

Secondary Market Behavior During College Football's Postseason: Evidence from the 2014 Rose Bowl and BCS Championship Game

Patrick Rishe¹, Jason Reese², and Brett Boyle³

¹ Washington University in St. Louis

² Stephen F. Austin State University

³ Saint Louis University

Patrick Rishe, PhD, is the director of the Sports Business program in the Olin Business School, the founder/CEO of Sportsimpacts, and a sports business writer for *Forbes*. His research interests include secondary ticket pricing in sports, economic impact studies, estimating athlete endorsement value, and estimating franchise value.

Jason Reese, PhD, is an assistant professor of marketing in the Department of Management, Marketing, and International Business. His research agenda consists of research related to pricing of sport-related products, consumer price perceptions, and consumer behavior to price changes in the sport industry.

Brett A. Boyle, PhD, is an associate professor of marketing in the John Cook School of Business. His research interests include sales and sales management, sport marketing, interfirm exchange issues, and ethical issues in marketing.

Abstract

Though there is reason to believe that college football bowl game administrators engage in inelastic ticket pricing, there is no academic literature that specifically examines this point. This seminal investigation of secondary prices in college football, which focuses on two bowl games that took place at the same stadium within a six-day span during the first week of 2014, sheds insight onto inelastic ticket pricing for college bowl games, secondary pricing comparisons across different online ticket resellers, the influence “pent-up” demand and distance traveled can have on secondary markups, and revealed consumer preferences towards seat quality and optimal “sightlines.” Though dynamically pricing bowl games could yield larger gate revenues, various logistical reasons are discussed as to why this practice is uncommon for such games.

Keywords: inelastic ticket pricing, secondary ticket market, college football

Introduction

There is considerable literature regarding the primary sports pricing market (Fort, 2004; Coates & Humphreys, 2007; Krautmann & Berri, 2007) that argues that ticket-

ing professionals engage in inelastic ticket pricing, and that such behavior is not counter to a profit-maximizing objective because it enables organizations to optimize other non-ticket sources of revenue. Additionally, there is long-standing evidence from the marketing literature (Scitovsky, 1945; Monroe & Krishnan, 1985; Tsao, Pitt, & Caruana, 2005) of a strong correlation between the price of a product and perceptions of product quality. Therefore, investigating secondary price trends in unexamined sports industry niches affords an opportunity to (1) confirm whether these niches also engage in inelastic ticket pricing, and (2) explore how perceptions of quality (among other factors) contribute to secondary markup differentials across tickets sold.

Academic research regarding the secondary ticket market has become more voluminous in recent years but is still relatively underdeveloped. This is particularly the case as it pertains to collegiate sporting events where there has been tremendous growth in secondary market revenues. Shapiro and Drayer (2012) suggest this secondary ticket market growth has led to it becoming a multibillion-dollar industry. For example, the estimated dollar volume of total secondary market sales increased from \$2.6 billion in 2011 to \$4.0 billion in 2013, with increases from \$420 million to \$676 million over the same span for college sports alone. Approximately 75% of this volume comes from the resale of college football tickets.¹ Rishe (2014a) and Rishe et al. (2014b) examined secondary price trends in college basketball's March Madness, but there are no analogous studies of secondary pricing in college football.

The current study focuses on the secondary market for two specific college football bowl games (the 2014 Vizio Rose Bowl between Michigan State and Stanford, and the 2014 BCS National Championship between Auburn and Florida State). Though both games were contested at the Rose Bowl in Pasadena, CA, within six days of each other during the first week of 2014, there was considerable heterogeneity across these games that could potentially impact secondary market behavior. For example, the 2014 Rose Bowl featured one team (Michigan State) that had not participated in the Rose Bowl since 1988, and another team (Stanford) located approximately 360 miles from Pasadena (site of the game). Conversely, the BCS title game marked the first time in the 16-year history of the BCS where the competing teams (Auburn and Florida State) each traveled more than 2,000 miles to reach the host city of the event. In short, the analysis herein allows an examination of whether these factors, as well as proxies for seat quality, significantly affect secondary market behavior for college bowl games.

In terms of theoretical contributions, this paper extends the pricing literature by examining pricing behavior within the unique consumer product class of sports entertainment. Other key contributions include (1) the first detailed examination of secondary price behavior at major college football bowl games (events with a growing need to understand consumer's purchase behavior), (2) the first attempt to explore whether secondary price behavior differs across different ticket reselling firms (ticket brokers that sport properties continue to contemplate sponsorship with and therefore need a better understanding of Drayer, Shapiro, and Lee [2012]), (3) confirmation that pricing for these particular bowl games is consistent with inelastic sports ticket pricing found throughout the sports pricing literature (the first exploratory attempt at examining this in bowl games), (4) fan proximity and frequency of participation can exert influence upon secondary price markups (an extension of the Alchian-Allen theory, showing the impact of distance on price and spending), and (5) seat quality

(namely, seat centrality and closeness to the field) significantly affects the degree of secondary price markups (advancing the discussion of event quality and price tier theory in Reese and Kerr [2013]).

Bowl Championship Series, Team Selection, and 2014 Matchups

The Bowl Championship Series (BCS) was created in 1998, born partially from not having a typical playoff format, coupled with persistent criticism of the previous bowl system not consistently allowing the best two college football teams to compete for the national championship. In this system, the top two teams in the BCS standings at year's end competed in the championship game, and these standings were comprised of three components (USA Today Coaches Poll, Harris Interactive College Football Poll, and an average of six computer rankings) weighted equally to determine a team's overall BCS score. Because controversy continued to plague the BCS system, the 2013-2014 season marked the last year of the BCS format in favor of a four-team college football playoff, which began in January 2015.²

The BCS system also included four other major bowl games (called BCS Bowl Games) including the Rose Bowl, Orange Bowl, Fiesta Bowl, and Sugar Bowl. In the 2013-14 season, champions of the Atlantic Coast (ACC), Big East (now American Athletic), Big Ten, Big 12, Pac 12, and Southeastern (SEC) conferences earned automatic berths to these games, leaving four remaining at-large berths among the 10 BCS spots available. For these last four teams, the BCS standings were instrumental in identifying other potential qualifying scenarios. For example, Notre Dame would have earned a BCS berth if ranked among the top eight in the final BCS standings. Likewise, conference champions from a handful of mid-major conferences (e.g., Mid-American and Mountain West Conferences) would have earned a BCS berth if ranked among the top 12 in the final BCS poll.³

This paper focuses on two BCS bowl games from the 2013-14 season, both of which took place in the Rose Bowl in Pasadena. Limiting our investigation to these two games allows for the control of other factors that might otherwise have an effect on pricing and purchase demand (e.g., stadium capacity, local socioeconomic factors). Regarding the 2014 Vizio Rose Bowl, the game featured Big Ten champion Michigan State versus Pac 12 champion Stanford. These teams were fourth and fifth, respectively, in the final BCS poll of the 2013-14 college football season. Regarding the BCS championship, this game featured ACC champion Florida State versus SEC champion Auburn. These teams ranked first and second in the final BCS poll, respectively.

