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# **Hosting Annual International Sporting Events and Tourism: Formula 1, Golf or Tennis?**

## **Abstract**

Hosting sports events to attract international tourists is a common policy practised by many host governments. Hosting mega-sports events like the Olympics are said to leave a legacy that could impact the attractiveness of a country/city in the long term. However, the opportunity to host these mega-events are limited and expensive. This study considers the economic impact of hosting annual international sporting events, specifically the extent to which Formula-1, ATP Tennis, and PGA Golf can attract international tourists. Using monthly data from 1985 – 2018 and we show that the effect differs from one sport to another within a country, and the same sport across countries. Hosting the Formula-1 is most effective for Canada but has no significant impact in the UK. ATP tennis has a significant impact on all three countries but may not be the star event. Policy-makers must consider carefully the sport that gives the best bang-for-the-buck.

**Keywords:** sports tourism, F1, Tennis, Golf, international tourists

## **Introduction**

Hosting sporting events to attract more inbound international tourists has become a popular strategy among many local and national governments. The Brazilian Ministry of Sports estimated that the hosting of the 2014 FIFA World Cup would attract 600,000 international tourists while the previous tournament in South Africa attracted more than 300,000 foreign visitors (Baumann and Matheson, 2018). Hosting large scale, high profile sports events has been on the increase in recent years as there is a strong belief that there is net positive economic impact from hosting such events (Huang et al., 2014). The city of Shanghai for

In this paper, we turn away from mega sporting events

general, the results are mixed depending on whether the studies are prospective or retrospective (Humphreys, 2006). These mega-events are however, a once-in-a-life-time event, and the pre-requisites and competition to host them are challenging. FIFA for example, requires host countries to have between 8 to 12 large stadiums while the Olympic International Committee (OIC) require facilities that can house 15,000 athletes and sufficient hotel rooms for spectators (Baade and Matheson, 2016).

Several studies have considered the impact of smaller, local but regular sporting events in the US (Daniels and Norman, 2003; Kaplanidou et al., 2012) and Japan (Nogawa et al., 1996) while several others have evaluated the economic impact of a single sport (for example, Kim et al., 2017 and Ramasamy and Yeung, 2020 for Formula-1; Papanikos, 2015 for the Athens Marathon). A majority of the literature examines the perception of the destination image (Hallmann et al., 2015; Kaplanidou and Gibson, 2010; Kaplanidou et al., 2012), visit motivation (Yusof et al., 2009), and focus on tourist profiling (Yusof et al., 2009; Ziakas and Boukas, 2016). With an abundance of research on mega events and to a certain degree, small-scale or individual events, we find limited research that takes a closer look at the impact of hosting annual international sporting events, let alone comparing which annual international sporting event might be more beneficial for the hosting city/country. Huang et al. (2014) is a rare paper that compares 3 major sports events in China to estimate the likely economic impact. However, they use survey data and include the spending of locals, which muddles the results. In this paper, our focus is on popular international sporting events that occur on an annual basis, namely the Formula-1 Grand Prix, PGA Golf and ATP Tennis. Our paper bridges thi).

literature that use case studies and questionnaires, which leads to relatively limited dat



new money from hosting the Formula-1 races came from local attendees. Thus, the ability of a particular sport to attract international tourists can represent a significant aspect of the economic impact of playing host for the event. Realizing this, China is planning the nation's first national sports tourism pilot zone in Hainan Island, aiming to host international sports events more frequently (*China Daily Global Edition*, 9 April 2020).

Five countries host the three sports selected for this study at a high level – Australia, Canada, the UK, France and Spain. Our choice of the former three is to ensure a geographical spread across various continents. All three selected host countries are, however, part of the British Commonwealth, but more importantly have a long history of hosting these sports. Some brief details of these sports tournaments at various locations are described in Table 1.

*[Insert Table 1 here]*

### **Data and Methodology**

Previous studies have used two popular approaches to model tourism demand at the country level. The first approach, the Box-Jenkins uni-variate model, features the time-series of tourism demand itself as an exogenous variable. The rationale here is that without any other exogenous variables, the model is able to detect a great deal of underlying behavior within the tourism demand time-series (for example



after, to account for the change in the slope of the trend. The model is a pure univariate model without including any other exogenous variable.

The second approach models the variations in tourism demand by regressing it on a few selected exogenous variables. There have been many attempts to explain the variations in inbound arrivals of a particular country using a range of regressors. For instance, Witt and Witt (1995) suggested using the lagged dependent variable, which has









only affected Canada. The trend variable is significant and positive for the UK and Australia, with a relatively small magnitude. In sum, all our control variables carry the expected signs with various degrees of significance, at least for one country of interest.



