

# **Topics on Pro-Social and Anti-Social Behavior**

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- This mini course focuses on different topics on pro-social and anti-social behavior
- Needless to say, there are numerous possible topics to study. All types of crimes would for most people be considered anti-social.
- In the first class, we will focus on hooliganism and discuss the phenomenon from an economics perspective.

- **Lecture 2: Pro-social behavior**
- Growing interest in how altruism and reciprocity affect economic activity (see for example the *Handbook of the Economics of Giving, Reciprocity and Altruism, 2009*)
- Pro-social behaviors:
- Donating blood, charitable giving, supply volunteer labor, bequests to heirs or others
- Yet, it still remains a puzzle who allows such considerations to govern their behavior or who is willing to pay for their morals

- Lecture will be divided into four parts:
  1. What is Pro-social Behavior in general? (is it common, who, which activities)
  2. Typical Motivations (altruism, exchange motives, self-interest etc)
  3. Look at pro-social behaviour *from a new perspective of ethical investments* – paying to be moral!
  4. Look at ethical investors with charity contributions and those without –political motivations and altruistic motivations

- In the third class, we will discuss what societies can do to reduce hooliganism and other types of anti-social behavior.

# Hooliganomics



# Contents

1. An Overview
2. Data
3. What Factors Trigger Hooligans?
  - Frustration
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5. Next week: Law Enforcement and Hooliganism
  - Theory
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  - Surveillance Cameras

- “Hooliganism is unruly and destructive behaviour, usually by gangs of young men. Its origin is unknown. It is frequently linked in the public mind with the game and support of football clubs.”  
(Encyclopedia, [www.Natiomaster.com](http://www.Natiomaster.com))
- It typically comes in two forms:
  - organized (when two clubs make an appointment to fight.)
  - Non-organized (throwing objects in stadiums and at supporters, spontaneous fights, fireworks).

# 1. An Overview

- A Historical Perspective



- **Hooliganism Today**

- During the 80s, English hooligans constituted a very large problem.
- Infamous examples are the Heysel stadium in 1985 and the Hillsborough disaster in 1989.
- The problem was perhaps reduced somewhat during the 90s, but there are many recent hooligan incidents with deadly outcome (e.g. in France, Italy, Greece, and Latin America).

- Is This Really Economics?
  - I shall argue that it is.
  - There are four types of costs:
    - Negative externality on spectators.
    - Physical damages (trashed pubs, subway stations, arenas, etc.).
    - Costs of policing (e.g. 40 million euro in Italy annually).
    - Costs of medical care.
  - Using the economics toolbox it is possible to study how these costs can be reduced.

- **Who Are They?**
- The typical Dutch hooligan has a very low level of education (van der Brug and Meijs 1989).
- From police data on arrests, Van de Sande (1987) finds that all offenders were male and young (71 percent were between 16 and 21 years old).

- In England, the vast majority of those charged with offences related to soccer were employed largely in the unskilled and semi-skilled occupation groups (Dunning et al. 1988).
- In West Hams United's "Inter City Firm", out of 141 people, the largest four occupations were: unemployed (23 per cent), bouncers (10 per cent), scalpers (9 per cent), and rock-musicians (7 per cent).

- In Italy, there exists a tendency for the hooligans to be extreme right wing.
- The so called *ultra groups* include youths in the 14 to 25 year age group but there are also, especially among the leaders, many over 35-years old, (De Biasi 1997).
- There is a fairly high proportion of students among the ultras.
- Interestingly, in contrast to many other countries, some of the Italian ultra supporters are female.

- **Why Are Hooligans Hooligans?**
  - Arguments from sociologists come in different shapes, but are often focused on the idea that hooliganism is a *working-class phenomenon*.
  - Williams et al. (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.”

- Feminists, in contrast, argue that hooliganism, like other forms of violence, is a problem of masculine domination.
- Another view put forward by psychologists and sociologists is that hooligans seek excitement, which could not be found in everyday life (see e.g. Finn 1994).
- Psychologist Kerr (1994) argues that hooliganism is a form of addiction, which for some people, just as alcohol abuse, may escalate over time.

