



**Soccer Specific Stadiums and Designated Players:
Exploring the Major League Soccer Attendance Assumption**

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Abstract

Literature focusing on sport spectator behavior is abundant. The North American based literature on sports spectator consumption patterns is situated within the context of the mainstream sports of gridiron football, basketball, and baseball. Soccer (association football), among other niche sports, is often marginalized in part due to its comparatively limited appeal to consumers in the region. International scholars have thoroughly explored the topic of soccer spectator attendance however these findings are contextual and specific to the region or locale under investigation. The following study is a contribution to both the global and domestic literature base on soccer spectators in the United States. Specifically, it explores the relationship between Major League Soccer (MLS) attendance figures and two conspicuous trends permeating the league: 1) the finance and construction of soccer specific stadiums and 2) paying market value for “designated players” (DPs). Implications of the findings are discussed.

Keywords: Major League Soccer; spectator attendance; designated player; soccer specific stadium

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Introduction

In general, sport in the United States is consumed at high levels. A recent economic analysis indicates the sporting industry is a significant component of the nation's GDP, ranking as one its top ten segments and accounting for an estimated \$400 to \$425 billion annually (Plunkett, 2011). Economists assert spectator interest in professional sports has steadily increased since the 1950s and cite rising revenues and franchise values as indicators that consumption patterns continue to escalate (Rosner & Strosphire, 2004). In addition to media revenues, sponsorship agreements, facility lease arrangements, and licensing income, one of the most significant elements in profit outcomes for a sport organization is ticket sales (Ammon Jr., Southall, & Nagel, 2010; Irwin, Sutton, & McCarthy, 2008; Leeds & von Allmen, 2004). Therefore, it is not surprising team owners and league administrators place a particular emphasis on maximizing attendance figures.

Scully (2004) notes owners are in the business of sport to either generate a profit or simply to satisfy a personal interest, with an emphasis on winning. Although the latter motive appears to suggest a lack of emphasis on revenue generation, the likelihood of consistently achieving both facets of this particular objective is low in the absence of the best available talent and resources. Therefore, under the assumption that acquiring both talent and resources is a priority regardless of ownership motive, generating revenue is of paramount importance.

While much research has been conducted on the relationship between a variety of factors and sport spectator attendance patterns in the United States, most of this body of work is relevant to the "big three" sports of football, basketball, and baseball (Berri, Schmidt, & Brook, 2004; Burdekin & Idson, 1991; Chupp, Stephenson, & Taylor, 2007; Gitter & Rhodes, 2010; Gitter & Rhodes, 2011; Leadley & Zygmunt, 2005; Welki & Zlatoper, 1999). With respect to soccer, the global literature on variables associated with spectator attendance is abundant (Allen & Roy, 2008; Bainbridge, Cameron, & Dawson, 1996; Brandes, Franck, & Nuesch, 2008; Feddersen & Maenning, 2009; Garcia & Rodríguez, 2002; González-Gómez & Picazo-Tadeo, 2010; Madalozzo & Villar, 2009).

However these studies and respective findings are highly contextual and are, at best, marginally applicable to soccer in the United States.

The following empirical analysis is specific in scope. It seeks to explore the relationship between Major League Soccer (MLS) attendance figures and two conspicuous trends permeating the league, 1) the construction and finance of soccer specific stadia and 2) paying market value for “designated players” (DPs).

Since the opening of Columbus Crew Stadium in Columbus, Ohio in 1999 there has been an acute increase in the construction and finance of soccer specific stadia throughout MLS. Specifically, nine new soccer specific stadiums were opened between the years 2003 and 2011. The catalyst of this movement rests with the supposition that soccer specific stadia provide a more appealing atmosphere for spectators. Theoretically, the new and improved settings “are more likely, through the novelty and increased amenities and services, to boost attendance” (Turner et. al, 2010, p. 220). Although this notion seems plausible and has been recognized by prominent academes (Southall & Nagel, 2007), empirical evidence to support it is elusive.

In 2007 MLS amended its contentious salary cap restrictions to permit franchises to sign one highly marketable player without having the total amount of this particular “designated player’s” salary count against the team’s overall salary cap. The amendment was a strategic effort to make it possible for the Los Angeles Galaxy to acquire international superstar David Beckham (Wahl, 2009). Although it took nearly two years to achieve approval from the MLS Board of Governors the league ultimately acknowledged the potential positive impact he and other future high profile players could have on league attendance figures and consumption levels through strategic marketing campaigns (Dure, 2010; Wahl, 2009). In 2010 the so called “Beckham Rule” was amended as part of a new collective bargaining agreement between MLS and the Major League Soccer Players Union (MLSPU). Currently each team has the flexibility to sign two DPs above the league imposed salary cap with the option to purchase the right to sign a third DP for a fee of \$250,000. This fee is then divided equally and distributed by MLS to teams across the league.

