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Contextualizing the Financial Disparity Discussion: Modeling Power Five and Group of Five Athletic Revenues

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The debate surrounding the financial divide between National Collegiate Athletic Association (NCAA) Football Bowl Subdivision (FBS) Power Five and Group of Five athletic programs has yet to be contextualized with an analysis of financial ecosystems for each designation. This quantitative analysis applied random and fixed effects design to five years of revenue data from Power Five and Group of Five athletic programs. Results show that university demographic, market, athletic success, and facilities variables have different effects on revenue for each subgroup. Results also vary within the Power Five and Group of Five membership. Study conclusions allow for a more informed, less biased, and data-driven consideration of the growing financial divide within the NCAA FBS.

The National Collegiate Athletic Association (NCAA) Football Bowl Subdivision (FBS), the most highly resourced and competitive subset of NCAA Division I, is also the most scrutinized. The financial divide between athletic programs comprising the Power Five (the Southeastern, Atlantic Coast, Big Ten, Big 12, and Pac-12 conferences) and the Group of Five (American Athletic Conference, Conference USA, Mid-American Conference, Mountain West Conference, and the Sun Belt Conference) creates fiscal instability for the FBS (Fulks, 2017; Zimbalist, 2013). Athletic programs in Power Five conferences “pulled in a record \$6 billion [in 2015], nearly \$4 billion more than all other schools combined” (Lavigne, 2016, para. 1). Increased revenues support bigger and better facilities and higher coaching salaries (Byrd, Mixon, & Wright, 2013; McCafferty, 2006). The lower-earning Group of Five institutions rely heavily on institutional subsidies (Fulks, 2017; Matheson, O’Connor, & Herberger, 2012) as they attempt to compete financially with their Power Five counterparts. This practice has raised questions among authors, researchers, and reformers who ask if NCAA athletic programs support or detract from university missions (Lawrence, 2013; Sperber, 2000; Zimbalist, 2013).

Opinions differ according to how or if the NCAA should react to the financial disparity. Proponents of a free market system for intercollegiate athletics view institutional subsidy use as a choice; in this view, the divide is neither an ethical issue nor a matter for NCAA governance. In the opposing view, institutional subsidies for intercollegiate athletics are considered ethically and economically questionable and detract from the institutions’ and NCAA’s image. Proposed solutions to the problem include new models of NCAA revenue distribution and creative marketing strategies at the institutional level. To date, this issue has been discussed largely in terms of athletic programs’ moral obligations to their home institutions, the NCAA’s role as a support mechanism for higher education, and what constitutes financial equity among athletic programs. What has not been discussed are the dynamics of the Power Five and Group of Five financial ecosystems. This omission creates gaps in understanding of the financial disparity between these designations.

Previous studies have not analyzed Power Five and Group of Five revenue patterns separately, especially by revenue stream. As a result, the conversation surrounding FBS financial disparity lacks a full investigation of Power Five and Group of Five financial ecosystems. Making an effective decision regarding if or how to intervene in the financial disparity between Power Five and Group of Five conferences requires this type of evaluation. Therefore, the following study examined revenue growth patterns and potential revenue predictors for Power Five and Group of Five institutions to advance FBS finance literature and to add context to the debate and discussion surrounding FBS financial disparity. Predictors regarding facilities, on-field athletic success, market potential, and demographics of each university were collected across a five-year panel, with discrete revenue streams (ticket sales, contributions, rights and licensing) and revenue stream combinations (athletic-generated and total revenue) as response variables. The application of fixed and random effects regression modeling in this manner reveals Group of Five and Power Five revenue patterns and shows how predictors affect Power Five and Group of Five athletic program revenues differently. The results contribute to a data-driven discussion surrounding FBS financial disparity.

Literature Review

The financial disparity story is evident in recent NCAA governance changes, from researchers, reformers, and administrators of intercollegiate athletics, NCAA-commissioned financial reports, and as a byproduct of studies using financial data to examine aspects of the NCAA. In many cases, researchers have considered problems surrounding the issue and crafted potential solutions. The following section describes existing literature on FBS financial disparity through multiple lenses and introduces proposed resolutions scholars have considered. Of note, throughout previous literature, the financial disparity discussion has yet to be contextualized within models of intercollegiate athletic revenue patterns.

Financial Disparity: Embattling FBS Governance

Throughout NCAA history, the wide range of intercollegiate athletic program financial profiles has disrupted the NCAA's attempt to govern not only the FBS, but all three divisions (Zimbalist, 2013). In 2014, financial disparity within the FBS reached a boiling point for NCAA governance. The higher-resourced Power Five conferences called for "governance autonomy" in financing student-athlete wellbeing programs, such as "full cost of attendance, lifelong learning and additional health and nutritional benefits" (Division I Steering Committee, 2014, p. 28). The tension surrounding the two financial cultures in the FBS was embedded in this request: Group of Five institutions were unlikely to be able to afford to support the programs the Power Five institutions felt passionately about providing. The request for autonomy was coupled with the threat of pursuing a Division IV for Power Five conferences if Power Five needs were not met (Myerberg, 2014). SEC Commissioner Mike Slive voiced the Power Five position at the 30th annual SEC Media Days in Alabama before the NCAA annual meeting:

If we do not achieve a positive outcome under the existing big tent of Division I, we will need to consider the establishment of a venue with similar conferences and institutions where we can enact the desired changes in the best interests of our student-athletes (Myerberg, 2014, para 5).

To keep the Division I ecosystem whole and functional, the NCAA agreed to the Power Five requests and altered its governance structure on August 7, 2014 (Hosick, 2014).¹ The new autonomy voting procedure "allows the five conferences and their sixty-five member institutions and fifteen student-athlete representatives (80 total) to act on legislation for the permissive use of resources to benefit student-athletes as well as on certain well-being issues" (Division I Steering Committee, 2014, p. 6-7). The autonomous decision-making process was not intended to affect proposed policies that might perpetuate the competitive balance issue stemming from the disparity in funding structures (Division I Steering Committee, 2014). Yet one of the first pieces of legislation approved under the new model allowed institutions to provide cost of attendance (COA) stipends to student-athletes. COA can be a substantial recruiting benefit for those institutions able to fund them. Power Five institutions are more financially able to cover this additional cost—up to \$6,000 per student-athlete, an average total of \$900,000 per school—than

¹ For a full description of the governance changes, see Hosick (2014). Additional changes included a new board composition, a change in council operations, and increased student-athlete representation in the voting process.

their Group of Five colleagues (Solomon, 2015). As of 2015, “it’s believed that every Power Five school will provide COA. At least 13 Group of Five schools said they are not offering the new stipend” (Solomon, 2015, para. 3). The policy change demonstrates the complexity of managing the two Division I subsets under the same FBS umbrella; financial disparity between the Power Five and Group of Five institutions not only exists, but creates often complicated challenges within the governance structure. Individuals and groups pushing for NCAA reform produced the bulk of literature chronicling the history and resulting tensions surrounding the financial disparity issue at large (Frank, 2004). These historical accounts shaped the types of policy solutions proposed.

