

DETERMINANTS OF TICKET PRICE FLUCTUATION IN THE SECONDARY MARKET:
THE CASE OF MAJOR LEAGUE BASEBALL EVENTS

By

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To my family

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Abstract of Thesis Presented to the Graduate School
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Each Major League Baseball (MLB) team has 81 home games in each season, and they are not 81 units of the same product but 81 different products. Fans value differently each of 81 home games, but what factors fans consider in this valuation have not been investigated much. Numerous studies have focused on factors that motivate fans to come to the game in general, but not many studies have focused on factors influencing game-by-game fluctuation within a season. The purpose of this study is to examine factors found from the previous literature influencing the secondary market ticket price fluctuation for individual MLB games. In this research, the author used the ticket prices of the secondary market as dependent variables. The secondary market is the platform for buying and selling tickets that previously were obtained from the franchise team (the primary market). The ticket prices of the primary market are relatively constant throughout the season, but the ticket prices of the secondary market radically fluctuate according to fans' willingness to pay for games. Therefore, the secondary market can be a good indicator reflecting fans' perceived value fluctuation game by game. After the factors were found from the literature, they were statistically analyzed through regression analysis to see if they had a significant effect on the ticket price fluctuations. Additionally, MLB teams were divided into three groups by

teams' attendance level. The author investigated how the level of teams' popularity influences fans' preference.

CHAPTER 1 INTRODUCTION

Major League Baseball (MLB) has experienced a decrease in demand in the past four years since 2008 (CNBC, 2011). There are several fundamental challenges in major spectator sports which directly influence fan attendance. They include: 1) competition for spectators amid 600 professional sports teams and 1,000 collegiate athletic programs in North America (Howard & Crompton, 2004), 2) that increased ticket prices make working-class and middle-class spectators unable to attend the game, and 3) that there exist negative impacts on MLB attendance as created by the emergence of other entertainment alternatives and new media technology (e.g., HD TV and I-phone applications). The competition created by video games, movies, and TV shows has become more intense (Howard & Crompton). In addition, as the popularity of high definition television (HDTV) increases, fans are unsure why they should attend the game when they can watch the game on HDTV in rich, vivid detail. Each of these factors makes competition for fans' money more intense (Boyd & Krehbiel, 2003).

Attracting sport spectators to the stadium has always been a critical revenue source for MLB teams. Although the amount of media revenues has increased, ticketing revenues have decreased in proportion to the teams' total revenues - from 76% in 1950 to 62% in 1975 and to 38.9% in 2001. However, ticketing revenues still remain the largest revenue source for MLB teams (Pappas, 2001; Rosentraub, 1997; Tainsky & Winfree, 2008). Maintaining high attendance is important, not only because it is the largest revenue generator for MLB teams, but also because it leads to increases in game day concessions, merchandising, and parking (Kim & Trail, 2010).

Further, prior studies indicated that the marginal cost of selling an extra seat in MLB is almost zero (Rascher et al., 2007) because all the bleachers, concession stands, and other

equipment already exist in the stadium. Clearly, having more fans attend the game is highly profitable to the franchise teams in a variety of ways. Therefore, it seems appropriate that MLB franchises apply their best efforts toward having as many spectators as possible.

Of all professional sports in the US, MLB franchises have the largest number of home games: 81 games in each season. Thus, baseball fans have more discretion on deciding which games to attend. MLB teams have learned that their 81 home games are not 81 units of the same product but rather are 81 unique units differentiated by game characteristics such as the day of the week and quality of the opponent (Rascher et al., 2007). These game characteristics lead to changes in fans' willingness to pay for tickets unique differentiating characteristic of each game thereby allowing MLB franchises to optimize revenue performance via fluctuating ticket prices. MLB franchises have adopted variable ticket pricing in the primary market, which refers to changing the ticket price according to the level of expected demand for the tickets. Aside from the day of the week and quality of the opponent, other researchers identified numerous factors affecting demand for the games including (a) the uncertainty of outcome (Demmert, 1973; Drever & MacDonald, 1981; Jones, 1969; Knowles et al., 1992; Lemke et al., 2009; Meehan et al., 2007; Noll, 1974; Rascher, 1999; Rottenberg, 1956), (b) the current team's performance (Davis, 2009; Denaux et al., 2011; Greenstein & Marcum, 1981; Hansen & Gauthier, 1989; Hill et al., 1982; Levin et al., 2000; Meehan et al., 2007; Noll, 1974; Rascher, 1999; Scully, 1974), (c) rivalry (Fillingham, 1977; Lemke et al., 2009; Levin et al., 2000), (d) a record-breaking performance (Fillingham, 1977; Lemke et al., 2009), (e) the presence of outstanding athletes (Davis, 2009; Denaux et al., 2011; Fillingham, 1977; Hausman & Leonard, 1997; Kahn & Sherer, 1988; Levin et al., 2000; Meehan et al., 2007; Rascher, 1999; Schmidt & Berri, 2001; Schofield, 1983), and (f) squad of game (Rascher, 1999).

It is necessary to gather valid data to fully understand the influence of the listed factors on fans' willingness to pay toward individual MLB games. The secondary market is the platform where the seller resells previously purchased tickets and where the seller is not necessarily affiliated with the league or team associated with the event (Happel & Jennings, 2002). Ticket prices in the primary market are typically set using a cost-oriented strategy (Howard & Crompton, 2004; Kotier, 2003), so the prices generally reflect the revenue needs of the organization as opposed to being an accurate reflection of differences in fans' perceived value for individual MLB games. In addition, the ticket prices of the primary market do not fluctuate throughout the season. Unlike the primary market, the ticket pricing of the secondary market is mostly demand-oriented (Drayer et al., 2008). How the pricing process works in the secondary market is consistent with what Rishe and Mondello (2003) stated. That is, fans are willing to pay more for more desirable games. Because the secondary market is truly a free and open market, sellers have the freedom of determining the price of tickets (Drayer et al., 2008). The sellers in the secondary market typically set the ticket price by fans' perceived value of tickets. Therefore, the ticket prices in the secondary market may more accurately reflect differences in perceived value for the MLB games than the ticket price of the primary market.

To date, only a few studies have attempted to identify how the application of differentiating game characteristics (e.g. quality of the opponent) influences ticket price fluctuations on the secondary market. According to Wann and Branscombe (1990), teams have fans in different identification levels. For example, some teams have a long history of being the underdog (e.g., the Chicago Cubs in professional baseball), but many fans still remain loyal and continue to pay for tickets in support of these teams. According to related literature (Manhony et al., 2000), sports fans' allegiance or psychological attachment to a team varies, and each team

fans' loyalty may be an important moderator. So, learning how much fans identify with a team may be important in understanding how different identification levels influence ticket price fluctuations. This information may be crucial to the process of developing marketing strategies to attract fans to the stadium. However, the value of using this information for purposes of developing marketing strategies has not been empirically assessed (Guttman, 1986; Mann, 1979; Schurr, Ruble, & Ellen, 1985; Schurr, Wittig, Ruble, & Ellen, 1988; Smith, 1983; Zillmann, Bryant, & Sapolsky, 1979).

Significance of the Study

Each of the MLB franchise teams has 81 home games per season. Since each MLB franchise team has many games, fans have more discretion to choose which games they will attend. As mentioned previously, 81 home games are not 81 units of the same product but rather are 81 unique products differentiated by characteristics such as the day of the week and quality of the opponent (Rascher et al., 2007). Fans perceive the value of games differently according to potential factors. Although numerous studies have been conducted to identify factors or motivation for attending games, it had not been examined how those factors alter fans' willingness to pay for individual games. In other words, few researchers have attempted to identify factors that cause game by game difference. To identify the factors affecting the fans' perceived value of game, we first needed to obtain information indicating how much fans are willing to pay for each game. The ticket price of the secondary market provides a list of ticket prices for individual games. As the sellers in the secondary market have the freedom of determining the ticket price for the secondary market, they typically set the ticket price by fans' perceived value of tickets (Drayer et al., 2008).

Moreover, MLB franchise teams have different fan bases. When it comes to popular fan base teams such as the Boston Red Sox and the Chicago Cubs, their fans come to the stadium

regardless of the teams' recent performances. The reasons for those fans to purchase tickets and attend the games might be different from those of fans who do not identify with the team as highly or in the same manner. A substantial amount of research has been conducted to investigate the factors that make a franchise popular; but on the other hand, only a few researchers have attempted to identify how a team's attendance level affects the price fluctuation of the games.

Statement of Problem

In the field of sport management and marketing, there has been much research identifying spectators' motivational factors to attend games (e.g., Funk, Ridinger, & Moorman, 2003; Sloan, 1989; Trail & James, 2001; Wann, 1995). For example, Sport Fan Motivation Scale (SFMS) that was developed by Wann in 1995, which has been modified and used by many researchers to measure fans' motivation to attend the games. Although the initial scale made significant impact on sport consumer research, the specific factors in the scale reflect general reasons (psychological domain) for attending the sports games, thus, this scale is insufficient in predicting actual fans' perceived value of games. In other word, research associated with game by game differences in spectators' perceived value for games has not been systematically examined to date.

In the context of professional sports, Rische and Mondello (2003) investigated the ticket price determinants of NFL franchise teams. They identified factors that influenced changes in seasonal demand such as the win records of the previous year and star players. The authors used the ticket prices of the primary market as a dependent variable, and they argued that the seasonal change of ticket price reflects the expected changes in demand for a given team (Rische & Mondello, 2003). They also assumed the increase in the ticket prices of the primary market reflects increased expected demand of tickets, and vice versa. However, they could not determine

which factors would influence changes in demand from game to game, due in part to the limitation of using the ticket price of the primary market as a dependent variable. The primary market, as its name entails, is where professional franchise teams sell their tickets directly to customers. Ticket prices of the primary market are usually set before the season starts, and do not change throughout the season (Drayer & Shapiro, 2009). Furthermore, ticket prices of the primary market are typically set using a cost-oriented strategy (Howard & Crompton, 2004). To identify factors influencing day-to-day perceived value changes, the secondary market ticket price needs to be carefully examined in addition to the ticket price of the primary market. Specific information of the secondary market reflects the actual fans' willingness to pay for each game within a season.

