

FIFA 2010 and tourism: Evidence from previous sports events

INTRODUCTION

Much excitement and media attention accompany countries' bids to host mega-sport events such as the FIFA World Cup, the Olympics and the Rugby World Cup. This enthusiasm is partly explained by the popularity of the sports concerned and the global celebrity of the participating stars, but these bids are also motivated by a widely-held belief that winning them raises the international profile of the host country. And the events themselves are assumed to bring various monetary and other benefits, both at the time of hosting and afterwards.

The 2010 FIFA Soccer World Cup takes place in South Africa, following the successful hosting of various other international sporting events, which helped the country build its tourist infrastructure and enhanced its reputation as an international tourist destination.

In spite of this, the idea of channelling further scarce financial and human resources towards infrastructure projects to support the hosting of the 2010 event has not been universally popular, given the country's status as a developing economy. Yet such increased expenditure may be justified if it can be shown that the event itself will lead to economically-beneficial spin-offs as a result of increased revenues from tourism.

One way to answer this question is to look at the hosting of past events. Did they have a positive and identifiable impact on the number of tourists visiting South Africa? Recent studies suggest that we should not assume that this is the case, since the increased number of people visiting the country to attend a sports event can be offset by a decrease in the number of non-event tourists who avoid visiting the country at the time of the tournament to escape higher prices and busy town centres (known as "crowding out" or displacement).

This brief looks at recent evidence suggesting that in some cases the hosting of mega-events did indeed lead to increased numbers of international visitors, but that in other cases they had no significant impact.

LAYING OUT THE PLAYING FIELD

A recent statistical study by Spronk & Fourie looks at five historical international sporting events hosted by South Africa:

- 1995 Rugby World Cup
- 2003 ICC Cricket World Cup
- 2007 World Twenty20 Cricket Championships
- 2009 British and Irish Lions rugby tour
- 2009 Indian Premier League

The focus of Spronk & Fourie's study is on the *number* of visitors only. No distinction is made to identify visitors who travelled to the country primarily because of the events' occurrence, versus visitors who in whole or in part were motivated by reasons other than attending the events. All tourist arrivals are treated equal, and the overall number of visitors is simply used as a proxy for the gains to the host nation.

ATTRACTING SPECTATORS vs. CROWDING OUT OTHER VISITORS

The 2006 FIFA World Cup in Germany is widely considered as being one of the most successful ever, yet post-championship studies have found that the number of foreign visitor arrivals during that period did not differ significantly when compared to the equivalent time period in preceding years. In this case it seems that non-event tourists were displaced or crowded out by the increase in numbers of event tourists due to the reasons already mentioned above.

South African event organisers have historically tried to address this problem through scheduling major events during the off-season winter months when there are naturally fewer international visitors, thereby reducing the pressures on infrastructure and prices, and consequently lowering the risk of displacement.

SURVEYING THE VISITOR NUMBERS

Germany, Netherlands, France and the UK were identified as primary sources of inbound tourists based on historical numbers. This is mainly explained by the historical colonial ties these countries have with South Africa. The USA was included because it continues to contribute a relatively large share of visitors.

India, Australia and New Zealand are proportionally smaller contributors to overall visitor numbers, yet they are represented here because of the particular interest these countries have as participants in one or more of the five sporting events included in the study, creating a strong incentive for citizens of these countries to visit South Africa as spectators.

Other African countries contribute significantly to overall visitor numbers, yet they are not included here, mainly because they tend to spend less than their international counterparts, which makes their contribution to tourist revenues relatively minor.

Historical trends show that European tourists are drawn to South Africa during the warm summer months, which correspond with their own winter season. Arrivals from the USA, New Zealand and Australia do not follow a strong seasonal trend, explained by the USA's geographical weather diversity, and in the case of Australia and New Zealand by the fact that their seasons align with those of South Africa.

DROWNING OUT THE NOISE

There are factors other than timing and seasonality influencing the number of international arrivals, which may make it difficult to gauge the impact of the events themselves. Consumer demand theory suggests that there are three main variables determining consumption of goods and services in general: Price, consumer income and the prices of substitutes and complementary goods.

The analysis here takes into account three variables based on further studies which have adapted the consumer demand model for the tourism trade:

- The income of the originating country
- Relative prices
- Transportation costs between the two destinations

Monthly aggregate data were collected for the period January 1983 to July 2009 to represent the main variables for each of the source countries included in the analysis.

