All you Need is Love:
The Effect of Moral Support on Behavior

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Abstract

This study presents unique empirical evidence on the importance of moral support for behavior. We take advantage of an unusual change in the Argentinean football legislation. In August 2013, as a matter of National security, the Argentinean government forced all the teams of the first division to play their games with only home team supporters. Supporters of the visiting teams were not allowed to be in stadiums during league games. We estimate the effect of this exogenous variation of supporters on team performance, and we find that visiting teams are, on average, about 20% more likely to lose without their supporters. Moreover, we find that the lack of supporters of the visiting team increased the score differential between the home team and the visitor. The effect of the ban is stronger for big teams, who have the highest number of supporters when playing away. In addition, we find no evidence of changes of referees' decisions due to the ban, suggesting that the effect on team performance is due to the loss of moral support rather than a change in referees hostility. As placebo test, we run the analysis using contemporaneous cup matches, where the visiting team supporters were allowed to attend. We find no effect of the ban on the cup games, which provides additional empirical support to our findings. This study opens several avenues for future research and policy on moral support as a non-monetary incentive.

JEL: D01, D91, J24.
Keywords: Moral Support, Encouragement, Behavioral Changes, Motivation, Non-monetary Incentives, Competitive Environments

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1 Introduction

Moral support can be defined as a way of giving support to a person or cause, without making any contribution beyond the emotional or psychological value of the encouragement. As humans, we spend considerable time providing moral support. We use pep talks, encouraging words, and similar unverifiable soft information to boost confidence and "motivate" others. Indeed, the use of encouragement, praise and motivation strategies is a central theme in management, coaching, education and political marketing. Each year billions of dollars are spent in books and counseling by people who want to be inspired and motivated. Successful coaches are viewed as those who build up others' confidence (Kinlaw 1999). Moreover, the political rhetoric is plagued with quest for moral support from the voters.

Why do people spend resources to morally support others? Social psychologists have rationalized the supply of moral support with two main empirical facts. The first fact is that self-confidence, defined as the belief to be able to succeed in a task, improves performance (Bandura 1986). There is plenty of empirical evidence consistent with this fact within educational, labor and competitive sports contexts (Stajkovic and Luthans (1998); Bandura (2000); Bandura and Locke (2003)). The second fact is that self-confidence and self-determinatin can be affected by external cues. Albrecht, Abeler, Weber, and Falk (2014) have shown that verbal rewards praising one's competence enhances the perceived self-determination, increases intrinsic motivation and activate brain areas associated with subjective valuation of situations, suggesting that individuals have a higher subjective value for succeeding in a task after verbal reinforcement. Another example of this is a well-known phenomenon studied in the literature of social-psychology coined "The Pygmalion" effect (Rosenthal and Jacobson 1968), where others' expectations about own ability to perform a task can shape self-confidence and have an impact on performance.

In economic jargon, these two facts give rise for a principal (e.g. parent, spouse, friend, teacher, boss), who is interested in improving an agent's performance, to use moral support strategically. Indeed, Benabou and Tirole (2003) formalize this idea in a principal-agent game theoretic model in which the agent has imperfect knowledge about her own ability. The principal, who has a stake in her performance, has strong incentives to send signals to the agent that she is of high ability. This would boost agents' self-confidence, her interest in the task and consequently her performance. Moral support is then formalized in economics as a confidence enhancement strategy of the principal.

Despite its prevalence and importance, the evidence of the causal effect of moral support on behavior is rather scarce. The major empirical challenge resides on the fact that

moral support is essentially endogenous. People choose whether to supply or demand moral support, how much of it, to whom to supply and from whom to demand. For example, better performing people (being children, students, workers, or teams) attract higher support (from parents, teachers, bosses or fans) and, at the same time, people who receive more support perform better. This imposes a real challenge for identification of the causal relationship between moral support and individual's behavior.

This paper addresses this challenge by taking advantage of an exogenous change in moral support caused by an unexpected change of law in the Argentinean football league. Following an incident in which a football supporter got killed, the authorities decided to implement a drastic measure in the form of a ban (Act: 4810, 20 August, 2013) forbidding the presence of teams visiting supporters during first division matches. Only local team supporters could be at the stadium while the part destined to visitors remained empty. This provides an unusually clean opportunity in a real-world environment to discern the effect of moral support on behavior.

Using data from 1320 matches played before and after the introduction of the ban, we document a solid effect of lack of moral support on player's behavior. We find that the probability for the visiting team to lose a match without their supporters increases by about 20%. This effect is robust to different time and season fixed effects. Moreover, we find that the lack of supporters of the visiting team increased the score differential. The odds that the visiting team concedes an additional goal more than the home team increases by 1.3 times with the law. Both effects are stronger for big teams, who used to have the highest number of supporters when playing away. In addition, we find no evidence of changes of referees' decisions due to the ban, suggesting that the effect on team performance is due to the loss of moral support rather than a change in referees hostility. As placebo test, we run the analysis using contemporaneous cup matches, where the visitors supporters were allowed to attend. We find no effect of the ban on the cup games, which provides additional empirical support to our findings.

We believe football provides a unique environment to study moral support. As stated by Palacios-Huerta (2014, p. 2) "of the three ingredients that soccer offers, the most essential to its success is neither the ball nor the players but the flag". In football "you'll never walk alone" - unless it gets prohibited by law. According to Alabarces and Rodrigues (1996), football is the major phenomenon of mass communication in the world, and one of the strongest identification practices of the popular sectors in most of Latin America countries. Supporting a particular club is a form of identity, and this is particularly strong for Argentinean football supporters, who do not consider themselves as spectators, but as

the twelfth player. They invent hundreds of different elaborated songs to support their teams, they jump singing these songs during the whole match, even (or specially) when their team is losing. They move in big hordes of people, bringing their flags where the team plays, even thousands of kilometers away, as a signal of fidelity and support to the "colours they love". This particular environment of social support combined with a sudden exogenous ban, makes the Argentinean case an ideal natural experiment.

This is not the first paper in economics using sport data to understand human behavior (for an excellent review, see Palacios-Huerta (2014)). Sport data have been recently applied to the study of a variety of important economic problems such as racial integration and discrimination (Bodvarsson and Banaian (1998); Goff, McCormick, and Tollison (2002); Nardinelli and Simon (1990); Price and Wolfers (2010)), competition in the workplace (Brown 2011), national well-being (Kavetsos and Szymanski 2010), national culture and individual violence (Miguel, Saiegh, and Satyanath 2008), favoritism and corruption (Garicano, Palacios-Huerta, and Prendergast 2005), game theoretical principles (Palacios-Huerta 2003), gender issues (Agarwal, Qian, Reeb, and Sing 2016), behavioral cues and biases (Card and Dahl (2011); Gauriot and Page (2018); Miller and Sanjurjo (2018); Pope and Schweitzer (2011)), profit maximization and competitive incentives (Romer (2006); Ehrenberg and Bognanno (1990)), and taxation and international mobility (Kleven, Landais, and Saez (2013)).

