

# Unemployment and Hooliganism

Mikael Priks\*

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## Abstract

Hooliganism causes large externalities in several countries because spectators do not dare to attend games. Unemployment is one of the variables that have been used to explain hooliganism. I evaluate this hypothesis using Swedish data on unemployment and unruly behavior inside soccer stadiums. I find that more unemployment in a region tends to increase the unruly behavior by supporters from this region. One reason for this is that the number of organized supporters from this region also increases. The results are useful for the police and policy makers working to contain supporter violence.

Keywords: Unemployment, Hooliganism

JEL-codes: K10, K40

## 1 Introduction

There exists a large empirical literature on unemployment and crime (see, e.g., Chiricos 1987, Levitt 2004, Agell and Öster 2007 and Fougère et al. 2006). It indicates that more unemployment tends to increase economic crime. Unemployment does however not seem to influence violent crime. In this paper, I address the question how unemployment affects sport-related violence, which plagues several countries in Europe and Latin America. Hooliganism is particularly undesirable as it generates large costs

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\*Department of Economics, Stockholm University, 106 91 Stockholm, email: mikael.priks@ne.su.se.

due to negative externalities. A recent Swedish survey for example shows that as many as 25 percent of potential spectators hesitate to attend soccer games due to the fear of violence (Novus 2011). Externalities also arise due to destroyed property, medical bills and human suffering. Moreover, the costs of police are vast. The annual costs amount to 40 million euro only in the Italian championship (De Biasi 1997).

Scholars in the sociology literature have for long been discussing whether class and unemployment matter for hooliganism or not. The so called “Leicester School” holds that the more civilized behavior that has emerged in many classes in Europe has not quite penetrated the areas of the lower working class.<sup>1</sup> Others, such as Dunning et al. (1988), Dunning et al. (2002) and Holt (1990) argue that unemployment itself does not cause hooligan violence. Their argument is that football hooliganism as a social problem arose in the mid-1950s in England when the unemployment rate was low. Moreover, some of the more violent clubs in the England in the 1980s came from London where the unemployment rate was relatively low. There does however not exist any systematic empirical evidence on this topic.

I study how unemployment affects hooliganism inside soccer stadiums. To do this, I use unique Swedish data on the number of incidents where supporters of different teams are involved in throwing objects, such as bottles or coins, onto field. This implies that I can study how unemployment in the region the supporters live affects their unruly behavior independently of where the teams play.<sup>2</sup> Because those involved in soccer-related violence tend to be relatively young, I use unemployment data on young and middle-aged individuals.

In contrast to the previous literature on unemployment and violent crime, I find that a higher unemployment rate tends to increase unruly supporter behavior. For example, a one-percent increase in the unemployment rate in the age groups 18 to 31 increases the number of incidents inside stadiums by approximately 10 percent. A one-percent increase in the unemployment rate for the age group 32 to 45 increases the

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<sup>1</sup>Williams et al., for example, (1984) write, “In fact, along with gambling, street ‘smartness’, and exploitative form of sex and heavy drinking...fighting is one of the few sources of excitements, meaning and status available to males from this section of society and accorded a degree of social toleration.”

<sup>2</sup>It is often the case that people support teams in the region they live.

unruly behavior by as much as approximately 30 percent.

I also test if a reason for this result is that the crowds of organized supporters are larger when the unemployment rate is higher. I find that a one-percent increase in the unemployment rate in the age groups 18 to 31 increases the number of supporters at the games again by approximately 10 percent. These results indicate that the link from unemployment on the number of supporters is important in explaining the increase in unruly behavior.

A weakness in the literature on unemployment and crime is that it is difficult to study the causality between the two variables. More unemployment may affect crime, but more crime may also lead to an outflow of jobs from a region. An advantage of this analysis is that while unruly supporter behavior imposes externalities on citizens, it is not likely that it affects the unemployment rate in the region. Another weakness in the literature, which also the present analysis suffers from, is that other variables may covary with unemployment and simultaneously affect the type of crime studied.

The paper finally adds to a recent economics literature on hooliganism (see, e.g., Priks and Poutvaara 2009a, Priks and Poutvaara 2009b and Dur 2011).

I present the data and empirical strategy in section 2. The results are presented in section 3. Section 4 summarizes the analysis.