In the secondary market, unlike the primary market, ticket transactions occur through reselling, so the secondary market ticket prices are not fixed for each of the scheduled games. As previously mentioned, in the ticket pricing mechanism of the secondary market, sellers decide ticket prices according to the demand of tickets. In addition, sellers can change the price of tickets any time before the game starts. Sellers can consider the factors such as weather and temperature, which can affect the value of the game until the last minute before the game starts. Therefore, the perceived value of the game is well reflected in the ticket price of the secondary market, and it can be an appropriate dependent variable to identify which factors are affecting changes in the perceived value of games.

Numerous studies (e.g., Denaux et al., 2011; Greenstein & Marcum, 1981; Hansen & Gauthier, 1989; Lemke et al., 2009) focused on game attendance and identified major determinants such as star players and win records (Hansen & Gauthier, 1989). However, only a

few studies were conducted to examine the impact of teams' attendance levels on fans' valuation for the games.

Even if the ticket prices of the secondary market could be an effective indicator of the consumers' perceived value of the game, few studies have used the ticket prices of the secondary market as a dependent variable. In addition, the influence of the level of attendance of the team on the fans' perceived value of games has not been systematically examined to date. Thus, this study used the secondary market as a dependent variable and identified the factors that cause changes in the ticket prices of the secondary market. Additionally, a moderating effect of teams' attendance level on the relationship between the identified determinants and ticket price of the secondary market was examined.

Purpose of Study

The purpose of this study was to examine factors that influence ticket price fluctuation in the secondary market of MLB events. Those factors include 1) day of the week; 2) rivalry; 3) interleague; 4) league standing; 5) the quality of opponent; 6) promotion; and 7) the quality of squad.

Extensive literature review was first conducted to identify potential factors. The factors found in this initial step include were statistically analyzed to test their relative effects on the ticket price fluctuations in the secondary market. Next, MLB teams were divided by attendance level of teams and used to examine its moderating effect on the determinants and the ticket price of the secondary market. Having the comprehensive analysis of the factors that affect the ticket price fluctuations will assist the MLB marketers in developing and implementing their market and pricing strategies.

CHAPTER 2 LITERATURE REVIEW

Significance of the Secondary Market

The secondary market has developed from primitive scalping to corporate level. The current organized secondary market started from ticket scalpers in the past. The concept of ticket scalpers first came out in the late nineteenth century as people who sold railroad tickets without authorization of the railroad company (Benitah, 2005). From the railroad industry, ticket scalping expanded its boundaries to entertainment when similar businesses started scalping tickets to sold-out theater productions; scalpers bought vast amount of tickets and then tried to sell them outside the theater, acquiring a premium (Benitah, 2005). The practice of ticket scalping was technically illegal, but it was a lucrative business. Ticket scalping then evolved into a legal practice of reselling tickets through ticket brokers. Ticket brokers first emerged in the early twentieth century as remote outlets for theaters and ballparks, where customers could buy tickets from convenient locations. Brokers were authorized personnel to increase ticket sales, and they returned unsold tickets to the box office while retaining a small service fee. Although ticket brokers legally resold tickets, cooperating with promoters, illegal ticket scalpers still existed (Benitah, 2005).

As a measure to prevent illegal ticket scalpers, anti-scalping legislation had been enacted, aimed at preventing harm to the event promoters and allowing promoters to control the distribution of tickets. Promoters typically set reasonable ticket prices in an effort to obtain sellouts (Benitah, 2005). However, preventing the resale of tickets was almost impossible to enforce. Online secondary ticket sites such as eBay post state laws on their site, but most users do not post their real name or contact information (Drury, 2002). In addition, it can be argued that there is no victim in the act of ticket resale, because both parties consent to buy and sell

tickets (Benitah, 2005). Moreover, online secondary ticket companies began lobbying state legislatures to overturn anti-scalping laws (Nocera, 2008).

Currently, various websites such as Stubhub, TicketsNow and RazorGator offer platforms for customers to buy and resell sport tickets (Short, 2005). The progress of the internet has made those websites larger and more efficient. Online secondary ticket marketplaces created a new business model by taking some portion of the profits from transactions made between buyers and sellers. For instance, the popular online secondary ticket marketplace Stubhub takes 25 percent of each transaction (Free market Fleecing, 2006). Online secondary ticket marketplaces were soon acquired by larger brokering sites, due to the value of the online secondary ticket market. In 2008, TicketsNow was bought by Ticketmaster for \$265 million, while in 2007, Stubhub was acquired by EBay for \$300 million (Nocera, 2008).

Using secondary market data is more appropriate considering the size, technology, and legitimacy of the secondary market. In America alone, the online secondary ticket market is worth over \$10 billion, according to Jeffrey Fluhr, co-founder and former CEO of StubHub (Cozart, 2010). Stubhub provides a platform for buying and selling of tickets of many types of events in sports and entertainment.

Even though several teams in MLB have openly criticized the use of the secondary market Stubhub, in the past, the growth of the online secondary ticket market and the potential for revenue has made owners and professional leagues set aside initial objections. The online secondary ticket market was useful not only to fans, but also to teams or franchises where there was the potential to receive a part of the revenues (Nocera, 2008). When fans utilize the sites to resell unused tickets, individual teams and organizations can take the commission benefit from secondary market ticket transactions (Moore, 2010). Buyers at StubHub.com pay a 10 percent

fee, while sellers are charged a 15 percent commission. For example, if a baseball ticket sells for \$100, the buyer pays \$110 and the seller receives \$85, so Stubhub and the baseball teams share \$25 profit (USA today, 2007). Also, organizations found that fans are more likely to buy season tickets if they know they will be able to recoup their losses by reselling unusable tickets (Nocera, 2008). Fans are more accepting of the online secondary ticket market since the secondary ticket market provides a means for fans to attend already sold out games and gives them a chance to sit in the prestigious seats which are not usually available for casual fans (Moore, 2010).

Stubhub's new system, the digital transfer of tickets to buyers, not only relieves franchises' concerns about fraudulent tickets but also allows a last-minute sale by digitally transferring tickets to the ballpark box office with the name of buyer. Team ticket sales usually decrease within 72 hours of the game, but this system allows ticket sales up to the game time. Since 2006, Stubhub has provided a clickable map of each stadium showing the availability and prices of tickets according to each seating section (Sweeting, 2008).

Acknowledging the growing strength of Internet ticket exchanges and the increase in potential revenue stream, MLB has finally entered into a revenue-sharing agreement with Stubhub. Under the five-year deal, all 30 baseball team Web sites and MLB.com will direct fans who want to sell their tickets or buy tickets from other fans to Stubhub.com (New York Times, 2011). As Stubhub has become an official secondary market for MLB, the secondary market in MLB has begun playing a huge role in MLB ticket sales.

Determinants of Demand in MLB Games

As mentioned previously, the sellers in the secondary market typically set the ticket price according to fans' perceived value of tickets (Drayer et al., 2008). Ticket prices of the secondary market are considered to be an indicator of the fans perceived value of games and the perceived value is directly related to their perceived game quality. According to Ko and his colleagues

(2011), quality of game is one of the main factors determining major spectator sport events. Game quality refers to spectators' perceptions of the quality of the core product of game performance (Hansen & Gauthier, 1989). In this study, factors related to this dimension will be the focus and the study will investigate potential variables associated with this dimension and their influence on the ticket price in the secondary market.

In the sport literature, the scholarly efforts to identify factors affecting market demand for sporting events goes back to the mid-1970s by Noll (1974) and Hart et al. (1975). Explanatory variables for attendance were primarily 'economic' (for example, price and income), but with an emphasis on uncertainty of outcome. Later, scholars identified several key determinants of game attendance. They can be categorized into factors related to game attractiveness and environmental condition. Specifically, the game attractiveness factors are directly related to the game performance and they include (a) nature of sports (e. g. strategy and dynamic; Hansen & Gauthier, 1989); (b) the vicarious pleasure of relating to a winner (Hansen & Gauthier, 1989); (c) the current team's performance (Davis, 2009; Denaux et al., 2011; Greenstein & Marcum, 1981; Hansen & Gauthier, 1989; Hill et al., 1982; Levin et al., 2000; Meehan et al., 2007; Noll, 1974; Rascher, 1999; Scully, 1974); (d) rivalry (Fillingham, 1977; Lemke et al., 2009; Levin et al., 2000); (e) the record-breaking performance (Fillingham, 1977; Lemke et al., 2009); (f) the presence of outstanding athletes (Davis, 2009; Denaux et al., 2011; Fillingham, 1977; Hausman & Leonard, 1997; Kahn & Sherer, 1988; Levin et al., 2000; Meehan et al., 2007; Rascher, 1999; Schmidt & Berri, 2001; Schofield, 1983); (g) squad of game (Rascher, 1999).

The team's performance is one of the most important factors, since this directly influences the ticket price fluctuation. For example, a rivalry match affects fans' willingness to pay for games. Although a record-breaking performance seemingly affects the ticket price, this kind of

incident rarely happens. Therefore, this factor is not enough to be considered one of the game attractiveness factors (Fillingham, 1977; Lemke et al., 2009).

For the presence of outstanding athletes' factor (Davis, 2009; Denaux et al., 2011; Fillingham, 1977; Hausman & Leonard, 1997; Kahn & Sherer, 1988; Levin et al., 2000; Meehan et al., 2007; Rascher, 1999; Schmidt & Berri, 2001; Schofield, 1983), having star players on the team is very likely to affect the ticket price. However, as the team roster remains constant throughout the year, this factor would not reflect day-to-day fluctuation. Therefore, this will not be regarded as a potential factor. In terms of the squad of game factor, even though the overall team roster remains constant throughout the season, the most important defensive position in the game of baseball, starting pitcher, changes every game (Rascher, 1999). The quality of starting pitcher will represent the squad of game factor.