Related to this paper, Apesteguia and Palacios-Huerta (2010) use data on football penalty kicks to identify the effect of psychological pressure on the probability of scoring, depending on the order of kicks.[1] Feri, Innocenti, and Pin (2013) find that the effect of psychological pressure in competitive environments is moderated by individual differences on cognitive anxiety. Garicano, Palacios-Huerta, and Prendergast (2005) show that social pressure biases football referees' toward home teams. We show that this channel is not present in the context of our study, suggesting that the effect of supporters on team performance is direct and not through a change of the referees' hostility towards visiting teams. In general, we contribute to this branch of literature by combining football data with an unusual change in a law to study an understudied psychological factor.

To the best of our knowledge, this paper is the first examining the direct link between moral support and behavior by using exogenous variation for this purpose. A close related paper is the one of Kosse, Deckers, Pinger, Schildberg-Hörisch, and Armin (2019) which shows evidence from a randomized control trial that children who receive company and attention from a mentor during one year increase their prosociality. In a related paper,

[1] See also Kocher, Lenz, and Sutter (2012) for a replication study.

Shaw, Krause, Chatters, Connell, and Ingersoll-Dayton (2004) show that lack of emotional parental support during childhood is associated with increased levels of depressive symptoms and chronic conditions in adulthood. Our paper complements this literature by showing that moral support also affects adult performance even in a highly competitive and professional environment. There is also related literature evaluating the impact of support and mentoring programs to school students. For example, Oreopoulos and Petronijevic (2018) find that a one to one coaching program providing regular support to university students has large effects on academic performance.[2] Coaching programs, however, typically confound both practical and moral support, which impact is difficult to identify separately. Mentors provide a variety of support from addressing questions about the campus, majors, jobs or coursework to more psychological related issues such us feelings of nervousness, sadness, or anxiety. Our paper complements this literature by taking advantage of a natural setting where the effect of moral support can be studied in isolation from other confounding factors.

The rest of the paper is structured as follows. Section 2 relates our paper to the existing literature. Section 3 sketches a simple conceptual framework of the link between moral support and performance. Section 4 introduces the institutional context and Section 5 describes the data and the empirical specification used for the analysis. Section 6 reports the main empirical results and Section 7 concludes.

2 Related Literature

This paper contributes to several strands of literature in economics and psychology. First, it relates to the literature highlighting the effectiveness of various forms of non-monetary incentives on workers motivation (Deci (1971); Frey and Jegen (2001);Gneezy, Meier, and Rey-Biel (2011)). Examples of effective non-monetary incentives are goals (Wu, Heath, and Larrick (2008); Goerg and Kube (2012); Gómez-Miñambres (2012); Corgnet, Gómez-Miñambres, and Hernán-Gonzalez (2015)), interpersonal ties (Bandiera, Barankay, and Rasul 2010), symbolic awards (Kosfeld and Neckermann (2011), authority (Fehr, Herz, and Wilkening (2013)) and autonomy (Falk and Kosfeld (2006)). We contribute to this literature by showing unique evidence of the role of moral support as a novel non-monetary incentive to increase workers performance.

Second, our paper is also indirectly related to the literature studying the effect of praise

[2]Studies from educationalist scholars have studied ways in which children's risk of school failure may be moderated by support from teachers (Hamre and Pianta 2005) and on the role of parental involvement and support on children's performance (Auerbach 2009)

and recognition on performance, as long as the presence of supporters in the stadium has some feature of recognition too. Deci (1971) shows that providing praise increases students willingness to work on a puzzle. More recently, in a controlled field experiment with students, Bradler, Dur, Neckermann, and Non (2016) find that unexpected public recognition by means of a thank-you card increases students group performance. This paper complements this literature in that we study a setting with repeated interaction between the principal (supporters) and the agent (team), during a long time span, in a very competitive environment and where the stakes involved are substantially high.

Third, our paper relates, to some extent, to the psychological literature of "audience effect". This literature considers the mere presence of an audience as responsible for a psychological arousal with direct impact on behavior. Zajonc (1968) finds that the performance of cockroaches was positively affected in a simple task (finding food in a straight maze) by the presence of an audience of cockroaches, while was negatively affected in a complex task (finding food in a maze with several turns). A similar behavior was bound in humans beings (Butler and Baumeister 1998). According to this literature, the effect of the audience on individuals depends very much on the type of task and therefore performance can be both enhanced (i.e. social support hypothesis) or impaired (i.e. social pressure hypothesis). Recently, the audience effect has also began to gain attention among economists. Filiz-Ozbay and Ozbay (2014) studied the effect of audience in a public good game finding that if there are not strategic aspects involved in the game the result is not affected by the audience. Charness, Rigotti, and Rustichini (2007) show that the presence of an audience affects substantially players' choices in the Battle of Sexes game. Although supporters in Argentine stadiums are technically considered as the audience, their role is more active than the rather passive role of the type of audience studied in this literature.

Finally, this paper provides evidence of one understudied factor of a well-established phenomenon in the sport economics literature: home advantage. Home advantage, refers to a greater success rate in home versus away competitions. It is a robust phenomenon that has been consistently highlighted in sport competition both individually (e.g. Koning (2011)) and in teams (e.g. Gómez and Pollard (2011); Liardi and Carron (2011)).[3] According to this literature, the main reasons for the existence of home advantage are: (a) influence of the crowd, (b) familiarity with the context, (c) travel fatigue, (d) territoriality and (e) referee bias. Related to our paper is the work of Smith and Groetzinger (2010). They analyze the role of attendance in home-field advantage in Major League Baseball, and find a positive association between attendance and team performance. However, their findings

[3]For a comprehensive review see Carron, Loughhead, and Bray (2005) and Pollard (2006).

suffer from endogeneity concerns. By leveraging the unique opportunity provided by the sudden change in law, our paper identify the relative role of the supporters, fixing all the other factors constant.

3 Framework and Hypothesis

How can moral support be conceptualized in an economic framework? In a canonical model in which individuals respond only to monetary incentives and have perfect information about their own ability and payoffs, moral support would not exist. Nobody would spend time and effort trying to enhance others' perception about their own abilities, simply because there would be no scope to change that perception. However, in a model that allows uncertainty about payoffs and imperfect knowledge about own ability, then moral support can be sustained in equilibrium. This is the gist of Benabou and Tirole (2003) paper. In their principal-agent model, the agents have imperfect knowledge about their own ability, and engage in a costly project when they are sufficient confident about their ability to succeed, and in the project's net return. As a result, the principal, who has a stake in their performance, have strong incentives to send signals to the agents that they are of good ability. This boosts agents' self-confidence, their interest in the task and consequently their performance. Moral support is then formalized as a confidence enhancement strategy of the principal.

Why would the agent believe the principal? For this to be an equilibrium outcome the principal must have complementary private information about the task or the agents' prospects from it. When the principal with private information makes a decision such as encouraging the agents, it impacts agents' willingness to perform the task as they take the principal's perspective in order to learn about themselves. The influence of the principal's decision on the agents' behavior is then twofold: direct, through its impact on the agents' payoff from accomplishing the task (keeping information constant), and indirect, through the inference process. The idea is that by offering low-powered incentives, the principal signals that she trusts the agent.