Though secondary prices for the national championship game and the Rose Bowl historically yield the highest and second-highest secondary prices, respectively, Lawrence (2013) argued that the gap between these games in 2014 was much smaller, largely because the preliminary demand for the 2014 Rose Bowl was quite strong compared to historical norms. Two reasons he cited include (1) it was Michigan State's first trip to the Rose Bowl since 1988, suggesting pent-up demand flowing from Michigan State supporters, and (2) the 2014 game marked the 100th anniversary of the Rose Bowl. Regarding pent-up demand, Rische and Reese (2014) argue that a 21-year absence from the Major League Baseball postseason is the likely reason why the Pittsburgh Pirates experienced the largest median secondary markups among the nine teams that hosted playoff games during the 2013 postseason.

Conversely, Lawrence (2013) noted that the Auburn-Florida State secondary prices were historically under-valued, with the 2014 game marking the first time in five years that the average secondary price to the BCS finals would fall under \$2,000. Consistent with this point, Rovell (2014) reported the median secondary sales price for tickets sold by industry-leading StubHub through January 5th (a day before the game) was \$799, which was 45% cheaper than the median price for the 2013 title game (Notre Dame versus Alabama) and 47% cheaper than the median price for the 2012 title game (Alabama versus Louisiana State). Neither school had trouble selling the 20,200 tickets each received as part of the overall ticket allotment. However, Rovell (2014) cited conversations with Southeast-based online ticket brokers that Auburn and Florida State supporters who initially received tickets put them up for sale on the secondary market because of the unwillingness to incur the expenses associated with long-distance travel. Indeed, the 2014 BCS title game marked the first time in the 16 years of the BCS that the campuses of each team were at least 2,000 miles away from the championship venue. Contrastingly, Rovell (2014) noted that secondary prices were comparatively higher in 2004, 2008, and 2012 because the games were played at the Superdome in New Orleans and featured local favorite Louisiana State University, located in Baton Rouge, LA.

Literature Review

Sports Pricing Foundations and Inelastic Sports Pricing

Reese and Mittelstaedt (2001) attempted to better understand the basic ticket pricing strategies used in the NFL, finding that team performance was the most influential determinant of the face value of tickets. In two studies spanning the four major North American sports leagues, Rishe and Mondello (2003, 2004) determined that team success, market population, stadium, and consumer income had the greatest impact on prices.

The concept of inelastic sports pricing has garnered considerable attention for decades because of its potential implications regarding the profit-maximization behavior of sport organizations. Several studies within this literature note that complementary revenue streams from products associated with the sporting event may make up for the lost gate revenues resulting from inelastic pricing. Krueger (2001) observed that face value prices for the 2001 Super Bowl were priced below what consumers were willing to pay on the secondary market, likely because the NFL earned sufficiently high revenues from media revenues. Fort (2004) used gate and media revenue data from Major League Baseball to show that inelastic pricing was consistent with profit maximization if local television revenues compared favorably to the average marginal television revenue across the rest of the league. Extending the scope of research to include both professional baseball and basketball, Coates and Humphreys (2007) argued that inelastic ticket pricing is consistent with profit maximizing behavior due to the inter-related pricing decisions on tickets, concessions, and other related goods sold at these sporting contests. Examining the four major team sports leagues in North America, Krautmann and Berri (2007) argue that concession revenues allow professional sport teams to discount their ticket prices significantly. Rascher and Schwarz (2013) found that price inelasticity in secondary markets is not unique to sporting events. Their investigation of “paperless” concert tickets sold exclusively

through TicketMaster's TicketExchange was, on average, \$100 higher than conventional tickets. Their conclusion was the monopolistic nature of this secondary market (whereby resold tickets were restricted to TicketExchange) increased ticket prices and reduced ticket availability.

Variable and Dynamic Pricing

In the late 2000s, demand-based pricing strategies were investigated including studies of variable pricing, dynamic pricing, and the secondary ticket market. The seminal study investigating variable ticket pricing (VTP) was Rascher et al.'s (2007) study of Major League Baseball pricing. They found that prices varied with the quality of the opponent, day of the week, month of the year, and special events such as Opening Day and various holidays during the season. Their findings suggest that promoters may be missing out on significant profits by failing to implement VTP.

The problem with the VTP structure was prices were set based on historical demand figures at the beginning of the season. With sport being uniquely unpredictable, as the seasons went on organizations overpriced events that have had historically high demand but later turned out to be in low demand (e.g., bad weather, lower quality of opponent than predicted, etc.). This led to organizations not accurately using demand to price their tickets. In an attempt to use demand more effectively than the VTP approach, the San Francisco Giants became one of the first professional sports teams to implement dynamic ticket pricing (Dwyer et al., 2013). According to Paul and Weinbach (2013), dynamically priced tickets increase in cost due to the day of the week, month of the baseball season, team success, opponent, promotions, and starting pitcher. In all, these foundational sport pricing studies help sport practitioners more effectively combine price with other marketing mix decisions (promotion, placement, product) in the hopes of boosting team revenues and profitability (Rao, 2009).

Correlation between Perceptions of Product Quality and Willingness to Pay

Scitovsky (1945) first suggested price serves as a cue for product quality. Consumers are particularly dependent on this cue when other more salient attributes of the product are absent (Tsao et al., 2005). Monroe and Krishnan's (1985) price-perceived quality model defines price as having an influence on both *perceived quality* as well as *perceived sacrifice*. In turn, *perceived value* is the net of these two factors, the former having a positive effect on perceived value, the latter a negative effect. Subsequently, one's *willingness to buy* is seen as directly affected by perceived value. Their work is germane to the present study, as seat quality can vary dramatically based on a seat's centrality and nearness to the field. Subsequently, secondary prices may differ across seats as consumers express varying degrees of willingness to pay based on such features as a seat's centrality and nearness to the field. For example, Salaga and Winfree (2015) examined the secondary ticket market for the NFL and specifically for personal seat licenses (PSL) and season ticket rights (STR). High-quality seating locations were a strong predictor of price, and higher face value ticket prices were also associated with lower secondary market PSL and STR transaction prices.