In terms of the environmental factors, scholars examined numerous factors of game attendance including (a) ticket price (Bird, 1982; Borland, 1987; Demmert, 1973; Fillingham, 1977; Garcia & Rodriguez, 2002; Noll, 1974; Siegfried & Eisenberg, 1980; Simmons, 1996; Whitney, 1988); (b) per capita income (Bird, 1982; Denaux, 2011; Hansen & Gauthier, 1989; Hart et al., 1975; Lemke et al., 2009; Meehan et al., 2007; Noll, 1974; Siegfried & Zimbalist, 2000); (c) substitute forms of entertainment (Demmert, 1973; Fillingham, 1977; Hart et al., 1975; Hay & Thueson, 1986; Hill et al., 1982; Medoff, 1976; Noll, 1974); (d) television effects (Demmert, 1973; Drever & MacDonald, 1981; Hill et al., 1982; Siegfried & Zimbalist, 2000); (e) on-site promotion (Lemke et al., 2009; Levin et al., 2000); (f) population size of area (Fillingham, 1977; Hansen & Gauthier, 1989; Hart et al., 1975; Hay & Thueson, 1986; Hill et al., 1982; Levin et al., 2000; Medoff, 1976; Noll, 1974; Siegfried & Eisenberg, 1980; Rascher, 1999); (g) geography, accessibility to the stadium (Demmert, 1973; Drever & MacDonald, 1981;

Fillingham, 1977; Greenstein & Marcum, 1981; Hay & Thueson, 1986; Hill et al., 1982; Medoff, 1976; Noll, 1974; Scully, 1974; Siegfried & Eisenberg, 1980; Winfree et al., 2004); (h) climate related to sport, weather conditions (Bird, 1982; Davis, 2009; Denaux et al., 2011; Drever & McDonald, 1981; Hansen and Gauthier, 1989; Hill et al, 1982; Meehan et al. 2007; Noll, 1974; Siegfried & Eisenberg, 1980); (i) scheduling of games (Noll 1974; Hill et al. 1982; Depken 2000; Siegfried and Zimbalist 2000; Schmidt and Berri 2001; Winfree et al. 2004; Meehan et al. 2007; Lemke et al. 2009; Davis, 2009); (j) opening games and end-of-season (Drever & MacDonald. 1981; Fillingham. 1977; Hay & Thueson. 1986; Hill et al., 1982; Siegfried & Eisenberg, 1980); (k) newly built stadiums (Demmert, 1973; Depken ,2006; Fillingham, 1977; Greenstein & Marcum, 1981; Hay & Thueson, 1986; Hill et al., 1982; Medoff. 1976; Noll, 1974; Scully, 1974; Siegfried & Eisenberg, 1980); (l) the history of a franchise (Demmert, 1973; Siegfried & Eisenberg, 1980).

In selecting potential factors from the list of environmental factors, the majority of factors have been taken out depending on their relevancy to its study. Factors such as per capita income, substitute forms of entertainment, television effects, population size of the area, accessibility to the stadium, the age of the stadium, and the history of the franchise will not vary game by game but influence constantly throughout the season. Therefore, these factors will not be considered. The ticket price factor will not be chosen as a factor because it will be used as a dependent variable. On-site promotion such as fireworks and giveaway t-shirts will be one of the potential factors since these events frequently happen on specific dates, and they are considered to affect the ticket price. This factor is trying to capture fans' preference about weekend games and the games in the specific month. The climate factor will not be included as one of the factors. Since

fans are not able to know the actual weather of the game day before the game starts, this weather effect cannot be reflected on the fans' perceived value of games.

Determinants of Ticket Price in the Secondary Market

In this section, the potential factors that are chosen through the selection process will be explained and will indicate how the factors will be coded. According to Lemke et al (2009), they have divided separate dummy variables for each day, Monday through Sunday, plus a variable for playing a day game during the week. Six more variables have been used as controls for the month. They also included Federal holidays such as Memorial Day, the Fourth of July, or Labor Day and the vacations of the largest public school district (Lemke et al., 2009). This study will try to investigate whether the month, day of the week, or holidays affect the ticket price. These factors are important to take into account as families are more likely to attend games when children are not in school or when people are off work for a holiday (Lemke et al., 2009). In this study, the author will divide the scheduling of games into three categories: 1) day of the week; 2) month of the year; and 3) whether or not it is a holiday, and will try to investigate how much these factors would influence the ticket price.

On-site promotions can be a potential factor in this study. According to previous research, promotions and special events are positively related to the demand for the games (Hill et al., 1982; Jones, 1984; Siegfried & Eisenberg, 1980). Almost 31% of games were associated with a giveaway/promotion such as cap day or bobble head day; 11 home games and 6% of games were followed by a fireworks display (Lemke et al., 2009). On the Stubhub website, they indicate whether on-site promotions take place on a particular game day, so fans can use this information to decide if they will attend games.

Rivalry has been included as a potential factor in this study. Fillingham (1977) insisted that strong rivalries between teams are a contributing factor of demand. Rivalries between teams have

been decided based on the report by local sports reporters and sports economists (Lemke et al., 2009). The assignment of division rivals was not necessarily mutual. The Orioles consider the Red Sox and Yankees both to be division rivals because of not only their proximity to those teams but also to their recent successes. However, the Red Sox and Yankees do not consider the Orioles to be their rival. Additionally, the Red Sox and the Yankees do regard each other as a division rival because of both teams' success as franchise teams and their playing history. Not only these teams, an all-inclusive list of rivals is given in Table 2-1. Division rivalry games account for 9.4% of all games, and these rivalry games will be closely examined as to whether or not these rivalries affect the ticket price.

Interleague games also need to be considered as a possible variable. This will be included along with a variable indicating the home team playing an interleague rival. Particularly, MLB schedules ten interleague rivalry match-ups each year based on geography: Baltimore vs. Washington, the Chicago White Sox vs. Cubs, Cleveland vs. Cincinnati, Kansas City vs. St. Louis, the Los Angeles Angels vs. Dodgers, Minnesota vs. Milwaukee, the New York Yankees vs. Mets, Oakland vs. San Francisco, Tampa Bay vs. Florida, and Texas vs. Houston. Interleague games account for 11.1% of all games played, and interleague rivalry games account for 2.7% (Lemke et al., 2009).

Squads of the game will certainly be considered as one of the potential factors. In MLB games, offensive squads are relatively consistent throughout the season. However, starting pitchers always change game to game. The starting pitcher is the most influential player of the sport of baseball. Evidently, the game played by a quality starting pitcher who is in a lower ERA on the team is likely to influence more positively for the fans' willingness to pay for the ticket of

games than the games whose starting pitcher is in a higher ERA. Therefore, we will consider the squads of the game as a factor and specifically look at the starting pitchers as a potential factor.

The win-loss record of the current years will be one of the potential factors such as team placement in the standings (Bird, 1982; Hart et al., 1975; Hay & Thueson, 1986; Hill et al., 1982; Siegfried & Eisenberg, 1980). Numerous studies revealed that the previous year's performance is the most important factor to influence demand condition (Reese & Middlestaedt, 2001; Drayer & Shapiro, 2009). Most studies of the factors of demand fluctuation use some type of historical measures of team performance as explanatory variables. Standard measures used are winning percentage during the current season, league standing in the current season, or a measure of performance over recent seasons. A strong and consistent finding from these studies is that home-team performance (current and lagged) has a positive effect on attendance. According to the study by Drayer and Shapiro (2009), fans prefer to pay more money to watch a better team that is more likely to have success. Ultimately, it seems that fans place a higher value on successful teams and are more likely to attend that team's next game (Drayer & Shapiro, 2009). Therefore, current years of team performance will be potential factors.

The quality of the opponent will be regarded as a potential factor. Perceived value of the game likely depends on which team is visiting (e.g., a playoff team from last season or a team with a superstar like Alex Rodriguez; Lemke et al., 2009). Some teams are thought to have loyal road-fans that travel with their teams or home team fans who just come to the game to see a particular visiting team compete with their teams. Some of these matches might be repetitive to a rivalry factor section, but it is not necessarily repetitive. The quality of opponent section will be left separate from the rivalry section. The Cubs, Red Sox, and Yankees were the examples of those teams that surpass an attendance of 36,000 per road game. To investigate the leverage of

this factor, the author will try to learn the correlation between the league standing of opponents and the ticket price for the games.

Because this research is trying to look at game by game fluctuation, the static factors of influence throughout the year will not be considered. Nature of sports factor will not be considered, because this factor involves why baseball is attractive as a sport and does not involve attending the games. Furthermore, the vicarious pleasure of relating to a winner will not be one of factors in this research as it explains why people associate with teams rather than explaining ticket price fluctuation.

Ground Work for This Research

Conceptually, the most directly-related ground work for this research is the work by Reese and Mittelstaedt (2001). Their research was exploratory, attempting to investigate factors in establishing NFL ticket prices. In their research, they asked the management what they consider the most when they price NFL tickets. According to the research, the managements take expected demand for the NFL tickets into account, and they answered factors that they think might influence the expected demand. The list of factors in order of importance is: 1) Team performance; 2) Revenue needs; 3) Public relations; 4) Market toleration; 5) Fan identification; 6) Average league price; 7) Economic factors; 8) Facility capacity; 9) Competing entertainment; 10) Average income; 11) Facility condition; 12) Population; 13) TV/Media coverage; 14) Accessibility; and 15) Star players (Reese & Mittelstaedt, 2001). Mondello and Rische (2003) developed this further maintaining the concept that the expected demand determines ticket prices but using more quantitative approach to discover factors. According to their research, the number of wins from the previous year, income of the fans, population, and playing in a new stadium turned out to be positively correlated with the ticket price increase, and the size of payroll does not significantly impact the ticket prices (Rische & Mondello, 2003).