The model of Benabou and Tirole (2003) helps us understand why people spend resources to provide moral support to others, and it serves as a framework to interpret the support sport teams receive in a competitive setting. Linking the model to the context of this study, the football players can be interpreted as the agents and the set of supporters as the principal. The players have imperfect knowledge about their payoff from putting effort, because they are uncertain about their own ability, or the team ability or the ability of

the other team. The supporters derive benefits from the players playing to their maximum potential. The players play up to their potential only if they have sufficient confidence in their own ability to succeed, and in the net return of their decisions. The supporters, with a stake in the players' performance, have strong incentives to manipulate signals relevant to player's self-knowledge, as higher self-confidence enhances players' motivation and hence, their performance. Supporters will want (and are willing to pay a cost) to boost players' self-confidence, as well as their interest in winning the match. They do so by going to the stadium and supporting the team with songs and banners. The hypothesis derived from this framework is straightforward: teams with moral support are less likely to loose.

The framework of Benabou and Tirole (2003) may not be the only way to rationalize the link between moral support and performance in our setting. In principle, the support in the stadium could potentially increase visiting teams performance if, for example, it changes the reference point of the players or players become risk seeker. These are all plausible channels, but yet they are theoretical conjectures. The only existing formal model of moral support and performance that we are aware of is that of Benabou and Tirole (2003). For that reason, we motivate our research grounded on this theory without ruling out, of course, other plausible theoretical mechanisms.

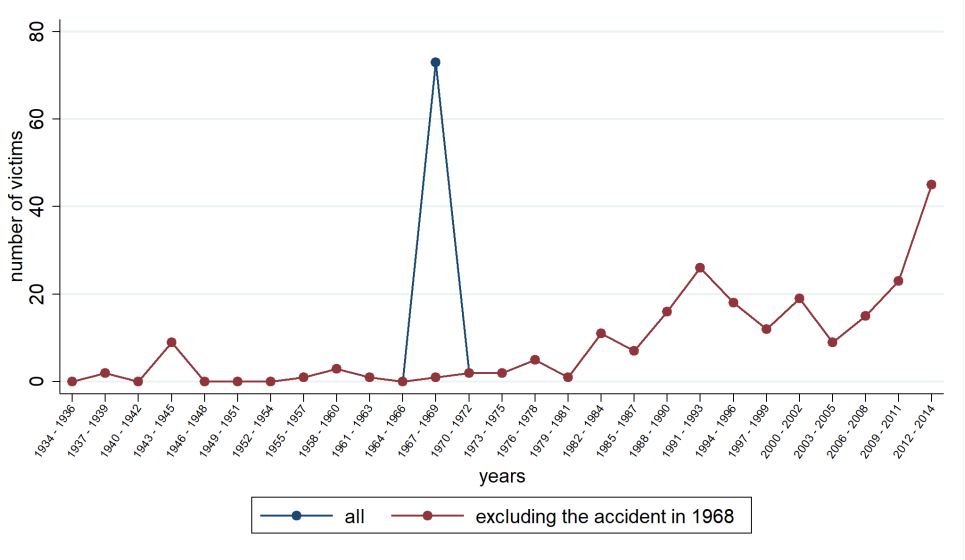
4 Institutional Context

Since the conception of professional football in Argentina in 1931, violence around football games has been a constant real problem for the country. According to the NGO "Salvemos al Futbol", up to date, 323 people have died due to violence episodes in Argentinian football matches. Despite the implementation of different safety measures, such as increasing the number of police agents in games or installing security cameras in the stadiums, the magnitude of the problem has only worsen with time. Figure 1 shows the evolution of the number of victims in Argentinean football from the 1934 to the 2014. Excluding the massive tragedy of 1968 during a River Plate vs. Boca Juniors match[4], the overall trend over the past century indicates an increasing number of deaths in stadiums during football matches. Recently, the number of victims increased dramatically achieving its maximum in the triennium 2012-2014.

The 10th of June of 2013 marked a turning point in the history of Argentinean football. During the match of the first division (Primera División) between Club Atlético Lanús and

[4]This tragedy, known as *"Tragedia de la puerta 12"*, was originated by a locked exit: the pressure caused by the mass of Boca Juniors supporters trying to exit caused the death of seventy one supporters.

Figure 1: Deaths from violence in Argentinean football



This Figure shows the number of deaths due to episodes of violence in stadiums during professional football matches in Argentina. The database was constructed based on the information provided by the NGO "Salvemos el fútbol" and published by the newspaper "La Nación"

Estudiantes de La Plata, a Lanús supporter got killed by a police rubber balled shot. Following this incident, the AFA (Asociación de Fútbol Argentino) together with the A.Pre.Vi.De (Agencia Prevención Violencia en el Deporte) decided to implement a drastic measure in order to limit violence. The measure imposed was in the form of a ban forbidding the presence of visiting team supporters during first division matches (Act: 4810, 20 August, 2013). Only local team supporters could be at the stadium while the part destined to visitors had to remain empty. The measure is still in place at the moment, though it has been lifted by the government in some selected matches after 2015.

5 Data and Identification Strategy

5.1 Data

To assess the impact of the ban on team performance, we collected data of Argentinean first division matches that were played between August 2011 and December 2014. Our main website of reference was *www.mismarcadores.es*. In total, the dataset constructed contains 1320 matches: 380 matches for each of the first three seasons (2011/2012, 2012/2013, 2013/2014)

and 180 matches for the season 2014/2015.[5] For each match we recorded the final result, the number of goals scored by each team and the number of red cards that referees held up in front of players of each team.[6] Importantly, we don't include data after 2015 because, since then, the government started to lift the ban in some selected matches as pilot exercises and this would bring endogeneity to the analysis.

Table 1: Summary Statistics

Panel A: Main Variables	Mean Before	Mean After	Diff.	Std. Error	Obs. Before	Obs. After
Visiting team losing (share)	0.40	0.47	0.07**	0.027	740	580
Score difference (T1-T2)	0.27	0.41	0.14*	0.082	740	580
Goals scored by Home Team	1.23	1.34	0.11*	0.062	740	580
Goals scored by Visiting Team	0.96	0.93	-0.03	0.055	740	580
Red Cards to Home Team	0.18	0.15	-0.03	0.024	739	579
Red Cards to Visiting Team	0.27	0.23	-0.04	0.029	739	579
Panel B: Ancilliary Variables	Mean Before	Mean After	Diff.	Std. Error	Obs. Before	Obs. After
Yellow cards to Home Team	2.47	2.27	-0.20**	0.096	364	579
Yellow cards to Visiting Team	3.01	2.77	-0.25**	0.102	364	579
Ball possession Home Team	52.09	51.55	-0.54	0.796	132	569
Ball possession Visiting Team	47.58	48.45	0.87	0.840	132	569
Shoots Home Team	12.09	13.37	1.28***	0.356	215	571
Shoots Visiting Team	10.03	10.66	0.63**	0.307	215	571
Shoots on target Home Team	4.91	4.79	-0.13	0.182	215	571
Shoots on target Visiting Team	3.86	3.68	-0.18	0.168	215	571
Shoots out Home Team	7.17	8.61	1.44***	0.296	208	571
Shoots out Visiting Team	6.24	6.98	0.74***	0.256	208	570
Corners Home Team	4.93	5.24	0.31	0.207	215	571
Corners Visiting Team	4.02	4.12	0.1	0.187	215	571
Faults Home Team	12.36	12.91	0.55	0.344	215	571
Faults Visiting Team	12.70	13.55	0.85**	0.355	215	571

This table reports the summary statistics of our dataset. Columns (1) and (2) report the average values before and after the ban, respectively. Column (3) reports the difference between the averages before and after the ban and Column (4) its standard deviation. The last two columns report the number of observations before and after the ban for each variable. *Panel A* presents information on the main variable of interest and *Panel B* presents information on ancillary variables we use to support the analysis. *** significant at 1%, ** significant at 5%, * significant at 10%.