- I shall argue that it is in fact not very important to study why hooligans are hooligans.
- The different theories are not mutually excludable and therefore difficult to test.
- And even if they could be tested, the answer may not help politicians in their endeavors to reduce hooliganism.
- What is important is instead how hooliganism can be stopped.

- Norms Among Hooligans
  - Organized hooligans tend to avoid to use violence against non-hooligans and they want to restrict the use of weapons (This is in fact a *pro-social behavior*).
  - Norms do however differ across countries.
  - In Sweden, weapons are banned and it is not accepted to kick on people on the ground.
  - In Turkey, the hooligans' intentions must be to injure rather than to kill. Furthermore, a stab must be made below the waist.

- **Why not in the U.S.?**
  - High ticket prices.
  - North American football crowds are likely to be middle-class, college-educated and almost half of the spectators are women.
  - Vast distances.
  - The territory theory.
  - “At the end of the day, North American fans are more inclined to a perspective that they are viewing an event in contrast to European football fans, some of whom clearly see themselves as an extension of the team on the field”. Roberts and Benjamin (2000)

## 2. Data

- I exploit three different data sets from Sweden.
  1. Data on organized hooliganism from Firman Boys (supporting AIK).



- Example:



- Wisemen (Gothenburg), black, against Frontline (Helsingborg), white, April 14, 2006.
  - 60 men against 45, 40 + 25 sek, no weapons

- I also have access to the hooligans' data on norm-breaking, club by club (1999-2005).

TABLE 4.3. SUMMARY STATISTICS FOR NORM-BREAKING PER FIGHT AND FIRM

Type of norm-breaking	Mean	St. Dev.	Min	Max	Observations
Bottle throwing	0.15	0.36	0	1	178
Weapons	0.06	0.23	0	1	178
Kicking on lying person	0.06	0.24	0	1	178
Total norm-breaking	0.27	0.55	0	3	178

2. Unruly behavior inside stadiums - Objects (such as coins, snus boxes and firecrackers) thrown onto the pitch, reported by the referees (1999-2005).

TABLE 4.5. 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

3. Violence surrounding the arenas reported by the police (1999-2005).

### 3. What Factors Trigger Hooligans?

- Frustration, the media, the police, or even the weather may stir up violence.
- Lawther (1951) showed that spectators, unlike players, had non-utilized sugar in their urine, which, he argued, may have generated “boisterous” behavior.

## **Does Frustration Lead to Violence?**

- Psychologists have addressed this question, but it is difficult to study empirically.
- As a proxy for frustration I use a team's changed position in the league (see Edmans et al. 2007).
- The dependent variables are
  - Number of incidents when objects are thrown onto the pitch.
  - Norm breaking in fights.

- According to the so called *frustration-aggression hypothesis*, it is thwarted expectations from a reference point that should lead to aggression (Dollard et al. 1939 and Berkowitz 1962).
- This notion can help explaining e.g. youth violence (Moeller 2001), terrorism (Tittmar 1992) and aggression in the workplace (Linsley 2006).
- I here analyze if the hypothesis can explain the behavior of hooligans.

- There are numerous interesting applications in economics that show that people use reference points to which they anchor their feelings and decisions.
- This includes happiness, domestic violence, the endowment effect, labor supply, finance, insurance, and price setting.
- I add to this literature by showing that also hooligans exhibit these preferences.

- To test the hypothesis, I estimate the effect of a team's changed position in the league on unruly incidents by its supporters.
- As a reference point, I use the team's position at the time of the summer break and at the end of the soccer season.
- To evaluate whether it is thwarted expectations, or just the current state of the world that affects aggressive behavior, I also control for the team's absolute position in the league.

- Let  $Y_{ij}$  denote how many incidents supporters of team  $i$  in game  $j$  are involved in.
- I estimate the following regression:

$$Y_{ij} = \alpha_i + \beta \text{ Position Difference}_{ij} + \gamma \text{ Absolute Position}_{ij} + \varepsilon_{ij}.$$

where  $\alpha$  is a team fixed effect.

- A one position drop in the league leads to an increase in the number of incidents by 6 percent!

