



## Sectoral labour market effects of the 2006 FIFA World Cup

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### HIGHLIGHTS

- We analyse the regional economic impact of the 2006 FIFA World Cup in Germany.
- The analysis is based on combined regionally and sectorally disaggregated data.
- A propensity score matched difference-in-difference approach is employed.
- We find no general economic impact of the 2006 World Cup.
- Only the hospitality sector shows a significantly positive short-term effect.

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### ABSTRACT

Using the case of the 2006 FIFA World Cup, this study is the first to test the employment effects of a mega-sporting event on the basis of data that combines both regional and sectoral data. It is also the first study of sporting events to use a semi-parametric test method. Earlier studies on the World Cup could hardly identify any employment effects. In contrast, we find a small but significant positive employment effect on the hospitality sector.

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### 1. Introduction

“And the winner is ... Deutschland!” On June 6th, 2000, these were the words of FIFA President Joseph Blatter as he announced the host of the 2006 FIFA World Cup. The related investment costs for new construction or major renovations totalled nearly €1.6 billion for the twelve stadiums (FIFA, 2006). An additional €1.6 billion was invested in stadium-related infrastructure in the host cities. In some other cities that had unsuccessfully participated in a national competition, each hoping to become a World Cup host city, another €515 million had been spent on stadium construction.

Before the 2006 World Cup in Germany, a series of analyses was published indicating that the investments related to staging the

World Cup and the expenditures of the expected one to two million foreign visitors would markedly affect income and employment. The evidence from the few existing ex-post studies of the 2006 FIFA World Cup is less optimistic. Using poll data, Kurscheidt et al. (2008) calculated World Cup-induced (substitution-adjusted) consumer spending of €3.2 billion. This seems to be an impressive figure at first glance, but if one compares it to Germany's GDP in 2006, which totalled €2325 billion, then there was only a small income impact of 0.14%. Thus, it is not surprising that scholarly researchers using aggregated macroeconomic time series hardly succeeded in identifying any significant economic impact from the event. On such an aggregated level, any positive impact of a mega-event would almost certainly be subsumed by normal fluctuations in the economy and would, from a statistical point of view, disappear into the noise.

This paper takes up the argument that the impact of even a mega-event like the FIFA World Cup, organised in a large economy, is too small to be measured with aggregated data, as was done previously. We consider reports from media companies indicating that

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there were considerable increases in viewer ratings for the World Cup and reports of increased turnover for manufacturers of table-football equipment and for breweries. We use such reports to establish the economic hypothesis that any economic impact of a mega-sporting event might be spatially and temporally localised and, thus, that more disaggregated data must be analysed. The aim of this paper is to test economic impact on the basis of regionally *and* sectorally differentiated employment figures.

To our knowledge, it is the first study to operate on the basis of sector specific data for a sporting event outside the USA and the very first that analyses mega sporting event effects on the basis of combined regionally and sectorally disaggregated data. Testing the disaggregated employment effects of sporting events in Europe seems to be fruitful, especially against the background of obvious differences in local labour mobility and rigidities of labour market regulations between Europe and the USA (Layard et al., 2005; Nickell, 1997). The research design of the present study is based on a flexible Difference-in-Difference (DD) approach. To deal with the potentially endogenous selection of cities hosting matches of the 2006 FIFA World Cup, we augment the DD estimator by propensity score matching. Also in this respect, our study extends the event impact literature. Given the depth in details, scholarly evidence of the impact of the 2006 FIFA World Cup is essentially enhanced.

The remainder of the paper is organised as follows: Section 2 gives a brief literature review, while Section 3 describes the data. The empirical strategy is explained in Sections 4–6. Sections 7 and 8 present the econometric results and, finally, Section 9 presents the conclusions.

## 2. Literature review

Since the studies by Baade (1987) and Baade and Dye (1988, 1990), a growing body of literature on the economic impact of professional sports franchises, facilities, and mega-events on the (local) economy has developed. The results presented in this literature are strikingly consistent (Coates and Humphreys, 2008). No matter which geographical units (e.g., cities, counties, Metropolitan Statistical Areas, states) are examined, no matter which model specifications, estimation methods and dependent variables (e.g., employment, wages, taxable sales) are used, and no matter which part of the world is under study (e.g., the USA, Europe), scholarly analyses provide almost no evidence that professional franchises, sports facilities, or mega-events have a measurable impact on the economy (Coates and Humphreys, 2008, p. 302).