Secondary Market Behavior in Professional Sports

Inelastic sports pricing has allowed the secondary market for sports tickets to flourish in the last decade. Using data from online bidding transactions from the secondary

ticket market for NFL playoff games, Drayer and Shapiro (2009) found that secondary prices were significantly related to the total number of online ticket transactions per game, the home team's city per capita income, and the home team's city population. In a separate study for NFL regular season games, Drayer et al. (2012) found that the point spread, percent of capacity sold, the presence of a new stadium, a team's comparative quality, the face value of tickets, and current and lagged win percentages each had a statistically significant impact on the value of secondary ticket prices. Zhu (2014) tested MLB primary and secondary ticket data for one franchise to gauge how the team could increase revenue with dynamic ticketing, and found that the franchise could increase revenue by 6.93% when dealing with uninformed consumers but only by 3.67% when dealing with customers more savvy with the intricacies of the secondary market.

Secondary Market Behavior in Collegiate Sports

Pricing in college sports has been of primary interest for some time, but focusing on secondary pricing in college sports is new. Fink et al. (2002) attempted to determine primary pricing market differences between spectators who attended women's and men's college basketball games. Other researchers have examined how new facilities, alcohol sales, other ancillary goods, and unique game-day circumstances (e.g., first game of the year, rivalry games, conference games) can impact primary pricing (Huang & Dixon, 2003; Jarrell & Mulligan, 2002). Rishe's (2014a) analysis of the 2013 Final Four found that (1) the NCAA under-prices tickets to the Final Four, (2) the magnitude of the secondary price markups differed across 'Session Type' (e.g., tickets for the semifinals were marked up higher compared to all-session ticket packages or packages just for the finals), (3) markups per ticket decreased as consumers bought more tickets within a single transaction, (4) tickets in the upper-bowl experienced lower markups than all other tickets, and (5) centrally located tickets experienced greater markups than all other tickets. Expanding upon this research, a second paper by Rishe et al. (2014b) comparing Final Four markups to the four regional finals from the 2013 tournament found that (1) Final Four markups were considerably higher than for any of the regionals, (2) the NCAA may be pricing regionals in a more elastic portion of consumer demand given that most secondary transactions for the regionals resulted in markdowns below face value, (3) regional comparisons suggest secondary market behavior is sensitive to the perceived quality of an event's draw, which itself is impacted in part by the quality of the teams at the event and the proximity of those schools to the event's host site.

Methodology and Data Collection

The literature review herein suggests (1) sports administrators engage in inelastic ticket pricing, (2) more significant events generally yield larger secondary markups, and (3) better quality seats yield larger secondary markups. Separately, popular literature published near the end of the 2013-14 college football season suggests secondary markups might be higher for the 2014 Rose Bowl than for the 2014 BCS National Championship game, despite the fact that the title game represents the crescendo of the college football season. Lastly, no prior research has examined whether secondary market trends significantly differs across ticket resellers.

Therefore, in order to examine these issues more rigorously, the following model was specified:

$MU = a + b(BCS) + c(TC) + d(ROW) + e(ROW2) + f(QTY) + g(QTY2) + h(CEN1) + i(TIME) + j(CenField) + k(CenLow) + l(CenMid)$, where
(Model 1)

- MU is the size of the markup (i.e., difference between secondary and face value price) as a percentage of the face value price.⁴
- BCS is 1 if the ticket was for the BCS championship game, 0 if for the Rose Bowl.
- TC is 1 if the ticket was resold by TicketCity, 0 if by SeatGeek.
- ROW identifies the row of the seat, and ranges in value from 1 to 77. ROW2 is ROW squared.
- QTY is the number of tickets in a given online transaction, and QTY2 is QTY squared. Both are included to test for non-linearity between QTY and MU.
- CEN1 is the number of seating sections removed from midfield, ranging in value from 0 (the midfield sections) to 6 (the sections directly behind the goal posts).
- TIME = the difference (in days) between when the online purchase was made and the kick-off of the event.
- CenField is 1 for those seats located in centrally positioned sections and in field rows A through K.⁵
- CenLow is 1 for those seats located in centrally positioned sections and in rows 1 through 24.
- CenMid is 1 for those seats located in centrally positioned sections and in rows 25 through 42.

Because the SeatGeek data does not include zip code information for their online consumers, a second model employing just the TicketCity data is specified, which can account for a variety of location-specific factors that enhance the analysis. The general form of Model 2 is:

$MU = f(BCS, \text{Seat Quality}, \text{Quantity of Tickets Purchased}, \text{Time of Purchase}, \text{Locational Factors})$.

(Model 2)

“Seat quality” is proxied by ROW, CEN1, and the interactions between section and row specified in Model 1. The zip code data allows an examination of several hypotheses related to location. LOCAL (‘1’ if from the Los Angeles MSA, ‘0’ otherwise) generally tests whether locals pay different markups than non-locals. Similarly, DIST (the miles between the event site and the consumer’s zip code) examines whether distance traveled by the consumer impacts markups. Also, if we assume that consumers from Alabama, Florida, Michigan, and California are more likely to be staunch supporters of the participating teams, then STATE (‘1’ if consumer is from one of the four states participating in either bowl game, ‘0’ otherwise) is used to test whether fans with greater loyalties are willing to pay higher markups. Separately, it is possible to test whether “state-game” interactions (e.g., MI-Rose is ‘1’ for people from Michigan attending the Rose Bowl in which Michigan State was participating, ‘0’ otherwise) more precisely captures the connection between specific games, fan loyalties, and secondary markups.⁶

The data used in conjunction with these specifications was obtained from the Rose Bowl Association and two ticket resellers. Regarding the primary market, face value prices for both games were provided by Kevin Ash, Chief Administrative Officer for the Rose Bowl Association. For the Rose Bowl, face prices per ticket were \$185 for premium seats and \$150 for the end zones. For the BCS Finals, face prices per ticket were \$385 for premium and \$325 for end zone seats.⁷ Regarding the secondary market, TicketCity (TC) and SeatGeek (SG) combined to provide data on 628 transactions and 1,659 tickets sold on the secondary market to these games. After omitting select transactions due to incomplete information (e.g., missing row or section numbers) the final sample size included 551 transactions and 1,433 tickets sold, with 414 transactions (or 75%) for the BCS Finals and 25% for the Rose Bowl. Separately, 377 of the transactions (or 68%) represented TC sales while 32% were SG sales.⁸ Of the 377 TicketCity transactions, 312 (or 83%) were for the BCS title.

