

Europe versus Asia - Future of Tourism Trade

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Abstract

The shift share analysis conducted here is an attempt to forecast the balance of trade between Europe and Asia in the medium term in order to determine the directions of trade shift between these two growth regions. The study examines tourist arrivals from 1990 to 2002 inclusive into a selection of European and Asian countries and forecasts arrivals into each region from each other region for 2005 to 2007. The forecasting is a combination of existing published forecasts, for selected countries, and individual time series analysis using a structural modelling technique. The analysis showed that Asia had a competitive advantage over Europe in travel from Africa, Americas and Oceania from 1990 to 2002. Compared to the period of 1990 to 1995, the absolute growth of tourist arrivals from all regions to Asia over the period of 1995 to 2000 was two and a half times larger. The allocation effect for Oceania was positive during 2000-2002 indicating that Asia was increasingly specialized in attracting tourists from Oceania and Asia was increasingly gaining ground in attracting more tourists from the Middle East from 1995 onwards.

Introduction

According to the World Tourism Organization (WTO) Panel of Tourism experts, world tourism has grown positively overall in 2004, as travel confidence has returned robustly from earlier terror and health threats. The world economy has finally bounced back extraordinarily and experienced the highest growth since 1976, despite all the earlier shocks such as September 11 and SARS. The WTO Madrid Report also shows that in absolute terms international tourist arrivals in 2004 worldwide increased by 69 million (WTO, Madrid 2005). The largest gain was Asia and the Pacific region (over 34 million), nearly half of all new international arrivals. Europe came second with an increase of 16 million new arrivals, followed by the Americas with 11 million. Lower gains were recorded for the Middle East and Africa, with growth of 6 million and 2 million international arrivals respectively.

The redistribution of tourism flows in recent years implies that the two large tourism-generating regions in the world today are Asia and Europe, where the Asian region has grown dramatically led by the growth of China and India, while Europe stands to expand dramatically in the Eastern regions.

Tourism is a form of trade whereby arrivals are exports and departures are imports. Because of the huge value of tourism trade worldwide, the balance of trade between these two main growth regions is important in terms of the overall redistribution of wealth. Currently, tourism is the main source of transferring funds from the developed to the underdeveloped worlds. However, as Asia grows in its tourism imports this favourable balance could change at least to some degree.

The share in tourism is increasingly spreading to less developed economies and is characterized by less domination by a few large industrialized nations. The WTO estimates that in 1950 only 15 countries received about 25 million international tourists, but in 2000 over 70 countries received more than one million tourists per annum. Noticeably China (PRC), Russia Federation, Mexico, Poland, Hungary and Hong Kong SAR now rank in the top 15 tourism destinations. Furthermore, tourism expenditure is concentrated into the large industrialized countries. Consequently, tourism is unusual as a world economic trade in that it has been characterized by a capacity to redistribute international wealth from the wealthiest nations to developing nations.

The objective of this study is to determine the directions of the shift share between these two growth regions and the likely medium term balance of tourism trade based upon tourism arrivals expenditure, and the implications of the findings will be discussed in relation to the benefits and losses for each world region. This study also examines tourist arrivals from 1990 to 2002 inclusive into a selection of and Asian countries and forecasts arrivals into the Asian region from each other region for 2005 to 2007. The relative growth rates for each region are then compared in the light of the previous shift share results.

Data Sources and Definitions

Data on international visitor arrivals were obtained from the Yearbook of Tourism Statistics (Annuaire des statistiques du tourisme / Anuario de estadísticas del turismo), Madrid: World Tourism Organization. The regions in this study include Africa, Americas, Asia, Europe, Oceania (Australia and New Zealand) and Middle East. Data based on the arrivals at frontiers of visitors from abroad, at different periods (1990, 1995, 2000 and 2002).

Arrivals forecasts were based on existing published forecasts (Pacific Asia Tourism Forecasts 2005-2007, Pacific Asia Travel Association), for selected countries, and individual time series analysis using a structural modelling technique.

The world regions are defined here along similar lines to WTO definitions:

Africa – Continental Africa excluding Egypt and Libya.

Americas – Central North and South Americas.

Asia – North, South and Southeast Asia including Afghanistan.

Europe – North, South, East and West Europe including Russia and Turkey.

Middle East – East Mediterranean, Levant, Arab countries including Libya and Egypt, Saudi Arabia and Iran.

Oceania – Australia, New Zealand and the Pacific.