A Historical Account and Proposed Solutions

Researchers, reform groups, and NCAA administrators have publicized concerns with the financial divide, specifically, and the NCAA’s reputation, generally, in academic journals and the news media. These perspectives often frame solutions to the financial disparity within their own accounts of the evolution of financial disparities (Knight Commission, 2017; Lawrence, 2013; Sperber, 2000; The Drake Group, 2017; Zimbalist, 2013). This section provides a brief overview to set the current investigation in context. For a detailed chronicle of financial disparity reform efforts, see Zimbalist (2013).

Athletic success became an early indicator of university success (Sack & Staurowski, 1999; Zimbalist, 2013). The pursuit of additional funds to support athletic success created inequalities in governance structures and led to the use of university funds and student fees to subsidize increasingly expensive athletic programs. Researchers contextualizing peer-reviewed articles have associated broader NCAA organizational inequalities (e.g., gender inequality) with financial disparity across all levels of college sport, including the FBS (Lawrence, 2013; Sack & Staurowski, 1999; Sperber, 2013; Zimbalist, 2013). Outside academia, policy groups have formed to protest financial inequity and the athletic facilities arms race that overtaxes institutional budgets (The Drake Group, 2017; The Knight Commission, 2017). Financial inequity has been rigid over time: 80% of the top decile of revenue generators in 2005 remained in the top revenue decile in 2010 (Cheslock & Knight, 2012).

Zimbalist (2013) chronicled the history of financial disparity from the NCAA’s inception. Commercialization of sport was present at the first collegiate sport contest in 1852, with alcohol and excessive prizes for participating teams from Yale and Harvard (Zimbalist, 2013). The U.S. Supreme Court ruling in *NCAA v. Board of Regents of the University of Oklahoma* (1984) altered institutions’ freedom to pursue television contracts (Byers, 1995). By striking down NCAA limitations on television appearances and what was considered “price fixing” for the production of such appearances (Lawrence, 1987), the court allowed more highly sought-after conferences to secure more lucrative television contracts, which offered greater visibility and additional revenue-generating opportunities (Dunnavant, 2004). For reformers, this court decision is the pivotal moment in FBS financial disparity (Lawrence, 2013; Sperber, 2000; Zimbalist, 2013); consequently, media rights and licensing have been among the most targeted revenue streams for reform.

Given the magnitude of the fiscal divide and the problems attributed to it by NCAA reformers, it is to be expected that several potential solutions have emerged in peer-reviewed and trade literature. Realigning the governance structure (i.e., creating separate competitive divisions for Power Five and Group of Five schools) has not only been threatened by Power Five

institutions, but also has been suggested to prevent lower-resourced schools from using school subsidies to compete with wealthier institutions. Lawrence (2013) and Zimbalist (2013) have suggested that the NCAA redistribute March Madness revenue from television rights and licensing to better reflect equality and academic achievement²; Lawrence (2013) further proposed maximizing digital streaming rights and implementing NCAA-supported creative marketing strategies. In addition, NCAA watchdog groups promoted a limited antitrust exemption in order to limit lucrative television contracts and/or athletic expenses (The Drake Group, 2015). None of the proposed solutions, however, has been considered in the context of athletic revenue growth patterns for Power Five and Group of Five institutions. This study makes an important contribution to the conversation surrounding the financial disparity within the FBS through a data-driven approach that considers Power Five and Group of Five institutions separately.

Financial Report Mechanisms and Research

NCAA finances are publicly available via three different reports with varying purposes and limitations associated with their aggregation methods (Gabriel, Lawrence, & Wanless, under review; Matheson et al., 2012). Although the NCAA does not mandate a consistent accounting practice for intercollegiate athletic programs, and inconsistencies are potentially present (Borland, Goff, & Pulsinelli, 1992; Gabriel et al., under review; Lawrence, 2013), the disparity among institutions is widely evident across athletic revenue streams.

The Equity in Athletics Data Act (EADA) mandates financial reporting for post-secondary institutions receiving federal funding under Title IV (EADA, 2017). To promote transparency in gender-specific funding, revenues and expenses are combined according to men's and women's teams in the Equity in Athletics Data Act Cutting Tool. Since 1989, the NCAA has also published self-commissioned financial reports, entitled *Revenues and Expenses* (Fulks, 2017), that release data collected for the EADA audit and include additional revenue and expense details. The NCAA has been applauded for issuing financial reports beyond the EADA Cutting Tool, but has been criticized for lacking transparency (Lawrence & Gabriel, 2010). For example, unlike the EADA report, that Fulks (2017) does not include data for individual schools. Instead, Fulks reveals the median value of all schools for a given segment (e.g., the median revenue figure for all schools in the FBS) and includes aggregated financial data according to expense quartiles within each designation. *USA Today* and the *Indianapolis Star*, under the U.S. Freedom of Information Act, also publish Division I athletic program financial data in a report entitled *NCAA Finances* (*USA Today*, 2017). This report details the finances of 231 Division I schools (private schools excluded) from 2000 to the present year. The collection is similar to the EADA in that a detailed view of each institution is provided; unlike the EADA, however, the *USA Today* report includes revenues and expenses broken down by revenue stream and expense categories. In addition, the total amount of institutional subsidy is displayed as well as the total percentage of overall revenue attributed to school-allocated funds (*USA Today*, 2017).

Researchers have used all of these reports to investigate aspects of intercollegiate athletic finance. McEvoy et. al (2013) noted that while plentiful research evaluates individual

² In October 2016, the Division I Board of Directors approved changes to the March Madness redistribution plan to better reward student-athlete academic performance. Changes will take place in the 2019-2020 athletic fiscal year. For more about the changes made, see NCAA (2017).

intercollegiate athletic revenue streams such as modeling contributions to the athletic department (e.g. Martinez et al., 2010), understanding the drive to purchase sport tickets (e.g. James and Ross, 2004), and corporate sales (e.g., Weight, Taylor & Cuneen, 2010), the “macro-level perspective” (p. 251) predicting revenues holistically to the athletic department is lacking. The few macro studies incorporated limited sets of predictors (e.g., market variables were not included) and used response variables that were inconsistent with institutions’ nonprofit status. The response variable considered was profit (Mondello, 1999), with allocated revenues or school subsidy considered within athletic revenue streams. McEvoy et al. (2013) aimed to resolve these limitations. Among conference affiliation, enrollment, athletic success, and market variables, McEvoy et al. (2013) found that conference affiliation and university enrollment were the strongest positive predictors of athletic-generated revenue in the FBS. Various athletic success measures (an increased number of football in comparison with basketball) were significant, with moderately impactful coefficients; market variables, per capita income, and population were not significant. The athletic-generated revenue standard deviation was high, showing the financial diversity among members, as McEvoy et al. (2013) admitted on page 256. Of note, membership in the Power Five conference (one of six BCS conferences at the time of data collection) explained more than 60% of athletic-generated revenues and dominated the model effect size (76.7%). This dominance in a model of a wide range of FBS financial profiles may conceal patterns that are important to the financially unique Group of Five and Power Five cultures. The underlying patterns may be critical to understanding differences among the groups as well as important to understanding how proposed financial disparity solutions may affect each designation. In order to further advance literature and to contextualize the financial disparity discussion, we included additional relevant predictors, included an expansive array of response variables (from athletic-generated revenue to total revenue to each revenue stream), and analyzed Group of Five and Power Five institutions separately.