Results

Table 1 below presents descriptive statistics for secondary prices, face value prices, markups, quantity of tickets purchased, distance (in miles) between Pasadena, CA (the event site) and the consumer's zip code, and the time (in days) between ticket purchase and game day for the 2014 Rose Bowl and 2014 BCS Championship games, respectively. Measured in percentage terms, secondary markups are consistently higher for the Rose Bowl than for the BCS title game regardless of whether purchased by TicketCity or SeatGeek consumers, though the gap between the two games lessens when looking at median markup values. For each game separately, SeatGeek's mean secondary markup percentages are higher, as is its median Rose Bowl markup percentage. However, SeatGeek's BCS data appears more right-skewed than TicketCity's considering that SeatGeek's median BCS markup percentage is far below its mean while TicketCity's mean and median BCS markup percentages are nearly identical.

Regarding the quantity of tickets purchased, the median for both games is two tickets per transaction, though the means suggest that consumers tend to purchase slightly fewer tickets per transaction when buying from SeatGeek. SeatGeek consumers bought their tickets an average of approximately 20 days before either game, whereas TicketCity consumers purchased their tickets an average of 25 and 28 days ahead the BCS title and Rose Bowl games, respectively. Lastly, the average and median distances traveled by consumers attending the BCS Final was significantly greater than for the Rose Bowl. Average and median miles traveled by secondary consumers attending the BCS were 1,893 miles and 2,086 miles, respectively. Comparatively, the average and median miles traveled by secondary consumers attending the Rose Bowl were 1,543 miles and 1,914 miles, respectively.

Regression Results

Table 2 below present regression results for Model 1 using ordinary least squares (OLS) estimation corrected for heteroskedasticity (H/S) using White's heteroskedastic-consistent standard errors (HCSE).^{9,10} The overall adjusted R-squared suggests 15.0% of the variation in secondary markups can be explained by the joint variation of the variables in Model 1. The BCS coefficient suggests secondary markups were approximately 119 percentage points lower for the BCS championship game compared to the Rose

Table 1. Descriptive Statistics

TicketCity	N	Variable	Mean	Standard Deviation	Minimum	Maximum	Median
Rose	65	SP	699.46	435.51	50.00	2200.00	562.00
		FP	173.69	16.50	150.00	185.00	185.00
		MU \$	525.77	430.60	-135.00	2015.00	377.00
		MU %	2.99	2.31	-0.73	10.89	2.26
		QTY	2.54	1.83	1.00	15.00	2.00
		Time	28.09	31.79	1.89	159.92	21.70
		DIST	1543.00	905.69	3.40	2999.90	1914.20
BCS	312	SP	982.38	393.58	179.00	2450.00	955.00
		FP	360.19	29.59	325.00	385.00	385.00
		MU \$	622.19	388.04	-146.00	2065.00	606.00
		MU %	1.73	1.03	-0.45	5.36	1.73
		QTY	2.73	1.48	1.00	10.00	2.00
		Time	25.15	22.98	0.00	322.72	26.13
		DIST	1893.40	761.25	12.60	3531.70	2086.50
SeatGeek	N	Variable	Mean	Standard Deviation	Minimum	Maximum	Median
Rose	72	SP	668.26	439.15	81.98	2599.00	511.73
		FP	172.85	16.78	150.00	185.00	185.00
		MU \$	495.41	435.42	-68.03	2414.00	347.46
		MU %	2.84	2.49	-0.45	13.05	2.01
		QTY	2.38	1.48	1.00	7.00	2.00
		Time	20.82	22.69	0.00	140.79	19.94
BCS	102	SP	1041.80	737.37	180.00	4509.00	766.00
		FP	365.59	28.21	325.00	385.00	385.00
		MU \$	676.21	729.42	-145.00	4124.00	422.75
		MU %	1.82	1.92	-0.45	10.71	1.19
		QTY	2.40	1.38	1.00	8.00	2.00
		Time	20.18	23.11	0.00	136.81	14.05

Bowl. The insignificance of the TC coefficient suggests there is no statistically significant difference in secondary markups when comparing TicketCity and SeatGeek data. The evidence from ROW and ROW2 suggests an inverted U-shaped relationship between row and ticket markups, with the size of the markup rising initially with row, peaking for rows in the high 30s, and falling thereafter. Markups fell by 9 percentage points for every section away from midfield, and fell by 8 percentage points every 10 days closer to the event a ticket was sold. Lastly, the coefficients on CenField and CenLow confirm centrally located seats both at field level (rows A through K) and lower levels (rows 1 through 24) experienced considerable markups (85 and 107 percentage points greater, respectively) relative to upper-tier non-centrally located seats.

Though not shown for space reasons, note that when Face Value Prices are used in place of the BCS dummy variable, the coefficient on FACE is -0.006 and statistically significant while the adjusted R-squared rises to 0.159. The FACE coefficient suggests that secondary markups fall by 6 percentage points for every \$10 increase in face

prices. FACE and BCS were not used in the same specification due to issues arising from multicollinearity, which is not surprising since BCS prices are higher than Rose Bowl prices at all price points.¹¹

To gain a further understanding of the secondary marketplace, Model 1 was separately examined using secondary prices as the dependent variable. These results are presented in Table 3. The statistical significance of the coefficients remains unchanged

Table 2. Dependent Variable Markup Percentage

Model 1 Estimation with OLS Corrected Using White's HCSE				
Variable	Coeff	t-score	p-value	Beta
Intercept	2.722	5.70	<.0001	0.000
BCS	-1.185	-5.44	<.0001	-0.299
TC	-0.029	-0.16	0.873	-0.008
Row	0.029	1.77	0.077	0.420
Row2	-0.0004	-2.21	0.027	-0.459
Qty	-0.074	-0.53	0.594	-0.065
Qty2	0.008	0.56	0.578	0.072
Cen1	-0.092	-2.17	0.031	-0.101
TIME	0.008	2.61	0.009	0.110
CenField	0.852	1.90	0.058	0.088
CenLow	1.071	2.56	0.011	0.171
CenMid	0.112	1.11	0.266	0.049
<i>F-value</i>	9.81			
<i>Pr > F</i>	0.0001			
<i>Adj R-squared</i>	0.150	<i>n = 551</i>		