TABLE 2. FRUSTRATION AND UNRULY BEHAVIOR

Sample	[1]	[2]	[3]	[4]	[5]	[6]
Position difference	-0.005*	-0.006**	-0.006**	-0.004**	-0.004**	-0.004**
	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Absolute position		0.002	0.002		0.001	0.001
		(0.003)	(0.003)		(0.002)	(0.002)
Year and Referee fixed effects	No	No	Yes	No	No	Yes
Constant	0.087***	0.074***	0.065	0.060***	0.051***	0.034***
	(0.000)	(0.025)	(0.067)	(0.000)	(0.018)	(0.034)
R <sup>2</sup>	0.06	0.06	0.1	0.07	0.07	0.12
Observations	2309	2309	2309	2309	2309	2309

Note: \*\*\* indicates significance at the 1 percent level, \*\* at the 5 percent level, and \* at the 10 percent level. Team fixed effects are used in all regressions. Standard errors are clustered at the level of the teams.

- According to the police, supporters of home teams are more upset by setbacks than supporters of away teams.
- The reason is that they feel more humiliated than the away supporters by worsened performance.
- The frustration effect should then be found for the home supporters and less for the away supporters.
- I address this hypothesis by analyzing the behavior by the home and the away supporters separately.

TABLE 3. FRUSTRATION AND UNRULY BEHAVIOR BY HOME AND AWAY SUPPORTERS

Dependent variable: Number of incidents with objects thrown onto the field by home supporters in column [1] - [3] and by away supporters in column [4] - [6].

Sample	[1]	[2]	[3]	[4]	[5]	[6]
Position difference	-0.011*	-0.014**	-0.013**	-0.001	0.000	-0.001
	(0.005)	(0.006)	(0.005)	(0.003)	(0.002)	(0.002)
Absolute position		0.007	0.006		-0.003	-0.002
		(0.004)	(0.004)		(0.004)	(0.004)
Year and Referee fixed effects	No	No	Yes	No	No	Yes
Constant	0.125***	0.070***	0.006	0.052***	0.074**	0.102
	(0.001)	(0.028)	(0.073)	(0.000)	(0.034)	(0.086)
R <sup>2</sup>	0.09	0.09	0.1	0.06	0.06	0.015
Observations	1134	1134	1134	1175	1175	1175

Note: \*\*\* indicates significance at the 1 percent level, \*\* at the 5 percent level, and \* at the 10 percent level.

Team fixed effects are used in all regressions. Standard errors are clustered at the level of the teams.

- I now study if frustration affects the following three types of norm-breaking behavior:
  - bottle throwing.
  - the use of weapons.
  - kicking on a person lying on the ground.

- A drop with one position in the league leads to 15 percent more bottle throwing and 25 percent more kicking on people on the ground.

TABLE 5. FRUSTRATION AND NORM BREAKING

Sample	[1]	[2]	[3]
Position difference	-0.022* (0.012)	-0.001 (0.008)	-0.016* (0.009)
Absolute position	0.010 (0.014)	0.009 (0.011)	0.007 (0.011)
Constant	0.247* (0.125)	-0.026 (0.096)	0.004 (0.096)
R <sup>2</sup>	0.5	0.36	0.31
Observations	163	163	163

Note: \*\*\* indicates significance at the 1 percent level, \*\* at the 5 percent level, and \* at the 10 percent level. Game fixed effects are used in all regressions. Standard errors are clustered at the level of the games.

# Robustness

- Benz et al. (2006) show that spectators in the German Bundesliga anchor their decision whether to attend a game or not in their team's previous, rather than the current, performance.
- In particular, they show that improved performance relative to the last season increases the number of spectators coming to the games.
- If this is the case, then I would in fact underestimate the results of frustration on unruly behavior

TABLE 4. FRUSTRATION AND THE NUMBER OF SUPPORTERS

Dependent variable: Number of organized supporters per team and game			
Sample	[1]	[2]	[3]
Position difference	1.2 (7.6)	-14.6 (16.4)	-15 (13.9)
Absolute position		30.5 (18.8)	30.9** (14.5)
Year fixed effects	No	No	Yes
Constant	645.9*** (0.4)	409.7** (145.6)	179.9*** (171.2)
R <sup>2</sup>	0.27	0.27	0.29
Observations	1350	1350	1350

Note: \*\*\* indicates significance at the 1 percent level, \*\* at the 5 percent level, and \* at the 10 percent level. Team fixed effects are used in all regressions.