Data and Methodology

Fixed and random effects regression analyses were applied to investigate revenue determinants for Power Five and Group of Five athletic departments. To begin, revenue data from 2010 to 2015 was gathered from the USA Today *NCAA Finances* (2017) website for all Power Five and Group of Five teams. Schools that did not consistently offer football over this period or had not consistently been a member of the Power Five or Group of Five during this period were eliminated from the data set. In addition, the data set did not include private institutions because USA Today *NCAA Finances* (2017) did not have financial data for such institutions. The final data set included 48 Power Five and 43 Group of Five institutions. Dependent variables were total revenue for the athletic department (*TotalRevenue*); total contributions and donations received by the athletic department (*Contributions*); revenue from athletic-associated corporate sales, rights and licensing (*Rights/Licensing*); and revenue from all athletic ticket sales (*TicketSales*). A fifth dependent variable measuring revenue attributed to the athletic program (*AthlRevenue*) was calculated by taking the total revenue and subtracting school-allocated monetary sources that were not directly tied to the performance of the athletic department (McEvoy et al., 2013).

Independent variables included factors to measure the impact of facilities, athletic success, market potential, and the demographics of each university. Facilities’ impact was measured through four variables accounting for the age of football (*FBStadAge*) and basketball

(*BBStadAge*) venues where official competitions were held, as well as variables accounting for the existence of ongoing capital campaigns to build or renovate football (*FBStadProj*) or basketball (*BBStadProj*) facilities. These variables were included in the model to account for the impact of intense efforts to raise funds. Other variables included account for the novelty effect, in which new stadiums experience increased attendance for several years (Coates & Humphreys, 2005). Data for these facilities were gathered from each athletic department website and cross-referenced with the official page for each facility.

Variables for athletic success were limited to same-year and lagged performance of football and men's basketball teams, the two sports considered most important to generating revenue (Kahn, 2007; Williams, Seifried, & Soebbing, 2015). Lag variables were included to measure if the football or basketball team were ranked at the end of the previous season (*BBRanked*, *FBRanked*), participated in post-season play (*BBPostSeason*, *FBPostSeason*), or won a national championship (*BBNatlChamp*, *FBNatlChamp*). These controls were constructed as dummy variables with the exception of the basketball post-season metric, which ranged from 0 to 6, with 0 representing teams that did not make it to the NCAA Tournament and the remaining values designating the number of rounds a basketball team progressed in the post-season. The win percentage for the current year (*BBWpct*, *FBWpct*) and the previous five years of play were included to control for the actual record of each team. All performance data was collected from the college football and basketball reference sites, which hosts complete information on college sport team performance across all Division I teams (Sports Reference, 2017).

Two variables measured the impact of the local area in which each academic institution in this study is located. Metropolitan and Micropolitan Statistical Area (MSA) data from the Bureau of Economic Analysis (BEA) was used to measure the population (*Population*) and per capita income (*Income*) in each region. Previous sports market studies (Falls & Natke, 2014; McEvoy et al., 2013) had noted the importance of these variables, as they help to capture the potential number of consumers in the region and their spending power. University demographics were captured by the number of full-time students enrolled (*Enrollment*) and the conference affiliation of each Group of Five (*AAC*, *CUSA*, *MAC*, *MtWest*, *SunBelt*) and Power Five (*ACC*, *BigTen*, *BigTwelve*, *PacTwelve*, *SEC*) athletic program. Finally, dummy variables were included to capture any differences that emerged between each year. See Table 1 for a complete aggregation of the predictor and response variables for the study.

The regression specification is given in Equation 1

$$\begin{aligned}
 Revenue_{it} = & \alpha_0 + \beta_1 BBStadAge_{it} + \beta_2 BBStadProj_{it} + \beta_3 FBStadAge_{it} \\
 & + \beta_4 FBStadProj_{it} + \beta_5 BBNatlChamp_{it-1} + \beta_6 FBNatlChamp_{it-1} \\
 & + \beta_7 BBRanked_{it-1} + \beta_8 BBPostSeason_{it-1} + \beta_9 BBWpct_{it-1} \\
 & + \beta_{10} BBWpctFive_{it-1} + \beta_{11} FBRanked_{it-1} + \beta_{12} FBPostSeason_{it-1} \\
 & + \beta_{13} FBWpct_{it-1} + \beta_{14} FBWpctFive_{it-1} + \beta_{15} Enrollment_{it} \\
 & + \beta_{16} Population_{it} + \beta_{17} Income + \sum \beta_m Years + \sum \beta_c Conf + \mu_{it}
 \end{aligned} \tag{1}$$

where $i = team$ and $t = year$

The data set was separated into Group of Five and Power Five schools, not only to assess differences in revenue patterns between Power Five and Group of Five institutions, but also to account for the drastic differences in revenue generated by athletic departments in each subset.

Models using each of the five dependent variables were estimated using Equation 1. Outliers (nine Group of Five observations and four Power Five observations) were identified via Mahalanobis distance and removed. Because the data in this research comprised schools repeating observations over time, the panel nature of the data was also considered.

Results were estimated with outliers removed using both fixed effects and random effects regression. From this, a Hausman test was conducted for each designation to assess whether significant differences existed between the coefficients estimated from the fixed and random effects models. The results of both Hausman tests were insignificant at the .05 level, indicating that a Generalized Least Squares (GLS) random effects regression was suitable for use in this study (Gujarati, 2009). Fixed effects returned R^2 values ranging from between 0.0102 and 0.1294, while the random effects values ranged from 0.3406 to 0.7160. The remainder of the paper includes the complete results for all random effects regressions; fixed effects results were omitted.