The most recent study of factors affecting demand for sports games is the work by Drayer and Shapiro (2009). They also used ticket prices of the secondary market as a dependent variable. Even if their study and this one shared the same dependent variables, their study's focus is more on the pricing pattern of secondary market itself, and this study's focus is more on difference in the perceived game quality game by game in terms of directly game related factors. They suggested 17 potential predictors, and they used OLS regression to reduce and cross-validate potential factors. They found eight factors to be significantly related to the demand. Those factors include: 1) the closer to the championship round of the playoff; 2) face value of tickets; 3) total number of bids in the market; 4) the uncertainty of outcome; 5) the teams' performance in the current year; 6) the teams' performance in the previous year; 7) population; and 8) income.

Stadium Occupancy in MLB Franchises

The sports marketing field has made it imperative for franchises to utilize information on consumers to create profiles of attitudinal difference and behavior towards teams as well as towards advertised products (Neale & Funk, 2006). In order for a team to exist, there must be a fan-base that purchases tickets and buys team-related merchandise products, and that demonstrates continued support for a team. In MLB, Scully (1989) insisted that the potential importance of fan loyalty and fan base has different levels of loyalty across teams located in different cities. James (1997) insisted that recognizing that customers have varying levels of interest in a product or service underscores the importance of understanding what influences people to engage in repeated purchase. According to related literature (Mahony et al, 2000), sports fans' allegiance or psychological attachment to a team varies, and the degree of identification with a team may be an important moderator. In other words, psychological attachment to a team or the popularity of the team can affect variables that fans like. So learning

how much a fan identifies with a team is important in developing marketing strategies to attract fans to the stadium.

This study will divide all 30 MLB teams into three categories by the stadium occupancy rate. Hypothetically, three groups of teams will differ in variable preference by fans. Some researchers including Wakefield, Sloan, and Depken regard this kind of categorization as loyalty, and suggested different methods of categorizing by loyalty. Wakefield and Sloan (1995) address fan loyalty in college football using direct surveys to obtain self-revealed levels of fan loyalty. They find that higher fan loyalty does enhance the attendance to a college's home football games. Depken (2000) suggested that one alternative measure of fan loyalty may be the level of team-oriented merchandise purchased by consumers, either nationwide or in the host city. However, these data are not easy to acquire and would be, at best, a measure of fan loyalty. Depken (2000) measures fan loyalty as being how unresponsive the fans are to changes in quality (measured by team success) or price.

In this study, the author decided to regard this categorization as categorization by the attendance level of teams, rather than loyalty, because of the following: loyalty cannot be fully measured without considering the attitudinal dimension of loyalty, but the stadium occupancy only represents the behavioral dimension of loyalty. Franchise owners insisted that the most important manifestation of fan loyalty is displayed by stadium attendance (Depken, 2000). However, the fans' psychological attachment with the team cannot be assumed without actually measuring it; and the use of direct surveys is not possible in the current context. Therefore, the author operationally defined the occupancy rate of franchise teams as franchise teams' attendance level, and each of three groups was labeled as high, normal, and low attendance.

Table 2-1 describes the MLB 2011 season averaged stadium occupancy rate for each franchise team in MLB. Its ranking is consistent with empirical findings. Franchise teams that are known for popularity such as the Boston Red Sox, the New York Yankees, and the Philadelphia Phillies are highly ranked. As mentioned previously, all teams were divided into three categories: 1) high attendance teams, 2) normal attendance teams, and 3) low attendance teams. Out of all 30 teams, the MLB teams of average stadium occupancy rate higher than 80% have been labeled as high attendance teams. Those include the Philadelphia Phillies, the Boston Red Sox, the San Francisco Giants, the Minnesota Twins, the Chicago Cubs, the Milwaukee Brewers, the NY Yankees, the St. Louis Cardinals, and the LA Angels. The MLB teams of average stadium occupancy rate between 60% and 80% have been labeled as normal attendance teams. Those include Detroit Tigers, Texas Rangers, NY Mets, Colorado Rockies, LA Dodgers, Cincinnati Reds, Pittsburgh Pirates, Houston Astros, San Diego Padres, Chicago White Sox, and Atlanta Braves. The MLB teams of average stadium occupancy rate lower than 60% have been labeled as low attendance teams. Those include Washington Nationals, Kansas City Royals, Tampa Bay Rays, Arizona Diamond Backs, Cleveland Indians, Oakland Athletics, Seattle Mariners, Florida Marlins, Baltimore Orioles, and Toronto Blue Jays.

Hypotheses Development

This study is looking at the fluctuation of the ticket price of the secondary market. Hypotheses were developed factor by factor (7 factors), and the group difference by teams' attendance level for each of these hypotheses was examined as well. The expected group difference by teams' attendance is presented for each hypothesis. When the author explained the reasoning for the expected moderating effect of teams' attendance for each hypothesis, the concept of loyalty has been also utilized to supplement the reasoning. In this reasoning, the

concept of loyalty and the level of attendance were utilized interchangeably. According to Depken (2000), stadium attendance is the most important manifestation of fans' behavioral loyalty (Depken, 2000). In addition, the ticket price of the secondary market and the perceived value of games were utilized interchangeably as well.

Previous research insisted that Day of the week significantly affect the fans' perceived value of games (Noll 1974; Hill et al. 1982; Depken 2000; Siegfried and Zimbalist 2000; Schmidt and Berri 2001; Winfree et al. 2004; Meehan et al. 2007; Lemke et al. 2009; Davis, 2009). Convenience of schedule is the first thing to consider when fans decide to attend MLB games. Therefore, it will significantly affect the ticket price of the secondary market.

H1: Day of the week is significantly related with the ticket price of the secondary market. The ticket price of weekend games will be significantly higher than weekday games.

Several researchers found rivalry to be a significant factor (Fillingham, 1977; Lemke et al., 2009; Levin et al., 2000). According to Rascher and his fellow colleagues (2007), a rivalry game positively affects demand for MLB games. However, not every fan will have the same emotional arousal to rivalry games. Fans of highly attended teams will care less about the rivalry match and the concept of rivalry will be weak as well.

H2: Rivalry variable is significantly related to ticket price of the secondary market.

This study considers interleague games as variables, similar to previous attendance research (Lemke et al., 2009; Meehan, Nelson, & Richardson, 2007). Interleague game has less impact on teams' division standing and qualification for post-season play (Butler, 2002), so highly attended team fans will care less about the interleague games. However, interleague games account for only 11% of all games, so it has more novelty effect than intraleague games. This novelty would influence casual fans.

H3: Interleague game is significantly related with the ticket price of the secondary market.

Many researchers insist that the perceived value of the game likely depends on which team is visiting (e.g., a playoff team from last season or a team with a superstar like Barry Bonds or Alex Rodriguez; Rascher et al., 2007; Lemke et al., 2009). The desire to attend games with good opponents will be the same regardless of teams' attendance level.

H4: Quality of opponent is significantly and positively related with the ticket price of the secondary market.

Loyal fans are regarded as more constant than non-loyal fans, and their value of games does not fluctuate much. H5 addresses BIRGing and CORFing effect. Because BIRGing and CORFing effect is more prevalent among non-loyal fans (Wann and Branscombe, 1990), it is expected that teams' current performances will have different effects among different groups of fans.

H5: Team's current performance is significantly and positively related with the ticket price of the secondary market.

According to long time Cubs broadcaster, Harry Caray, casual fans care less for the game on the field than loyal fans but care more about having fun at the ballpark (Butler, 2002). On-site promotion can enhance the entertainment value of the games, which might contribute toward low attendance team fans' perceived value of games but not much toward low attendance team fans.

H6: On-site promotion is significantly related with the ticket price of the secondary market.

The squad variable means the exceptional starting pitchers. Several researchers insisted that vicarious achievement seeking toward individual players does exist among fans (Funk et al., 2002; Trail et al., 2000; Trail et al., 2003), so this factor is expected to increase the perceived value of games. Especially, loyal baseball fans tend to be more knowledgeable about the baseball

rules, starting lineups, and player statistics (Butler, 2002). Therefore, highly attended team fans know the starting line up well ahead of games and value the games accordingly.

H7: Squad of the game is significantly related with the ticket price of the secondary market.

Table 2-1. Division rivalries

Home Team	Division Rivals
Baltimore Orioles	Boston Red Sox, New York Yankees
Boston Red Sox	New York Yankees
New York Yankees	Boston Red Sox
Tampa Bay Rays	None
Toronto Blue Jays	New York Yankees
Cleveland Indians	Detroit Tigers
Chicago White Sox	Cleveland Indians, Detroit Tigers
Detroit Tigers	Cleveland Indians
Kansas City Royals	None
Minnesota Twins	Cleveland Indians
Los Angeles Angels	Oakland Athletics
Oakland Athletics	Los Angeles Angels
Seattle Mariners	None
Texas Rangers	None
Atlanta Braves	New York Mets, Florida Marlins
Florida Marlins	Atlanta Braves
New York Mets	Atlanta Braves, Philadelphia Phillies
Philadelphia Phillies	New York Mets
Washington Nationals	None
Chicago Cubs	Milwaukee Brewers, St. Louis Cardinals
Cincinnati Reds	None
Houston Astros	None
Milwaukee Brewers	Chicago Cubs
Pittsburgh Pirates	None
St. Louis Cardinals	Chicago Cubs
Arizona Diamondbacks	Colorado Rockies
Colorado Rockies	Arizona Diamondbacks
Los Angeles Dodgers	San Francisco Giants
San Diego Padres	None
San Francisco Giants	Los Angeles Dodgers

Table 2-2. Franchise's stadium occupancy rate

Team	Stadium Occupancy Rate
Philadelphia Phillies	104.1
Boston Red Sox	101.7
San Francisco Giants	99.8
Minnesota Twins	99
Chicago Cubs	90.5
Milwaukee Brewers	90.5
NY Yankees	89.7
St. Louis Cardinals	86.9
LA Angels	86.1
Detroit Tigers	79.1
Texas Rangers	74
NY Mets	72
Colorado Rockies	71.1
LA Dodgers	64.7
Cincinnati Reds	64.6
Pittsburgh Pirates	63.2
Houston Astros	62.3
San Diego Padres	62
Chicago White Sox	60.8
Atlanta Braves	60.4
Washington Nationals	59.9
Kansas City Royals	56.2
Tampa Bay Rays	55.4
Arizona Diamondbacks	53.4
Cleveland Indians	52.3
Oakland Athletics	52
Seattle Mariners	48.9
Florida Marlins	48.8
Baltimore Orioles	48.3
Toronto Blue Jays	45.6

CHAPTER 3 METHOD

This chapter describes the statistical design and procedures that were used to investigate which factors affect the fluctuation of ticket prices in the secondary market. The methodology chapter of this study consists of the following sections: (1) Statistical Design, (2) Procedures, and (3) Model Specification.