Table 1 presents summary statistics of the main variables of interest (Panel A) and of ancillary variables (Panel B). For each variable, Table 1 reports its mean before and after the ban, the mean difference, its standard error and the result of a mean comparison t-test. The last columns show the number of matches for which each variable is observed both, before and after the ban. Panel A gives preliminary overview of the main results of the

[5] In the first three seasons, teams played twice with each of the other team, whereas in the 2014/2015 season called *"Torneo Transición"* teams played only once against the other teams.

[6] In addition, we collected data on total shots, yellow cards, corners and ball possession, but we don't use these data for our analysis because data for those variables are not available for all the seasons before the ban.

paper. The share of matches in which the visiting teams lose is on average greater after the implementation of the ban, with the difference being statistically significant (p=0.06). The score differences in favor of the home teams increased too (p=0.08), resulting mainly as a consequences of the number of goals conceded by the visiting teams (p=0.06). Moreover, there is no significant difference in the average number of red cards showed to players of both teams, home and visiting, before and after the ban. The rest of the paper shows that these preliminary results are robust to different econometric specifications.

Panel B of Table 1 reports a significant reduction of the number of yellow cards per match shown to players from both home and visiting teams, which is consistent with referees not becoming more hostile towards visiting teams players after the ban. We also observe a statistically significant increase in the frequency of shots to goal after the ban, but this is due to a rising number of shots out of target rather than an increase in the number of shots on target. This suggests that the increase in the score differential we observe after the ban is probably the consequence of visiting teams defenders performing worse rather than an increase in the chances created by the home team strikers. This is also consistent with the fact that the average number of faults committed by the visiting team significantly increased from 12.70 to 13.55.[7]

5.2 Identification Strategy

The aim of this study is to identify the effect on team performance of switching from playing a football match as the visiting team in a stadium with both local and visiting team supporters versus playing a football match as the visiting team in a stadium with only local team supporters. The latent variable is overall performance of visiting teams. As proxy for team performance we use the result of the match and the score difference, calculated as the difference between the number of goals scored by the local team and the goals scored by the visiting team. We estimate a Linear Probability model for the probability of the visiting team losing a match, and an ordered Logit model for the score difference. In both specifications, the dependent variable is regressed on a dummy variable indicating whether the ban applies to that match or not.

Our empirical strategy essentially compares the results of the matches in the Argentinean first league played before the ban to results of matches played after the ban was introduced. The identification assumption relies on the non existence of other forces that could affect the result of the matches and appear contemporaneously with the ban or in the period just

[7] Unfortunately the data for these ancillary variables were not available for all seasons before the ban. For this reason, we do not include them in our regression analysis.

after. In other words, we assume that the expected result of every match played before the day in which the law started to be in force and after that day would be the same if the ban would have never been implemented.

In Section 6.6 we perform a variety of robustness checks to ensure the validity of our results. We first conduct a placebo test using the matches from the national cup tournament ("*Copa Argentina*") instead of the league ones. The national cup is played every year by teams from first and lower divisions of the AFA, and it fits perfectly as a placebo experiment since the ban for visiting team supporters does not apply to the cup, plus the games were played contemporaneously to the first division league. Second, we replicate the main analysis dropping the matches played by teams that got promoted or relegated in 2013, and the ones played by teams that did not participate in all the four seasons. Third, we re-run the first specification including season and round fixed effects, to control for heterogeneity within a season, and we study the sensitivity of our results to the introduction of time-specific fixed effects. We show that our results are robust to all these manipulations.

6 Results

6.1 Graphical Evidence

Figure 2 reports the share of matches in which the visiting teams lost by week (turn) and its average, before and after the implementation of the ban. The evidence is based on 1,320 matches, i.e. 580 treated matches played after the implementation of the ban and 740 control matches played before. Before the ban, the probability that the away team looses a match is around 40%.[8] This probability increases to almost 47% with the ban, implying a 15.64% average increase in the probability that visiting teams lose after the ban.

6.2 Main Result

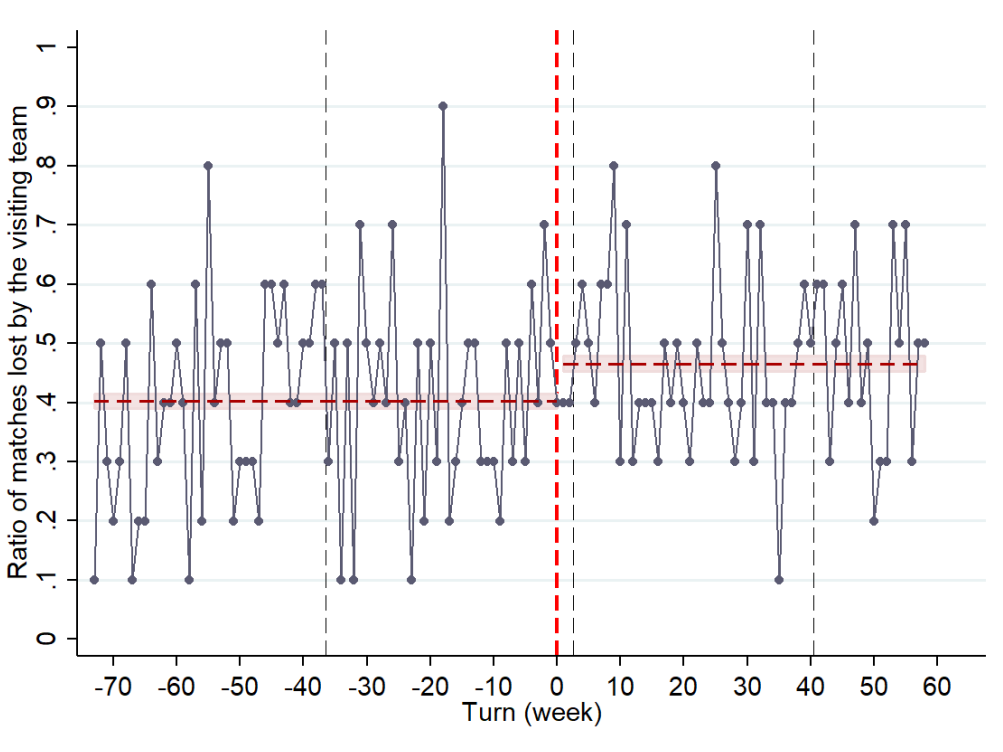
Table 2 presents estimates of linear probability models of the effect of the ban on the probability of losing a match for the visiting team. The simplest cross section specification is the following:

$$y_{it} = \alpha + \beta L_{it} + \varepsilon_{it} \tag{1}$$

Where y_{it} is a dummy which takes value 1 if the visiting team won match i that was played at week t; α is a constant, and L_{it} is a dummy taking value 1 when the Law is

[8] The remaining 60% is the sum of matches in which the visiting team win and draws.