Standard errors are clustered at the level of the teams.

## **3.2 Hooligans and Weather:**

### **Save the Fighting for a Sunny Day?**

- Do hooligans (like other criminals) care about the external nuisance bad weather causes?
- I use detailed data on temperature and precipitation from the cities where the teams play.
- I find that on an averagely rainy day, there is 18 percent fewer hooligan fights compared to a dry day.

TABLE 5.11. WEATHER AND ORGANIZED VIOLENCE

Dependent variable: Violent incidents (0-1)						
Sample	[1]	[2]	[3]	[4]	[5]	[6]
Precipitation	-0.026*** (0.010)	-0.027*** (0.010)	-0.030*** (0.010)	-0.030** (0.012)	-0.031** (0.011)	-0.032** (0.012)
Temperature		-0.003** (0.010)	-0.002 (0.002)		-0.002 (0.002)	-0.001 (0.001)
Month fixed effects	No	No	Yes	No	No	Yes
Game fixed effects	Yes	Yes	Yes	No	No	No
Home team fixed effects	No	No	No	Yes	Yes	Yes
Constant	0.080*** (0.002)	0.117*** (0.020)	0.099** (0.043)	0.081*** (0.025)	0.105*** (0.023)	0.096** (0.035)
R <sup>2</sup>	0.47	0.48	0.49	0.07	0.07	0.08
Observations	1252	1217	1217	1252	1217	1217

Note: \*\*\* indicates significance at the 1 percent level, \*\* at the 5 percent level, and \* at the 10 percent level. Standard errors are clustered at the level of the fixed effects.

- Hooligans call each other in advance to set the stage for the fight.
- As a robustness check, I study if it is rain during the night before or during the game day that matters.
- As expected, the effect from the night before game day is stronger.

- Interestingly, a fight taking place in the rain is characterized by more norm-breaking.

TABLE 5.13. WEATHER AND BOTTLE THROWING

Dependent variable: Bottle throwing (0,1)						
Sample	[1]	[2]	[3]	[4]	[5]	[6]
Precipitation	0.562** (0.242)	0.698*** (0.243)	0.630*** (0.207)	0.239** (0.096)	0.240** (0.097)	0.226** (0.101)
Temperature		0.001 (0.005)	0.001 (0.005)		0.007 (0.005)	0.009 (0.006)
Month fixed effects	No	No	Yes	No	No	Yes
Game fixed effects	Yes	Yes	Yes	No	No	No
Team fixed effects	No	No	No	Yes	Yes	Yes
Constant	0.107*** (0.203)	0.086 (0.072)	-0.015 (0.155)	0.134*** (0.008)	0.045 (0.064)	0.012 (0.083)
R <sup>2</sup>	0.54	0.6	0.63	0.07	0.09	0.11
Observations	176	168	168	176	168	168

Note: \*\*\* indicates significance at the 1 percent level, \*\* at the 5 percent level, and \* at the 1 percent level. Standard errors are clustered at the level of the fixed effects.

TABLE 5.15. WEATHER AND KICKING ON INDIVIDUALS ON THE GROUND

Dependent variable: Kicking on individuals lying on the ground (0,1)						
Sample	[1]	[2]	[3]	[4]	[5]	[6]
Precipitation	0.553* (0.322)	0.760*** (0.261)	0.743*** (0.235)	0.448** (0.218)	0.448** (0.219)	0.446** (0.203)
Temperature		-0.004 (0.004)	-0.010 (0.005)		-0.001 (0.002)	-0.009 (0.005)
Month fixed effects	No	No	Yes	No	No	Yes
Game fixed effects	Yes	Yes	Yes	No	No	No
Team fixed effects	No	No	No	Yes	Yes	Yes
Constant	0.017 (0.027)	0.048 (0.064)	0.183 (0.140)	0.025 (0.018)	0.036** (0.017)	0.098** (0.032)
R <sup>2</sup>	0.37	0.5	0.54	0.15	0.17	0.21
Observations	176	168	168	176	168	168

Note: \*\*\* indicates significance at the 1 percent level, \*\* at the 5 percent level, and \* at the 10 percent level. Standard errors are clustered at the level of the fixed effects.