Statistical Design

A standard multiple linear regression equation was adopted to examine the relationship between the seven variables identified in previous research and MLB ticket prices in the secondary market through online auction. Due to the non-existence of a model that examined demand fluctuation of MLB games, the model for this research was created through an evaluation of previous literature in the areas of ticket price determinants in the primary market (Reese & Middlestaedt, 2001; Rische & Mondello, 2003, 2004).

The Variables in the Research Model

A total of seven variables were used to investigate the factors affecting MLB ticket prices of the secondary market. This study is unique in that it uses ticket prices of the secondary market as opposed to the primary ticket market that is assessed in other studies. The following section describes each of the exploratory variables consisting of the model.

Dependent Variable

Ticket prices for MLB games - the average secondary market ticket prices that are sold through online auction during the 2011 season. A total of 2,430 regular season games' average ticket price in the secondary market was used. Each MLB game has approximately 3,000 listed ticket prices of the secondary market. The author used the average price for each game as a representative price for each game.

Independent Variables

1. Day of the Week (GDAY) – This variable means that the day that a specific game is being held on (e.g. Monday through Sunday and indicating whether it is a holiday or not). This variable coded as dummy variable. The day for the game has been coded as 1, and all other days have been coded as 0.

2. Current League Standing (STANDING) – The league standing within a home team's division at the time of the game for the home team during the current season. Each of divisions has five to six teams, so it has been coded as 0 to 5. The lower absolute value of the place means higher quality team. Therefore, the number will be coded reversely.

3. Interleague game (INTER) – A variable indicating whether it is an interleague game. Interleague games played between teams from the National and American Leagues. If it is an interleague game, it has been coded as 1. The other cases have been coded as 0.

4. Quality of the opponent (OPPONENT) – The league standing within an opponent team's division at the time of the game for the road team during the current season. This has been coded the same way as the current league standing of home team's.

5. Rivalry (RIV) – A variable indicating whether rivalries exist between the competing two teams, determined by baseball experts. If it was an interleague game, it has been coded as 1. The other cases have been coded as 0.

6. Squad of the game (SQUAD) – This variable shows the appearance of the Cy young award nominee starters. If Cy Young award nominee pitchers appear in the game, this has been coded as 1. The other cases have been coded as 0.

7. On-site promotion (PROMO) – A variable indicating if on-site promotions (e.g. fireworks, giveaways, etc.) take place. If it was a promotional day, it has been coded as 1, and all other days have been coded as 0.

Data Collection

Data on the variables in the secondary ticket price model were collected from a variety of sources. Team success and spread data were collected from ESPN.com. The game related data in this study were from <http://www.baseball-reference.com>. The ticket prices data were collected from Stubhub.com using print screen for all MLB games during 2011 MLB season. Data from the play off were not collected because the unique nature of this particular game would potentially skew the results. A total of 2,430 games completed at Stubhub's buy page were collected during this time period. The auctions for every game provide the sale of multiple tickets. Multiple prices for an individual game were averaged, and the averaged price represented for each game.

Data and the Empirical Specification

Following the existing empirical research in the sport economics literature (Rische & Mondello, 2003; Lemke et. al, 2009) the ticket price of the secondary market for baseball game may be estimated as follows:

$$\text{Ticket Price} = \beta_0 + \beta' X_{it} + \lambda_i + \mu_{it} + \epsilon_{it}$$

Where: i represents team; t is home game played; X_{it} is explanatory variables that take place on a particular game, and ϵ_{it} is the error term. Fixed effects and random effects are employed for estimation. The fixed effects model takes into account certain unobserved team specific variables, which are constant for each game and correlated with other explanatory variables. Under this assumption, μ_{it} is added to take into account the team-specific variables. Instead of treating the team-specific variable as fixed constants over each game played, the random effects model regard that team-specific terms are randomly distributed across-sectional units. So, the error term

is often assumed to consist of the team-specific (μ_i) and the combined time specific and team specific volatility ($\lambda_i + \mu_i$), respectively. Under a random effect specification, the error term above may be described as follows:

$$\epsilon_{it} = \mu_i + v_{it}, \text{ where } \sigma_{\epsilon}^2 = \sigma_u^2 + \sigma_v^2$$

Where v_{it} is a team and time specific effects combined (Hsiao, 1986; Hondroyannis, 2009). The random effects model is appropriate for estimation purposes (Haylan et. al, 1997).

Model Specification

Ticket Price =

$$\beta_0 + \beta_1 TUESDAY_{it} + \beta_2 WEDNESDAY_{it} + \beta_3 THURSDAY_{it} + \beta_4 FRIDAY_{it} + \beta_5 SATURDAY_{it} + \beta_6 SUNDAY_{it} + \beta_7 HOLIDAY_{it} + \beta_8 CUR_WIN_{it} + \beta_9 OPP_WIN_{it} + \beta_{10} INTERLEAGUE_{it} + \beta_{11} RIVAL_{it} + \beta_{12} SQUAD_{it} + \beta_{13} PROMOTION_{it} + \lambda_i + \mu_{it} + \epsilon_{it}$$

The B_s represents the Beta coefficients assigned to each of the independent variables during the regression analysis. The equation above is used to estimate the secondary ticket market for the MLB. Following the existing literature on the factors affecting the demand for game attendance, a variety of game characteristics were included in the model. Equation 1 may be re-written as follows: where: i is the team; t is the game played. Ticket price, the dependent variable for this analysis, is defined as an average ticket price in the secondary market. To control for the time of the game and the day of the week the game is played, the study uses several dummies. The separate dummy variable for each day, TUESDAY through SUNDAY was included to see if the day-of-the-week influenced overall game day attendance (Meehan et al., 2007). In order to examine whether the home teams' current performance has an impact on demand fluctuation, the home teams' current league standings within the division (CUR_WIN)

was used as variables. (OPP_WIN) was included as a variable to see if how much the quality of opponent would affect the secondary market ticket price for the game, and the same approach as the home teams' current performance measurement was used. MLB has two big leagues: American League (AL) and National League (NL). Each of these leagues has three divisions, so MLB has total six divisions. Four divisions: AL East, AL Central, NL East, NL West has five teams within their division each. AL West has four teams, and NL Central has six teams within their divisions. The highest place is the first place, and the lowest place is the sixth place. The lower the absolute value of the place is, the better the team is, so this study coded numbers for the team's place reversely (The first place=5, the second place=4, the third place=3, the fourth place=2, the fifth place=1, and the sixth place=0). Out of all independent variables, only these two independent variables, Quality of opponent (OPP_WIN) and League standing (CUR_WIN) are codes as continuous variables.

All other independent variables including day of the week, rivalry, interleague, promotion, and squad variable are coded as dummy variable, Rivalry (RIV) variable has been added to analyze its effect on demand. Rivalry is determined by rivalry list made by MLB experts. With regard to rivalry factor, this study mentioned in the literature review part, rivalry is not necessarily mutual. Rivalry was coded as 1 when a home team competes with the team that they consider as a rival.

Team roster (SQUAD) variable has been included to capture the demand variation by the quality of starting pitchers. Squad variable means that the Cy young award nominee starting pitchers appeared on games as a starter. If one of them started the game, that game would be coded as 1, and other games would be coded as 0. 2011 Cy young award nominee starters include 18 pitchers: Justin Verlander (Detroit Tigers), Jered Weaver (Los Angeles Angels),

James Shields (Tampa Bay Rays), CC Sabathia (New York Yankees), C.J. Wilson (Texas Rangers), Dan Haren (Los Angeles Angels), Josh Beckett (Boston Red Sox), Ricky Romero (Toronto Blue Jays), Clayton Kershaw (Los Angeles Dodgers), Roy Halladay (Philadelphia Phillies), Cliff Lee (Philadelphia Phillies), Ian Kennedy (Arizona Diamondbacks), Cole Hamels (Philadelphia Phillies), Tim Lincecum (San Francisco Giants), Yovani Gallardo (Milwaukee Brewers), Matt Cain (San Francisco Giants), Madison Bumgarner (San Francisco Giants), Ryan Vogelsong (San Francisco Giants).

Promotion (PROMO) variable has been included to obtain the information about the effectiveness of promotion. Promotional information from MLB.com was used to determine promotion days. Out of all promotional methods, three methods including fireworks, giveaway, and concerts have been regarded as promotion, because those are promotion information that Stubhub posted on the website with the ticket price section. And the promotion days were coded as 1, and other days were coded as 0.