Results

Descriptive statistics are provided in Table 2. The descriptive results not only reveal the nature of each variable in the study, but also depict Power Five and Group of Five institutions relative to athletic program revenue, market potential, university demographics, facility development, and on-field success in football and men's basketball. Between 2010 and 2015, Power Five institutions declared an average athletic-generated revenue nearly 10 times higher (\$70,900,000) than their Group of Five counterparts (\$7,113,355). This disparity held in other variable revenue aggregations: total revenue, rights and licensing, and contributions were all roughly six times higher for Power Five institutions; ticket sales revenue was over seven times higher. From 2010 to 2015, Power Five average total revenue increased by \$23,111,749, average athletic-generated revenue by \$23,010,742, average contributions by \$3,303,226, average rights and licensing by \$17,292,633, and average ticket sales by \$1,769,468. In the same time period, Group of Five average total revenue increased by \$3,128,739, average athletic-generated revenue by \$2,952,710, average contributions by \$1,399,021, average rights and licensing by \$1,668,510, and average ticket sales by \$14,310. Of note, the standard deviations across revenue streams for Power Five institutions displayed a much wider range than those for Group of Five institutions.

Power Five institutions recorded higher (within a tenth) average win percentages for both one- and five-year periods in men's basketball and football. Post-season however, Power Five institutions had higher numbers of appearances and higher rankings in both men's basketball and football. For example, the Power Five average post-season football ranking was five times higher (.354) than the Group of Five (.064). Demographically, Group of Five institutions recorded smaller enrollment numbers on average. Although Group of Five and Power Five institutions had similar market populations, Group of Five institutions were situated in slightly larger markets. Men's basketball stadiums at Group of Five and Power Five institutions were of similar ages, but Power Five football stadiums were older. Although both conferences had similar numbers of ongoing basketball stadium projects, the Power Five recorded on average more than twice the number of ongoing stadium projects for football.

Table 3 displays the estimated results for the Group of Five random effects regressions. Models revealed a combination of significant variables from on-field athletic success, market, and university demographic designations. The variables measuring facility characteristics were insignificant in all Group of Five models, however. Five-year football win percentage reached

significance in a majority of the revenue categories, but one-year football winning percentage reached significance in predicting rights and licensing. Football post-season success resulted in a negative relationship with athletic-generated revenue. Group of Five institutions experienced total revenue increases related to previous year improvements in men's basketball postseason rankings and increases in rights and licensing revenue as a result of previous year men's basketball NCAA tournament success. The local region population did not predict revenue for Group of Five institutions. However, higher income levels incurred a negative relationship with total revenue and rights and licensing revenues. University student enrollment had a positive relationship with Group of Five total revenue and rights and licensing revenue. Conference affiliation was a pervasive predictor across the response variables. MAC membership was negative and significantly related to all types of revenue examined. Conference USA programs also reported lower total revenue, contributions, and rights and licensing, while Sun Belt Conference membership was related to lower contributions and rights and licensing revenue. Mountain West schools were found to have higher athletic-generated revenue than their Group of Five conference counterparts. Enrollment predicted positive revenue gains for total revenue, rights and licensing revenue and ticket sales revenue, but incurred a negative relationship with total athletic-generated revenue. Year dummies showed that each revenue stream increased significantly over time aside from ticket sales.

Table 4 displays random effects results for the Power Five schools. Significant variables emerged from each variable category. Unlike the Group of Five, facility variables—specifically, football and basketball facility age—reached significance in the Power Five model. Various athletic success measures were predictors across revenue streams, with five-year football winning percentage recurring across revenue streams as a significant predictor. Current year football winning percentage increases, however, predicted growth in athletic-generated revenue alone. Five-year men's basketball increases predicted advancement in total athletic revenue, rights and licensing, and ticket sales revenue. Lagged national championship win predicted total athletic revenue and athletic-generated revenue negatively. This was the only post-season athletic success measure to reach significance in the models. Market population and income were significant predictors. Income had a positive relationship with total revenue as well as rights and licensing revenues. University demographics, including conference affiliation, also were significant predictors. Positive relationships were observed between enrollment and Power Five total revenue, contributions, rights and licensing, and ticket sales revenue. Conference affiliation measures indicated that compared to the SEC, the ACC, Big Twelve, and Pac-12 conferences were associated with lower total, athletic, and contribution related revenues. The Pac-12 and ACC also reported lower revenue from rights and licensing and ticket sales than the SEC. Big Ten revenues were not significantly different from those of the SEC, except for lower revenue from donations to the athletic department.

Discussion

This project modeled revenue streams and revenue stream aggregations for Power Five and Group of Five subgroups of the FBS. The study advances NCAA finance research at large through addressing fundamental financial differences between Power Five and Group of Five athletic programs. Previous literature considered FBS finance holistically without investigating the subgroups separately (McEvoy et al., 2013; Mondello, 1999). Additionally, the consideration of discrete revenue streams along with total and athletic-generated revenue

aggregations revealed new conclusions for a research line that typically examined revenue streams in isolation. Collectively, this study improves upon past works to allow for a data-driven approach to the consideration of FBS financial disparity. Previous literature debating this issue lacked the inclusion of Power Five and Group of Five revenue models. The discussion begins by interpreting the financial results and moves toward using the results to inform the debate surrounding FBS finance.

As suspected, both differences and similarities exist among the Power Five and Group of Five models. Overall, models for both designations share some degree of significance for year dummies; most revenues for both groups increased statistically significantly over time³. This result is similar to past studies of revenue growth among intercollegiate athletic institutions (e.g., McEvoy et al., 2013). An important finding from this study, however, is the justification for modeling the range of athletic revenues separately for Power Five and Group of Five designations. For example, the standard deviations across revenue streams were much smaller for Group of Five athletic programs than in past studies that evaluated the FBS holistically (McEvoy et al., 2013; Mondello, 1999). Group of Five institutions' financial profiles are more alike than those of Power Five institutions. Additionally, year dummies for Group of Five ticket sales revenue were not significant. Over the five panel years included for this study, ticket sales revenue for this group was not increasing at a statistically significant rate as it was for Power Five athletic programs. Contributions and rights and licensing for Group of Five institutions, however, exhibited statistically significant growth. This is an important implication for revenue generation within the Group of Five subset.

Regarding university demographic variables, the findings suggest that amongst the Power Five, the SEC and Big Ten generally have higher total and athletic-generated revenue. For the Group of Five designation, the Mountain West demonstrated higher total and athletic-generated revenue. Although this investigation focused on the financial disparity between Group of Five and Power Five institutions, intraconference findings provide a starting point and key study conclusion from which to consider the disparity within these subgroups overall and according to revenue stream. The current financial disparity between Group of Five and Power Five institutions in college athletics is widely discussed (Knight Commission, 2017; The Drake Group, 2017; Sperber, 2000; Lawrence, 2013; Zimbalist, 2013), while the conversation and corresponding implications surrounding a divide within these designations has been eclipsed.