To our knowledge, very few studies have found significant positive effects from sports facilities and sports events *ex post*. Baim (1994) found positive employment effects from MLB and NFL teams for 15 cities in the USA. Hotchkiss et al. (2003) found significant positive employment effects on regions in Georgia (USA) that were affiliated with or close to the activities of the 1996 Atlanta Olympic Games, but they found no significant wage effects. Baade and Matheson (2002) found that the 1996 Olympics had a much smaller impact. Jasmand and Maennig (2008) found positive income effects for the German regions that hosted the 1972 Olympic Games. Tu (2005) found significant positive effects from the FedEx Field (Washington) on real estate prices in the surrounding neighbourhood, as did Ahlfeldt and Maennig (2008) for three arenas in Berlin, Germany. Finally, Carlino and Coulson (2004) examined the 60 largest Metropolitan Statistical Areas (MSA) in the USA and found that having a National Football League (NFL) team allowed the cities to enjoy rents that were eight per cent higher but not higher wages.<sup>2</sup> Other studies, particularly those by Coates and Humphreys (1999, 2000,

2001, 2003a,b) and Teigland (1999), have even indicated significant negative effects.

Among the studies that analyse mega-sporting events such as the Olympic Games, the FIFA World Cup, or the Super Bowl (in contrast to other studies on the effects of team sports or franchises), Porter (1999), Coates and Humphreys (2002), Baade et al. (2008), Coates (2006), and Matheson (2005) analysed the economic impact of the Super Bowl. The Olympic Games have been examined by Baade and Matheson (2002), Hotchkiss et al. (2003), Baade et al. (2010), and Leeds (2008). Matheson (2006) and Coates and Humphreys (2008) provide an overview.

Only a few scholarly studies have analysed the economic impact of the FIFA World Cup. Szymanski (2002) collected data on the twenty largest economies measured by current GDP over the last thirty years. Many of these countries have hosted the Olympic Games or the World Cup at least once in the past 30 years. Using a simple regression, he concluded that the growth of these countries was significantly lower during World Cup years.<sup>3</sup> Sterken (2006) found that World Cups have a positive effect but that this effect is quite limited. Hagn and Maennig (2008) showed that the 1974 World Cup, which was held in Germany, did not generate significant short- or long-term employment effects in that country. Baade and Matheson (2004) showed that as a result of the 1994 World Cup in the USA nine of the 13 host cities suffered decreased growth. Overall, the 13 locations suffered losses of over US\$9 billion. According to Baade (1996), it would seem that long-term employment related to mega-sporting events is likely to be part-time, casual, low-skilled, and low-wage, thus not leading to an increase in full-time jobs. Kavetsos and Szymanski (2009) suggest that the construction phase may generate some employment. In an *ex-post* analysis, Feddersen et al. (2009) and Hagn and Maennig (2009) showed that the 2006 FIFA World Cup had no short-term employment effects. There are three studies of the 2006 FIFA World Cup that used more disaggregated data. Hagn and Maennig (2009) analysed monthly unemployment data for the 75 largest urban districts (“*kreisfreie Städte*”) in Germany, including the 12 World Cup venues. Their focus is on the effects of staging the event. Feddersen et al. (2009) examined whether the investment in stadiums and related infrastructure led to greater economic development in the host cities. Neither study demonstrated any significant impact on regional economies. Allmers and Maennig (2009), however, did identify some 700,000 additional overnight stays by non-residents and €570 million in net national tourism income.

The majority of studies thus only find insignificant or even negative effects from sports franchises, stadiums, and mega-events. After categorising the literature according to the degree of data disaggregation, one important methodological challenge should be discussed. First, one might ask what would have happened if the (public) money involved had been used for an alternative investment. Second, one might ask whether the observed impact is really caused by the treatment or whether one is really only detecting a coincidental macroeconomic shock. In the sports impact field, two main bodies of literature have been established to deal with these issues. Considering the first kind of counterfactual, amongst others, Baade and Matheson (2001), Coates and Humphreys (2002) and Matheson (2005) used panel data to compare predicted and observed values of economic indicators. Employing a growth model, for example, these studies used as a counterfactual the predicted economic growth for the treatment time given past development, which was then compared to the observed growth rate. The second body of impact analyses, including studies by Feddersen et al. (2009), Hagn and Maennig (2008, 2009), Hotchkiss et al. (2003), and Jasmand and Maennig (2008), uses DD approaches to isolate the impact of sports stadiums and events from

<sup>2</sup> In a comment, Coates et al. (2006) showed that these results are not robust, for example, to the exclusion of extreme outliers. However, see also the reply to this comment by Carlino and Coulson (2006).

<sup>3</sup> No significant effects at all were registered for the Olympic Games.

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