Figure 2: Ratio of Matches with the Visiting Team Losing



This Figure shows the share of matches lost by visiting teams by week/turn (in dots) and its average (the horizontal dotted lines) before and after the ban. The red vertical line represents the date of the implementation of the law, the black vertical lines are end/beginning of each season.

in force.[9] We further control for all time-invariant unobserved components related to the intrinsic characteristics of each team or pair of teams that identify a particular match including control dummies for home team, visiting team and match.

Table 2 reports the coefficients of estimating eq. (1) with OLS for alternative specifications. The specification in Column (1) estimates the model without any control variables. The probability that the visiting team loses a match in the period in which the law is in force is, on average, 6.3 percentage points greater than before, equivalent to an increase of 15.64%. Columns (2) to (4) reports OLS estimates of eq. (1) with standard errors clustered by team or matches. This result holds also for different specifications. In the remaining

[9]Note that match i means that a particular team is playing at home while another particular team is playing as visitor. If the same teams play at another stadium (the one of the visitor usually) it is classified as a different match. The time index t ranges from 1 to 133, since there are 7 seasons in our database and in each seasons there are 19 weeks/turns.

Table 2: Effects of the Ban on the Probability of Losing as a Visitor

OLS Estimation								
Dependent Variable: *=1 if away team loses*								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Presence of the Ban	0.063**	0.063**	0.063**	0.063**	0.050*	0.089***	0.077**	0.080*
	(0.027)	(0.026)	(0.030)	(0.027)	(0.024)	(0.031)	(0.031)	(0.042)
Dummies Home Team					✓		✓	
Dummies Away Team						✓	✓	
Dummies Match								✓
N	1320	1320	1320	1320	1320	1320	1320	1320
Number of Clusters		25	25	555	25	25	555	555
Cluster Home Team		✓			✓			
Cluster Away Team			✓			✓		
Cluster Match				✓			✓	✓

OLS estimation of the effect of the ban the probability of losing a match for the visiting team. Controls include dummies for home team in Columns (5) and (7), dummies for visiting team in Columns (6) and (7), and dummies for match in Column (8). Beta coefficients reported and robust standard errors in parentheses. Standard errors are clustered by home team in Columns (2) and (5), by visiting team in Columns (3) and (6) and by match interaction in Columns (4), (7) and (8). *** significant at 1%, ** significant at 5%, * significant at 10%.

columns we add a dummy for the local team (Column 5), for the visiting team (Column 6), for both (Column 7) and for match (Column 8). In these last four specifications, the size of the coefficient increase. Overall, Table 2 shows robust empirical evidence that the ban increased the probability of losing a match when playing as an visiting team. Our preferred specification is reported in Column (6), where we control for visiting team fixed effect, because all the unobservable time invariant components related only to the visiting team are taking into account. In this specification, the ban increases the probability of losing a match for the visiting team by 22.1%. With this analysis we provide quantitative evidence that the absence of teams' supporters has a strong negative effect on the overall performance of the team and as a consequence, in the presence of the ban, teams are more likely to lose when playing as visitors.

Table A1 shows results from a Logit model estimating the likelihood of losing a match for a visiting team in the presence of the ban. Again, Column (1) reports the coefficient of the Law treatment without any additional controls. As for the linear regression model, the presence of the ban has a positive and significant effect on the likelihood of losing a match for the visiting team. Results do not change and remain significant at 1% level when standard errors are clustered by home team, visiting team and matches and when controlling for team and match fixed effect.

Table 3: Effects of the Ban on Score Difference

Maximum Likelihood Estimation							
Dependent Variable: *Goals Difference in the final result*							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Presence of the Ban	1.203*	1.203*	1.203*	1.203*	1.183*	1.309**	1.302**
	(0.120)	(0.118)	(0.120)	(0.121)	(0.118)	(0.142)	(0.158)
Dummies Home Team					✓		✓
Dummies Away Team						✓	✓
N	1320	1320	1320	1320	1320	1320	1320
Number of Clusters		25	25	555	25	25	555
Cluster Home Team		✓			✓		
Cluster Away Team			✓			✓	
Cluster Match				✓			✓

Maximum Likelihood estimation of an Ordered Logit Model of the effect of the ban on the goals difference. Goals difference is computed by subtracting the number of goals scored by the visiting team to the number of goals scored by the home team. Controls include dummies for home team in Columns (5) and (7) and dummies for visiting team in Columns (6) and (7). Beta coefficients reported and robust standard errors in parentheses. Standard errors are clustered by home team in Columns (2) and (5), by visiting team in Columns (3) and (6) and by match interaction in Columns (4), (7). *** significant at 1%, ** significant at 5%, * significant at 10%.

6.3 Score Difference

In this subsection we complement our main analysis by studying the effect of the ban on another proxy of relative team performance: the difference between the number of goals scored by the home team and the number of goals scored by the visiting team. We refer to this measure as "score difference". The specification that we use is exactly the same as in equation (1), with the difference that as dependent variable we use the score difference instead of a dummy for visiting team losing. Table 3 reports the estimated exponential coefficients of an Ordered Logit model on the effect of the ban on the score difference. As before, our preferred specification is in Column (6) where dummies for the visiting team are included. We find that the odds that the visiting team concedes an additional goal more than the opponent are 1.3 times greater after the ban.

In the Appendix (Table A2) we analyze the effect of the ban on the absolute number of goals scored by each team separately. Concerning the number of goals scored by the local team (Panel A), our preferred specification reported in Column (6) shows that the presence of the ban significantly increases the local team absolute number of goals scored. On the other hand, the ban does not have a significant effect on the number of goals scored by

the visiting team (Panel B). This leads to the conclusion that the score difference increases mainly because the local teams score more rather than the visiting teams score less. This result, together with the fact that the frequency of shots on target for the home team did not increase while shots out of target did (Table 1), suggests that the primary cause of the observed score difference is driven by a worse performance of the visiting teams' defenders. However, this is only suggestive rather conclusive evidence.

