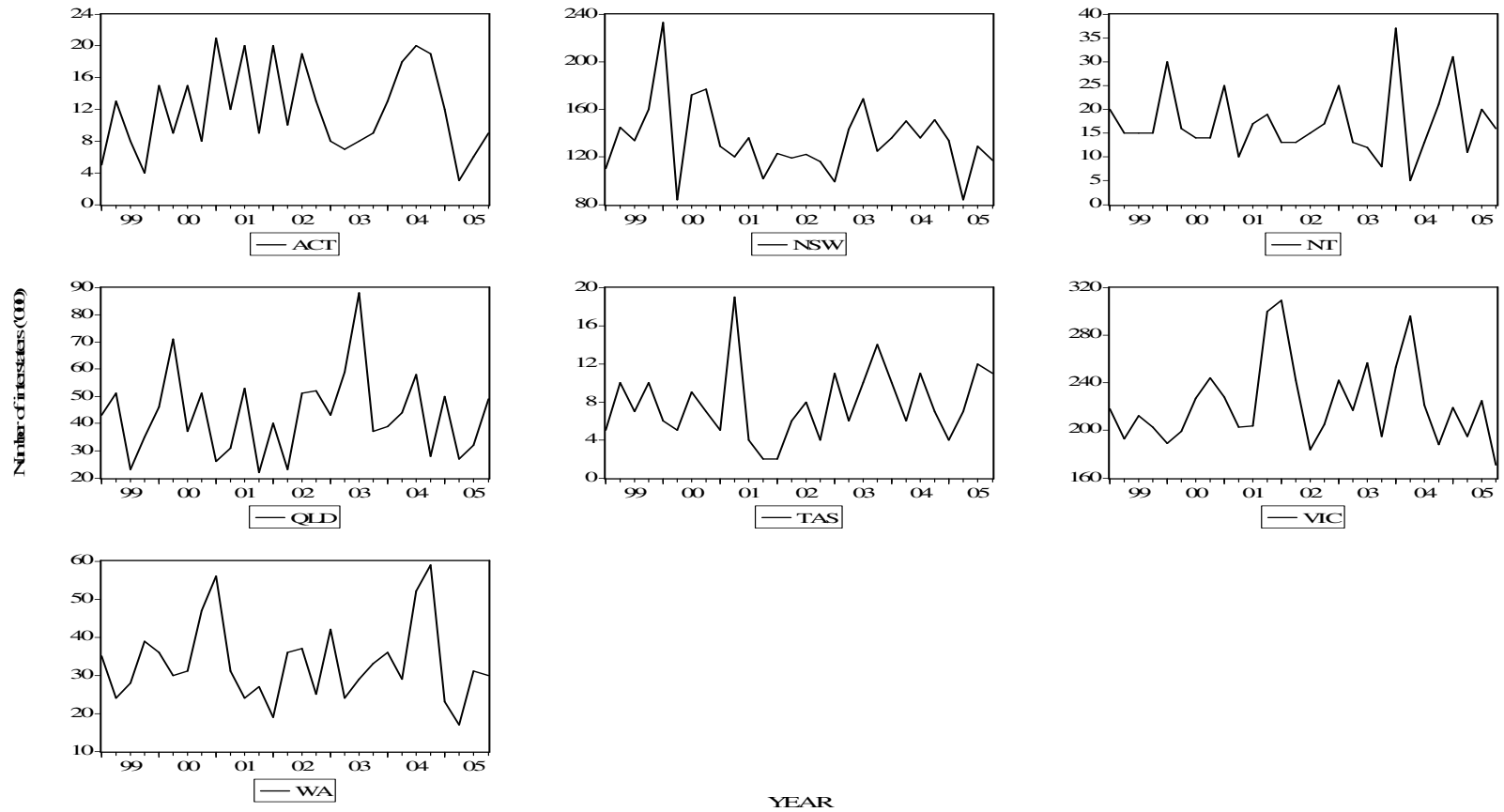
Source: Based on *Travel by Australians*, quarterly series from March 1999 to December 2005