CHAPTER 4 RESULTS

The results of the data analyses are described in this chapter. First, descriptive statistics (e.g., number of cases and mean values) for dependent and independent variables may be found in Table 4-2. Second, correlation analysis was conducted to see if each of the variables has discriminate validity, and this analysis is shown in Table 4-1. Third, regression analysis for all cases was conducted and may be found in Table 4-3. This analysis will show the significance of each independent variable. Fourth, the regression analysis for three different groups was conducted, and results are shown in Table 4-4 through Table 4-10. Each of the variables for the three different groups was combined together and then compared to the corresponding hypotheses that were developed in the previous thesis section.

Preliminary Analysis

Comparisons of multiple correlations among constructs also were employed for discriminate validity. Kline (2005) suggested that discriminate validity may be established if correlations among constructs are less than .85. The correlation matrix is presented in Table 4-1.

Descriptive Analyses

In the total of 2,430 averaged ticket prices for every game in MLB 2011 games, 19 games' ticket price data are missing due to no transaction were the game was rained out. Therefore, the 2,411 ticket price data have been used for the following analysis. Each team has approximately 80 games included in the data to calculate the average ticket price.

Descriptive statistics and the data source for all variables used in the analysis are reported in Table 4-2. The average ticket price of all MLB games is \$55.23. The differences in the average prices for each team are presented in Table 4-2 as well. Not surprisingly, high

attendance teams' average ticket price was higher than the other two groups, but the difference between the normal and low attendance teams is not very strong.

Independent variables including day of the week, rivalry, interleague, promotion, and squad are coded as dummy variables, so sum values of those dummy variables can show how frequently each of those variables occurs. In terms of the day of the week variable, sum values for each day is similar, aside from Monday and Thursday. This means that that all games are similarly distributed throughout seven days, except Monday and Thursday. Monday and Thursday have often become off-days for the travel time for the teams, and that is why these two days have the least number of games. Rivalry games happened 239 times out of all MLB games, approximately 10% of all games. Interleague games happened 250 times, and this variable accounts for about 10% of all games. Promotions were conducted for 36% of home games, which happened 878 times according to information about the 2011 promotional schedule obtained from MLB.com. Regular promotions happening every week and promotions related to the price of tickets (e.g., family package, ladies' day) are excluded from the promotion data, because the Stubhub website indicates promotion events for the specific game days, and those price promotion and routinely happening promotion information are not shown on the website. Squad variable means that the Cy Young award nominee starting pitcher appeared in games as a starter. This happened 11% of all games, which is equivalent to 284 games.

Regression Analysis

Regression analysis was employed to test the seven hypotheses developed in the second chapter. Regression analysis was used to test the general relationship between independent variables (i.e., day of the week, holiday, rivalry, interleague, quality of opponents, league standing, promotion, and quality of squad) and dependent variable (i.e., ticket prices of the secondary market). The regression analysis for hypotheses is presented in Table 4-3. Hypothesis

1 states that Day of the week is positively related with the ticket price of the secondary market. Thus, the ticket price of weekend games will be significantly higher than weekday games. For the day of the week variable, the separate dummy variable for each day, TUESDAY through SUNDAY is included to control the day-of-the-week effect on the ticket prices (Meehan et al., 2007). MONDAY has been excluded to avoid the potential linear combinations among the variables, so MONDAY was placed as a dummy variable. The other variables are coded as just 0/1. As expected, the estimated coefficients for the weekend dummy variables are positive, suggesting the ticket prices for the FRIDAY ($\beta = .193, p < .05$), SATURDAY ($\beta = .229, p < .05$), SUNDAY ($\beta = .172, p < .05$), and HOLIDAY ($\beta = .057, p < .05$) games are greater than those for the weekdays (Denaux et al., 2011).

Hypothesis 2 states that Rivalry variable is positively related with ticket price of the secondary market. Rivalry variable ($\beta = .195, p < .05$) shows a significantly positive impact on the ticket price of the secondary market. The result supports the second hypothesis.

Hypothesis 3 states that Interleague game is positively related with the ticket price. The regression analysis for interleague variable ($\beta = .069, p < .05$) shows that this variable is significantly positive to the ticket price of the secondary market. Therefore, the result supports hypothesis 3.

Hypothesis 4 states that Quality of opponent is positively related with the ticket price. The regression analysis for this hypothesis shows that Quality of opponent variable ($\beta = .084, p < .05$) is significant and positive to the ticket price of the secondary market. Thus, the result supports hypothesis 4.

Hypothesis 5 states that Team's current performance (League Standing) is positively related with the ticket price. The regression analysis for this hypothesis shows that league

standing ($\beta = .075, p < .05$) is significant and positive to the ticket price of the secondary market. Thus, the result supports hypothesis 5.

Hypothesis 6 states that Promotion is positively related with the ticket price. The regression analysis for this hypothesis shows that Promotion ($\beta = -.118, p < .05$) is significant but negative to the ticket price of the secondary market. The result does not support hypothesis 6. Thus, we fail to reject the null hypothesis 6.

Hypothesis 7 states that Squad is positively related with the ticket price. The regression analysis for this hypothesis shows that Squad ($\beta = .121, p < .05$) is significant and positive to the ticket price of the secondary market. Therefore, the result supports hypothesis 7.

Group Difference by the Team Attendance Level

After conducting analysis for hypothesis testing, this study identified that most independent variables are significant and positive to the ticket price of the secondary market. In this part, this study investigated how the teams' attendance level influences independent variables. In other words, which variables are perceived to be important according to the attendance level of the teams. Hypothesis 1 states that Day of the week is positively related with the ticket price of the secondary market (the ticket price of weekend games will be significantly higher than weekday games). The moderating effect of the team attendance level for hypothesis 1 is presented in Table 4-4. The results show that the ticket price of the secondary market of games for weekend days are significantly higher than those for the weekday games except Sunday and Holiday for normal attendance team fans.

Hypothesis 2 states that Rivalry variable is positively related with ticket price of the secondary market. The moderating effect of the team attendance level for hypothesis 2 is presented in Table 4-5. The results indicated rivalry factor for high attendance teams ($\beta = .192, p < .05$), normal attendance teams ($\beta = .083, p < .05$), and low attendance teams ($\beta = .278, p$

< .05). Rivalry factor is significant for all three groups, but it is more influential for high attendance and low attendance team fans than normal attendance team fans.

Hypothesis 3 states that Interleague game is positively related with the ticket price. The moderating effect of the team attendance level for hypothesis 3 is presented in Table 4-6. Interleague variable for high attendance teams are ($\beta = .064, p > .05$), normal attendance teams ($\beta = .100, p < .05$), and low attendance teams ($\beta = .058, p > .05$). Interleague variable for popular teams and unpopular teams is not significant, but this variable is significant for normal attendance teams ($\beta = .100, p < .05$).

Hypothesis 4 states that Quality of opponent is positively related with the ticket price. The moderating effect of the team attendance level for hypothesis 4 is presented in Table 4-7. Quality of opponent factor influences the perceived value of games for high attendance teams ($\beta = .114, p < .05$), normal attendance teams ($\beta = .105, p < .05$), and low attendance teams ($\beta = .077, p < .05$).

Hypothesis 5 states that Team's current performance (League Standing) is positively related with the ticket price. The moderating effect of the team attendance level for hypothesis 5 is presented in Table 4-8. Home team's league standing factor turned out to be not significant for high attendance teams ($\beta = .007, p > .05$) and low attendance teams ($\beta = -.046, p > .05$), but League standing variable for normal teams was significant ($\beta = .143, p < .05$).

Hypothesis 6 states that Promotion is positively related with the ticket price. The moderating effect of the team attendance level for hypothesis 6 is shown in Table 4-9. On-site promotion variables for high attendance teams ($\beta = -.180, p > .05$) and low attendance teams ($\beta = -.089, p > .05$) show a significant relationship with the perceived value of a game but this variable has a rather negative influence on the perceived value of the game for those two groups

of fans. However, this promotion variable was positively significant for the normal attendance teams ($\beta = .117, p < .05$).

Hypothesis 7 states that Squad is positively related with the ticket price. The moderating effect of the team attendance level for hypothesis 7 is presented in Table 4-10. The results indicate squad of the game affects low attendance teams ($\beta = .178, p < .05$), but did not show significance for high attendance teams ($\beta = .045, p > .05$) and normal attendance teams ($\beta = -.004, p > .05$).

Table 4-1. Correlation analysis for each variable

	Price	Rival	Interleague	Opponents	Standing	Promotion	Squad
Price	1.000	.206**	.069**	.100**	.097**	-0.003	.141**
Rival	.206**	1.000	-.113**	.134**	0.039	-0.019	0.013
Interleague	.069**	-.113**	1	-0.011	0.016	.076**	-0.006
Opponents	.100**	.134**	-0.011	1	-.107**	.043*	0.001
Standing	.097**	0.039	0.016	-.107**	1	0.024	.266**
Promotion	-0.003	-0.019	.076**	.043*	0.024	1	-0.015
Squad	.141**	0.013	-0.006	0.001	.266**	-0.015	1
Day_Tue	-.086**	0.007	-.042*	-0.009	0.01	-.148**	0.003
Day_Wed	-.110**	0.013	-0.036	-0.001	0.001	-.227**	-0.021
Day_Thu	-.041*	-0.008	-.058**	-0.008	0.016	-.106**	0.031
Day_Fri	.078**	-0.008	.060**	0.007	-0.009	.234**	-0.011
Day_Sat	.139**	0.003	.055**	0.008	0	.185**	0.005
Day_Sun	.066**	0.005	.057**	0.006	-0.006	.172**	-0.011
Holiday	0.018	-0.015	-.047*	0	-0.006	-.041*	-0.012

Table 4-1. Continued

	Day_Tue	Day_Wed	Day_Thu	Day_Fri	Day_Sat	Day_Sun	Holiday
Price	-.086**	-.110**	-.041*	.078**	.139**	.066**	0.018
Rival	0.007	0.013	-0.008	-0.008	0.003	0.005	-0.015
Interleague	-.042*	-0.036	-.058**	.060**	.055**	.057**	-.047*
Opponents	-0.009	-0.001	-0.008	0.007	0.008	0.006	0
Standing	0.010	0.001	0.016	-0.009	0	-0.006	-0.006
Promotion	-.148**	-.227**	-.106**	.234**	.185**	.172**	-.041*
Squad	0.003	-0.021	0.031	-0.011	0.005	-0.011	-0.012
Day_Tue	1	-.181**	-.145**	-.182**	-.185**	-.184**	-.058**
Day_Wed	-.181**	1	-.146**	-.183**	-.186**	-.185**	-.059**
Day_Thu	-.145**	-.146**	1	-.146**	-.149**	-.148**	-.047*
Day_Fri	-.182**	-.183**	-.146**	1.000	-.188**	-.186**	-.059**
Day_Sat	-.185**	-.186**	-.149**	-.188**	1	-.190**	-.060**
Day_Sun	-.184**	-.185**	-.148**	-.186**	-.190**	1	-.060**
Holiday	-.058**	-.059**	-.047*	-.059**	-.060**	-.060**	1

Note. ***p < .001; **p < .01; *p < .05.