Shift Share Methodology

Shift share analysis has been known to decompose growth in a region over a given time period. This simple descriptive technique has proved to be useful for isolating trends in regional performance and for supplying data to policy makers to interpret changes in the industrial structure of their economies (Wilson and Mei, 1999). Basically, shift share analysis decomposes into three effects: national growth effect known as share effect, industry mix effect, and competitive effect (Barff and Knight, 1988).

Wilson and Mei (1999) also argued that most studies using shift share methods are quite static in the way that they only consider changes at the beginning and the end of the period. This static approach does not take into account the continuous changes in the industry mix effect.

In addition, the static approach also does not take into account the interaction between the industry mix and the competitive effect. According to Toh, Khan and Lim (2004), the Esteban-Marquillas extension to the shift share approach allows for interaction by adding a fourth effect called the allocation effect into the model. Hence, a dynamic shift approach has been devised to allow for the adjustment of continuous changes in the industry mix component. However, the main criticism on the Esteban-Marquillas extension raised by Stokes (1974) was that this Esteban-Marquillas shift share extension would lose the property of region-to-region additivity as well as the aggregation-disaggregation symmetry. Stokes' criticism was later disproved by Haynes and Machunda (1987) and confirmed that the Esteban-Marquillas shift share extension has an analytical superiority over the traditional shift share formulation.

In this analysis the work of Toh, Kha and Lim (2004) is used (incorporating the Esteban-Marquillas extension) to investigate the competitiveness between Asia and Europe from 1990 to 2002 inclusive. In this way the shift share approach measures the change over time to international visitor arrivals to Asia, benchmarked against Europe. This Esteban-Marquillas shift share extension assumes that visitor arrivals growth to Asia is due to the area wide effect, country mix effect, competitive effect and allocation effect. The net shift in visitor arrivals for each region is also measured to determine whether Asia is competitively superior to its benchmark area (Europe).

Mathematically, the Esteban-Marquillas shift share extension is expressed as follows:

$$T_{AB}^1 - T_{AB}^0 = T_{AB}^0 (\beta_{ALL}) + T_{AB}^0 (\beta_A - \beta_{ALL}) + H_{AB} (\gamma_{AB} - \beta_A) + (T_{AB}^0 - H_{AB}) (\gamma_{AB} - \beta_A)$$

Where,

$T_{AB}^1 - T_{AB}^0$ = Absolute growth of visitor arrivals from region A to Asia from the beginning to the end of the period.

$T_{AB}^0 (\beta_{ALL})$ = Area wide effect.

$T_{AB}^0 (\beta_A - \beta_{ALL})$ = Country mix effect.

$H_{AB} (\gamma_{AB} - \beta_A)$ = Competitive effect.

$(T_{AB}^0 - H_{AB}) (\gamma_{AB} - \beta_A)$ = Allocation effect.

The area wide effect measures the growth effect and is the product of the visitor arrivals from region A to Asia at the beginning of the period multiplied by the growth rate in arrivals from all regions to Asia and Europe collectively.

The country mix effect measures the changing importance over time of any other region A relative to the rest of the originating regions, for the benchmark destination area (which is Asia in this case). If the country mix effect is positive, it means that Asia is increasingly specializing in attracting visitor arrivals from other originating regions A, since the growth rate from region A is greater than from other regions.

The competitive effect measures the performance of Asia relative to Europe to determine whether Asia has a competitive advantage over Europe in region A.

The allocation effect takes into account the interaction between the country mix effect and the competitive effect. This effect determines if Asia is specialized in attracting visitors from any other region A relative to Europe.

A full detail of the shift share formula is given in the appendix.

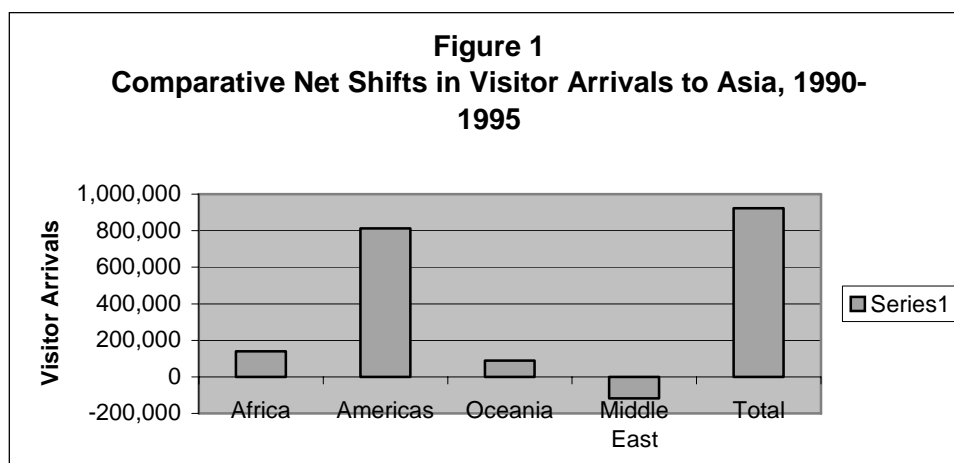
Shift Share Analysis for Asia versus Europe