## 2 Data and Empirical Strategy

Spectators sometimes throw objects, such as coins, bottles, lighters, batteries and snus boxes<sup>3</sup>, etc., onto the field. It takes a fair amount of determination to hit the field, and the aim is, presumably, to hit either players or referees. There are two types of punishments for this unlawful behavior. In serious cases, when somebody is hit by objects for example, the case can go to court. In addition, the club may have to pay a fine which amounts to 10 000 to 250 000 Swedish crowns (11 000 to 27 000 euro).

I use data from the highest Swedish soccer league, “Allsvenskan” from 1999 to 2005. The referees file detailed reports after every game on what has happened on the

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<sup>3</sup>Snus is a tobacco product which many Swedish men, and some women, use.

field during the game. They report information regarding the players' behavior (yellow and red cards, etc.), but also the number of incidents where objects were thrown onto the field. Importantly, the referees report from which supporter sections the objects were thrown. This is crucial for my analysis since I study the supporters of each team separately. The time period I will consider is from 1999 to 2005.

Table 1 shows summary statistics for this variable. The data set covers 1273 games. In this time period, the home supporters were involved in 0.12 incidents per game and the away supporters in 0.05 incidents per game. There were on average 0.05 incidents per game in which the referee could not determine from which spectator section the objects came. In total, there were 0.22 incidents per game where the referees reported that objects were thrown onto the field. The data on organized supporters is collected by the Swedish National Police Force. It is based on the number of tickets sold to supporter clubs and intelligence work done by the police. Organized home supporters were counted in 860 games and organized away supporters were counted in 657 games.

Data on unemployment is from Statistics Sweden. Table 2 shows the descriptive statistics on the unemployment rates from the following eight regions (as defined by Statistics Sweden): Stockholm, east of central Sweden, Småland and the islands outside the coast of Småland, the south of Sweden, the west coast, the north of central Sweden, the central part of the north, and the northern part of the north. I analyze the four different age groups, 18 to 24, 25 to 31, 32 to 38 and 39 to 45 separately. Not surprisingly, youth unemployment is much higher than unemployment in the older age-groups. We note that there is relatively much variation in the unemployment rates both within and between the regions, in particular in the younger age groups. The unemployment rates are substantially lower in the Stockholm region and in Småland compared to the other regions. Within Stockholm, for example, the unemployment rate has varied between 5.2 percent and 12.4 percent in the age group 18 to 24 years.

Table 3 reports which region each specific team in Allsvenskan is located in. Most clubs are located either in Stockholm, on the west coast or in the south of Sweden. Seven clubs are however located in other regions. Soccer in the highest league is not

played in the region located most to the north.

I estimate the following equation

$$Y_{ij} = \alpha_i + \beta U_{ij} + v_{ij},$$

where  $Y_{ij}$  denotes unruly incidents inside the stadium by team  $i$  in game  $j$ ,  $\alpha_i$  is a team fixed effect and  $U_{ij}$  is unemployment in team  $i$ 's home region during the year when game  $j$  is played.

### 3 Results

Table 3 shows that the number of incidents is highly affected by the rate of unemployment. One percent higher unemployment rate in the age group 18 to 24 increases the number of incidents by 0.007 per game, or by 8 percent. The effect is even stronger in the age group 25 to 31. A one percent higher unemployment rate leads to an increase by 0.012 incidents per game, or to an increase by 13 percent. For the age group 32 to 38, there is a 26-percent increase in unruly behavior. In the age group 39 to 45, finally, the number of incidents increases by 0.03 incidents per game, which implies an increase by 32 percent.

The results could be due to a direct link from unemployment to unruly behavior. Unemployed persons could, for example, be frustrated, and frustration might lead to more unruly behavior (Priks 2010 and Dahl and Card 2011). Another possibility is that unemployed people instead of working tend to join supporter clubs and become active supporters. To further analyze this mechanism, I use data on the number of organized home and away supporters collected by the Swedish National Police Force. Table 4 shows that there is indeed a link between youth unemployment and the number of organized supporters. There is, on average, 625 organized supporters per game. One percent higher unemployment rate in the age group 18 to 24 increases the number of organized supporters per game by 44, or by 7 percent. In the age group 25 to 31, an increase in the unemployment rate by one percent increases the number of supporters

per game by 61 or by 10 percent. The number of supporters is not significantly affected by higher unemployment rates in the age group 32 to 38 and 39 to 45 even though the sign of the coefficients are still positive.