Day_Mon is coded as a dummy variable.

Table 4-2. Descriptive statistics for each variable

		Sum	Mean	Skewness	Std. Error	Kurtosis	Std. Error
Dependent Variable							
Price	All teams	133001.07	55.2266	2.878	0.05	15.879	0.1
	High		69.4006				
	Normal		48.3406				
	Low		49.8996				
Independent Variables							
Day of the Week							
Played on	Tuesday	369	0.1527	1.929	0.05	1.721	0.1
	Wednesday	371	0.1540	1.920	0.05	1.686	0.1
	Thursday	251	0.1045	2.594	0.05	4.734	0.1
	Friday	375	0.1561	1.902	0.05	1.619	0.1
	Saturday	386	0.1598	1.855	0.05	1.442	0.1
	Sunday	382	0.1590	1.871	0.05	1.503	0.1
	Holiday	45	0.0187	7.118	0.05	48.700	0.1
	Rivalry games	239	0.0986	2.685	0.05	5.211	0.1
	Interleague games	250	0.1040	2.602	0.05	4.772	0.1
	Quality of opponent	7229	2.9954	-0.151	0.05	-1.101	0.1
	League standing	7329	2.9580	-0.196	0.05	-1.068	0.1
	Promotion	878	0.3645	0.565	0.05	-1.682	0.1
	Quality of squad	284	0.1182	2.372	0.05	3.630	0.1

Table 4-3. Regression analysis results for seven hypotheses

	Unstandardized		Standardized		R Square
	Beta	Std. Error	Beta	t	
(Constant)	34.768	2.706		12.988***	
Day_Tue	1.051	2.512	0.012	0.418	
Day_Wed	-1.337	2.508	-0.015	-0.533	
Day_Thu	3.905	2.720	0.037	1.436	
Day_Fri	17.011	2.590	0.193	6.567***	
Day_Sat	19.955	2.557	0.229	7.803***	
Day_Sun	15.08	2.559	0.172	5.894***	
Holiday	13.523	4.863	0.057	2.781**	0.049
Rival	20.923	2.079	0.195	10.066***	0.042
Interleague	7.226	2.022	0.069	3.573***	0.004
Opponents	1.810	0.419	0.084	4.322***	0.005
Standing	1.621	0.432	0.075	3.752***	0.010
Promotion	-7.829	1.408	-0.118	-5.561***	0.012
Squad	11.955	1.954	0.121	6.118***	0.014

Note. ***p < .001; **p < .01; *p < .05.

Table 4-4. Group difference of day of the week variable on ticket prices

Day of the Week	Unstandardized		Standardized		R Square
	Beta	Std.Error	Beta	t	
High					
Day_Tue	0.889	6.062	0.008	0.147	0.091
Day_Wed	-2.414	6.016	-0.021	-0.401	
Day_Thu	7.785	6.535	0.057	1.191	
Day_Fri	25.600	6.135	0.217	4.173***	
Day_Sat	34.622	6.068	0.299	5.706***	
Day_Sun	27.016	6.156	0.230	4.388***	
Holiday	15.084	11.184	0.050	1.349	
Normal					
Day_Tue	0.048	2.823	0.001	0.017	0.068
Day_Wed	-1.690	2.830	-0.027	-0.597	
Day_Thu	1.491	3.166	0.019	0.471	
Day_Fri	8.429	3.001	0.137	2.809**	
Day_Sat	8.771	2.907	0.143	3.017**	
Day_Sun	5.399	2.927	0.088	1.844	
Holiday	7.530	6.273	0.040	1.200	
Low					
Day_Tue	1.970	3.513	0.029	0.561	0.019
Day_Wed	-0.110	3.511	-0.002	-0.031	
Day_Thu	2.143	3.719	0.028	0.576	
Day_Fri	10.229	3.630	0.151	2.818**	
Day_Sat	11.846	3.631	0.175	3.263**	
Day_Sun	7.856	3.558	0.117	2.208*	
Holiday	13.415	6.264	0.079	2.142*	

Note. ***p < .001; **p < .01; *p < .05.

Table 4-5. Group difference of rivalry variable on ticket prices

Rivalry Variable	Unstandardized		Standardized		R Square
	Beta	Std. Error	Beta	t	
High	24.401	4.385	0.192	5.565***	0.037
Normal	6.478	2.564	0.083	2.503*	0.012
Low	25.783	3.141	0.278	8.208***	0.081

Note. ***p < .001; **p < .01; *p < .05.

Table 4-6. Group difference of interleague variable on ticket prices

Interleague Variable	Unstandardized		Standardized		
	Beta	Std. Error	Beta	t	R Square
High	9.114	4.981	0.064	1.830	0.004
Normal	7.267	2.343	0.100	3.104**	0.011
Low	4.640	2.684	0.058	1.729	0.003

Note. ***p < .001; **p < .01; *p < .05.

Table 4-7. Group difference of opponent quality variable on ticket prices

Opponent Variable	Unstandardized		Standardized		
	Beta	Std. Error	Beta	t	R Square
High	3.284	0.997	0.114	3.293**	0.009
Normal	1.589	0.496	0.105	3.216**	0.007
Low	1.298	0.570	0.077	2.278*	0.007

Note. ***p < .001; **p < .01; *p < .05.

Table 4-8. Group difference of league standing variable on ticket prices

Standing Variable	Unstandardized		Standardized		
	Beta	Std. Error	Beta	t	R Square
High	0.195	1.064	0.007	0.184	0
Normal	2.127	0.490	0.143	4.348***	0.02
Low	-0.901	0.659	-0.046	-1.367	0.002

Note. ***p < .001; **p < .01; *p < .05.

Table 4-9. Group difference of promotion variable on ticket prices

Standing Variable	Unstandardized		Standardized		
	Beta	Std. Error	Beta	t	R Square
High	-16.567	3.281	-0.180	-5.050***	0.030
Normal	5.325	1.743	0.117	3.085**	0.009
Low	-4.624	1.958	-0.089	-2.362*	0.007

Note. ***p < .001; **p < .01; *p < .05.

Table 4-10. Group difference of squad variable on ticket prices

Standing Variable	Unstandardized		Standardized		R Square
	Beta	Std. Error	Beta	t	
High	4.336	3.488	0.045	1.243	0.002
Normal	-0.398	3.229	-0.004	-0.122	0
Low	18.076	3.382	0.178	5.346***	0.031

Note. ***p < .001; **p < .01; *p < .05.

CHAPTER 5 DISCUSSION

This chapter interprets the statistical results and provides research and practical implications. Then, contributions to the literature and sports marketing are discussed. Finally, the author concludes this section with limitations and future suggestions.

Results Analysis

Hypothesis 1 was that Day of the week is positively related to the ticket price of the secondary market. The result shows weekdays (Tuesday, Wednesday, and Thursday) are not significant to the ticket price of the secondary market. The moderating effect on the team attendance level was not very significant. However, the result shows that weekend affects significantly the ticket price of games, except Sunday ($\beta = .087, p > .05$) and Holiday ($\beta = .004, p > .05$), for normal attendance teams. It seems that Sunday and Holiday are less desirable for normal attendance team fans in the secondary market than Friday and Saturday.

Hypothesis 2 states that the Rivalry variable is positively related to the ticket price of the secondary market. The results indicated that the rivalry factor was significant and positive to the ticket price of the secondary market, and the moderating effect on the team attendance level was significant as well. The regression result of the Rivalry variable for high attendance teams ($\beta = .192, p < .05$) is significant. This result was expected because high attendance team fans are more likely to identify with their teams than low attendance team fans. The Rivalry factor was revealed as significant for normal attendance team fans ($\beta = .082, p < .05$), but its β coefficient is much smaller than high attendance team fans. Finally, low attendance team fans' β coefficient value for Rivalry factor ($\beta = .277, p < .05$) was the highest among the three groups of fans. This was surprising as numerous studies indicated that low attendance team fans care more about having fun at the ballpark and care less about the game itself than high attendance team fans

(Butler, 2002). The author interpreted that low attendance team fans perceive highly the rivalry games as they love the high tension and hostile game environment that rivalry games arouse.

Hypothesis 3 states that Interleague game is positively related to the ticket price. The moderating effect of the team attendance level on this variable was significant. The Interleague variable was only significant for normal attendance teams ($\beta = .1, p < .05$) but not for the other two groups: high attendance team fans ($\beta = .064, p > .05$) and low attendance team fans ($\beta = .089, p > .05$). This finding is consistent with the literature stating that fans who highly identify with teams care less about an interleague game because of its relatively small impact on teams' division standing and qualification for post-season play (Butler, 2002). However, interleague games account for only 11% of all games; its novelty effect makes normal fans perceive higher for these games than intraleague games. As far as low attendance teams are concerned, interleague games are not affecting the ticket price of games significantly. Low attendance team fans tend to be not very knowledgeable about the schedule of MLB and the league composition. According to Bristow & Sebastian (2000), die-hard MLB fans tend to have greater levels of knowledge about MLB rules and schedule than less loyal fans due to their greater involvement with and exposure to the team. Therefore, low attendance team fans are not much driven by the interleague variable.