The shift share analysis of growth in visitor arrivals to Asia from 1990-1995, 1995-2000 and 2000-2002 is based on four regions, namely: Africa, Americas, Oceania and Middle East.

Table 1:
Shift-Share Analysis of Growth in Visitor Arrivals to Asia, 1990-1995

From	Actual Growth	Area Wide Effect	Net Shift	Country Mix Effect	Competitive Effect	Allocation Effect
Africa	148,609	8,548	140,061	-46,709	712,151	-525,381
Americas	940,409	127,391	813,018	-601,352	2,603,167	-1,188,797
Oceania	146,795	58,598	88,197	-152,957	150,228	90,926
Middle East	-100,574	17,740	-118,314	128,000	-265,495	19,183
Total	1,135,239	212,277	922,962	-673,018	3,200,051	-1,604,069

Tables 1, 2 and 3 summarize the actual growth in international visitor arrivals to Asia and examine the area wide effect, country mix effect, competitive effect and allocation effect, as well as measuring the net shift in tourism arrivals. Several general observations can be made. Firstly, between 1990 and 1995, visitor arrivals from Africa, Americas and Oceania to Asia recorded a large, positive net shift (922,962) overall compared to Europe. The Middle East is the only region for which Asia lost ground to Europe, with a negative net shift of 118,314 visitor arrivals (refer to Figure 1).

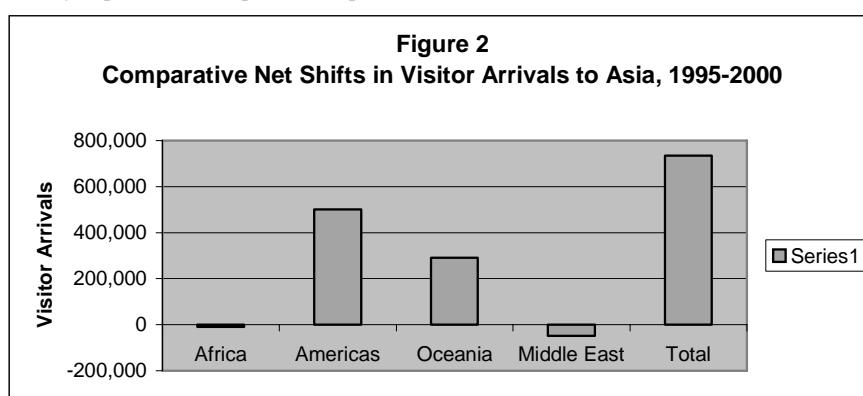


Secondly, in addition to an overall actual growth, Asia's total arrivals enjoyed a positive overall area wide or regional effect. This was due largely to the overwhelming Americas arrivals to Asia during 1990 and 1995. However, Asian destinations recorded a negative country mix effect in Africa, the Americas and Oceania regions. This means that Asia wasn't increasingly specializing in attracting tourists from these three regions, because the growth rate from, say Africa was less than from the rest of the originating regions. With the competitive effect, an overwhelming positive effect of 3,200,051 visitors confirmed that Asia had a competitive advantage over Europe in travel from Africa, the Americas and Oceania. Finally, the allocation effect takes into account the interaction between the country mix effect and competitive effect. Negative allocation effects in Africa and the Americas mean that Asia was not specialized in attracting tourists from these particular regions, where Asia had a competitive advantage.

