

If We Build It, Will You Come?: Examining the Effect of Expansion Teams and Soccer-Specific Stadiums on Major League Soccer Attendance

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In the spring of 1996, Major League Soccer (MLS) began its inaugural season with 10 teams playing in major U.S. cities such as New York, Los Angeles, and Chicago. In that first year, the average per-game attendance for MLS was over 17,000, but average attendance fell in subsequent years and hit a low of 13,756 spectators per game by 2000. MLS attendance has recovered in the past several years, reaching an all-time high of 18,801 in 2012 (MLS attendance, 2012). Some factors that may have led to this recent growth include an increase in the quality of play, the attractiveness of star players such as David Beckham, and an increase in television exposure, just to name a few. The purpose of this study was to analyze the relationship between MLS spectator attendance and two specific factors: the presence of expansion teams and the construction of soccer-specific stadiums.

MLS has seen major changes in its product since its inception 16 years ago. One of the most noteworthy is the increase in the number of teams through expansion. The league has grown to 19 teams across North America with a 20th team expected to join MLS for the 2014 season (Gabriel, 2012). Most of the expansion has occurred since 2007 with six teams joining the league. These new franchises include Toronto, Seattle, Philadelphia, Vancouver, Portland, and Montreal. Interestingly, for the 2012 season all six of these teams ranked in the top 11 of average per-game attendance (MLS attendance, 2012). Thus, it appears that expansion has directly aided in MLS attendance growth. Additionally, when MLS began most of its teams played in facilities that were built for American football such as the Rose Bowl in Los Angeles and Giants Stadium in New Jersey. These facilities posed several problems for teams. For example, the spectator sightlines were often poor or the facilities were too large for smaller MLS crowds in comparison to the NFL. In response, MLS and its teams focused on constructing soccer-specific facilities. The first of these facilities was Crew Stadium in Columbus, Ohio. As of fall 2012, 14 of the 19 teams play in soccer-specific stadiums that range in size from 18-27,000 seats. With these facilities, the game experience should be much better for patrons and this may result in increased attendance. Thus, the presence of soccer-specific stadiums is another factor of interest to analyze with respect to its relationship to spectator attendance.

The literature on demand in professional soccer evolved from international leagues (Bird, 1982; Cairns, 1987; Dobson & Goddard, 1991, 1995; Garcia & Rodriguez, 2002; Peel & Thomas, 1988; Szymanski, 1991). More recent investigations have focused specifically on MLS, with areas of emphasis in the Hispanic consumer market (Jewell & Molina, 2005) and the presence of star players in the league (DeSchraver, 2007; Lawson, Sheehan, & Stephenson, 2008). These studies have consistently shown the importance of factors such as team performance, ticket price, market size, star players, competition from other sports teams, opponent, and day of week.

In terms of expansion teams and the construction of “monofunctional” stadiums in professional sport, the literature is sparse. Previous examinations have provided evidence of a “honeymoon effect” with new sport facilities, where demand increases in the short-term after the opening of a new stadium (Austrian & Rosentraub, 1997; Clapp & Hakes, 2005; McEvoy, Nagal, DeSchraver, & Brown, 2005; Noll, 1974). However, these investigations were not conducted within the context of MLS. Fedderson and Maennig (2009) found that “monofunctional” facilities, built specifically for one sport, had a positive influence on demand in the German professional soccer league. This relationship is important to understand with respect to MLS due to the recent growth of soccer-specific stadiums. Additionally, Rascher, Baehr, Wolfe, and Frohwerk (2006) examined expansion and relocation opportunities for MLS franchises. A model was developed to rank current and potential MLS cities based on financial promise and market characteristics. Findings showed that the cities best suited to support an MLS franchise had higher population and income levels, and lower cost of living. Larger markets sizes were predicted to be a better fit, along with a larger population of males and Hispanic residents. However, the influence of league expansion on attendance has not been examined.

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To achieve the goal of empirically analyzing the relationship between spectator attendance and the presence of expansion teams and soccer-specific stadiums, multiple economic demand models were developed. Due to stadium capacity constraints, traditional OLS multiple regression with the inclusion of fixed effects and censored regression analysis were used to generate the demand models. The presence of expansion teams and soccer-specific stadiums were accounted for through the use of dichotomous variables. Overall, 20 explanatory factors were incorporated into the OLS regression model. Other factors in the demand model included population, income, percentage of Hispanics in the market, soccer participation rates, number of competitor teams in the market, and cost of living; along with several other commonly used variables. For the purpose of this study, attention is centered on the influence of expansion teams and soccer-specific stadiums on spectator attendance. The data consisted of all regular season MLS contests played from 2007 to 2011. Each team played in 30-34 regular season contests during that time period, thus the total sample size was 1,152 games.

The parsimonious fixed effects model including indicator variables denoting the visiting team had an R-squared of 0.62. The random effects model, containing variables for each team such as population, income, previous season's points, and other commonly used variables had an R-squared of 0.56. One problem with the random effects model was that there was high collinearity between population, number of competing teams, cost of living, and income. This is not surprising given that most large urban areas have higher income, cost of living, population, and number of sports teams.

With respect to the two factors of interest for this study, the expansion team variable was highly significant (t -statistic=7.45), and was associated with an increase in attendance of over 7,000 spectators per game. Thus, given all else being equal, an expansion team drew about 42% more spectators than non-expansion MLS teams. Additionally, playing in a soccer-specific stadium was associated with an attendance boost of almost 1,500 spectators per game. Again, all else being equal, a team playing in a soccer-specific stadium drew about 9% more spectators than teams in non soccer-specific facilities. In a model using lagged attendance (lagged one game), it was associated with about a 20% impact on current game attendance, while lowering the impacts of the expansion variable to approximately 32% (from 42%) and the soccer-specific stadium impact to about 6%.

The results of this study empirically verify the hypothesis that the presence of soccer-specific stadiums and expansion teams are positively related to per-game attendance in MLS. These findings confirm MLS's business strategy of expansion and soccer-specific facility construction. This information may be useful to league managers in MLS, and perhaps other professional leagues, as they address methods for increasing spectator attendance through expansion or sport-specific stadiums.