Table 3. Dependent Variable Secondary Price

Model 1 Estimation with OLS Corrected Using White's HCSE				
Variable	Coeff	t-score	p-value	Beta
Intercept	630.99	5.69	<.0001	0
BCS	308.58	6.16	<.0001	0.265
TC	-37.91	-0.67	0.504	-0.035
Row	10.48	2.63	0.009	0.524
Row2	-0.13	-2.97	0.003	-0.548
Qty	-8.16	-0.19	0.850	-0.024
Qty2	2.07	0.43	0.666	0.061
Cen1	-56.73	-4.77	<.0001	-0.211
TIME	3.39	3.20	0.002	0.163
CenField	341.50	2.44	0.015	0.121
CenLow	317.13	3.04	0.002	0.173
CenMid	29.75	1.10	0.274	0.045
<i>F-value</i>	14.17			
<i>Pr > F</i>	0.0001			
<i>Adj R-squared</i>	0.209	<i>n = 551</i>		

compared to the evidence from Table 2, but there are interpretive differences as the dependent variable is now measured in dollars. *Ceteris paribus*, secondary buyers paid \$309 more to attend the BCS national championship game than the Rose Bowl, \$57 less for every section removed from midfield, and \$3.39 less for every day between the time of purchase and the game date. The insignificance of TC suggests there is no substantial difference in what online consumers paid across TicketCity and SeatGeek. Lastly, the inverted-U relationship associated with row remains intact, with the willingness to pay higher secondary prices increasing up through rows in the upper 30s, and then declining thereafter.

Table 4 below presents three separate versions of the Model 2 specification for comparative purposes. The most basic among these, Model 2A, regresses secondary markup percentages on BCS, ROW, QTY, CEN, TIME, and STATE.¹² Model 2B expands the analysis by examining the presence of a non-linear relationship between MU and ROW while adding LOCAL and the state-game interactions (which replace STATE from Model 2A). Model 2C is the same as Model 2B except DIST replaces LOCAL. Again, all results were analyzed using OLS corrected with White's HCSE for reasons discussed in Footnote 10.

The results from these separate specifications are presented in Table 4. The comparisons reveal that accounting for section-row interactions and consumer-specific location factors add further clarity when explaining markup differentials across online customers. For example, while the "basic" model yields an adjusted R-squared of only 24.8%, the inclusion of section-row interactions, state-game interactions, and location-related proxies raised the adjusted R-squared to 34.8% (Model 2B) and 35.4% (Model 2C).

Adding ROW2 confirmed the results from Model 1, which suggest an inverted U-shaped relationship between MU and ROW in which markups peak near rows in the upper 30s before declining steadily the higher the seat is located. Adding the section-row interactions revealed centrally located Lower Tier seats (rows 1-24) experienced higher markups than centrally located Field Tier seats (rows A-K), and both experienced significantly larger markups relative to centrally located Upper Tier seats (rows 43-77). This was not true of the centrally located Mid Tier seats (rows 25-42), and this is tied to the inverted U-shaped relationship between MU and ROW.

Regarding differential markups across fan bases, substituting the state-game interactions in place of STATE reveal results consistent with "pent-up" demand. Specifically, the MI-Rose interaction was significant at the 0.01 level in Model 2B and Model 2C, and the coefficients suggest the markups paid by people from Michigan attending the Rose Bowl were between 147 and 160 percentage points larger than all other consumers. None of the other state-game interactions were significant, suggesting the significance of STATE in Model 2A was likely attributable entirely to the secondary market behavior from Michigan State supporters.

Regarding the impact of travel distance on secondary market behavior, the coefficient on LOCAL in Model 2B implies markups paid by consumers from the Los Angeles MSA were 88 percentage points less than what non-local consumers paid. Replacing LOCAL with DIST in Model 2C did not change the statistical significance of any of the other variables in the model, and the adjusted R-squared (35.4%) is essentially the same as in Model 2B. LOCAL and DIST were not used in the same specifica-

Table 4. Dependent Variable Markup Percentage
Model 2 Estimation with OLS, Corrected Using White's HCSE

Variable	2A - "Basic" Model		2B - Modified w/"Local"		2C - Modified w/"Distance"	
	Coeff	p-value	Coeff	p-value	Coeff	p-value
Intercept	3.280	0.002	1.530	0.002	1.040	0.037
BCS	-1.265	0.0001	-0.749	0.037	-0.769	0.033
Row	-0.013	0.0001	0.024	0.080	0.021	0.072
Row2	*****	*****	-0.0003	0.066	-0.0003	0.079
Qty	-0.067	0.348	-0.140	0.251	-0.097	0.287
Cen1	-0.117	0.0030	-0.029	0.4280	-0.032	0.3840
TIME	0.006	0.043	0.0077	0.0540	0.0079	0.0490
CenField	*****	*****	1.231	0.015	1.057	0.041
CenLow	*****	*****	1.517	0.006	1.607	0.003
CenMid	*****	*****	0.141	0.188	0.151	0.155
STATE	0.230	0.088	*****	*****	*****	*****
MI-Rose	*****	*****	1.597	0.006	1.467	0.011
CA-Rose	*****	*****	0.718	0.432	1.200	0.191
FL-BCS	*****	*****	0.216	0.226	0.039	0.832
AL-BCS	*****	*****	0.045	0.696	-0.008	0.944
LOCAL	-1.0880	0.0001	-0.883	0.002	*****	*****
DIST	*****	*****	*****	*****	0.00029	0.0001
<i>n</i>	377		377		377	
<i>Adj R-sqr</i>	0.248		0.348		0.354	
<i>F (Prob > F)</i>	9.09 (.0001)		8.5 (.0001)		7.7 (.0001)	

tion given the high correlation between the two variables, which presented multicollinearity issues. The coefficient on DIST suggests secondary markups increase by roughly 3 percentage points every 100 miles further the consumer commutes from their home zip code to Pasadena.¹³

Other variables were employed to explore the influence of additional economic and location-specific factors, but their inclusion did not significantly enhance the explanatory power of the model. For example, zip code data allows an examination of whether markups are correlated with the income of secondary buyers, which can be proxied using 2010 U.S. Census Data on average household income by zip code. Separately, the state-specific dummy variables were reclassified more narrowly to reflect the zip codes corresponding with the counties and/or MSA nearest the participating schools (e.g., Lansing, MI; Tallahassee, FL) to examine whether this would prove a superior method of estimating the impact of fan loyalty on markups. However, none of the MSA-specific variables proved to be statistically significant.

