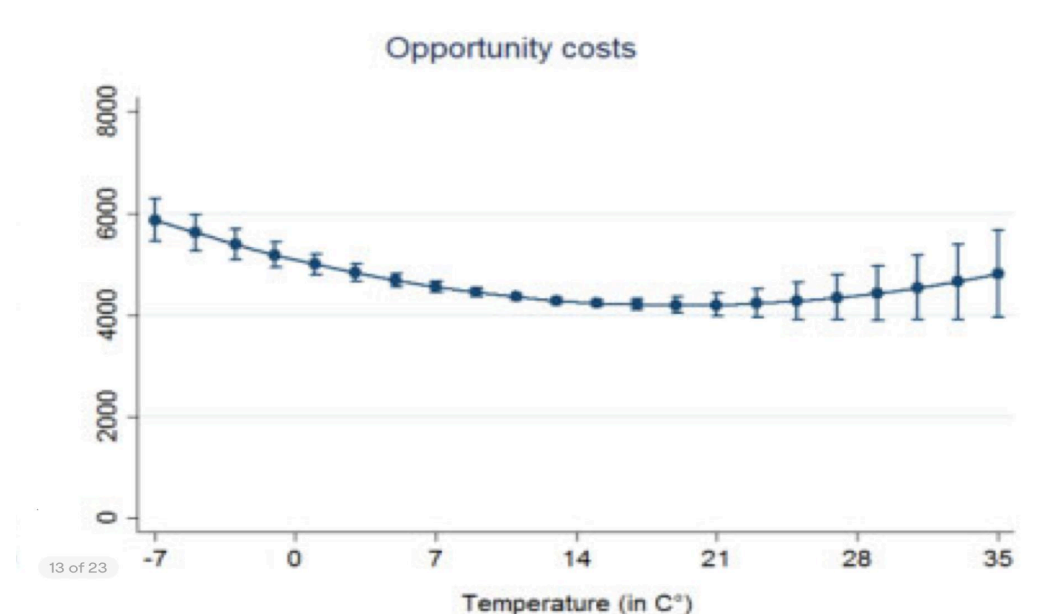


In professional sports, spectator attendance is crucial for both atmosphere and financial health. However, "no-shows," where fans buy tickets but do not attend, have become a significant challenge, notably in the German Bundesliga.

According to Schreyer, Schmidt, and Torgler (2019), the Bundesliga has faced a substantial no-show problem. In recent seasons, approximately every 10th ticket sold has remained unused, leading to thousands of empty seats during matches. This trend not only affects the atmosphere within the stadium but also has significant financial implications for the clubs. Despite its importance, the determinants of spectator no-show behavior have been relatively underexplored in the sports economics literature. In their 2019 study, Schreyer, Schmidt, and Torgler aim to fill this gap by analyzing a unique panel data set from 25 clubs in the top two divisions of German football, spanning three seasons from 2014 to 2017. This essay will delve into the determinants of no-show behavior at Bundesliga games and discuss why teams and leagues should care about no-show rates.



One of the factors discussed in the article is the impact of weather conditions on spectator no-show behavior. According to the findings, extreme temperatures significantly affect no-show rates. The graph above (figure 1) on page 592 examines the relationship between the absolute number of no-shows and temperature (celsius) based on data from the 2014-15 Bundesliga season. What can be seen is a weakly U-shaped relationship between temperature and no-shows. As illustrated in Figure 3, no-show rates decrease as temperatures rise from -7°C to approximately 19°C , reaching a minimum before increasing again as temperatures approach 35°C . This pattern suggests that fans are less likely to attend matches in both very cold and very hot weather, preferring moderate conditions for optimal match attendance. Interestingly, the study found that precipitation had an insignificant effect on no-show rates, which might be surprising given the potential discomfort associated with attending events in rainy conditions. The researchers observed that as temperatures rose from the minimum to the turning point, the absolute number of spectator no-shows decreased by roughly 1,674. Following this turning point, the number of no-shows gradually increased by about 615 until reaching the maximum temperature. This finding is quite significant, especially when considering the graph on page 583 (figure 2 below), which shows the mean number of tickets sold. In the 2014-15 season, approximately 47,000 tickets were sold on average per game, with only 8% resulting in no-shows—about 4,000 tickets. Therefore, a decrease of 1,674 in spectator no-shows due to temperature fluctuations is quite noteworthy.