Enrollment showed statistical importance for Power Five revenue streams and Group of Five revenue streams. Enrollment's tie to the response variable, total revenue (school subsidy included), for both sets of institutions makes sense given the role of student fees in the budget for athletic programs in both designations (Fulks, 2017). This conclusion also reflects McEvoy et al. (2013), who found enrollment was important to athletic-generated revenue for the entire FBS. Researchers determined that many of the top revenue-generating athletic programs are housed in large public institutions. For Group of Five schools, however, enrollment was tied to increases in rights and licensing and ticket sales, but negatively associated with total athletic-generated revenue. Enrollment may not have the same consistent positive impact on Group of Five athletic revenue as it does for the Power Five level.

³ It should be noted that immense expense growth also occurred during this time (see Fulks, 2017), which is beyond the scope of this quantitative investigation, but still an important consideration when conceptualizing the FBS financial environment.

Previous literature revealed the importance of football success to athletic revenue (e.g., Martinez et al., 2010; McEvoy et al., 2013). Of the athletic success measures, five-year trends in football winning percentage emerged as the most widespread and positive indicator across both Power Five and Group of Five models, predicting various levels of revenue increases for most revenue streams. These results emphasize the impact of consistently winning football teams although coefficients in all cases were modest. Post-season athletic success measures, however, performed differently between models. While measures of post-season success promoted revenue increases for Group of Five, they did not catalyze increased revenue for Power Five athletic programs. This result could be signaling the value of high profile athletic success for Group of Five athletic programs or that revenue gains associated with Power Five post-season achievement pale in comparison to other effects such as conference membership. As there may be heterogeneous financial responses to post-season and other types of athletic success achievement, future research at the institutional level is warranted. Interestingly not all of the athletic success measures resulted in positive revenue gains. When lagged Power Five national championship wins resulted in a decrease in total and total athletic-generated revenue, it may have been the case that revenue increases were realized in the current year and not sustained into the next year. However, study results overall do not suggest athletic success will bring statistically significant increases in athletic revenues.

Facilities variables played a more important role in determining athletic department revenue for Power Five institutions as compared to Group of Five institutions. Although Group of Five and Power Five institutions showed similar results for basketball stadium project frequency, twice as many football stadium constructions were observed for Power Five institutions, reflecting much of the literature describing the intercollegiate athletic facilities arms race among Power Five institutions (Frank, 2004). Group of Five institutions are not keeping pace with the administration of these types of football facility improvements. For the institutions in the upper echelon of athletic competition—i.e., the Power Five—facilities were important to revenue, but not in the way anticipated. While previous studies noted that newer facilities often experience a novelty effect that leads to an increase in attendance demand (Coates & Humphreys, 2005), this study found that Power Five athletic departments experienced increased revenues as their facilities aged. The age of basketball arenas was positive and significantly related to total revenue, athletic revenue, and contributions, while the assessment of football stadiums resulted in a similar relationship with total revenue and contributions. One caveat is that the data examined may not account for historical private contributions for new facilities projects, since capital campaigns for facilities can occur years before a new venue opens.

Power Five and Group of Five institutions also differed in the way market variables predicted athletic program revenue. Higher income areas are associated with increased populations and metropolitan areas. It may be that in higher income areas, Group of Five institutions suffer decreased revenues as a result of increased sport competition, while Power Five institutions are better equipped to take advantage of the increased income. Future research is warranted to substantiate this claim.

Practical Application

Just as modeling Power Five and Group of Five institutions separately advances NCAA FBS finance literature, modeling the two groups separately offers insight to the financial disparity debate that was not previously addressed. Results indicate that while total athletic

revenue, athletic-generated revenue, and subset revenue streams for both Power Five and Group of Five conferences increased over time, overall differences between the two groups persist, and the gap is widening. As athletic-generated revenues increased, the use of school funds to subsidize athletic programs kept pace (Fulks, 2017). The FBS financial divide debate includes the discussion of potential solutions to the financial disparity. The Power Five and Group of Five models offer financial context from which to discuss the proposals.

Previously discussed in the literature review, projected solutions to the school subsidy use included controlling for individual revenue streams, such as television rights and licensing distributions; reorganization, such as classifying the FBS based on athletic-generated revenues; controlling expenses; and creative revenue generation strategies at the institutional level to overcome the disparity (Lawrence, 2013; The Drake Group, 2015; Zimbalist, 2013). Results of this study demonstrated the importance of all athletic-generated revenue streams to FBS athletic programs. Targeting one revenue stream—for example, the March Madness redistribution plan (NCAA, 2017)—would fail to completely resolve the financial disparity. Rights and licensing agreements (specifically, television agreements) often receive the most attention from researchers, reformers, and administrators because of their magnitude, so many policy proposals seek to create an equitable distribution across institutions. However, ticket sales and contributions would still contribute to a substantial disparity between Power Five and Group of Five institutions. Therefore, NCAA redistribution or other redistribution agreements, although symbolic of the pursuit of fiscal equality, would not solve the financial disparity.

Combined results revealed facility, market potential, athletic success, and institutional variables predict revenue differently between Power Five and Group of Five schools (and within these designations). The effects of these variables are not so powerful to disrupt or override efforts to control revenue streams if implemented. However, the lack of consistency between Power Five and Group of Five institutions complicates the viability of proposed solutions at the individual institution level, especially efforts to increase revenue through creative marketing initiatives and by maximizing digital streaming rights. These predictors will also play an important role in eliminating financial imbalance depending on the definition of *financial equality*. The NCAA cannot control school enrollment or team performance, nor how athletic departments thrive or fail in markets of varying competitiveness. Although many of the statistically significant predictors resulted in only moderate gains for Power Five and Group of Five institutions alike, those factors must still be considered if even muted financial disparity drives school subsidies for athletics and counters the image the NCAA desires to cultivate.

Separating divisions based on athletic-generated revenue could still yield growing financial disparity; witness the wide financial ranges found among both Power Five and Group of Five institutions. For example, this study showed that the Mountain West generated statistically significantly more total athletic and athletic-generated revenue than the other three conferences. The evolving financial disparity and the resulting use of school subsidy to fund athletic programs in the FBS could grow within Power Five and within Group of Five conferences without intervention. In the context of Group of Five and Power Five financial ecosystems, NCAA-driven interventions for the financial disparity lack merit. Reformers may have to depend on external entities to impose upon school subsidy use for athletic programs. Individual state governments, for example, may enact limitations on the use of school subsidies and student fees for athletic programs. This will not eliminate the financial disparity between athletic programs where it currently exists, but instead will temper the use of school funds if the NCAA desires to improve this image issue.