## **Summing up so far**

- Hooligans inside stadiums do not randomly pelt the fields with debris.
- Organized hooligans do not fight randomly.
- Instead they are influenced by the performance of their teams and by external nuisance in the form of bad weather.

## **5. Unemployment and Hooliganism**

- There exists a large empirical literature on unemployment and crime (see e.g. Chiricos 1987, Levitt 1994, Agell and 2007).
- It indicates that more unemployment tends to increase economic crime.
- Unemployment does however not seem to influence violent crime.

- For example, Krueger and Pischke (1997) shows that the transition to the market economy in East Germany has been accompanied by an increasing rate of violence against foreigners.
- Violence against foreigners is much larger in the east, in particular in the rural areas.
- In the west, it takes place in the urban areas.
- But their time series analysis does not show that unemployment increases violence.
- One reason for this could be that the perpetrators are still in school.

## **A model of unemployment and hooliganism**

- A supporter club consists of leaders and members.
- Members derive utility from social interaction among themselves, while they dislike fighting.
- Leaders derive utility from fighting by, and networking with, members.
- There are two types of members, 1 and 2, who differ in the utility they derive from networking,  $a_1$  and  $a_2$  where  $a_1 < a_2$ .
- Leaders cannot distinguish an individual member's private valuation of networking benefits.

- Timing:
- At the first stage, leaders declare a minimum required level of violence from members.
- At the second stage, members decide how much to fight.
- After observing the level of fighting by individual members, leaders decide whether to keep them or to expel them.
- Violence of amount  $v$  generates expected cost  $cv$ .

- Total utility for a member of type  $j$  who chooses a level of violence  $v_j$  and is not expelled is
- $U_j = a_j - cv_j$
- The utility of expelled members is  $w$ .
- It is natural to interpret the outside option  $w$  to reflect the expected income available from the legal labor market.
- Leaders receive utility  $u = a_1 m + bV$   
where  $m$  is the total number of members and  $V$  is total violence committed by all members.

# Equilibria

- Leaders face two alternative strategies.
- One is to choose such level of violence that both types 1 and 2 stay, and another to choose a higher level such that only type 2 stays.

- In the first case, leaders choose

$$v = \underline{v} = \frac{a_1 - w}{c}$$

for the  $n_1 + n_2$  members that stay

- In the second case, leaders choose

$$v = \bar{v} = \frac{a_2 - w}{c}$$

for the  $n_2$  members that stay.

- Hence, using these expressions into the leaders' utility function, the leaders select a smaller and more violent group if

$$b > \bar{b} = \frac{a_1 \lambda}{\frac{n_2}{n_1} (a_2 - a_1) - (a_1 - w)}$$

- Now, what is the effect of a change in unemployment?

- Well, a reduced unemployment improves the outside option  $w$ .
- For a given group size, a larger outside option (caused by reduced unemployment), reduces what can be demanded for each member so the level of violence is reduced.

- However, there is also an additional possibility, which generates a result in the opposite direction:
- Since valuation of gang membership is private knowledge, only one level of violence can be selected independent of type.
- When  $w$  increases, the leaders have to reduce the level of violence if they want to keep those who are least willing to stay on board (type 1).
- But this is very costly because it has to be done for all members.
- Therefore, the leaders may in response to reduced unemployment go for a smaller and more brutal organization.

## **Unemployment and hooliganism using Swedish data**

- Let's finally study how unemployment affects non-organized hooliganism inside stadiums.
- I use club-specific information on the number of incidents where supporters of different teams are involved in throwing objects onto the field.
- This implies that I can study how unemployment in the region the supporters live affects their behavior independently of where the teams play

- A weakness in the literature on unemployment and crime is that it is difficult to study the causality between the two variables.
- An advantage of this analysis is that it is not likely that hooliganism 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.

# Policy conclusions so far

- In contrast to the picture that is sometimes painted in media, hooligans do not seem to be crazy thugs that fight randomly. Instead, frustration, weather and even unemployment affect them.
- In the last part of this course we will look at how they respond to law enforcement.