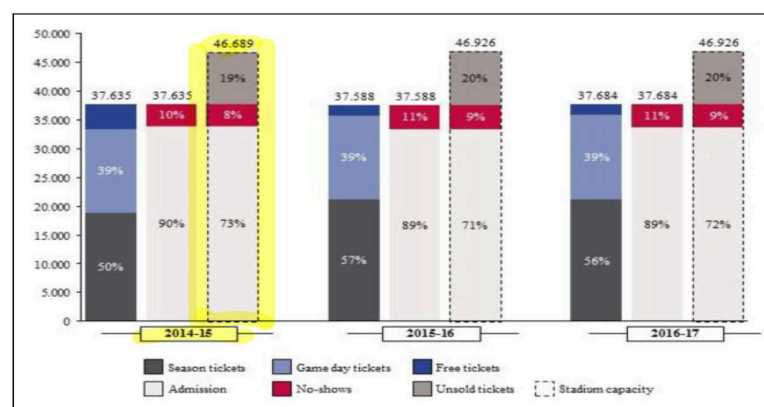


Figure 1. Bundesliga and Bundesliga 2 spectator demand in context. In the figure, we depict Bundesliga and Bundesliga 2 spectator demand in the three seasons 2014-2015, 2015-2016, and 2016-2017 according to a spectator's real decisions; that is, in particular, the purchase decision (left column) and the attendance decision (middle column). In the right column, we present the resulting mean utilization rate considering no-show behavior; all values are mean values across both leagues, that is, Bundesliga and Bundesliga 2. All figures are rounded.

Table 2. (continued)

	All		Bundesliga (Permanent)		Bundesliga 2 (Permanent)		FRACREG	
							Bundesliga	Bundesliga 2
	(01)	(02)	(03)	(04)	(05)	(06)	(07)	(08)
PRECIPITATION ^a	336.9515 [†] 168.6789	330.0799 [†] 168.9217	394.8003 247.9604		275.8964 214.8580			
Other factors								
CAPACITY	0.0259 0.0793	0.0190 0.0822	3.0475 *** 0.4408	3.1019*** 0.3871	-0.0147 0.1038		-0.0000*** 0.0000	
INTERVAL	-2.8248 1.8956	-2.5917 1.8977	-0.3729 2.3007		-6.0747** 1.4543	-14.1102*** 3.1209		-.0033*** .0007
SEASON 2015-2016 ^c	350.8060* 144.1393	392.9327* 151.8032	388.0172* 148.6487	411.5280* 155.3240	-80.6762 405.4031		0.0538** 0.0179	
SEASON 2016-2017 ^c	247.1770 189.0745	289.4211 193.4643	282.1582 199.4525	ns	-217.9685 297.9351		ns	
Number of observations	1,268	1,268	710	710	357	357	827	441
Number of groups	25	25	14	14	7	7		
Number of observations/ group	50.7	50.7	50.8	50.8	51.0	51.0		
R ² /Pseudo R ²	.3219	.3280	.4651	.4542	.2006	.0850	.0159	.0036

Note. Robust standard errors are given in bold. All figures are rounded. BL = Bundesliga; ns = not significant; TEMP = temperature.

^aDummy variable. ^bReference is unpromoted/unrelegated. ^cReference is season 2014-2015.

[†], *, **, and *** indicate statistical significance at the 10% ($p < .10$), 5% ($p < .05$), 1% ($p < .01$), and .01% ($p < .001$) level, respectively.