Recommendations for Future Directions

This study advances perspectives regarding NCAA FBS finance as well as the data-driven contribution to the financial disparity debate. Conclusions are limited with respect to the accuracy, transparency, and aggregation of NCAA reporting mechanisms. Although researchers and reformers alike called for accounting reform in this area, currently the NCAA does not mandate a uniform reporting system for membership institutions. Additionally, corporate sales and television rights comprise the rights and licensing revenue stream in the *USA Today* report, while future analyses would benefit from finer delineation. With the expanded breadth of predictors considered in this study, the random effects models explained between 34% and 70% of the variance in revenue. While this is a considerable improvement, future research could add value by further exploring additional predictors with the potential to inform revenue models for Power Five and Group of Five institutions. Because this study demonstrated revenue pattern differences within Power Five and Group of Five designations, future research should focus on conference by conference differences. In addition, the five-year panel assessed in this study represents a snapshot in time for the FBS; replication across different time periods will further enhance understanding of the relationships between predictors and intercollegiate athletic revenue streams.

References

- Borland, M. V., Goff, B. L., & Pulsinelli, R. W. (1992). College athletics: Financial burden or boon? *Advances in the Economics of Sport*, 1, 215-235.
- Byers, W. (1995). *Unsportsmanlike conduct: Exploiting college athletes*. Ann Arbor, MI: University of Michigan Press.
- Byrd, W. J., Mixon, P. A., & Wright, A. (2013). Compensation of college football's head coaches: A case study in firm size's effects on pay. *International Journal of Sport Finance*, 8, 224-235.
- Cheslock, J., & Knight, D. (2012). *Following a problematic, yet predictable, path: The unsustainable nature of the intercollegiate athletics system*. Retrieved from https://www.knightcommission.org/wp-content/uploads/2012/09/2012_kciareports_cheslock.pdf
- Coates, D., & Humphreys, B. R. (2005). Novelty effects of new facilities on attendance at professional sporting events. *Contemporary Economic Policy*, 23(3), 436-455.
- Equity in Athletics Data Analysis (EADA). (2017). The equity in athletics data analysis cutting tool, Equity in Athletics Data Analysis. Retrieved from: <http://ope.ed.gov/athletics/>
- Falls, G. A., & Natke, P. A. (2014). College football attendance: a panel study of the Football Bowl Subdivision. *Applied Economics*, 46(10), 1093-1107.
- Frank, R. H. (2004). Challenging the myth: A review of the links among college athletic success, student quality, and donations. *Knight Commission*. Retrieved from http://www.knightcommission.org/images/pdfs/kcia_frank_report_2004.pdf
- Fulks, D. L. (2017). *Revenues and expenses, 2004–2016: Division I intercollegiate athletics programs report*. Indianapolis, IN: NCAA. Retrieved from http://www.ncaa.org/sites/default/files/2017RES_D1-RevExp_Entire_2017_Final_20180123.pdf
- Gabriel, E. A., Lawrence, H. J., & Wanless, L. (under review). An application of activity-based costing to intercollegiate athletics: A response to the call for accounting reform. *Journal of Applied Business Research*.
- Goff, B. L. (2000). Effects of university athletics on the university: A review and extension of empirical assessment. *Economics of College Sports*, eds. J Fizek and R. Fort, Westport CT: Praeger, 65-85.
- Division I Steering Committee. (2014, July 18). *Division I steering committee on governance: Recommended governance model*. National Collegiate Athletic Association. Retrieved from <http://www.ncaa.org/sites/default/files/DI%20Steering%20Committee%20on%20Gov%20Proposed%20Model%2007%2018%2014%204.pdf>
- Dunnavant, K. (2004). *The fifty-year seduction: How television manipulated college football, from the birth of the modern NCAA to the creation of the BCS*. New York: Thomas Dunne Books.
- Gujarati, D. N. (2009). *Basic Econometrics*. New York, NY: Tata McGraw-Hill Education.
- Hosick, M. B. (2014). Board adopts new Division I structure: Student-athletes will vote at every governance level. *National Collegiate Athletic Association*. Retrieved from <http://www.ncaa.org/about/resources/media-center/news/board-adopts-new-division-i-structure>

- James, J. D. & Ross, S. D. (2004). Comparison sport consumer motivations across multiple sports. *Sport Marketing Quarterly*, 13, 17-25.
- Kahn, L. M. (2007). Markets: Cartel behavior and amateurism in college sports. *The Journal of Economic Perspectives*, 21(1), 209-226.
- Knight Commission on Intercollegiate Athletics. (2017). *Knight Commission on Intercollegiate Athletics*. Retrieved from <http://www.knightcommission.org>
- Lavigne, P. (2016, September 6th). Rich get richer in college sports as poorer schools struggle to keep up. *ESPN*. Retrieved from http://www.espn.com/espn/otl/story/_/id/17447429/power-5-conference-schools-made-6-billion-last-year-gap-haves-nots-grows
- Lawrence, H. J., & Gabriel, E. A. (2010). Using activity-based costing to create transparency and consistency in accounting for division I intercollegiate athletics. *Journal of Intercollegiate Sport*, 3, 366-381.
- Lawrence, H. J. (2013). The impact of intercollegiate athletics financial inequalities. *Journal of Intercollegiate Sport*, 6, 25-33.
- Martinez, J., Stinson, J., Kang, M., & Jubenville, C. (2010). Intercollegiate athletics and institutional fundraising: A meta-analysis. *Sport Marketing Quarterly*, 19(1), 36-47.
- Matheson, V. A., O'Connor, D. J., & Herberger, J. H. (2012). The bottom line: Accounting for revenues and expenditures in intercollegiate athletics. *International Journal of Sport Finance*, 7, 30-45.
- McCafferty, J. (2006). The money bowl: The real competition in big-time college sports is over who can spend the most. *CFO Magazine*. Retrieved from <http://www.cfo.com/article.cfm/7239613>
- McEvoy, C. D., Morse, A. L., & Shapiro, S. L. (2013). Factors influencing collegiate athletic department revenues. *Journal of Intercollegiate Athletics*, 6, 249-267.
- Mondello, (1999). Mondello, M. J. (1999). A financial analysis of Division I athletic programs. (Unpublished doctoral dissertation). University of Florida, Gainesville, Florida.
- Myerberg, P. (2014, July 14). Mike Slive says SEC must pursue separation if NCAA autonomy isn't gained. *USA Today*. Retrieved from <https://www.usatoday.com/story/sports/ncaaf/2014/07/14/commissioner-mike-slive-sec-media-days-ncaa-autonomy/12632085/>
- NCAA. (2017). Updates coming to revenue distribution system. *NCAA*. Retrieved from <http://www.ncaa.org/about/resources/finances/updates-coming-revenue-distribution-system>
- NCAA v. Board of Regents of the University of Oklahoma, 468 U.S. 85 (1984).
- Sack, A., & Staurowsky, E. J. (1999). A rejoinder to Timothy Davis, Intercollegiate athletics in the next millennium: A framework for evaluating proposals. *Marquette Sports Law Journal*, 10(1), 117-122.
- Solomon, J. (2015, August 20). Cost of attendance results: The chase to pay college players. *CBS Sports*. Retrieved from <https://www.cbssports.com/college-football/news/cost-of-attendance-results-the-chase-to-pay-college-players/>
- Sperber, M. (2000). *Beer and circus: How big-time college sports is crippling undergraduate education*. New York, NY: Henry Holt and Company.
- Sports Reference. (2017). Sports statistics quickly, easily, and accurately. Sports Reference. Retrieved from: <http://www.sports-reference.com/>