6.4 Heterogeneous Effects

Which type of team is most affected by the ban? The main argument put forward in this paper implies that the teams who were used to get higher amount of support before the ban will be those who would suffer the lack of moral support the most after the ban. If we observed that this is the case, it would provide further evidence for fans support being the driving force of the main effects of the ban. To address this question, we take advantage that Argentinean football league has a recognized clear distinction between the five biggest team, and the rest. These teams, called "the big five" (los cinco grandes), are Boca Juniors, River Plate, San Lorenzo, Racing Club and Independiente. These clubs bring, by far, the highest number of supporters to the stadiums, have the biggest budgets and won most of the leagues and cups.[10]

In order to test whether the "big five" teams were more affected by the law than the rest, we estimate the following Linear Probability regression equation on the probability of losing a match for the visiting team controlling for heterogeneous effect for one of the two teams being one of the "big five":

$$y_{it} = \alpha + \beta L_{it} + \gamma z_i + \delta z_i * L_{it} + \varepsilon_{it} \tag{2}$$

Where y_{it} and L_{it} are as described in eq. (1), while z_i is a dummy which takes value one if the team playing local is a *Big 5* in the specification in Panel A - Table 4 and it takes value one if the visiting team is a *Big 5* in the specification of Panel B - Table 4. The main coefficient of interest is the interaction term between the presence of the ban and the team being a "big five". From the last row of Panel A - Table 4 we can see that the fact that the local team is a "big five" does not change the effect of the ban on the probability of losing. However, the probability that the visiting team loses after the ban is significantly higher if the visiting team is among the "big five", as the last row of Panel B - Table 4 shows. Note

[10]See the following link for further information on the Big 5: http://www.thebubble.com/who-are-argentinas-big-five-football-clubs/.

that the coefficient of the interaction term between the ban and the visiting team being a "big five" is negative and significant at 10% level (Column 6).

As expected, the effect of the ban is stronger for big teams, who have the highest number of supporters when playing away. More importantly, we confirm that, in absolute terms, the presence of the ban is negatively affecting the visiting team rather than positively affecting the home team.

6.5 Referees Behavior

Does the ban affect the hostility of the referees towards the visiting teams? Existing literature shows that referees can biased the result of a game (Sutter and Kocher (2004); Garicano, Palacios-Huerta, and Prendergast (2005)). One of the possible observable ways in which a referee can influence a game is by showing yellow or red cards to players in an unfair way (Boyko, Boyko, and Boyko 2007). While a yellow card still allows the player to stay in the game, a red one has a consequence that the player is immediately expelled from the game.[11] The lack of visiting supporters could in principle make the referees more hostile towards the visiting team players. We test this conjecture by estimating eq. (1) using as outcome variable the number of red cards shown by the referees in the matches in our sample. Table 5 reports the results of an OLS estimation. Panel A presents the analysis for red cards shown to the local team players and Panel B the red cards shown to the away teams. On average the number of red cards went from 0.18 in a match before the ban, to 0.15, after the ban for home teams and from 0.27 in a match before the ban, to 0.23, after the ban for visiting teams. Column (6) shows no significant change with respect to the number of red cards after ban with for both visiting and home teams. This result confirms that there is no evidence of a change in referee behavior due to the ban, which supports the hypothesis that the effect on team performance is due to the loss of moral support rather than a change in referees hostility.

6.6 Robustness Checks

As discussed in Section 5.2, our identification strategy relies on the assumption that the presence of the ban is orthogonal to determinants of team performance at the match-week level. In this sub-section we perform three robustness checks which reinforce the internal validity of our main result.

[11] The referee disposes of several other instruments to affect the result (e.g. adding extra time, increasing the number of penalties). Unfortunately, we do not have access to these data over the period of analysis of this study.

Table 4: Heterogeneous Effects

OLS Estimation							
Dependent Variable: *=1 if away team loses*							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A							
Presence of the Ban	0.049	0.049*	0.049	0.049	0.037	0.076**	0.065*
	(0.031)	(0.028)	(0.033)	(0.030)	(0.027)	(0.033)	(0.034)
Local team is a big 5	0.056	0.056	0.056	0.056	0.083***	0.055	0.074
	(0.044)	(0.045)	(0.050)	(0.043)	(0.025)	(0.049)	(0.078)
Local team big 5 * Ban	0.064	0.064	0.064	0.064	0.056	0.056	0.047
	(0.066)	(0.065)	(0.074)	(0.070)	(0.058)	(0.073)	(0.072)
Panel B							
Presence of the Ban	0.082***	0.082**	0.082**	0.082***	0.069**	0.111***	0.100***
	(0.031)	(0.030)	(0.035)	(0.031)	(0.029)	(0.038)	(0.035)
Visiting team is a big 5	-0.045	-0.045	-0.045	-0.045	-0.043	-0.173***	-0.166**
	(0.043)	(0.028)	(0.049)	(0.040)	(0.028)	(0.018)	(0.078)
Visiting team big 5 * Ban	-0.089	-0.089*	-0.089	-0.089	-0.089	-0.096*	-0.096
	(0.065)	(0.052)	(0.052)	(0.065)	(0.052)	(0.047)	(0.068)
Dummies Home Team					✓		✓
Dummies Away Team						✓	✓
N	1320	1320	1320	1320	1320	1320	1320
Number of Clusters		25	25	555	25	25	555
Cluster Home Team		✓			✓		
Cluster Away Team			✓			✓	
Cluster Match				✓			✓

Panel A: OLS estimation of the effect of the ban the probability of losing a match for the visiting team controlling for the local team being among the best five teams in the league. Panel B: OLS estimation of the effect of the ban the probability of losing a match for the visiting team controlling for the visiting team being among the best five teams in the league. Controls include dummies for home team in Columns (5) and (7) and dummies for visiting team in Columns (6) and (7). Beta coefficients reported and robust standard errors in parentheses. Standard errors are clustered by home team in Columns (2) and (5), by visiting team in Columns (3) and (6) and by match interaction in Columns (4), (7). *** significant at 1%, ** significant at 5%, * significant at 10%.

Table 5: Effect of the ban on Red Cards

	OLS Estimation							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A								
Dependent Variable: *Number of red cards shown to local team player*								
Presence of the Ban	-0.029	-0.029	-0.029	-0.029	-0.037	-0.035	-0.042	-0.045
	(0.024)	(0.024)	(0.026)	(0.023)	(0.022)	(0.029)	(0.026)	(0.034)
Panel B								
Dependent Variable: *Number of red cards shown to visiting team player*								
Presence of the Ban	-0.044	-0.044	-0.044	-0.044	-0.042	-0.029	-0.029	-0.035
	(0.029)	(0.027)	(0.027)	(0.029)	(0.030)	(0.028)	(0.033)	(0.046)
Controls								
Dummies Home Team					✓		✓	
Dummies Away Team						✓	✓	
Dummies Match								✓
N	1318	1318	1318	1318	1318	1318	1318	1318
Number of Clusters		25	25	555	25	25	555	555
Cluster Home Team		✓			✓			
Cluster Away Team			✓			✓		
Cluster Match				✓			✓	✓

Panel A: OLS estimation of the effect of the ban on the number of red cards shown to local team players. Panel B: OLS estimation of the effect of the ban on the number of red cards shown to visiting team players. Controls include dummies for home team in Columns (5) and (7), dummies for visiting team in Columns (6) and (7), and dummies for match in Column (8). Beta coefficients reported and robust standard errors in parentheses. Standard errors are clustered by home team in Columns (2) and (5), by visiting team in Columns (3) and (6) and by match interaction in Columns (4), (7) and (8). *** significant at 1%, ** significant at 5%, * significant at 10%.