Table 2:
Shift-Share Analysis of Growth in Visitor Arrivals to Asia, 1995-2000

From	Actual Growth	Area Wide Effect	Net Shift	Country Mix Effect	Competitive Effect	Allocation Effect
Africa	111,517	120,858	-9,341	-64,511	133,887	-78,717
Americas	1,883,050	1,382,418	500,632	736,645	-372,870	136,858
Oceania	832,921	541,976	290,945	76,365	147,582	66,998
Middle East	67,809	116,416	-48,607	-131,083	194,892	-112,416
Total	2,895,297	2,161,668	733,629	617,416	103,491	12,723

Table 2 shows that the absolute growth of arrivals from all regions to Asia over the period of 1995 to 2000 was 2,895,297 (two and a half times more than the growth from 1990-1995). This large growth explains why the area wide effect contributed 2,161,668 arrivals; the country mix effect contributed 617,416 arrivals; the competitive effect contributed 103,491 arrivals, and the allocation effect contributed 12,723 arrivals. Compared to Europe, there was a positive net shift of 733,629 (difference between the actual growth and area wide effect) and that Asia was competitively superior to Europe with respect to Africa, the Americas and Oceania (refer to Figure 2).

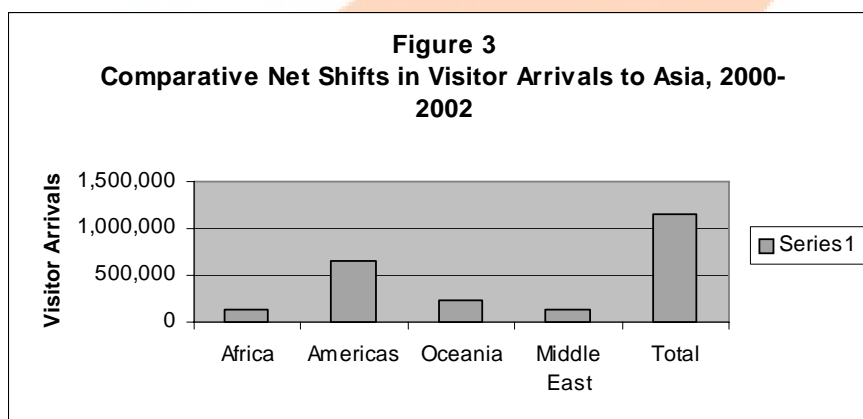


It is interesting to note that when comparing the previous period 1990-1995 to this period 1995-2000, the country mix effect changed from a negative (1990-1995) to a positive value (1995-2000). Therefore Asia became increasingly specialized in attracting visitor arrivals from the Americas and Oceania during the period of 1995-2000. The allocation effect of tourists from the Americas to Asia also changed from negative to positive. This implies that Asia was increasingly specialized in attracting arrivals from the Americas and it had a competitive advantage over Europe during this period.

Table 3:
Shift-Share Analysis of Growth in Visitor Arrivals to Asia, 2000-2002

From	Actual Growth	Area Wide Effect	Net Shift	Country Mix Effect	Competitive Effect	Allocation Effect
Africa	90,970	-35,181	126,151	35,362	199,379	-108,590
Americas	208,891	-447,016	655,907	-364,799	1,707,225	-686,519
Oceania	57,839	-182,203	240,042	114,684	80,271	45,087
Middle East	108,100	-30,892	139,082	17,137	236,289	-114,344
Total	465,800	-695,382	1,161,182	-197,616	2,223,164	-864,366

Similarly, Table 3 recorded an overall positive net shift of 1,161,182 arrivals (refer to Figure 3) during the period of 2000-2002. Note that the latest available data was 2002 from the WTO 2004 data release. This implies that Asia competitively superior to Europe, its benchmark region. However, compared to the previous periods (1990-1995 and 1995-2000), the overall area wide or regional effect became negative, which means that the growth rate in visitor arrivals from all regions to the benchmark area was decreasing. The allocation effect for Oceania was positive during 2000-2002 indicating that Asia was increasingly specialized in attracting tourists from Oceania and it had a competitive advantage over Europe. It is also interesting to note that Asia was increasingly gaining ground in attracting more tourists from the Middle East from 1995 onwards.



Forecasting

The question that arises from the previous analysis is whether Asia as a region will continue to benefit from a larger share of tourist arrivals into the medium term. It is generally accepted that tourist arrivals forecasts have been inaccurate over the past two decades in forecasting into the long term. Consequently, the more recent forecasting work is focused upon the medium term defined currently to be through to 2007.

The Pacific Asia Travel Association produces medium term forecasts generated by L.W. Turner and S.F.Witt annually for a period of three years ahead. The latest forecasts (Table 4) are produced for 2005 to 2007, and these forecasts have been used to derive the comparative annual average growth rates in Table 5.