Discussion

Using real-time price data to examine secondary market behavior at two college football bowl games from the 2013-14 season, this study sheds insight onto inelastic ticket pricing by college bowl game administrators, pricing comparisons across ticket resellers, the

influence of “pent-up” demand and distance traveled on markups, and revealed consumer preferences towards seat quality and optimal “sightlines.” First, the results indicate Rose Bowl administrators engage in the same inelastic ticket pricing similar to other sports pricing professionals. Though these large markups suggest opportunities for revenue enhancement through dynamic pricing model, the Rose Bowl Association could lose ancillary revenues the more consumer surplus it tries to capture (consistent with Krueger [2001], Fort [2004], and Krautmann and Berri [2007]).

Second, this study compares secondary market behavior across two separate ticket resellers. The results from Model 1 suggest no significant differences in markups across the TicketCity and SeatGeek samples. Future secondary market research should continue to explore whether the ticket source impacts secondary pricing.

Third, the statistical significance of MI-Rose is consistent with the “pent-up” demand argument. Assuming a consumer’s state is a reasonable proxy for their team allegiance (in this case, all 21 Michiganders in the TicketCity sample attended the Rose Bowl, accounting for 32% of TicketCity’s 65 Rose Bowl transactions), Michigan State supporters were willing to pay much higher markups relative to other fans, likely because their team had not competed in the Rose Bowl since 1988.¹⁴

Fourth, the positive correlation between “distance traveled” and secondary markups is consistent with Alchian-Allen’s third law of demand. This theorem suggests that when a high quality item incurs a high transportation cost (i.e., travel), the transportation cost is “purchased separately and sequentially” from the cost due to high quality (Bertonazzi, Meloney, & McCormick, 1993; Brown, Rascher, McEvoy, & Nagel, 2007; Cobb & Olberding, 2010). In other words, those who travel longer distances to attend an event will pay more for their entry into that event. This is consistent with Bertonazzi et al. (1993), who found that Clemson University football season ticket holders who traveled farther often paid for higher quality (i.e., more expensive) seats. Likewise, Brown et al. (2007) found a positive correlation between travel distance of golf tourists and green fees costs. Furthermore, when examining marathon and half marathon runners, Cobb and Olberding (2010) found this relationship between distance traveled and discretionary spending to be significant as well. Therefore, by using the Alchian-Allen theorem to better understand the results of the current study, bowl game administrators are better able to understand the role of travel on their patrons. Similarly, the negative coefficient on the dummy variable LOCAL is consistent with the idea that local consumers have the luxury of making last-minute decisions to attend an event, and thus, can exhibit greater patience (i.e., price sensitivity) to see if secondary prices eventually fall to their reservation price. This behavior is consistent with secondary market behavior for March Madness tickets (Rishe et al., 2014b).

Fifth, markups are significantly higher the better the seat quality, which is consistent with Ofir (2004), who argued that consumers’ price-acceptability function is partially tied to their perceptions of the price-quality relationship, as well as the aforementioned price-perceived quality model (Monroe & Krishnan, 1985). Moreover, the results show an inverted U-shaped relationship between markups and the row in which a seat is located, with markups rising up as one’s seat ascends above field-view level but eventually falling the higher the row is positioned within the facility. Lastly, the section-row interactions suggest the optimal “sightlines” for consumers (at least at the Rose Bowl) are centrally located seats that are not too close to the field (coefficient

Table 5. Dependent Variable Secondary Price

Model 2 Estimation with OLS, Corrected Using White's HCSE		
Model 2C - Using "Distance"		
Variable	Coeff	p-value
Intercept	199.19	0.098
BCS	360.50	0.0001
Row	7.69	0.049
Row2	-0.11	0.010
Qty	-20.37	0.254
Cen1	-41.68	0.0001
TIME	3.22	0.0580
CenField	410.42	0.016
CenLow	469.01	0.0001
CenMid	47.71	0.214
MI-Rose	259.85	0.016
CA-Rose	173.26	0.190
FL-BCS	19.25	0.774
AL-BCS	-16.92	0.670
DIST	0.095	0.0001
<i>n</i>	377	
<i>Adj R-sqr</i>	0.407	
<i>F (Prob > F)</i>	19.4 (.0001)	

on CenLow was greater than CenField) yet aren't too high within a particular section (the coefficient on CenMid was insignificant).

Similar to Rishe (2014a) and Rishe et al. (2014b), one limitation of this analysis is the lack of supply-side data regarding the number of tickets available on the secondary market for each of these micro-events. Neither TicketCity nor SeatGeek were able to provide information about the number of tickets available for resale at the time of each consumer's online transaction. Though the stadium capacity is constant because both games take place at the same facility, the number of tickets available for resale on the secondary market would add further illumination to supply-side considerations. Future research should strive to obtain more supply-side ticket data in order to better account for potential simultaneity issues.

There is significant opportunity to extend this research given the considerable heterogeneity across bowl games. Consider that there were 40 bowl games scheduled for the 2014-15 college football season, most of which differ in terms of stadium capacity, financial payouts, quality of participating teams, uncertainty of outcome (Drayer et al., 2012),¹⁵ and the proximity of participating schools from the host site of their bowl game. Furthermore, some bowl cities (e.g., Pasadena, Orlando) are more attractive weather-related draws for non-local fans than other host cities (e.g., Detroit). Also, with a greater cross-section of games in the sample, one could examine how a school's past bowl history influences secondary prices. For example, schools playing their first prominent bowl game in decades (e.g., Michigan State's 2014 experience) might exhibit unusually high demand, thereby placing greater upward pressure on secondary

prices. Conversely, if a school is playing its third consecutive postseason bowl game at the same venue as in previous years, this could stunt demand and lower secondary prices. Lastly, just as Rishe et al. (2014b) found that less attractive March Madness regionals actually produced secondary prices that were below face values, it is quite possible that some of the less-attractive bowl games may similarly produce negative markups. In sum, a natural extension of this paper is to develop a model that explores these various concepts and hypotheses across a more heterogeneous sample of bowl games than was considered herein.

