The Impact of Formula One on Regional Economies in Europe

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Aim

Stakeholders advocating for the use of public funds to finance the hosting of major sporting events frequently argue that these investments pay off in terms of increased economic activity. This paper applies robust regression techniques in order to test whether this is the case in relation to Formula One (F1). Our approach focuses on per capita GDP and tourism in European regions that have hosted F1 races from 1991 to 2015.

Theoretical Background and Literature Review

Tangible effects of hosting major sporting events have been thoroughly examined over the years (Storm, Thomsen, & Jakobsen, 2017). The consensus among scholars is that effects on tourism, inbound foreign investments and GDP from hosting e.g. the Olympic Games or the soccer World Cup are marginal or absent (Jakobsen, Solberg, Halvorsen, & Jakobsen, 2013). So far, only few studies have examined the impacts of F1, and they have usually applied input-output (I-O) or Computable General Equilibrium (CGE) methodologies, which have been increasingly criticised for being too simplistic (Dwyer, Forsyth, & Spurr, 2005). The problem is that such approaches often overestimate benefits and leave out the (opportunity) cost side of hosting a major event (Taks, Késenne, Chalip, Green, & Martyn, 2011). To deal with this issue, this paper applies regression modelling techniques on available objective data to test the effects.

There are three reasons for this approach: First, conducting a proper CBA is costly and requires sourcing data that is not easily accessible. Second, the high of costs of a CBA it would limit our analysis to only a few F1 races. Third, while I-O, CGE and CBAs have already been done on F1 races, no analyses comparing areas with and without F1 races exist.

Research Design and Data Analysis

In taking an appropriate modelling approach, we apply dynamic panel data to the period spanning 1991–2016. The advantage of this approach is that we are able to use objective data that is not affected by inflated multipliers or similar problems associated with tricky assumptions built into the modelling techniques of the typical approaches used in impact analysis [1].

We investigate 10 European regions with variations in our independent variable *F1race* [2]. This means that these regions are a mixture of regions that have both hosted and not hosted a F1 race during our period of investigation. Our annual data on *gross domestic product* and *nights spent on tourist accommodation* (at hotels) are collected from Eurostat (2018)[3]. We focus on Europe because objective data relevant for analysis is not available for other world regions. A weakness of the data is that while Eurostat's database covers a great deal of topics measured over several years, there is little publicly available data relevant for constructing explanatory variables in our regression models. Accordingly, our models are relatively simple. We present eight models: four with *GDPpc* and four with nights spent as the dependent. Four models test the effect of *F1 race* in the same year and four models test the effect of a *F1 race* in the year prior to measuring the dependent variable.

Results and Discussion

Regarding the effect of *F1race* on *nights spent*, we find no significant effect. For the models with per capita GDP as the dependent variable, the effect is negative both for hosting a race in the same year and hosting in the previous year, though neither result is statistically significant. For our lagged models, we find similar results, except when lagging our independent variables 3 and 4 years for the models investigating *per capita GDP*. Here, the results are negative and statistically significant.

Conclusion and Implications

In sum, our analysis fails to support the positive side of the debate about the economic benefits of hosting a F1 race, at least at the regional level in Europe. On the contrary, there could actually be a delayed negative effect when it comes to regional per capita GDP. While recognizing that our models are simple, the implications of our findings are that politicians, public authorities and other stakeholders should be careful when they argue that using public funds to host F1 races is a sound investment.

[1] We recognise that using a panel data regression approach is not without its problems. However, we believe that the benefits of the approach add to existing literature by yielding results which can be compared to results produced by other studies using other methodologies. Overall, we will gain a better understanding of the scope of potential benefits that can be expected from hosting major sporting events.

[2] This includes Baden-Württemberg, Cadiz, Emilia-Romagna, Leicestershire, Liege, Lisbia, Nièvre, Rheinland-Pfalz, Steiermark, and Valencia.

[3] Please note that campsite tourism is not included, which is a weakness of the data. However, F1 audience usually belongs to the higher earning middle class who prefer hotels making this a minor problem to the study.

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