The results indicate that for young supporters, a higher unemployment leads to more unruly behavior, at least partly because more people become unruly supporters. To test for this more in detail, I construct a new variable: the number of incidents per organized supporter. Table 5 shows the results. The unemployment rates in the age groups 18 to 24 and 25 to 31 do not affect the number of incidents per organized supporter. Interestingly, in the age group 32 to 38, a one percent higher unemployment rate leads to a 44 percent increase in unruly behavior per supporter. So for this age group, it seems like there exists a direct effect from unemployment on unruly behavior, perhaps because unemployed supporters are frustrated.

In sum, youth unemployment tends to increase the size of the organized crowd at the games, which increases the overall level of unruly behavior. Of course, organized supporters also add to a positive atmosphere in the stadium, but these aspects are not analyzed here.

On possible reason for why unemployment increases the number of organized supporters is that they have more leisure time to spend. Another reason is suggested by (Poutvaara and Priks 2011). In that model, criminal gang membership implies that the outside option of a job is not available as a gang membership may easily stigmatize. A reduction in employment may incentives leaders of gangs, such as organized supporter groups, to let relatively non-violent supporters leave the organization in order to work, and focus on a small, but violent organization.

## 4 Summary

I have shown that higher unemployment rates increase the aggregate level of unruly behavior inside soccer stadiums. I have also shown that one reason for this result is that the size of the crowds of organized supporters increases due to higher unemployment rates. These insights add to previous sociology and economics literatures. The fact that

crowds and unruly behavior increases to a large extent as unemployment increase may also be useful information for the police and policy makers. However, more empirical work from other countries would be very useful in order to shed light on this question.

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TABLE 1. SUMMARY STATISTICS FOR UNRULY BEHAVIOR INSIDE STADIUMS

	Mean	St. Dev.	Min	Max	Observations
Number of incidents with home supporters	0.12	0.48	0	5	1273
Number of incidents with away supporters	0.05	0.27	0	3	1273
Number of incidents from unknown supporters	0.05	0.29	0	3	1273
Number of incidents per game	0.22	0.69	0	5	1273
Number of organized home supporters	926	1463	0	24000	840
Number of organized away supporters	239	655	0	8000	657

TABLE 2. SUMMARY STATISTICS FOR UNEMPLOYMENT RATES BY REGION AND AGE GROUP

Region and age group	1999	2000	2001	2002	2003	2004	2005	2006	Mean
Stockholm									
18-24	7,0	5,6	5,2	6,8	9,3	12,0	11,7	12,4	8,8
25-31	3,4	2,8	2,9	3,6	5,4	5,7	6,1	4,6	4,3
32-38	3,0	2,5	2,4	2,9	4,1	4,7	5,6	4,2	3,7
39-45	3,6	3,1	2,5	3,2	4,3	4,1	4,4	4,8	3,8
East of central Sweden									
18-24	11,8	9,7	10,2	10,1	11,4	13,6	15,8	14,9	12,2
25-31	5,6	5,0	3,9	5,5	6,5	7,9	8,3	6,9	6,2
32-38	5,6	4,2	3,5	3,2	4,3	4,3	5,8	4,7	4,5
39-45	5,9	4,2	2,8	2,6	3,8	5,2	5,1	3,7	4,2
Småland and the islands									
18-24	7,2	5,7	6,9	6,6	9,9	10,9	12,8	11,1	8,9
25-31	4,9	3,4	2,5	4,0	5,3	6,2	6,8	5,8	4,9
32-38	4,2	3,0	3,6	2,4	2,7	4,3	3,1	2,9	3,3
39-45	4,4	3,5	2,8	2,2	2,8	3,1	4,3	2,9	3,3
South of Sweden									
18-24	13,2	9,7	9,8	9,9	11,8	13,0	13,7	15,1	12,0
25-31	7,4	6,9	5,6	5,1	6,8	8,1	10,1	6,7	7,1
32-38	5,7	5,3	5,6	4,1	4,7	5,2	5,4	4,9	5,1
39-45	4,7	4,5	3,8	4,6	4,9	5,1	5,7	4,4	4,7
The west coast									
18-24	9,9	7,2	7,4	9,3	9,1	12,0	14,8	12,0	10,2
25-31	6,0	5,5	3,6	4,1	5,9	7,2	7,8	6,0	5,8
32-38	6,3	4,3	3,2	2,9	3,0	3,9	4,7	3,5	4,0
39-45	4,3	3,5	3,4	2,4	3,6	4,0	3,7	3,7	3,6
North of central Sweden									
18-24	13,5	12,7	10,2	10,2	13,9	15,0	17,3	17,2	13,8
25-31	8,6	7,9	7,3	7,3	8,4	8,7	10,2	9,1	8,4
32-38	8,0	5,2	5,0	4,5	5,5	5,8	6,3	4,2	5,6
39-45	6,6	4,0	3,2	4,1	5,5	5,9	5,4	5,0	5,0
Central part of the north									
18-24	8,9	11,3	9,9	10,2	11,4	14,2	14,9	13,6	11,8
25-31	9,3	9,2	7,2	5,1	6,6	7,5	8,4	7,7	7,6
32-38	5,2	5,7	4,8	4,6	4,5	4,2	4,9	5,5	4,9
39-45	5,2	4,2	3,0	2,7	3,5	3,8	6,5	4,0	4,1
Northern part of the north									
18-24	10,3	9,9	11,2	10,6	11,7	14,9	14,8	15,0	12,3
25-31	11,2	6,9	4,2	6,4	7,6	9,1	9,3	9,0	8,0
32-38	7,1	4,2	4,6	4,3	5,0	5,4	5,5	5,3	5,2
39-45	5,4	3,4	3,4	3,8	4,2	4,3	4,5	3,9	4,1