While earlier findings from Jewel and Molina (2005) indicate MLS attendance is dependent upon the presence of “better players”, their study occurred well before the “Beckham Rule” and the subsequent influx of highly marketable international and domestic superstars such as David Beckham, Thierry Henry, Rafa Márquez, Landon Donovan, and Juan Pablo Ángel. More recently Lawson, Sheehan, and Stephenson

(2008) concluded that during the 2007 MLS season the presence of David Beckham yielded significant increases in ticket sales and subsequent revenues for the L.A. Galaxy as well as teams across the league. While both of these studies provide valuable insight on the impact star players have on ticket sales additional analysis addressing the presence of other DPs (beyond David Beckham) as well as the presence of multiple DPs at matches on attendance figures across MLS is needed.

Considering the aforementioned trends in Major League Soccer, the following research study examines the following questions:

RQ1: Does attendance at Major League Soccer matches depend on the type of stadium (soccer specific or multi-purpose)?

RQ2: Does attendance at Major League Soccer matches depend on the rated amount of DPs on the rosters of the competing teams (0= None, 1= At least 1, 2= Multiple)?

Methodology

Data Collection and Measures

Attendance figures for each MLS match played during the 2011 season ($n=305$) were recorded by examining the official box scores published on the MLS website. Also, the number of designated players on the game day rosters of each team was recorded using the same information source. Finally, to determine whether a stadium is soccer specific or multi-purpose, the author researched and identified the primary purpose for the construction of each venue while also considering each team's own stadium classification description. It should be noted, stadiums were only classified as soccer specific if the primary purpose of its construction was for soccer. Existing stadiums that underwent renovations to make the venue more 'soccer friendly' were not categorized as "soccer specific" (See Figure 1 below).

Figure 1. 2011 Major League Soccer Stadium Profiles.

Soccer Specific		
Team	Stadium	Capacity
Chicago Fire	Toyota Park	22,000
Chivas USA	Home Depot Center	27,000
Colorado Rapids	Dick's Sporting Goods Park	18,086
Columbus Crew	Crew Stadium	22,555
FC Dallas	Pizza Hut Park	21,193

LA Galaxy	Home Depot Center	27,000
Philadelphia Union	PPL Park	18,500
Real Salt Lake	Rio Tinto Stadium	20,000
New York Red Bulls	Red Bull Arena	25,000
Sporting KC	Livestrong Park	18,467
Toronto FC	BMO Field	20,000

Multi-Purpose

Team	Stadium	Capacity
D.C. United	RFK Stadium	45,596
Houston Dynamo	Robertson Stadium*	32,000
New England Revolution	Gillette Field	68,756
Portland Timbers	Jeld-Wen Field	20,323
San Jose Earthquakes	Buck Shaw Stadium	10,300
Seattle Sounders	CenturyLink Field	67,000
Vancouver Whitecaps	Empire Field/BC Place**	27,528/54,500

*Houston will open BBVA Stadium in 2012

**Vancouver will permanently move into BC Place in 2012

Process

A two-factor ANOVA using SPSS statistical analysis software was used to test whether MLS match attendance figures depends on 1) the type of stadium (Soccer Specific or Multi-purpose) and 2) the rated number of DPs on the rosters of competing teams (0= None, 1= At least 1, & 2 or more= Multiple). Consistent with the league's rationale outlined above, it is hypothesized both factors will have a statistically significant main effect on the dependent variable (soccer attendance). Also, it is hypothesized there will not be a statistically significant main effect for the interaction between the two variables.

Results

After identifying and eliminating outliers ($N=17$), the Levene's Test of Equal Variance indicates the homogeneity of variance assumption is met, $F(5,282) = 1.260$, $p > .05$. Results from the Two Factor ANOVA indicate there is neither a statistically significant main effect for type of stadium, $F(1, 282) = 1.239$, $p > .05$ nor for the interaction between type of stadium and number of DPs, $F(2, 282) = .278$, $p > .05$ on league attendance. However, there is a statistically significant main effect for the rated

number of DPs on the rosters of the competing teams, $F(2, 282) = 19.145$, $p < .001$, $\eta^2 = .120$ on attendance figures. The *partial eta squared* (η^2) measure of effect size for the number of Designated Players (.120) indicates 12% of the variance in league attendance is accounted for by the designated player rating, controlling for the effects of the type of stadium and the interaction between the two factors.

Table 1. Means and standard deviations for match attendance by stadium type and rated number of designated players.