Finally, as our focus has solely been on the college football secondary ticket market, we recommend more comparative analysis across collegiate and professional sports. As the NCAA has moved to a four-team football playoff format (with speculation of an expanded field in the near future), this will likely affect secondary market pricing in the future. Unlike the past BCS system, anticipated matchups in a tournament structure could cause price elasticities to behave similarly to the NFL post-season secondary market. On the other hand, differences between the college and NFL football markets (e.g., geographic concentration of fan base) may cause price elasticities to vary between the two, regardless of the similarities of a playoff format. Future research is encouraged to uncover ways in which the two markets differ as it relates to secondary market behavior.

References

- Bertonazzi, E. P., Maloney, M. T., & McCormick, R. E. (1993). Some evidence of the Alchian and Allen theorem: The third law of demand? *Economic Inquiry*, 31, 383-393.
- Brown, M. T., Rascher, D. A., McEvoy, C. D., & Nagel, M. S. (2007). Treatment of travel expenses by golf course patrons: Sunk or bundled costs and the first and third laws of demand. *International Journal of Sport Finance*, 2, 45-53.
- Coates, D., & Humphreys, B. (2007). Ticket prices, concessions, and attendance at professional sporting events. *International Journal of Sport Finance*, 2, 161-170.
- Cobb, S., & Olberding, D. J. (2010). Shipping the runners to the race: A sport tourism interpretation of the Alchian-Allen theorem. *International Journal of Sport Finance*, 5, 268-279.
- Crupi, A. (2013, March 6). Show me the Moneyball: March Madness generates \$1 billion in ad sales. *Ad Week*. Retrieved from <http://www.adweek.com/news/television/show-me-moneyball-march-madness-generates-1-billion-ad-sales-147732>
- Drayer, J., Rascher, D., & McEvoy, C. (2012). An examination of underlying consumer demand and sport pricing using secondary market data. *Sport Management Review*, 15, 448-460.
- Drayer, J., & Shapiro, S. (2009). Value determination in the secondary ticket market: A quantitative analysis of the NFL playoffs. *Sport Marketing Quarterly*, 18, 5-13.
- Drayer, J., Shapiro, S., & Lee, S. (2012). Dynamic ticket pricing in sport: An agenda for research and practice. *Sport Marketing Quarterly*, 21, 184-194.
- Dwyer, B., Drayer, J., & Shapiro, S. L. (2013). Proceed to checkout? The impact of time in advanced ticket purchase decisions. *Sport Marketing Quarterly*, 22, 166-180.
- Fink, J. S., Trail, G. T., & Anderson, D. F. (2002). Environmental factors associated with spectator attendance and sport consumption behavior: Gender and team differences. *Sport Marketing Quarterly*, 11, 8-18.
- Fort, R. (2004). Inelastic sports pricing. *Managerial and Decision Economics*, 25, 87-94.
- Gujarati, D. (2011). *Econometrics by example*. Hampshire, UK: Palgrave Macmillan.
- Huang, K., & Dixon, M. A. (2013). Examining the financial impact of alcohol sales on football games days: A case study of a major football program. *Journal of Sport Management*, 27, 207-216.

- Jarrell, S., & Mulligan, R. F. (2002). The demand for programs at a college football game: OLS and LMB estimates of optimal prices. *Journal of Sport Management*, 16, 209-229.
- Krautmann, A., & Berri, D. (2007). Can we find it at the concessions? Understanding price elasticity in professional sports. *Journal of Sports Economics*, 8, 183-191.
- Krueger, A. (2001, Feb 1). Seven lessons about Super Bowl ticket prices. *New York Times*. Retrieved from <http://www.nytimes.com/2001/02/01/business/economic-scene-seven-lessons-about-super-bowl-ticket-prices.html>
- Lawrence, J. (2013, December 18). BCS National Championship tickets versus Rose Bowl tickets may be most intriguing battle of bowl season. *Forbes*. Retrieved from <http://www.forbes.com/sites/jesselawrence/2013/12/18/bcs-national-championship-tickets-vs-rose-bowl-tickets-may-be-most-intriguing-battle-of-bowl-season/>
- Monroe, K., & Krishnan, R. (1985). The effect of price on subjective product evaluations. In J. Jacoby & J. Olson (Eds.), *Perceived quality: How consumers view stores and merchandise* (pp. 209-232). Lexington, MA: D.C. Heath.
- Morganteen, J. (2014, January 27). The economics of Super Bowl tickets: TiqIQ CEO. *CNBC*. Retrieved from <http://www.cnbc.com/id/101366720>
- Ofir, C. (2004). Reexamining latitude of price acceptability and thresholds: Predicting basic consumer reaction to price. *Journal of Consumer Research*, 30, 612-621.
- O'Toole, T. (2010, April 22). NCAA reaches 14-year deal with CBS/Turner for men's basketball tournament. *USA Today*. Retrieved from <http://content.usatoday.com/communities/campusrivalry/post/2010/04/ncaa-reaches-14-year-deal-with-cbturner/1#.UmWCDhCzLMO>
- Paul, R. J., & Weinbach, A. P. (2013). Determinants of dynamic pricing premiums in Major League Baseball. *Sport Marketing Quarterly*, 22, 152-165.
- Rao, V. R. (2009). *Handbook of pricing research in marketing*. Cheltenham, UK: Edward Elgar.
- Rascher, D., & Schwarz, A. (2013). The antitrust implications of "paperless ticketing" on secondary markets. *Journal of Competition Law & Economics*, 9, 655-708.
- Rascher, D., McEvoy, C., Nagel, M., & Brown, M. (2007). Variable ticket pricing in Major League Baseball. *Journal of Sport Management*, 21, 407-437.
- Reese, J. D., & Kerr, M. D. (2013). Price tiers as antecedents of event quality in the sport industry. *International Journal of Revenue Management*, 7, 119-137.
- Reese, J. T., & Mittelstaedt, R. D. (2001). An exploratory study of the criteria used to establish NFL ticket prices. *Sport Marketing Quarterly*, 10, 223-230.
- Rishe, P., & Mondello, M. J. (2003). Ticket price determination in the National Football League: A quantitative approach. *Sport Marketing Quarterly*, 12, 72-79.
- Rishe, P., & Mondello, M. (2004). Ticket price determination in professional sports: An empirical analysis of the NBA, NFL, NHL, and Major League Baseball. *Sport Marketing Quarterly*, 13, 104-112.
- Rishe, P., Reese, J., & Boyle, B. (under review). Secondary market behavior during Major League Baseball's postseason: Evidence from the 2013 playoffs. *Journal of Sport Management and Commercialization*.
- Rishe, P. (2014a). Pricing insanity at March Madness: Exploring the causes of secondary price markups at the 2013 Final Four. *International Journal of Sport and Society*, 4, 67-78.
- Rishe, P., Mondello, M., & Boyle B. (2014b). How event significance, team quality and school proximity impact secondary market behavior at March Madness. *Sport Marketing Quarterly*, 23, 148-160.
- Rovell, D. (2014, January 6). BCS title tickets selling on the cheap. *ESPN.com*. Retrieved from http://espn.go.com/college-football/bowls13/story/_id/10250044/2014-vizio-bcs-national-championship-tickets-cheapest-14-year-history