The continuation of Table 2 from Schreyer, Schmidt, and Torgler's 2019 study examines various factors influencing no-show behavior at Bundesliga games. It reveals that for Bundesliga permanent clubs, as stadium capacity increases, so do no-show rates. This suggests that larger stadiums have more unused seats. The coefficients for stadium capacity in columns 03 and 04 are positive and significant (3.0475 and 3.1019), indicating a higher number of no-shows in larger stadiums. The study suggests that larger stadiums, despite having more attendees, may still have many unused seats due to their size. For Bundesliga 2, the results are mixed. The coefficient is negative but not significant (-0.0147), indicating no clear impact of stadium capacity on no-show rates for these clubs. The aggregate analysis column shows a positive but not significant coefficient (0.0259), suggesting the overall impact of stadium capacity on no-show rates is unclear when considering all clubs together.

Connecting to what we learned in class, Profit maximization takes into account both revenues and costs. While the marginal cost of an additional ticket may be low, other operational costs (e.g., staffing, security) still apply. In the context of larger stadiums, these fixed and

variable costs become crucial. Higher no-show rates mean fixed costs are spread over fewer attendees, which could reduce overall profitability

As well, we see in the article that the significance of a match, such as derbies and the promotion or relegation status of a team, plays a crucial role in influencing attendance and reducing no-show rates at Bundesliga games. Derbies, which are matches between teams located in close geographical proximity, are shown to have a significant impact on reducing no-show rates. The data (page 592) reveals that if a match is classified as a derby, the number of no-shows is significantly reduced. In particular, the study used a dummy variable called "DERBY". If it increases from 0 to 1, the number of non attending ticket holders decreases by approximately 1,038 no-shows. This large change indicates that fans are more likely to attend matches with high local rivalry.

The promotion or relegation status of a team also influences spectator attendance. The study suggests that being promoted to the Bundesliga, the top tier of German football, tends to reduce no-show behavior, especially in the team's first season after promotion. The regression analysis in Table 2 (page 589) of the study shows a significant reduction in no-shows for promoted teams in the Bundesliga. The Coefficient of -410.78 next to promoted tells us that if the home team has been promoted, the number of no-shows decreases by around 411 spectators. Promotion likely increases the excitement and interest among fans, reducing no-show rates.

Despite variations in ticket prices, the regression results indicate that economic factors such as ticket prices and unemployment were not good predictors of no-show rates. This can be interpreted from the non-significant coefficients for economic factors related to ticket pricing in the regression table (page 591). For instance, the coefficient on unemployment rates when regressing on no-show rates 30.7699 (spec 3) which is not significant. This indicates unemployment rates do not significantly impact no-show behavior. The same could be said for ticket prices, as they too were found to not really influence no-show rates. One possible explanation is that once a ticket is purchased, the decision to attend is influenced more by other factors (e.g., match timing, team quality, and weather conditions) rather than the price paid for the ticket.

Empty seats due to no-shows should matter to teams for several reasons. For example, empty seats at events would likely reduce the perceived value of sponsorship deals by lowering visibility, engagement, and the overall atmosphere, leading to a diminished ROI for sponsors. As well, no-shows significantly impact revenue streams beyond just ticket sales. The lost revenue from concessions, merchandise, and parking due to no-shows can accumulate to substantial amounts per game. It is also important to have a vibrant atmosphere in the stadium to enhance the matchday experience but increased rates of no-shows could dull the mood leading to a cycle of less interest and attendance due to less vibrancy.

To conclude, reducing no-show rates could significantly increase revenue from ticket sales, concessions, merchandise, and parking. High attendance also creates a vibrant atmosphere, enhancing the fan experience and making the events more attractive to sponsors. Key determinants of no-show behavior included weather conditions, maybe stadium capacity, and match significance, such as derbies and promotion/relegation status. Strategies to mitigate no-shows should focus on these factors. By addressing no-show rates, sports teams can create a stronger financial foundation, deliver better fan experiences, and ensure sustained growth in the sports industry.

Works cited

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Football Spectator No-Show Behavior by Dominik Schreyer , Sascha L. Schmidt, and Benno
Torgler