However, in each country, the annual sporting event that shines is different. An additional day of F1 brings in an astounding 9% increase in tourism demand (compared to a normal month without any events) in Canada, while golf and tennis both have a much lower estimated impact at around 1%. Our result is consistent with Sylt (2016) that the F1 GP in Montreal is perhaps the largest tourist event in Canada, generating more than USD 90 million in spending by visitors in the Greater Montreal area. F1 is also the lead runner for Australia, with an estimated increase of 2.1% on tourism demand, almost double the value compared to hosting tennis tournaments. Tourism Victoria (2011) showed that about 10% of the attendees of the 2011 F1 in Melbourne were international visitors and that the GP provides significant branding and positioning for the city of Melbourne. For the UK, F1 is not significant but PGA Golf brings in a 3% increase in tourist inflow, above the 0.5% increase from hosting the ATP Tennis tournaments. An interesting result is that hosting the PGA Golf in Australia has a negative impact on tourism demand - an estimated 0.7% decrease compared to the previous month is expected. This indicates that there is no “one-size-fits-all” rule for sports tourism. Although holding tennis tournaments may lead to an increase in tourist numbers for all three countries, it is not the optimal event for all. The UK benefits more from holding golf tournaments, whereas Australia would expect a decrease in tourism if they followed the same strategy.

Our analysis makes two important contributions. First, we study how hosting different international sporting events



industry to an even higher level, compared to hosting a PGA Golf tournament. Second, our



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Variable	CANADA	UK	AUS
	Statistics Canada <a href="https://www150.statcan.gc.ca/n1/en/subjects/travel_and_tourism">https://www150.statcan.gc.ca/n1/en/subjects/travel_and_tourism</a>	UK Office for National Statistics <a href="https://www.ons.gov.uk/peoplepopulationandcommunity/leisureandtourism">https://www.ons.gov.uk/peoplepopulationandcommunity/leisureandtourism</a>	Australia Bureau of Statistics <a href="https://www.abs.gov.au/AUSSATATS/abs@.nsf/DetailsPage/3401.0Mar%202020?OpenDocument">https://www.abs.gov.au/AUSSATATS/abs@.nsf/DetailsPage/3401.0Mar%202020?OpenDocument</a>
	Bank for International Settlements <a href="https://www.bis.org/statistics/eer.htm">https://www.bis.org/statistics/eer.htm</a>		
	Thomson Reuters's Datastream		
	Data portal of Canadian Centre for Climate Services <a href="http://www.climate data.ca">www.climate data.ca</a>	Met Office The national meteorological service for the UK <a href="http://www.metoffice.gov.uk">www.metoffice.gov.uk</a>	Bureau of Meteorology, Australia <a href="http://www.bom.gov.au">www.bom.gov.au</a>

Global Terrorism Database from The National Consortium for the Study of Terrorism



**Table 4. Estimates using SURE**

	<i>CANADA</i>		<i>UK</i>		<i>AUSTRALIA</i>	
	Coeff.	<i>p</i> -value	Coeff.	<i>p</i> -value	Coeff.	<i>p</i> -value
Constant	1.097*	0.071	2.237***	0.000	4.116***	0.000
	0.514***	0.000	0.297***	0.000	0.371***	0.000
	0.386***	0.000	0.315***	0.000	0.268***	0.000
	-0.119**	0.017	-0.001	0.581	-0.001	0.169
	0.050*	0.077	0.096**	0.017	0.087***	0.004
	0.181***	0.000	0.014***	0.000	0.044*	0.077
	0.009	0.188	-0.023*	0.081	0.008	0.576
	-0.659***	0.000	-0.132***	0.000	-0.159***	0.000
	-0.065***	0.004	-0.007	0.618	-0.283***	0.000
	0.013***	0.000	0.005***	0.000	0.012***	0.000
	0.010*	0.086	0.031***	0.000	-0.007*	0.073
	0.091***	0.000	0.007	0.760	0.021***	0.002
TREND	0.001**	0.032	0.001**	0.043	0.001***	0.001

An  $R^2$  for Aitken's generalized least square model is not computed here as it is not well defined as to which particular type of a pseudo  $R^2$  that should be used as a suitable replacement for the usual  $R^2$  in OLS models and to what extent they are relevant to SUR estimations.