DPs	Multi-purpose			Soccer Specific			Total		
	N	M	SD	N	M	SD	N	M	SD
0	30	14088.30	4896.54	32	15357.22	3236.81	62	14743.23	4139.022
1	32	15106.22	4528.686	83	15611.95	3653.85	115	15471.23	3902.807
2+	23	18791.70	6118.778	88	18965.11	4463.962	111	18929.18	4822.166

Table 2. Analysis of variance for match attendance.

Source	df	F	η^2	p
Stadium Type (ST)	1	1.24	.004	.267
Number of DPs (DP)	2	19.14	.120	.000
ST x DP	2	.278	.002	.758
Within group error	282	(5.308E9)		

Note. The value enclosed in parentheses is the *mean square error* (MS^w)

Given the statistically significant main effect for designated player rating, the Tukey post hoc method of multiple comparisons was used to determine which designated player rating groups differ in attendance. At the 95% confidence interval for the difference between the means of the groups, the Tukey post hoc method of multiple comparisons results indicates there is a statistically significant attendance difference for matches with no DPs and those with multiple DPs ($p < .001$) as well as matches with 1 DP and those with multiple DPs ($p < .001$). Specifically, league matches in which multiple DPs were present outperformed league matches featuring no DP by at least 2,565 spectators. Likewise, league matches with multiple DPs outperformed league matches featuring 1 DP by at least 2,097. Therefore, it can be said league matches in which multiple DPs are on the active rosters of the competing teams outperform league matches featuring no DP and 1DP by at least 2,000 spectators.

Table 3. Multiple comparisons for attendance across designated player rating.

DP Rating	ΔM	$SE\Delta M$	95% CI for ΔM	
0 Players - 1 Player	-728.00	683.565	-2338.32	-
882.59				
0 Players - 2+ Players	-4185.95*	687.866	-5806.67	-
2565.23				
1 Player – 2+ Players	-3457.95*	577.274	-4818.10	-
2097.81				

Note. ΔM = Mean difference. $SE\Delta M$ = Standard error of ΔM .

* $p < .05$

Discussion and Conclusion

Much research exists with respect to the relationship between a plethora of factors and spectator attendance figures at sporting events in the United States. However, these studies are primarily conducted within the context of gridiron football, basketball, and baseball and do not address attendance factors in niche sports such as soccer. Research on the relationship between a variety of factors and spectator attendance with respect to the sport of soccer is available yet these studies have been primarily conducted internationally. As noted by Markovits and Hellerman (2001), fans of soccer in

the United States differ in comparison to fans of other sports. Additionally, one cannot assume United States based soccer fans share similarities with international soccer spectators. Therefore, the global literature on soccer spectators should not be randomly ascribed to soccer fan culture in the United States. To this end, this study provides a unique perspective on a specified set of factors assumed to correlate with attendance for a traditionally neglected group of sport spectators in the United States.

The statistical analysis indicates there is a statistically significant positive relationship between match attendance and the number of designated players present at a given match. Therefore, the MLS strategy to increase match attendance (and consumption in general) by making it possible for teams to pay market value to high profile players without having these salaries count against a team's salary cap appears to be successful. The phenomenon of spectators attending matches for the purpose of seeing star players throughout Major League Soccer is consistent with findings from other studies conducted on sports fans in the United States (Aiken & Koch, 2009; Jewell & Molina, 2005). However, this precise reality indirectly resulted in the demise of the previous professional soccer league in the region, the North America Soccer League (NASL) (Markovits & Hellerman, 2001; Wangerin, 2006). In the case of the collapse of the NASL the team existing in the largest market (New York Cosmos) was able to procure a highly marketable player (Pelé) which enabled the franchise to generate more revenue through elevated consumption levels (ticket sales, merchandising, sponsorship revenue, etc.). This revenue was then re-invested into procuring more talent (Chinaglia, Beckenbauer, & Carlos Alberto) resulting in league competitive imbalance and an increase in the costs associated with operating a NASL franchise (Newsham, 2006). The Cosmos ascended to the top of the league during the mid to late 1970s however by the early 1980s NASL teams were either converting to the more economically feasible indoor version of the game or simply folding (Parrish, 2012). The NASL ceased operations following the 1984 season. Considering this history MLS should conduct a more holistic analysis with respect to the recently amended "Beckham Rule" and how this may be impacting competitive balance, particularly for the smaller market clubs. After all, the ability to lure and pay up to three marquee players market value favors teams who are positioned in a financially advantageous market (i.e. Los Angeles, New York). With this in mind it is worth noting the Los Angeles Galaxy were the only team in 2011 with the league maximum three designated players (David Beckham, Landon Donovan, & Juan Pablo Ángel (who was replaced by Robbie Keene following Ángel's

trade to Chivas USA). With this talent the Galaxy proved dominant throughout the season en route to winning the league championship. In the process the franchise maintained the second highest average attendance level in the league; with 23,335 spectators per game (Seattle Sounders led the league with 38,495 per game).