- The Drake Group, Inc. (2015). *Congress granting a conditional limited antitrust exemption to the NCAA and its member institutions*. Retrieved from https://drakegroupblog.files.wordpress.com/2015/06/antitrustexemption_final.pdf
- The Drake Group, Inc. (2017). *The Drake Group, Inc.: Academic Integrity in Collegiate Sport*. Retrieved from <https://thedrakegroup.org/>
- USA Today. (2017). *NCAA finances*. Retrieved from <http://www.usatoday.com/sports/college/schools/finances/>
- Weight, E. Taylor, K., & Cuneen, J. (2010). Corporate motives for sport sponsorship at mid-major collegiate athletic departments. *Journal of Issues in Intercollegiate Athletics*, 3, 119-130.
- Williams, D. P., Seifried, C., & Soebbing, B. P. (2015). The Influence of a University's Social Identity on NCAA Divisional Affiliation. *Journal of Intercollegiate Sport*, 8(2), 153-182.
- Wheeler, S. (2004). Rethinking amateurism and the NCAA. *Stanford Law & Policy Review*, 15, 213-236.
- Zimbalist, A. (2013). Inequality in intercollegiate athletics: Origins, trends, and policies. *Journal of Intercollegiate Sport*, 6, 5-24.

Table 1 – Variable Descriptions

Variable	Measure
TotalRevenue	Total Athletic Department Revenue
RightsLicensing	Revenue from Rights and Licensing
Contributions	Revenue from Contributions and Donations
TicketSales	Revenue from Ticket Sales
AthlRevenue	Athletic-Generated Revenue
BBStadAge	Age of Basketball Stadium
BBStadProj	Ongoing Basketball Stadium Project (Yes = 1)
FBStadAge	Age of Football Stadium
FBStadProj	Ongoing Football Stadium Project (Yes = 1)
BBNatlChamp	Won Basketball Championship in Previous Year (Yes = 1)
FBNatlChamp	Won Football Championship in Previous Year (Yes = 1)
BBRanked	Ranked in the Top 25 in Basketball in Previous Year (Yes = 1)
BBPostSeason	Number of Rounds Team Played in the NCAA Tournament in Previous Year
BBWpct	Basketball Win Percent in Current Year
BBWpctFive	Basketball Win Percent in Previous Five Years
FBRanked	Ranked in the Top 25 in Football in Previous Year (Yes = 1)
FBPostSeason	Played in a Bowl Game in Previous Year (Yes = 1)
FBWpct	Football Win Percent in Current Year
FBWpctFive	Football Win Percent in Previous Five Years
Enrollment	Total University Enrollment
Population	Metropolitan Statistical Area Population
Income	Metropolitan Statistical Area Per Capita Income
AAC	Member of American Athletic Conference (Yes = 1)
CUSA	Member of Conference USA (Yes = 1)
MAC	Member of Mid-American Conference (Yes = 1)
MtWest	Member of Mountain West Conference (Yes = 1)
SunBelt	Member of Sun Belt Conference (Yes = 1)
ACC	Member of Atlantic Coast Conference (Yes = 1)
BigTen	Member of Big Ten Conference (Yes = 1)
BigTwelve	Member of Big 12 Conference (Yes = 1)

PacTwelve	Member of Pac 12 Conference (Yes = 1)
SEC	Member of Southeastern Conference
yr2011	Year dummy for 2011 (Yes = 1)
yr2012	Year dummy for 2012 (Yes = 1)
yr2013	Year dummy for 2013 (Yes = 1)
yr2014	Year dummy for 2014 (Yes = 1)
yr2015	Year dummy for 2015 (Yes = 1)

Table 2. Summary Statistics

Variables	Group of Five (252 Observations)				Power Five (288 Observations)			
	Mean	<i>SD</i>	Min	Max	Mean	<i>SD</i>	Min	Max
TotalRevenue	14,200,000	9,241,089	3,820,213	48,100,000	85,500,000	30,500,000	28,500,000	194,000,000
AthlRevenue	7,113,355	11,000,000	1,942,001	40,200,000	70,900,000	25,500,000	27,300,000	192,000,000
RightsLicensing	5,428,761	4,713,240	959,792	26,000,000	33,300,000	10,300,000	10,400,000	62,900,000
Contributions	3,505,296	2,746,887	64,506	14,400,000	22,600,000	12,900,000	5,375,438	125,000,000
TicketSales	3,069,062	2,645,366	133,664	11,500,000	23,300,000	11,600,000	588,263	63,300,000
BBStadAge	31.06	13.88	1	65	35.91	20.80	1	88
BBStadProj	0.1151	0.3198	0	1	0.1458	0.3536	0	1
FBStadAge	45.09	23.89	1	100	74.88	20.93	1	102
FBStadProj	0.0952	0.2941	0	1	0.2118	0.4093	0	1
BBNatlChamp	0.0079	0.0889	0	1	0.0035	0.0589	0	1
FBNatlChamp	0	0	0	0	0.0208	0.1431	0	1
BBRanked	0.0675	0.2513	0	1	0.2326	0.4232	0	1
BBPostSeason	0.1746	0.3804	0	1	1.06	1.51	0	6
BBWpct	0.5284	0.1714	0.067	0.919	0.5957	0.1454	0.258	0.974
BBWpctFive	0.5280	0.1335	0.2394	0.8664	0.6006	0.1046	0.3662	0.8804
FBRanked	0.0635	0.2443	0	1	0.3542	0.4791	0	1
FBPostSeason	0.4444	0.4979	0	1	0.7083	0.4553	0	1
FBWpct	0.4820	0.2229	0	0.929	0.5665	0.2168	0	1
FBWpctFive	0.4603	0.1502	0.1614	0.923	0.5703	0.1602	0.15	0.8976