6.6.1 Counterfactual Experiment

The ideal counterfactual group for our empirical analysis would be one in which the same teams play contemporaneously to the period we use for the analysis but in a context in which the ban is not in place. Fortunately, the Argentine setting provides such an ideal counterfactual. We exploit the fact that the AFA did not implement the ban for matches played in the contemporaneous tournament "Copa Argentina".[12] This constitutes the perfect counterfactual, as they were games played at the same time span of the League, by the same teams of the League but with the away supporters being allowed to attend the stadiums. To test whether the ban had an effect on the probability of losing a match as a visiting team, we estimate eq. (1) using matches played for the "Copa Argentina" instead

[12]The "Copa Argentina" started in 2011, although other two editions were played in 1969 and 1970.

of matches played in the League. Table A3 presents the results. The coefficient of the OLS estimation for the usual specification, reported in Column (6) is not statistically significant. This provides further support for the fact that it is the lack of supporters that worsen visiting teams performance, instead of being some unobserved factor contemporaneous to the ban.

6.6.2 Excluding Promoted and Relegated Teams

The implementation of the ban started two weeks before the end of the season 2012/2013 and the beginning of the season 2013/2014. As mentioned in Section 5, there have been no changes in the league structure or in the rules from one season to another. However, three teams, *Independiente, Union de Santa Fé and San Martín de Tucumán*, got relegated to the second division while three other teams, *Olimpo de Bahía Blanca, GELP and Rosario Central*, got promoted to the first division. These two groups of teams may differ in ways that are correlated with our dependent variable. Indeed, they do differ in the geographical position of their stadium and the average number of visiting supporters. To account for this concern, on top of including team fixed effects, we run as a robustness check the main specification excluding all matches played by these six teams. As shown in table A4, our main results remain robust to this specification.

As an extra robustness check, we perform the same analysis excluding all teams that got promoted or relegated at least once in the study time span, restricting the sample to the twelve teams that participated in all the seasons.[13]. Again, as Table A5 shows, our results are robust to this analysis.

6.6.3 Time Fixed Effects

It is well known that football teams do not play every game at the same level. In particular, if a team has to play several matches in short amount of time, players may put less effort in some "less important" games, or coaches may reserve some players for particular matches. The time of the season with higher frequency of games is not random, and the number of matches the teams play (being league matches, national cup or continental cup) is not random either. Usually, good teams play high frequency of games in the beginning of the season, and only the best teams keep the same frequency until the end. Since the ban does not apply to non-league matches, coaches may have decided to change the distribution of

[13]The teams in the restricted sample are: *Arsenal Sarandi, Atletico Rafaela, Belgrano, Boca Juniors, Estudiantes, Godoy Cruz, Lanus, Newell's, Racing Club, San Lorenzo, Tigre, Velez*

energy between home matches and away matches among league, national cup, continental cup, and this could become a confounding factor threatening our identification strategy.

In order to test whether our results are robust to a possible change in the coach strategy for visiting teams within a season, we run two additional robustness checks. First we estimate our main specification with half-season fixed effects (apertura/clausura) and turn/week fixed effects (from 1 to 19). In this way every single turn/week within a season is compared to the correspondent week/turn in other seasons. In a second regression, we add month fixed effects (from 1 to 12) to compare all matches played in a particular month of the year. Tables A6 and A7 report results of this analysis. As it can be seen, all the coefficients of interest remain significant and the magnitude of the effect is approximately the same as in the basic model of Table 2 for the first specification while increases by 1 percent in the second model. These results rule out any potential change of visiting teams performance that could have happened due to time, other than the ban, confirming the validity of our identification strategy.

7 Concluding Remarks

To the best of our knowledge, this paper provides the first empirical evidence on the effect of moral support on performance in a natural competitive environment. Our identification strategy takes advantage of an unusual change in the Argentinean football legislation occurred in August 2013, which prohibited supporters to be present at the stadium when their teams play away. We find that a sudden and unexpected lack of in-stadium support increases, in average, 20% the probability that the visiting team looses and increases the odds that the visiting team concedes an additional goal more than the home team by 1.3 times. Furthermore, we show that the effect of the ban is stronger for the biggest teams, who were used to have high number of visiting supporters before the ban. In addition, we find no evidence of changes of referees' decisions due to the ban, suggesting that the effect on team performance is due to the loss of moral support rather than a change in referees hostility. As placebo test, we run the analysis using contemporaneous cup matches, where the visiting team supporters were allowed to attend. We find no effect of the ban on the cup games, which provides additional empirical support to our findings. Our results are robust to a set of alternative specifications.

These findings are novel, and as such, they open new avenues for future research on the effect of moral support on behavior in general, and on individual and team performance in particular. The research topic is only nascent. Laboratory and field experiments can

be designed to study whether the effect of moral support varies with the context, with the degree of competitiveness of the environment, with the way moral support is provided or with who provides it. It would be also interesting to study gender differences on the effect of moral support on performance, and whether the effects are different depending on whether the agent receiving support is an individual or a team. Finally, it would be interesting to test whether the effects we find in the Argentinean football context can be replicated in other contexts, by using other sources of naturally occurring exogenous shocks on moral support, such us weather conditions or transport strikes.

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Appendix

Logit

Table A1: Logit

Maximum Likelihood Estimation								
Dependent Variable: *=1 if away team loses*								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Presence of the Ban (d)	0.063**	0.063**	0.063**	0.063**	0.032**	0.094***	0.064**	0.105**
	(0.027)	(0.026)	(0.030)	(0.027)	(0.016)	(0.032)	(0.031)	(0.041)
Dummies Home Team					✓		✓	
Dummies Away Team						✓	✓	
Dummies Match								✓
N	1320	1320	1320	1320	1320	1320	1320	837
Number of Clusters		25	25	555	25	25	555	296
Cluster Home Team		✓			✓			
Cluster Away Team			✓			✓		
Cluster Match				✓			✓	✓

Maximum likelihood estimation of a logit model of the effect of the ban the probability of losing a match for the visiting team. Controls include dummies for home team in Columns (5) and (7), dummies for visiting team in Columns (6) and (7), and dummies for match in Column (8). Beta coefficients reported and robust standard errors in parentheses. Standard errors are clustered by home team in Columns (2) and (5), by visiting team in Columns (3) and (6) and by match interaction in Columns (4), (7) and (8). *** significant at 1%, ** significant at 5%, * significant at 10%.

Goals Scored

Table A2: Effect of the ban on Goals Scored

	Maximum Likelihood Estimation						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A							
Dependent Variable: *Number of goals scored by the local team*							
Presence of the Ban	1.195*	1.195**	1.195	1.195*	1.152	1.302**	1.265*
	(0.120)	(0.109)	(0.147)	(0.119)	(0.112)	(0.172)	(0.152)
Panel B							
Dependent Variable: *Number of goals scored by the visiting team*							
Presence of the Ban	0.944	0.944	0.944	0.944	0.940	0.901	0.894
	(0.0965)	(0.103)	(0.110)	(0.0955)	(0.114)	(0.127)	(0.112)
Controls							
Dummies Home Team					✓		✓
Dummies Away Team						✓	✓
N	1320	1320	1320	1320	1320	1320	1320
Number of Clusters		25	25	555	25	25	555
Cluster Home Team		✓			✓		
Cluster Away Team			✓			✓	
Cluster Match				✓			✓

]Panel A: Maximum Likelihood estimation of an ordered Logit Model of the effect of the ban on the number of goals scored by the local team. Panel B:Maximum Likelihood Estimation of an ordered Logit Model of the effect of the ban on the number of goals scored by the visiting team. Controls include dummies for home team in Columns (5) and (7) and dummies for visiting team in Columns (6) and (7). Beta coefficients reported and robust standard errors in parentheses. Standard errors are clustered by home team in Columns (2) and (5), by visiting team in Columns (3) and (6) and by match interaction in Columns (4), (7). *** significant at 1%, ** significant at 5%, * significant at 10%.