Interestingly, this study does not find a positive correlation between spectator attendance and soccer specific stadiums (note the Seattle Sounders games at the multi-purpose CenturyLink Field were identified as outliers and were controlled for in the analysis). Since 1999, MLS and its member clubs have sought to leave the confines of existing large football/baseball stadiums and are continuing to aggressively seek avenues to finance and develop intimate soccer specific venues. This is frequently thought of as a viable maneuver to increase match attendance and increase revenue. However considering the findings of the study, club and league administrators should not assume an increase in match attendance if and when a team develops a soccer specific stadium. It is important to point out here that typically teams enjoy an immediate spike in attendance following relocation to these venues however scholars indicate this trend is short lived once the novelty wears off over time (Turner et al., 2010). There is no better case of this phenomenon than the aforementioned Columbus Crew. The first MLS franchise to open a soccer specific venue, the team averaged over 22,000 spectators per match in their first year at Crew Stadium. This number fell rapidly in subsequent seasons and during their 2011 season (in which they made the MLS playoffs) the team averaged the second lowest average attendance across the league with a meager 12,185 spectators per match.

Additionally, a drawback to developing smaller soccer specific venues is teams may find themselves restricted in terms of the size of crowd they can accommodate. As a result, the venue may be overlooked when national and international sport governing bodies solicit bids from organizations wishing to host a particular event (i.e. international soccer friendlies or qualifiers). The multi-purpose facilities typically have double and in some cases triple the capacity than soccer specific stadiums and therefore are better positioned to accommodate larger crowds for a variety of sporting and non sporting events (i.e. concerts, festivals, etc.). Further, in 2011 the Seattle Sounders drew a crowd of 64,140 on the evening legendary goalkeeper Kasey Keller retired (Evans, 2011). Had Seattle been situated in one of the smaller soccer specific venues the franchise would not have been able to accommodate a crowd of this magnitude and would not have realized the revenue windfalls associated with this occasion.

In light of this scenario, teams relocating from larger multi-purpose venues (typically located in an urban center) to intimate soccer specific stadiums (typically in a suburban area) should not anticipate a sustained increase in attendance totals. However ticket sales are not the only source of facility related revenue. Parking, concessions, corporate suite rentals, merchandizing, special events, and stadium naming rights are just a few of the additional revenue streams that clubs may capitalize on. Assuming a franchise is not the owner/operator of its current multi-purpose venue and has an unfavorable lease agreement with a third party (i.e. D.C. United at RFK Stadium) the team may still achieve an increase in profit by procuring a favorable financial package to develop and relocate into its own soccer specific venue in spite of a decrease in attendance over the long term. However this is dependent on the franchise either owning the new soccer specific venue or at least negotiating access to these peripheral revenue streams with its financial partner or investor (i.e. the local municipality or state government).

Limitations and Future Research

It should be stressed once more this particular study was specific in scope and examined the influence of two factors on spectator attendance patterns across the 2011 MLS season. The author acknowledges the existence of many other variables that may influence sport spectator attendance figures (Shank, 2009). However the design of this particular investigation sought to explore a specific set of factors which are current trends being strategically implemented across Major League Soccer. Therefore the objective of this particular study was achieved. Additionally, it should be reiterated here that the significant partial eta squared statistic ($\eta^2 = .120$) associated with the number of designated players represents a relatively small percentage (12%) of the overall variance in spectator attendance. Therefore, the reader should use this with caution with an understanding there are other influencing factors that may in fact represent a greater magnitude in terms of potential impact on attendance figures and this represents an opportunity for future study.

Also, additional analysis procedures regarding attendance patterns and soccer specific stadia should occur on a case by case basis. A longitudinal examination of a franchises' attendance prior to moving and in the subsequent years after moving may reveal a contextual specific trend that is not reflected within a league wide analysis. As noted earlier, teams often enjoy an increase in attendance following relocation to a new venue however this trend is often short lived once the novelty wears off over time.

Finally, future research should examine the impact these factors have on the profitability of MLS franchises. A recent preliminary investigation concluded teams may in fact enhance profitability through the development of budget conscious soccer specific venues (Argeris, 2011). With this in mind, teams who relocated to smaller soccer specific venues requiring minimal up front capital on behalf of the franchise may ultimately receive a favorable Return on Investment (ROI). For example, the Columbus Crew privately financed their own venue for less than \$30 million (US) and the ownership group (Hunt Sports Group) enjoys exclusive access to all sport related and non sport related revenue generated by the stadium year round. Likewise, *Stade Saputo*, home of the 2012 expansion franchise Montreal Impact, was privately financed for less than \$20 million (CAD).

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