MEASURING PERFORMANCE

TABLE1: Variables and data sources

Variable	Statistic Used	Source	Comments
Visitor Numbers	International Air Arrivals	<i>Statistics South Africa</i>	Arrivals for Australia, France, Germany, India, Netherlands, New Zealand, UK and USA
Income of originating country	Gross Domestic Product (GDP)	<i>IMF: World Economic Outlook</i>	(1) Deflated to eliminate the effects of inflation. (2) Converted quarterly figures into monthly equivalents to match the data frequency for other variables.
Relative Prices	Real Exchange Rate: Rand per foreign currency	(1) SA Reserve Bank monthly data release (2) IMF:	Nominal (market) exchange rates converted to real exchange rates to eliminate the effects of

		International Financial Statistics	inflation.
Travel Costs	Dollar price of Brent crude oil per barrel	South African Reserve Bank	Used as a proxy because oil prices affect the price of jet fuel which in turn impacts on the cost of plane tickets.

ISOLATING THE IMPACT In the resulting statistical analysis, the number of tourist arrivals was expressed as a function of **income, relative prices, travel costs, time, month and a dummy variable representing the occurrence of the event.** The latter is set equal to 1 in the months when the event took place, and 0 in all others (see Table 2 below). All of the variables were included in a single function in an attempt to gauge the relative contribution of each to the number of tourist arrivals, ultimately to isolate the true impact of the sporting event's occurrence on the number of tourists.

TABLE 2: Event indicator variables

Sporting Event	Date	Dummy Variable Month(s)
IRB Rugby World Cup	25 May - 24 Jun 1995	May, June
ICC Cricket World Cup	9 Feb - 24 Mar 2003	February, March
ICC World Twenty20	11 Sep - 24 Sep 2007	September
Indian Premier League	18 April - 24 May 2009	May
British and Irish Rugby Tour	25 May - 24 Jun 2009	June

Five individual models (one per event) were developed for each separate country. Lagged variables were included to account for the fact that people base their decision to travel in the future, on present or past income levels and costs. This implies, for example, that the number of arrivals in a particular month were not only determined by the source country's GDP in that month, but also by the GDP in previous months. Vector autoregression tests were run to determine how many of these lagged periods to include in each case.

THE RESULTS The results below show the percentage increase in visitor numbers resulting from the occurrence of each sports event, assuming that all of the other variables (income, prices, etc) are held constant, i.e. a positive percentage indicates that South Africa welcomed more visitors from a particular country as a result of the event than it would have under normal circumstances.

Statistical tests were conducted to consider the likelihood that there was an increase in visitors associated with the event. This likelihood is captured via the indicator of statistical significance reported in the results table below.

One shortcoming of the statistical models is that no provision was made to measure the impact of socio-political instability or other events such as the SARS and Swine flu pandemics or the 2001 attacks on the World Trade Centre in New York. To account for this, the models were tested for robustness by applying the same functions to subsets of the overall period for which data was gathered, to determine whether the outcomes remained consistent. The findings of these tests are summarised in the **robustness** column of the results table for each event.

1995 IRB RUGBY WORLD CUP

This was the first event to be hosted by post-Apartheid South Africa, and the third of its kind to be organised by the IRB, with 16 competing countries. Participant countries that were included in our analysis are shown in bold.

TABLE 3: Results for the IRB Rugby World Cup

Country	% Change in arrivals	Significant?	Robustness Test
Australia	54%	Yes	Consistent
France	48%	Yes	Consistent
Germany	Insufficient Data		
India	12%	No	Inconsistent
Netherlands	13%	No	Inconsistent
New Zealand	112%	Yes	Consistent
UK	33%	Yes	Consistent
USA	6%	No	Inconstent

The five countries in our survey who participated in the IRB World Cup, Australia, France, New Zealand and the UK show noticeable and significant increases in tourist arrivals. The remainder of the (non-participating) countries show smaller increases, but these are not statistically significant.

The tests of robustness for India, Germany and the USA show small decreases in tourist numbers for the periods following the World Cup, but these decreases are not statistically significant, and therefore do not provide concrete evidence that the increase in numbers from participating countries crowded out tourists from non-participating countries.

2003 ICC Cricket World Cup

This was the eighth tournament of its kind and the first time it was hosted on African soil. Participating countries are again shown in bold.