Figure 8
Number of domestic overnight interstaters from State of origin to QLD



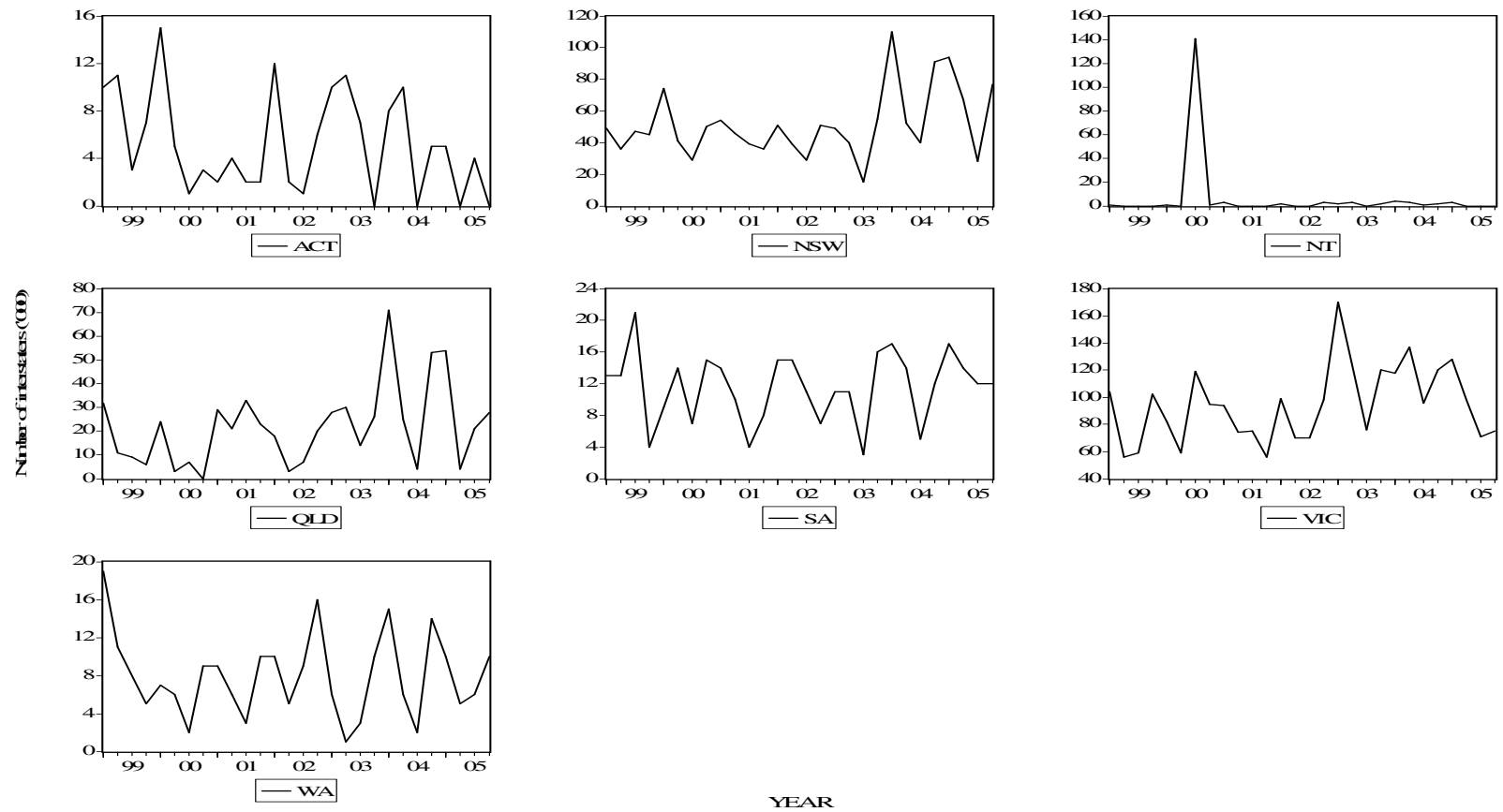
Source: Based on *Travel by Australians*, quarterly series from March 1999 to December 2005