Unemployment is measured in percent of the labor force.

TABLE 3. LOCATION OF THE CLUBS IN ALLSVENSKAN

Region	Soccer clubs in Allsvenskan 1999-2005
Stockholm	AIK, Djurgårdens IF, Hammarby IF, Assyriska Föreningen
East of central Sweden	Enköpings SK, Örebro SK, IFK Norrköping
Småland and the islands outside the coast	Kalmar FF, Östers IF
South of Sweden	Malmö FF, Helsingborgs IF, Landskrona BoIS, Trelleborgs FF
The west coast	IFK Göteborg, Halmstads BK, IF Elfsborg, Örgryte IS, BK Häcken, Västra Frölunda IF, GAIS
North of central Sweden	Gefle IF
Central part of the north	GIF Sundsvall
Northern part of the north	

TABLE 4. UNEMPLOYMENT AND THE NUMBER OF INCIDENTS INSIDE STADIUMS

Dependent variable: Number of incidents per game with objects thrown onto the field.				
Sample	[1]	[2]	[3]	[4]
Unemployment 18-24	0.007** (0.003)			
Unemployment 25-31		0.012** (0.004)		
Unemployment 32-38			0.023* (0.012)	
Unemployment 39-45				0.029** (0.012)
Constant	0.013 (0.032)	0.014 (0.026)	-0.010 (0.049)	-0.026 (0.046)
R <sup>2</sup>	0.06	0.06	0.06	0.06
Observations	2,546	2,546	2,546	2,546

Note: \*\*\* indicates significance at the 1 percent level, \*\* at the 5 percent level, and \* at the 10 percent level. The regressions include team fixed effects and the standard errors are clustered at the level of the teams.

TABLE 5. UNEMPLOYMENT AND THE NUMBER  
OF ORGANIZED SUPPORTERS

Dependent variable: Number of organized supporters per game				
Sample	[1]	[2]	[3]	[4]
Unemployment 18-24	57.3* (30.1)			
Unemployment 25-31		71.0* (37.0)		
Unemployment 32-38			70.6 (67.8)	
Unemployment 39-45				92 (69.2)
Constant	9.6 (323.6)	195.9 (225.5)	323.5 (289.4)	353.8 (181.4)
R <sup>2</sup>	0,27	0,27	0,27	0,27
Observations	1,497	1,497	1,497	1,497

Note: \*\*\* indicates significance at the 1 percent level, \*\* at the 5 percent level, and \* at the 10 percent level. The regressions include team fixed effects and the standard errors are clustered at the level of the teams.

TABLE 6. UNEMPLOYMENT AND THE NUMBER OF  
INCIDENTS PER SUPPORTER

Dependent variable: Number of incidents per game with objects thrown onto the field per organized supporter (multiplied by 1000).				
Sample	[1]	[2]	[3]	[4]
Unemployment 18-24	-0.006 (0.033)			
Unemployment 25-31		0.022 (0.050)		
Unemployment 32-38			0.185* (0.090)	
Unemployment 39-45				0.018 (0.239)
Constant	0,484 (0.350)	0.290 (0.303)	-0.379 (0.390)	0.352 (0.961)
R <sup>2</sup>	0,01	0,01	0,02	0,01
Observations	1,493	1,493	1,493	1,493

Note: \*\*\* indicates significance at the 1 percent level, \*\* at the 5 percent level, and \* at the 10 percent level. The regressions include team fixed effects and the standard errors are clustered at the level of the teams.