Robustness

National Cup Placebo Test

Table A3: Main Regression using Cup Matches

OLS Estimation							
Dependent Variable: *=1 if away team loses*							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Presence of the Ban	0.038	0.038	0.038	0.038	-0.038	0.123	0.202
	(0.083)	(0.080)	(0.083)	(0.084)	(0.112)	(0.135)	(0.254)
Dummies Home Team					✓		✓
Dummies Away Team						✓	✓
N	161	161	161	161	161	161	161
Number of Clusters		58	74	160	58	74	160
Cluster Home Team		✓			✓		
Cluster Away Team			✓			✓	
Cluster Match				✓			✓

OLS estimation of the effect of the ban on the probability of losing a match for the visiting team. Sample: all matches of the *Copa Argentina* between August 2011 and December 2015. Controls include dummies for home team in Columns (5) and (7) and dummies for visiting team in Columns (6) and (7). Beta coefficients reported and robust standard errors in parentheses. Standard errors are clustered by home team in Columns (2) and (5), by visiting team in Columns (3) and (6) and by match interaction in Columns (4), (7). *** significant at 1%, ** significant at 5%, * significant at 10%.

Excluding Promoted and Relegated Teams

Table A4: Effects of the Ban on the Probability of Losing as a Visitor

OLS Estimation

Sample: *matches played by al teams but Independiente, Union Santa Fe, San Martin de Tucumán, Olimpo de Bahía Blanca, GELP and Rosario Central*

Dependent Variable: *=1 if away team loses*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Presence of the Ban	0.062*	0.062**	0.062*	0.062*	0.056**	0.073**	0.068**	0.071*
	(0.033)	(0.027)	(0.034)	(0.033)	(0.025)	(0.034)	(0.034)	(0.043)
Dummies Home Team					✓		✓	
Dummies Away Team						✓	✓	
Dummies Match								✓
N	898	898	898	898	898	898	898	898
Number of Clusters		19	19	319	19	19	319	319
Cluster Home Team		✓			✓			
Cluster Away Team			✓			✓		
Cluster Match				✓			✓	✓

OLS estimation of the effect of the ban on the probability of losing a match for the visiting team. Sample: all matches but the ones played by the teams that got promoted or relegated in 2013, i.e. *Independiente, Union Santa Fe, San Martin de Tucumán, Olimpo de Bahía Blanca, GELP and Rosario Central.* Controls include dummies for home team in Columns (5) and (7), dummies for visiting team in Columns (6) and (7), and dummies for match in Column (8). Beta coefficients reported and robust standard errors in parentheses. Standard errors are clustered by home team in Columns (2) and (5), by visiting team in Columns (3) and (6) and by match interaction in Columns (4), (7) and (8). *** significant at 1%, ** significant at 5%, * significant at 10%.

Table A5: Effects of the Ban on the Probability of Losing as a Visitor

OLS Estimation

Sample: *matches played by teams that participated in all the analyzed seasons*

Dependent Variable: *=1 if away team loses*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Presence of the Ban	0.081*	0.081**	0.081*	0.081*	0.081**	0.085*	0.085*	0.089
	(0.047)	(0.033)	(0.044)	(0.046)	(0.033)	(0.045)	(0.047)	(0.055)
Dummies Home Team					✓		✓	
Dummies Away Team						✓	✓	
Dummies Match								✓
N	457	457	457	457	457	457	457	457
Number of Clusters		12	12	132	12	12	132	132
Cluster Home Team		✓			✓			
Cluster Away Team			✓			✓		
Cluster Match				✓			✓	✓

OLS estimation of the effect of the ban on the probability of losing a match for the visiting team. Sample: all matches but the ones played by the teams that got promoted or relegated during the whole analyzed period. Controls include dummies for home team in Columns (5) and (7), dummies for visiting team in Columns (6) and (7), and dummies for match in Column (8). Beta coefficients reported and robust standard errors in parentheses. Standard errors are clustered by home team in Columns (2) and (5), by visiting team in Columns (3) and (6) and by match interaction in Columns (4), (7) and (8). *** significant at 1%, ** significant at 5%, * significant at 10%.

Time controls

Table A6: Model with half-season and round dummies

OLS Estimation								
Dependent Variable: *=1 if away team loses*								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Presence of the Ban	0.063**	0.063**	0.063*	0.063**	0.049*	0.089**	0.076**	0.076*
	(0.028)	(0.027)	(0.032)	(0.027)	(0.025)	(0.033)	(0.032)	(0.043)
Dummies Home Team					✓		✓	
Dummies Away Team						✓	✓	
Dummies Match								✓
Dummy Half-Season	✓	✓	✓	✓	✓	✓	✓	✓
Dummies Week/Round	✓	✓	✓	✓	✓	✓	✓	✓
N	1320	1320	1320	1320	1320	1320	1320	1320
Number of Clusters		25	25	555	25	25	555	555
Cluster Home Team		✓			✓			
Cluster Away Team			✓			✓		
Cluster Match				✓			✓	✓

OLS estimation of the effect of the ban on the probability of losing a match for the visiting team controlling for dummy for half-season(Apertura/Clausura), and round dummies (from 1 to 19). Further controls include dummies for home team in Columns (5) and (7), dummies for visiting team in Columns (6) and (7), and dummies for match in Column (8). Beta coefficients reported and robust standard errors in parentheses. Standard errors are clustered by home team in Columns (2) and (5), by visiting team in Columns (3) and (6) and by match interaction in Columns (4), (7) and (8). *** significant at 1%, ** significant at 5%, * significant at 10%.

Table A7: Model with month dummies

OLS Estimation								
Dependent Variable: *=1 if away team loses*								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Presence of the Ban	0.074***	0.074**	0.074**	0.074***	0.060**	0.100***	0.087***	0.096**
	(0.028)	(0.027)	(0.031)	(0.027)	(0.024)	(0.032)	(0.031)	(0.042)
Dummies Home Team					✓		✓	
Dummies Away Team						✓	✓	
Dummies Match								✓
Dummies Month	✓	✓	✓	✓	✓	✓	✓	✓
N	1320	1320	1320	1320	1320	1320	1320	1320
Number of Clusters		25	25	555	25	25	555	555
Cluster Home Team		✓			✓			
Cluster Away Team			✓			✓		
Cluster Match				✓			✓	✓

OLS estimation of the effect of the ban on the probability of losing a match for the visiting team controlling for month dummies. Further controls include dummies for home team in Columns (5) and (7), dummies for visiting team in Columns (6) and (7), and dummies for match in Column (8). Beta coefficients reported and robust standard errors in parentheses. Standard errors are clustered by home team in Columns (2) and (5), by visiting team in Columns (3) and (6) and by match interaction in Columns (4), (7) and (8). *** significant at 1%, ** significant at 5%, * significant at 10%.