Figure 9
Number of domestic overnight interstaters from State of origin to SA



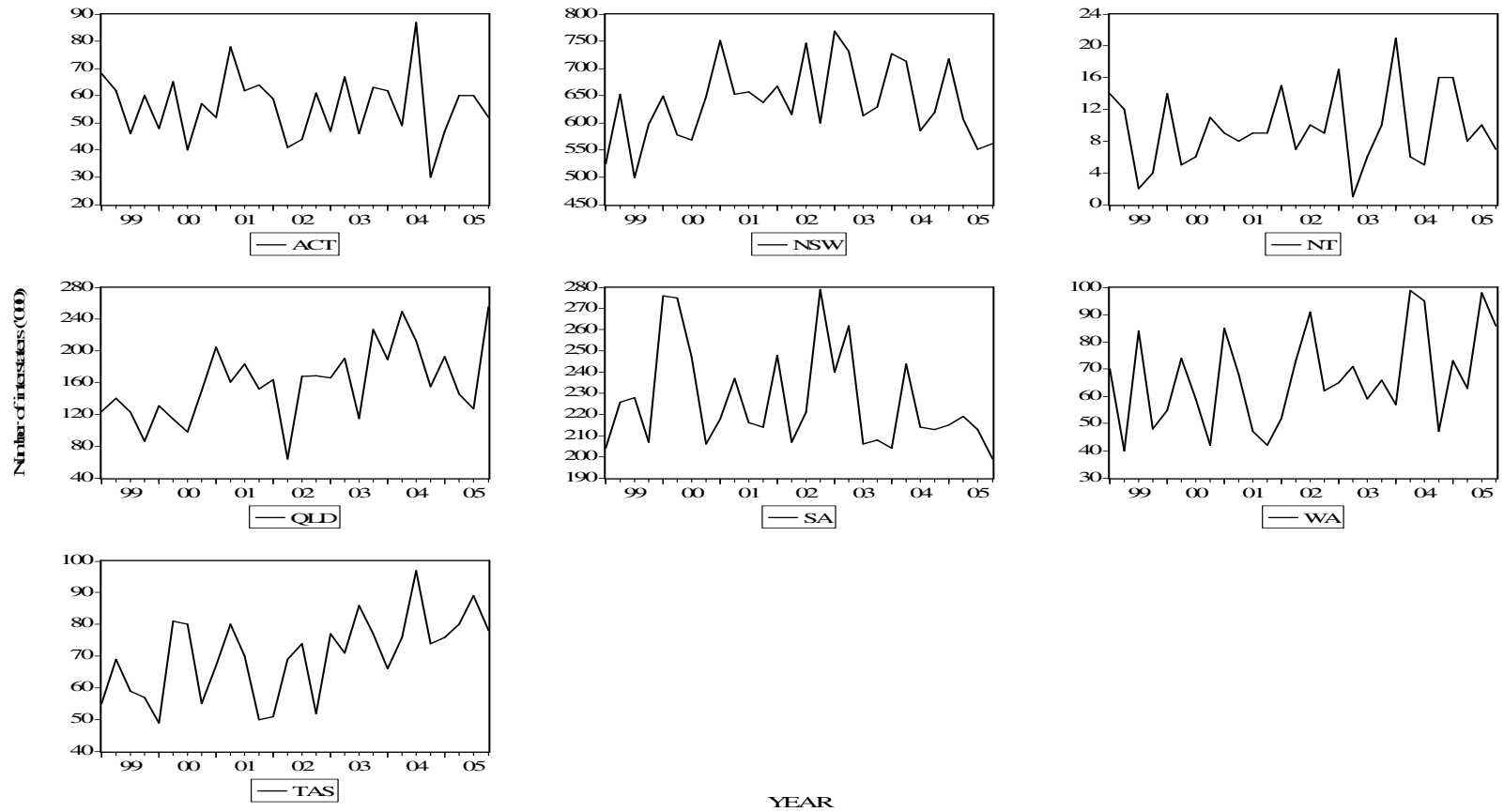
Source: Based on *Travel by Australians*, quarterly series from March 1999 to December 2005