- Salaga, S., & Winfree, J. A. (2015). Determinants of secondary market sales prices for National Football League personal seat licenses and season ticket rights. *Journal of Sports Economics*, 16, 227-253.
- Scitovsky, T. (1945). Some consequences of the habit of judging quality by price. *The Review of Economic Studies*, 12, 100-105.
- Shapiro, S., & Drayer, J. (2012). A new age of demand-based pricing: An examination of dynamic ticket pricing and secondary market prices in Major League Baseball. *Journal of Sport Management*, 26, 532-546.
- Shapiro, S., & Drayer, J. (2013). An examination of dynamic ticket pricing and secondary market price determinants in Major League Baseball. *Sport Management Review*, 14, 389-398.
- Tsao, H., Pitt, L., & Caruana, A. (2005). The formation of 'high price-high quality' inferential belief: A study among young buyers of mobile phones and notebooks. *Asia Pacific Journal of Marketing and Logistics*, 17, 50-60.
- Zhu, J. D. (2014). Effect of resale on optimal ticket pricing: Evidence from Major League Baseball tickets. Working paper, Texas A&M University.

Endnotes

¹ These dollar value estimates for various segments of the secondary market were obtained through an email communication between one of the authors and an executive from a national ticket resale firm. The executive asked for anonymity.

² For a historical overview of the BCS era, visit <http://www.bcsfootball.org/news/story?id=10172026>

³ For a detailed discussion of BCS selection procedures, visit <http://www.bcsfootball.org/news/story?id=4819597>

⁴ Markup percentage was chosen as the dependent variable in order to focus on the issue of how much fans were willing to spend over face in comparative terms across observations. "Markups in dollars" was deemed a weaker proxy since the same dollar markup (say \$25) could represent a different 'percentage markup' across different face values (e.g., a \$25 markup over a face of \$175 is a larger percentage markup than if the face price was \$225). Also, note that secondary sales prices did not include transaction fees.

⁵ The seating chart for the Rose Bowl shows the most centrally located seating sections are Sections 3 through 6 and 17 through 20, covering the distance between the 30-yard lines on either side of the field. Separately, the seating chart clearly demarks the rows into distinct groupings. Field-level rows are rows A through K, followed by the next tier of seats including rows 1 through 24, followed by the next tier of seats from rows 25 to 42, and then the upper tier of seats from rows 43 to 77. Retrieved from <http://www.rosebowlstadium.com/visitor-center/seating-guide>

⁶ The dummy variable for CA excludes people from the Los Angeles MSA in order to differentiate it from the LOCAL dummy variable.

⁷ The Rose Bowl in Pasadena, CA is comprised of twenty-eight sections labeled 1 through 28. For both games, the "premium" sections were identified as sections 1 through 8 and 15 through 22. Thus, the "end zone" sections were sections 9 through 14 and 23 through 28.

⁸ TicketCity is an Austin, TX based ticket broker founded in 1990, and has relationships with professional teams (San Francisco 49ers of the NFL) and college athletic programs (including numerous schools from the Pac-12 Conference). SeatGeek is a New York City-based ticket aggregator founded in 2009, and they enable users to search for secondary market ticket deals for events across North America.

⁹ When H/S is present, OLS coefficient estimates are still unbiased but the OLS assumption of having an error term with constant variance is violated, thereby causing the standard errors and thus t-tests of individual variable significance to be unreliable.

¹⁰ Given the presence of H/S, various remedial approaches were attempted following Gujarati's textbook prescriptions (Gujarati, 2011). The log transformation of the dependent variable did remove H/S but led to the sample size falling considerably given that many markup percentages were negative. Weighted least squares (WLS) using the predicted value of the dependent variable as the weight did not remove H/S. Conversely, White's corrected standard errors did remove H/S.

¹¹ The data was partitioned to conduct a Chow test to determine if the regression coefficients were statistically different across the BCS finals and Rose Bowl. Though not shown for space reasons, the Chow test statistic fell in the rejection region, suggesting that the underlying behavior governing the determination of secondary markups is structurally different across these two games.

¹² QTY2 was removed from all Model 2 specifications given that it was insignificant in Model 1, and there were no signs of omitted variable bias. ROW2 was removed from Model 2A to see if a linear fit between row of the seat and markup differed significantly from the non-linear fit as outlined in Model 2B and Model 2C.

¹³ Model 2C was separately examined using secondary prices rather than markup percentage as the dependent variable, using OLS with White-corrected HCSE. As was the case when doing the same for Model 1, the statistical significance of the independent variables remains unchanged. Michiganders attending the Rose Bowl paid \$260 more per ticket than all other consumers, and markups increased roughly \$9.50 for every additional 100 miles traveled by consumers to reach Pasadena. These results are reported in Table 5.

¹⁴ Regarding using one's state as a proxy for their team allegiance, note that 83 of 84 Alabama consumers and 32 of 33 Florida consumers in the TicketCity sample of 377 attended the BCS game featuring Alabama versus Florida State. This combines for 37% of the 312 TicketCity transactions for the BCS title game. Similarly, 46% of the 65 TicketCity transactions for the Rose Bowl were consumers hailing from either MI or CA.

¹⁵ Though the current study's sample of games is too small to incorporate this variable, there is enough variation across bowl game betting lines to explore whether games featuring greater uncertainty (i.e., smaller lines) attract greater interest and thus larger markups across a larger sample of bowl games. A review of the Opening Vegas Lines for the 35 bowl games from the 2013-14 season showed (1) Florida State opened as a 9-point favorite versus Auburn while Stanford was merely a 3.5-point favorite against Michigan State, and (2) the majority of games featured lines between one to seven points, though there were a handful of teams (e.g., Baylor, Alabama, Notre Dame, Texas A&M, Oregon) who were favored by 14 to 16 points.

Copyright of International Journal of Sport Finance is the property of Fitness Information Technology, Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.