Table 4:
Forecasts of Tourist Arrivals from 2005-2007
For World Regions To Asia

	2002	2005	2006	2007
Africa	570,279	612,621	658,463	695,794
Americas	6,299,165	9,528,353	10,372,910	11,010,824
Europe	2,540,174	15,521,062	16,662,694	17,947,865
Oceania	11,989,770	3,951,659	4,248,974	4,495,736
Middle East	530,202	693,939	764,437	838,528

These rates of growth provide comparative numbers of arrivals to Asia for all individual Asian countries. It can be seen that growth is forecast to be strongest for the Americas to Asia and this is primarily from North America. The rates for all growth taper off from 2002-2006/7 because growth in tourist arrivals in 2006/2007 tapers as the recovery from terror/SARS (that is reported in the earlier year of 2005) eases off and the growth is no longer confused with growth recovery. Oceania is also a major growth region for Asia but this is dominated by Australia and New Zealand (both developed countries). Growth from the Middle East is more focused upon Muslim countries such as Malaysia and Indonesia, however it is also strong. Asia is failing to attract growth from Europe in a relative sense, but 8% to 9% growth is still high in real terms.

Table 5:
Average Annual Growth Rates From 2002 To 2005, 2006 and 2007
For World Regions To Asia

	2002-2005	2002-2006	2002-2007
Africa	2.42	3.66	4.10
Americas	16.09	13.28	11.82
Europe	8.99	8.58	8.40
Oceania	15.87	13.73	12.10
Middle East	9.39	8.58	9.60

Conclusion

In this study we have used shift share analysis to investigate relative changes in the visitor arrivals to Asia between three different periods, 1990-1995, 1995-2000 and 2000-2002. The results show over time that Asia has experienced an increasing growth rate in tourist arrivals compared to Europe. Asia's positive net shift implies that Asia has been competitively superior to Europe with respect to Africa, Americas, Oceania and Middle East. In relation to the competitive effect, Asia has not specialized in arrivals from the Americas, but has experienced a competitive advantage over Europe.

Furthermore, it has been shown from the forecast averages presented that this trend will likely continue in the medium term and possibly increase in strength. Therefore, the current shift in the balance of tourism trade will continue to favour Asia over Europe and this may be beneficial in contributing to a redistribution of wealth. However, it is also possible that the shift share arrivals do not reflect expenditure. To some extent this is known with some individual countries. For example, Australia ranks about 18th in the number of tourist arrivals worldwide but about 7th in tourism receipts. It is assumed here that the aggregation of nations into regions overcomes odd expenditure patterns.

Further research is to be carried out to expand the shift share analysis to the projected forecasts in 2007. However, at present this requires more data to enable exactly the same regional makeup for the beginning and ending years. Further research may also be possible to examine a similar data pattern based upon receipts as opposed to tourist arrival numbers to more closely examine the question of the balance of trade, and the capacity of tourism growth to provide a degree of export advantage to underdeveloped regions.

APPENDIX

Shift-Share Formulation

$$T_{AB}^1 - T_{AB}^0 = T_{AB}^0 (\beta_{ALL}) + T_{AB}^0 (\beta_A - \beta_{ALL}) + H_{AB} (\gamma_{AB} - \beta_A) + (T_{AB}^0 - H_{AB}) (\gamma_{AB} - \beta_A)$$

Where:

$T_{AB}^0 (\beta_{ALL})$ = Area Wide Effect

$T_{AB}^0 (\beta_A - \beta_{ALL})$ = Country Mix Effect

$H_{AB} (\gamma_{AB} - \beta_A)$ = Competitive Effect

$(T_{AB}^0 - H_{AB}) (\gamma_{AB} - \beta_A)$ = Allocation Effect

γ_{AB} = growth rate in tourist arrivals from region A to destination B

β_{ALL} = growth rate in tourist arrivals from all regions to the benchmark area

β_A = growth rate in tourist arrivals from region A to the benchmark area

H_{AB} = expected tourist arrivals from region A to destination B

The terms in the equations are defined as:

T_{AB}^1 = tourist arrivals from region A to destination B at t^1 (end of the period)

T_{AB}^0 = tourist arrivals from region A to destination B at t_0 (beginning of the period)

T_B^0 = tourist arrivals from all regions to destination B at t_0

$T_{A \rightarrow AREA}^0$ = tourist arrivals from region A to the benchmark area at t_0

$T_{A \rightarrow AREA}^1$ = tourist arrivals from region A to the benchmark area at t_1

T_{AREA}^0 = tourist arrivals from all regions to the benchmark area at t_0

T_{AREA}^1 = tourist arrivals from all regions to the benchmark area at t_1

Note: In this context, region A refers to the origin region excluding Asia and Europe. Benchmark area refers to both Asia and Europe collectively. Destination B refers to Asia.

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