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## Is work duration in France affected by football tournaments?

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### Abstract

We analyze the impact of the FIFA World Cup and the UEFA Championships on work duration in France between 2003 and 2010. To identify a causal effect, we compare individuals' work durations before and during the events within this period with work durations for the same dates one year before these events. Our overall results indicate that work duration in France is affected by international football tournaments: on average, employees work approximately half an hour less during the months of these events. Decomposing by gender, skills and age the effects range between 20 minutes and 40 minutes.

*Keywords:* sporting events; work durations; causal effect

*JEL Classification Codes:* J22, Z22

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### 1. Introduction

Major sporting events attract millions and sometimes billions of television viewers. An existing body of academic literature documents the global impacts of such events on society and the economy. These events produce happiness (Kavetsos and Szymanski, 2010), as indicated by decreases in the suicide rate. However, they also increase numbers of heart attacks (see, for instance, Wilbert-Lampen et al., 2008). Major sporting events also change individual economic perceptions. Dohmen et al. (2006) find that the outcome of the 2006 FIFA World Cup (WC) in Germany had an impact on economic perceptions and expectations, and football outcomes can affect individuals' perceptions on both personal and economy-wide levels. Ashton et al. (2003) show that the performances of the English national team influence London market returns. Unfortunately, sporting outcomes may even induce violent behaviors within the family (see, for instance, Card and Dahl, 2011).

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Major sporting events also impact the labor market. Ehrmann and Jansen (2012) show that traders stop working during WC games, leading to a collapse in the number of transactions. Doerrenberg and Siegloch (2014) reveal that unemployed people in Germany are more likely to find jobs after the WC and the UEFA European Championship (Euros). However, major sporting events also induce greater absenteeism. Stogman-Thoursie (2002) finds that absenteeism increases among Swedish men during ski competitions, and Lozano (2011) finds that American workers work less during the WC. Metcalfe et al. (2011) analyze student effort and find that football tournaments affect exam performance, in particular for low ability male students. Similarly to these researchers, we analyze the impact of the WC and the Euros on work durations in France between 2003 and 2010. To identify a causal effect, we compare individuals' work durations before and during the two WCs (2006 and 2010) and the two Euros (2004 and 2008) within this period with work durations for the same dates one year before these events (i.e., the odd years).

Our overall results indicate that work duration in France is affected by international football tournaments: on average, employees work approximately half an hour less during the months of these events. Decomposition by gender, skills and age indicates that men are slightly more affected than women, managers are more affected than blue-collar workers and younger people are more affected than older people.

## 2. Data and empirical strategy

### 2.1. Data description

Our empirical estimation uses the French Labour Force Surveys (LFS) from 2003 to 2010. The LFS is a survey conducted by INSEE, the French statistical office, that provides data regarding occupations, the activities of women and young people, working hours, and casual employment, among other topics. We focus here on individuals aged 20 to 60 employed in jobs requiring 20 hours or more per week who are present in their firms during the week when they are surveyed<sup>1</sup>. We construct two indicators: an indicator that directly measures the number of hours worked and an indicator that measures the difference between the number of hours planned and the number of hours actually worked. Thus, the first indicator is the employee's answer to the question "*How many hours did you work during the reference week?*", and the second indicator is the difference in hours between the response to the prior question and the response to "*How many hours do you usually work during the week?*" The first question refers to the typical employee working time in France<sup>2</sup>: in our dataset, the mean is equal to 36.5, the first decile to 28; the first quartile to 35; the third quartile to 39; and the ninth decile to 45. Individuals whose answers were unavailable are excluded. Our final dataset includes approximately 20,000 individual-year observations.

### 2.2. Empirical strategy

Because the LFS are conducted quarterly<sup>3</sup> and the examined events occur in June and the beginning of July (for the WC), we only consider the second and third quarters of each year. A variable enables us to know the week when an employee was surveyed. Therefore, we construct two dummy variables, one of which indicates whether this period is the time of year corresponding to the examined events, (i.e., a variable equal to 1 for the event period and 0

<sup>1</sup> We also used 10 and 15 working hours as lower limit: the results do not change.