TABLE 4: Results for the Cricket World Cup

Country	% Change in arrivals	Significant?	Robustness Test
Australia	11%	No	Consistent
France	17%	No	Consistent
Germany	12%	No	Inconsistent
India	64%	Yes	Consistent
Netherlands	6%	No	Consistent
New Zealand	64%	Yes	Consistent
UK	5%	No	Inconsistent
USA	-3%	No	Consistent

Although Australia, The Netherlands and the UK participated in the event, there was no resulting significant increase in tourist arrivals. The result is the same for non-participating countries. In the case of the US there is a slight decrease in tourist numbers, although it is not statistically significant. India and New Zealand are the only two participating countries showing a significant increase. There is once more no significant evidence of displacement.

2007 ICC World Twenty20

South Africa was the first country to host the event. Twelve teams participated.

TABLE 5: Results for the Cricket Twenty20 estimates

Country	% Change in arrivals	Significant?	Robustness Test
Australia	-0.3%	No	Inconsistent
France	-13%	No	Consistent
Germany	-2.2%	No	Consistent
India	-11%	No	Consistent
Netherlands	7%	No	Inconsistent
New Zealand	14%	No	Consistent
UK	-3%	No	Consistent

USA	-13%	No	Consistent
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No statistically significant changes in arrivals numbers are found for any of the countries included. In this case it made no difference whether they participated in the tournament or not. This is probably ascribable to the small size of the inaugural event. No statistically significant evidence is found that crowding out occurred.

2009 Indian Premier League

The event was moved to South Africa three weeks before it was due to be held in India due to security concerns. Each franchised team comprised of players from different countries, funded by wealthy Indians who pay large sums to contract top international and Indian players.

TABLE 6: Results for the Indian Premier League (IPL)

Country	% Change in arrivals	Significant?	Robustness Test
Australia	-5%	No	Consistent
France	-7%	No	Inconsistent
Germany	-18%	No	Inconsistent
India	60%	Yes	Consistent
Netherlands	6%	No	Inconsistent
New Zealand	-11%	No	Inconsistent
UK	-29%	Yes	Consistent
USA	2%	No	Consistent

As expected, the only country showing a significant increase in tourist numbers as a result of this event is India. The robustness test for the UK shows a statistically significant decrease in tourist number in the sub-period leading up to the event. Although this is potential evidence of displacement, the negative effect is probably due to the fact that UK sports fans timed their arrival in South Africa to coincide with the British and Irish Lions rugby tour which took place a month later.

2009 British and Irish Lions rugby tour

The British and Irish Lions tour every four years to play against the rugby powerhouses of the Southern Hemisphere: Australia, New Zealand and South Africa. The 2009 FIFA Confederations Cup also took place in South Africa, coinciding with the end of the Lions tour. The USA and New Zealand, both of whom are included in this study, did participate, although the English football team did not, which means that our

estimates for the rugby tour should not be biased by the simultaneous occurrence of the Confederations Cup.

TABLE 7: Results for the Lions rugby tour

Country	% Change in arrivals	Significant?	Robustness Test
Australia	51%	No	Inconsistent
France	-22%	No	Consistent
Germany	-1%	No	Inconsistent
India	-54%	Yes	Consistent
Netherlands	4%	No	Inconsistent
New Zealand	836%	No	Inconsistent
UK	57%	Yes	Consistent
USA	-7%	No	Inconsistent

As expected, there was a statistically significant 57% increase in UK visitor numbers as a result of the Lions tour. No other significant increases or decreases are found for any of the other countries, apart from India, which showed a 54% decrease. This is probably explained by the fact that Indians planned their visits to coincide with the IPL event, which occurred the month before.

CONCLUSION

There are disparities in the positive impact made by the various events South Africa hosted in the past, with large events having the most noticeable impact on foreign arrivals. Overall, the results indicate that hosting large international sports events can indeed lead to increased visitor numbers on the part of participating countries, without displacing normal tourists. The hosting of events in off-peak winter months plays a key role in achieving this.

Although we did not measure expenditure, a rise in tourism numbers in the absence of displacement will have led to tangible benefits in the form of receipts from tourism. Looking ahead to FIFA 2010, given the size of the event and the number of countries participating, there is reason to be optimistic that these benefits will once more be realised. Whether the monetary value of tourist receipts will bring a net benefit over and above the financial and opportunity costs of developing the infrastructure to host the events is a matter for further analysis.

FURTHER INFORMATION

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FURTHER READING

Spronk, K & Fourie, J. 2010. *South African mega-events and their impact on tourism*. Stellenbosch Economic Working Papers 03/10.