Figure 10
Number of domestic overnight interstaters from State of origin to TAS



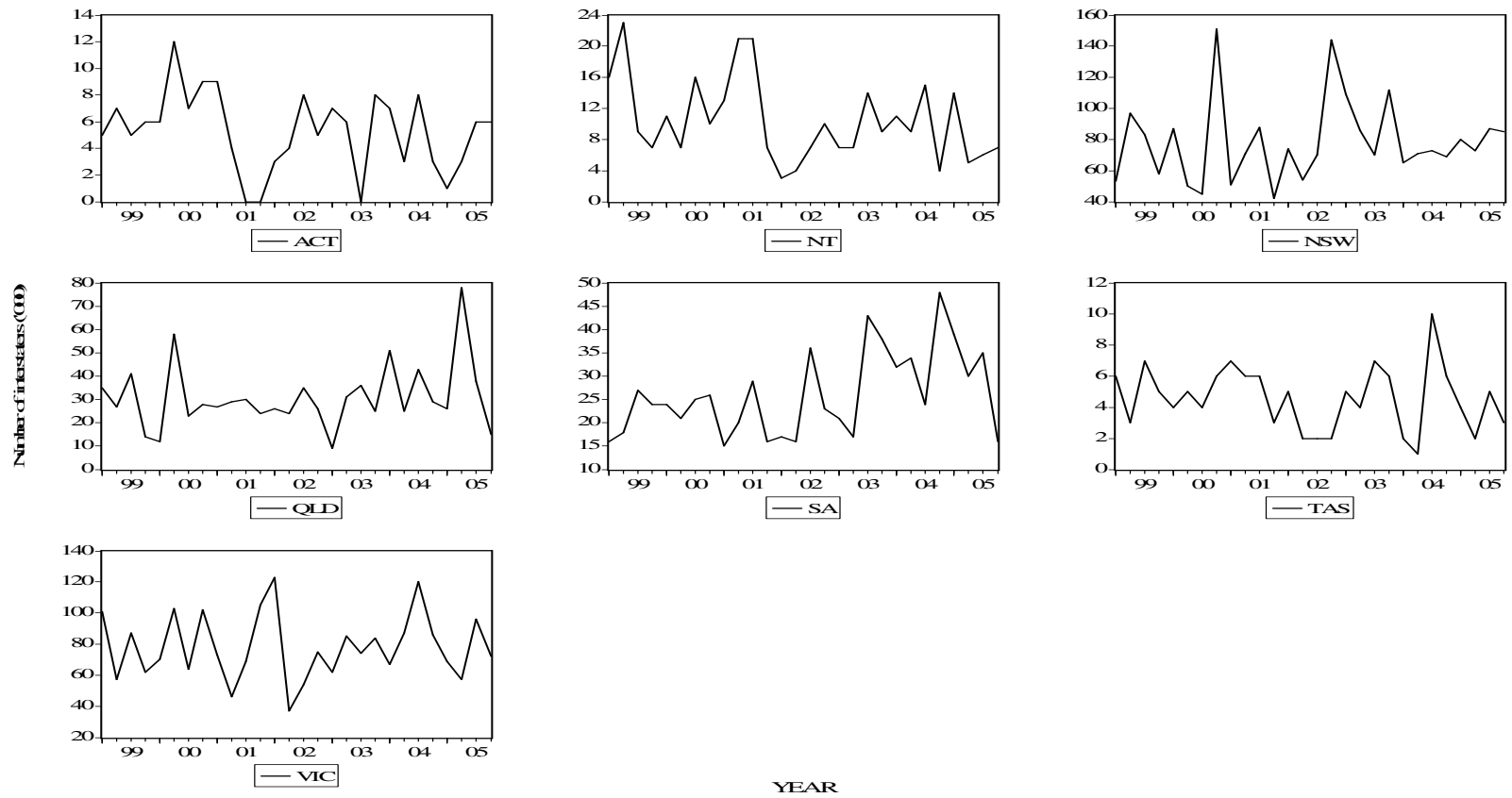
Source: Based on *Travel by Australians*, quarterly series from March 1999 to December 2005

Figure 11
Number of domestic overnight interstaters from State of origin to VIC



Source: Based on *Travel by Australians*, quarterly series from March 1999 to December 2005

Figure 12
Number of domestic overnight interstaters from State of origin to WA



Source: Based on *Travel by Australians*, quarterly series from March 1999 to December 2005

CONCLUSIONS AND IMPLICATIONS

As discussed above, the uncertainty in the demand for Australian tourism has significant impacts on the Australian economy, especially the restriction of employment opportunities in the industry and variation in tourism tax revenue. Even though there is uncertainty in tourism demand, the Australian Government acknowledges the importance of tourism to the Australian economy and has initiated the allocation of resources for developing new tourism destinations in Australia, particularly in regional and rural areas of Australia (National Tourism Investment Strategy: Investing for Our Future, March 2006). However, there is a main concern for the government or tourism policy-makers. That is, in terms of planning marketing strategy, the volatility in the historical data of tourist arrivals and domestic tourists might increase the difficulty for tourism policy-makers to accurately predict future demand for the industry.

Therefore, this paper argues that it is imperative to investigate the nature of uncertainty in the demand for Australian tourism, i.e. how volatile is the demand over time, what are the possible factors that affect the time-varying volatility in the demand and can such volatility affect the accuracy in forecasting tourism demand? This investigation aims to seek explanations of why and how the demand volatile over time. By doing so, we might able to determine the models that can explain the patterns of above historical data and generate accurate prediction.

The above investigation will be conducted by the author as parts of her PhD thesis.

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