<sup>2</sup> Legal work duration in France is 35 hours for all firms. Yet, in some industries (Transports, Agriculture, etc.) and for some employees (high executive officer) there exists different legal work duration.

<sup>3</sup> Before 2002, the LFS were conducted annually.

before this period<sup>4</sup>) and the second of which indicates whether an event takes place during the year (i.e., a variable equal to 1 for event years and 0 for odd years). We pool the data and estimate Equation (1) by utilizing ordinary least squares (OLS) in the same manner employed for a difference-in-differences approach: The two dummy variables enable us to identify each coefficient as it is presented in Table 1. We add a pool of control variables ( $Z$ ) which can influence the employees working time: the nationality, the work schedule, marital status, seniority and the type of employment contract (short-term or long-term contracts).

$$y_{int} = \alpha_0 + \alpha_1 Events_m + \alpha_2 EvenYear_t + \alpha_3 Events_m EvenYear_t + Z_t + \varepsilon_{imt} \quad (1)$$

Where  $y$  refers to our indicators of hours worked, the subscript  $i$  refers to individuals,  $m$  to the period of events and  $t$  the even year. We focus on  $\alpha_3$ , our parameter of interest, which corresponds to the real effect of events on work duration. We estimate Equation (1) separately for men and women; for managers, white-collar workers and blue-collar workers; and for younger and older workers.

Table 1. Estimated value of our parameter of interest ( $\alpha_3$ ).

	Event months	Months without an event	Difference
Odd year	$\alpha_0 + \alpha_1$	$\alpha_0$	$\alpha_1$
Even year	$\alpha_0 + \alpha_1 + \alpha_2 + \alpha_3$	$\alpha_0 + \alpha_2$	$\alpha_1 + \alpha_3$
Difference	$\alpha_2 + \alpha_3$	$\alpha_2$	$\alpha_3$

### 3. Results

Table 2 presents estimations of the parameter  $\alpha_3$  for the two dependent variables: hours worked and the difference between hours planned and hours worked. Regardless of the dependent variable, our results show that the WC and the Euros negatively affect work duration: on average, employees work half an hour less during these events, a result consistent with a portion of Lozano's findings (2011). Extremely similar effects were observed for the two dependent variables; therefore, the figures described below only correspond to "hours worked". These results may relate to the fact that employees in the French labor market often have a degree of flexibility with respect to working time. Because the ability to reduce working time depends on employee characteristics, Table 2 provides estimates of Equation 1 for various subgroups categorized by gender, skills and age.

Unsurprisingly, men work less than women during international football tournaments although women also reduce their working time (with changes of -.54 and -.45 hours for men and women, respectively). However, during major sporting events, primarily when national teams play, women are involved in fandom and watch more television than they watch during matches involving club teams. For instance, Jones (2008) reports that 82% of all UK television viewers watched the England-Portugal match during the 2006 WC; therefore, many women must have watched this game. During the same year, 81% of all television viewers in France watched the WC final.

With respect to employee skills, managers and engineers reduce their working time (-.66 hours) by more than white-collar workers (-.51 hours) or blue-collar workers (-.38 hours). This phenomenon must be linked to differences in the categories of positions within hierarchies and across industries. For example, it is relatively easy to reduce your working time if you are a manager (i.e., if you have decision-making power). Moreover, blue-collar

<sup>4</sup> We have also tested a dummy variable that is equal to 1 during the period of the events and 0 before and after (i.e., using the rest of the third quarter): the results are presented in Table 3.

workers work in manufacturing industries and therefore find it more difficult to take time off than white-collar workers, who mostly operate in service industries. In addition to working conditions, another factor is that French sports sociologists often claim that the upper class perceived football as an illegitimate practice prior to the 1998 WC but that this view changed after the French team's victory at that competition. These changes have primarily been observed among younger managers and engineers who are more accustomed to football practices. Undoubtedly, this factor explains why young employees (i.e., employees 20 to 29 years of age) are most likely to reduce their working time during the examined football competitions (-.67 hours).