Hypothesis 4 states that the Quality of opponent is positively related to the ticket price. The moderating effect of the team attendance level on this variable was not significant. The Quality of opponent factor enhances the perceived value of games for all three groups: high attendance team fans ($\beta = .114, p < .05$), normal attendance team fans, ($\beta = .106, p < .05$), and low attendance team fans ($\beta = .077, p < .05$). It is consistent with the literature (Lemke et al., 2009; Rascher et al., 2007).

Hypothesis 5 states that the Team's current performance (League Standing) is positively related to the ticket price. Hypothesis 5 is confirmed by the regression analysis. The moderating effect of the team attendance level on this variable was significant. The Home teams' league standing factor turned out to be not significant for high attendance team fans ($\beta = .007, p > .05$). This is consistent with the literature: high attendance team fans are likely to be die-hard and support their team regardless of how well the team is currently performing (Wann & Branscombe, 1990). The League standing variable for normal attendance team fans was significant ($\beta = .143, p < .05$). This is also consistent with the previous findings. Normal attendance team fans are likely to be fair-weather fans, and they go through the BIRGing and CORFing process (Wann & Branscombe, 1990). Therefore, normal team fans perceive the games higher when their teams are in a good shape than when their teams are not. It was somewhat unexpected that the league standing factor for low attendance team fans ($\beta = -.044, p > .05$) was not significant. This author interpreted that low attendance team fans do not strongly identify with their teams. Therefore, they care less about the teams' performance than high attendance team fans do.

Hypothesis 6 predicted that Promotion is positively related to the ticket price. The result did not support hypothesis 6, but the moderating effect of the on-site promotion variable was significant. This variable for high attendance team fans ($\beta = -.18, p > .05$) and low attendance team fans ($\beta = -.084, p > .05$) was significant and negatively affected the perceived value of games. The author interpreted that watering down effect might have caused the negative relationship. MLB franchise team involved with 38% of promotion. If we include the price promotion including family package day, ladies' day, and senior day, the frequency of promotion would well be over 50%. If the franchise team has involved with too many promotion, the

consumers will get used to it and less likely to react the promotion (McDonald & Rascher, 2000). One potential reason for this negative relationship may be due to the recorded promotion days within the data set. Routinely or frequently occurring promotional events (e.g. weekly ladies' night) were not included within the assessment for promotion. Furthermore, price promotions such as family packages were also not been taken into account, since these prices are not related to the secondary market ticket price but the ticket price of the primary market. In addition, these promotion methods are not Stubhub does not offer these kinds of promotion information on their website. These two things that are not considered as promotion might have caused the negative promotion result for two groups of fans. However, this promotion variable was positively significant to the normal attendance teams ($\beta = .118, p < .05$).

Hypothesis 7 states that Squad is positively related with the ticket price. Hypothesis 7 is confirmed by the regression analysis, and the moderating effect of this variable was significant as well. The results indicated squad of the game affects low attendance team fans ($\beta = .153, p < .05$) significantly but not high attendance team fans ($\beta = .045, p > .05$) and normal attendance team fans ($\beta = -.005, p > .05$). This variable represents exceptional starting pitchers. Not many researchers have discussed this squad variable. It is fairly understandable that this variable affects the ticket price of the secondary market substantially for low attendance team fans. Fans of low attendance teams are not strongly identified with their teams, but they love to have fun at the ballpark and watch outstanding athletes. They typically identify with the exceptional players rather than their teams because their teams are usually in underdog status. However, normal and high attendance team fans identify enough with their teams, so it is less important for them who is a starter for the game than for low attendance team fans.

Conclusion

The current results show that these specific individual variables: 1) day of the week; 2) rivalry; 3) interleague; 4) the quality of opponent; 5) current league standing; 6) promotion; and 7) the quality of squad are positively related with the ticket price of the secondary market except Promotion variable. Also, the moderating effect of the team attendance level is very significant. Each of the three groups reacts to the factors differently. High attendance team fans are resistant to the change caused by independent variables. This finding is consistent with the previous literature (Wann & Branscombe, 1990).

According to Depken (2000), loyal fans are relatively unresponsive to factors such as team performance and ticket price increase. This indicates high attendance team fans highly identify with their teams and support them no matter what. Normal attendance team fans bond with their teams, but this bond is not very strong. Their fanship is very much affected by their teams' current performance and promotion. Low attendance team fans do not have a strong relationship with their teams. They want to watch something outstanding and are not necessarily rooting for their teams, so they value high games when exceptional pitchers are starting or great opponents are visiting. Each group of fans' is different in valuing games, and sport marketers need to use different strategies for each of fan groups.

This study is unique in terms of two points. First, numerous studies have been conducted to find factors affecting the quality of games or demand for sports, but not many researchers have focused on factors influencing day-to-day fluctuation in the quality of game or demand for the games. Second, a substantial amount of research has tried to determine what factors make teams popular and keep people coming. However, how MLB teams' fans react to factors differently according to the attendance level of the franchise has not been the center of attention to researchers. This study can contribute to the literature by giving clues for these two questions.

Implication

The results of this study can produce several important implications both academically and practically. In terms of the academic field, this research can provide the empirical and quantitative support for independent variables found in the previous literature and supplementary explanation for the each of variables. This study also demonstrated validity of the ticket price of market as a dependant variable by cross-validating the relationship between independent and dependant variables. To date, similar studies regarding day to day demand fluctuation only utilized attendance as a dependant variable. Using the secondary ticket market can supplement the blind spot of attendance as a dependant variable. Attendance as a dependant variable is not appropriate to explain fluctuation of extremely popular teams (e.g., the Boston Red Sox and the Philadelphia Phillies), because their attendance rate is very likely to be 100% for the entire season. Secondly, this study tries to determine the inverse relationship between the attendance level and factors, and give researchers an idea of how the level of attendance of teams affects their preference in independent variables. For practitioners, this study will give them ideas for devising customized marketing strategies for each group of fans by teams' attendance level. Some of the marketing strategies that might be beyond sport marketers' decision such as recruiting exceptional pitchers and scheduling Interleague games and having good opponents for the low attendance team home games, but MLB commissioners or managers of franchise teams can also use this information to attract more spectators to their games. As far as the sports marketing industry is concerned, this study can give sports marketers ideas for customized marketing strategies for the different attendance level of teams. Also, this study can help the administrative staffs for franchise teams set the ticket price more accurately reflecting the close perceived value of games by fans.

Limitation and Future Research

There are several limitations in the current research that need to be addressed. First, this study has used only factors that are related to day-to-day fluctuation. This delimitation might have caused the model to explain only a small amount of the variability. The R square value is .136, so this variable explains only 13.6% variance in the total ticket value. Identifying factors affecting throughout the season might be studied by looking at the averaged ticket price fluctuation year by year. For example, it might be intriguing to see how much it affected the averaged ticket price having Albert Pujols on the team or having a new stadium for the Miami Marlins. Second, the research model did not include such variables (e.g., unexpected incidents) such as historic record chase, sudden appearance of super rookies, and many other game-specific factors that are difficult to measure quantitatively. They can be included in the future study to fully understand the ticket price fluctuations.

In the future studies, it is worthy to investigate a correlation between stadium attendance and secondary market ticket price. Each attendance record for all MLB games is readily available. It might be an interesting study and would explain how the pricing in the secondary market works. In the current study, ticket price in the secondary market was the only dependent variable. Future studies can also examine the influence of the selected determinants on the attendance itself in addition to the ticket price.

Find tickets [Clear selections]

Price range: \$70 \$661

Quantity: All Seating guide

Where do you want to sit? Click sections on the map to see what's available.

Compare

All prices set by sellers

Price	Section	Row	Electronic delivery	Qty available	
<input type="checkbox"/> \$74.00	Home Plate Standing Room Only	SR	✓	1	Go
<input type="checkbox"/> \$74.00	Left Field Standing Room Only	sro	✓	4	Go
<input type="checkbox"/> \$74.90	Right Field Standing Room Only	SR	✓	4	Go
<input type="checkbox"/> \$74.95	Third Base Pavilion Standing Room Only	SR	✓	4	Go
<input type="checkbox"/> \$74.99	Third Base Pavilion Standing Room Only	1	✓	2	Go
<input type="checkbox"/> \$75.00	Right Field Standing Room Only	sr	✓	2	Go
<input type="checkbox"/> \$75.00	Right Field Standing Room Only	GA	✓	8	Go
<input type="checkbox"/> \$75.00	Third Base Standing Room Only	GA	✓	4	Go
<input type="checkbox"/> \$75.00	Left Field Standing Room Only	SRO	✓	4	Go

Figure 5-1. Stubhub's buy page

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BIOGRAPHICAL SKETCH

Mr. Dongho Yoo is expected to earn his Master of Science degree in the College of Health and Human Performance (Sport Management) from the University of Florida in August 2012. He received his Bachelor of Science degree from sport & leisure studies at Yonsei University, Seoul, Korea in February 2010. His research interest is to identify factors affecting demand in the professional sports through contents analysis. His interest in this field has been materialized in the thesis manuscript investigating ‘determinants of ticket price fluctuation in the secondary market.’ His research will continue by extending to the different context of professional sports and year by year fluctuation in the secondary market.

Mr. Yoo has a half year of industry experience in the sport marketing field with the Gainesville Sports Commission (GSC). He participated in operating a variety of sports events in and around the Gainesville community, and investigated the economic impacts that each of sports events brought with GSC. In the near future, Mr. Yoo will work for the sports marketing industry and attempt to have practical and realistic research idea through work experience.