Table 2. Estimated  $\alpha_3$ .

Dependant Variable: Hours Worked									
	Total	Men	Women	Managers & Engineers	White collar workers	Blue collar workers	Age: 20 -29	Age: 30 -49	Age: 50 -60
$\alpha_3$	-.52*** (0.08)	-.54*** (0.11)	-.45*** (0.12)	-.66*** (0.14)	-.51*** (0.14)	-.38*** (0.12)	-.67*** (0.16)	-.47*** (0.11)	-.52*** (0.18)
Dependant Variable: Difference between hours planned and hours worked									
	Total	Men	Women	Managers & Engineers	White collar workers	Blue collar workers	Age: 20 -29	Age: 30 -49	Age: 50 -60
$\alpha_3$	-.47*** (0.08)	-.50*** (0.10)	-.41*** (0.11)	-.56*** (0.14)	-.45*** (0.13)	-.40*** (0.11)	-.60*** (0.15)	-.44*** (0.10)	-.45*** (0.16)
Total Observations	122132	75324	46808	46451	31793	43888	26708	68860	26564

Note: OLS regression. \* Significance level < 0.10; \*\* Significance level < 0.05; \*\*\* Significance level < 0.01.

Table 3. Estimated  $\alpha_3$  including post-event period.

Dependant Variable: Hours Worked									
	Total	Men	Women	Managers & Engineers	White collar workers	Blue collar workers	Age: 20 -29	Age: 30 -49	Age: 50 -60
$\alpha_3$	-.32*** (0.07)	-.33*** (0.10)	-.28** (0.11)	-.42*** (0.13)	-.40*** (0.13)	-.14 (0.11)	-.44*** (0.15)	-.29*** (0.09)	-.29* (0.16)
Dependant Variable: Difference between hours planned and hours worked									
	Total	Men	Women	Managers & Engineers	White collar workers	Blue collar workers	Age: 20 -29	Age: 30 -49	Age: 50 -60
$\alpha_3$	-.28*** (0.07)	-.31*** (0.09)	-.23** (0.10)	-.34*** (0.13)	-.33*** (0.11)	-.18* (0.10)	-.40*** (0.14)	-.26*** (0.09)	-.25* (0.15)
Total Observations	207082	127517	79565	78601	54370	74111	46252	116276	44554

Note: OLS regression. \* Significance level < 0.10; \*\* Significance level < 0.05; \*\*\* Significance level < 0.01.

Our empirical evidence regarding the effect of the WC and the Euros on hours worked suggests that on average, employees work approximately half an hour less during the month when one of these sporting events occur. An economic question that emerges is what macro-level consequences this phenomenon has on production and productivity. One could argue that employees working less during approximately one month would negatively affect economic growth. However, as most studies show when analyzing the effects of sporting events (see for instance Dobson and Goddard, 2011), there are substitution (and crowding-out)

effects: in our case, employees who reduce their working time may take advantage of the situation to consume more other services or products. Moreover, as it is shown in Table 3, we can also hypothesize that even if employees decrease their working time during football tournaments, they compensate either by increasing their weekly productivity or by smoothing their hours worked during the year: Actually, by adding a post-event period the effects are all weaker.

#### 4. Conclusion

Using the French LFS, we find that French employees work approximately half an hour less than normal during the WC and the Euros. Our results are consistent with the findings of Stogman-Thoursie (2002) and Lozano (2011).

One potential future research direction involves using the European LFS to compare the behavior of different employees across Europe during the WC and the Euros. Ehrmann and Jansen (2012) show that traders of different nationalities appear to have dramatically reduced working in favor of watching television when their national team played during the 2010 WC, with the number of transactions per minute decreasing by 65% in South America and by 30% in Europe (where only Danish traders continued working normally). Given that sporting events do not appear to affect overall economic growth, we may discover interesting results regarding the impact of sporting events in different cultures.

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