Enrollment	15,664	5,662	4,842	37,227	23,914	7,332	11,972	50,394
Population	1,663,390	2,152,799	32,560	9,554,598	1,256,595	2,242,937	44,705	13,300,000
Income	38,883	7,637	25976	73887	39,631	7,966	26,453	72,364
AAC	0.1151	0.3198	0	1	---	---	---	---
CUSA	0.2063	0.4055	0	1	---	---	---	---
MAC	0.2857	0.4527	0	1	---	---	---	---
MtWest	0.1944	0.3966	0	1	---	---	---	---
SunBelt	0.1429	0.3506	0	1	---	---	---	---
ACC	---	---	---	---	0.1597	0.3670	0	1
BigTen	---	---	---	---	0.2326	0.4232	0	1
BigTwelve	---	---	---	---	0.1667	0.3733	0	1
PacTwelve	---	---	---	---	0.1840	0.3882	0	1
SEC	---	---	---	---	0.2569	0.4377	0	1

Table 3. Group of Five Random Effects Regressions

Variables	TotalRevenue		AthlRevenue		Contributions		RightsLicensing		TicketRevenue	
	<i>Coeff</i>	<i>SE</i>	<i>Coeff</i>	<i>SE</i>	<i>Coeff</i>	<i>SE</i>	<i>Coeff</i>	<i>SE</i>	<i>Coeff</i>	<i>SE</i>
BBStadAge	2,197	23,613	28,503	22,430	-2,151	13,459	-6,736	11,694	-6,848	7,049
BBStadProj	-301,547	545,734	-750,075	480,231	-371,934	360,128	286,172	289,555	-153,563	153,617
FBStadAge	-4,673	16,118	-11,626	16,149	-2,091	8,829	508	7,789	-7,295	4,990
FBStadProj	669331.6	608507.3	203,247	535,944	143,198	399,558	345,424	322,023	107,693	171,508
BBNatlChamp	---	---	---	---	---	---	---	---	---	---
FBNatlChamp	---	---	---	---	---	---	---	---	---	---
BBRanked	1,340,994	684,823**	632,361	597,540	558,977	458,386	582,054	365,710	268,677	191,597
BBPostSeason	1,031,503	464,014**	117,655	404,565	248,214	311,422	819,481	248,066***	243,462	129,735*
BBWpct	405,596	1,039,261	-248,582	920,645	218,655	680,710	473,617	549,064	328,880	294,001
BBWpctFive	345,061	326,773	244,426	289,571	218,822	210,422	149,232	171,582	28,901	92,554
FBRanked	-160,086	638,083	64,040	554,367	265,862	429,845	-299,717	341,780	111,567	177,974
FBPostSeason	-418,495	329,036	-557,926	285,610*	-363,627	221,880	91,481	176,334	-44,260	91,715
FBWpct	-219,913	773,985	461,554	682,847	485,629	509,265	-891,584	409,745**	73,957	218,362
FBWpctFive	6,344,128	1,912,891***	4,502,228	1,768,316**	1,904,249	1,163,796*	1,391,616	975,073	2,533,580	558,916***
Enrollment	204	103**	-283	125**	21.17	47.79	165	45.40***	61.70	36.41*
Population	-0.0920	0.3482	-0.6603	0.4988	-0.0735	0.1511	0.0207	0.1469	-0.1567	0.1351
Income	-152	84.40*	-88.94	95.95	-38.11	40.47	-67.11	37.91*	-9.26	28.60
yr2011	694,395	426,136	583,896	372,192	330,799	288,218	256,151	228,401	88,107	119,211
yr2012	1,234,371	476,430***	1,114,268	440,422**	354,015	307,811	353,418	248,629	154,976	138,570
yr2013	1,766,438	564,018***	1,412,523	545,591***	667,017	348,172*	529,333	286,981*	171,429	169,411
yr2014	2,786,578	580,006***	1,676,415	564,531***	878,501	355,215**	1,268,205	293,896***	193,359	175,001

yr2015	3,753,041	659,676***	2,153,357	668,922***	1,533,827	385,728***	1,791,734	325,933***	133,723	205,024
AAC	868,459	1,459,749	-189,174	1,454,589	787,777	828,915	896,780	715,106	-329,590	449,734
CUSA	-1,567,986	1,186,293	-504,780	1,211,519	-748,968	661,849	-1,167,257	574,335**	130,116	371,887
MAC	-8,944,580	1,599,461***	-6,972,770	2,245,154***	-3,064,399	758,913***	-3,832,635	701,148***	-2,210,124	608,066***
MtWest	1,331,112	828,806	1,623,234	757,970**	559,697	532,938	185,849	432,634	266,797	239,471
SunBelt	-3,797,579	1,349,983***	-1,230,355	1,385,077	-1,640,513	744,139**	-2,674,549	650,307***	-53,461	424,692
constant	14,500,000	3,542,168***	8,845,072	4,035,332**	4,052,650	1,787,855**	5,201,079	1,625,249***	2,127,895	1,193,969*
R ²	0.5813	---	0.3788	---	0.4792	---	0.6503	---	0.3645	---

Note: *p<.05, **p<.01, ***p<.001

Table 4 Power Five Random Effects Regressions

Variables	TotalRevenue		AthlRevenue		Contributions		RightsLicensing		TicketRevenue	
	<i>Coeff</i>	<i>SE</i>	<i>Coeff</i>	<i>SE</i>	<i>Coeff</i>	<i>SE</i>	<i>Coeff</i>	<i>SE</i>	<i>Coeff</i>	<i>SE</i>
BBStadAge	253,427	72,474***	263,059	75,648***	103,060	42,393**	30,168	27,095	-33,850	27,061
BBStadProj	895,375	1,563,627	2,032,506	1,992,968	1,632,710	1,280,758	524,014	653,904	-449,172	536,779
FBStadAge	210,735	120,224*	34,780	149,745	81,772	48,525*	17,245	37,203	85,819	59,117
FBStadProj	-765,012	1,530,871	2,500,661	2,044,850	-1,517,788	1,204,145	-440,601	631,400	-102,023	531,758
BBNatlChamp	-1,410,237	8,149,708	-3,281,692	7,866,618	-1,904,545	6,805,066	-1,171,605	3,425,974	1,335,063	2,787,680
FBNatlChamp	-8,975,270	3,663,698**	-10,200,000	5,675,972*	-4,004,507	3,024,838	-1,425,310	1,536,322	-759,072	1,254,742
BBRanked	1,097,434	1,671,129	1,167,126	2,174,332	641,221	1,386,762	819,235	700,861	140,885	572,877
BBPostSeason	123,563	490,830	372,407	622,950	-240,495	407,715	-25,405	205,983	86,644	168,119
BBWpct	-4,418,250	4,789,491	-8,239,085	6,123,460	-1,373,141	3,778,904	-604,510	1,974,111	-339,789	1,665,117
BBWpctFive	19,500,000	10,200,000*	13,000,000	12,300,000	4,431,710	6,924,670	6,864,602*	4,004,019	7,631,093	3,646,119**
FBRanked	91,142	1,265,230	-296,122	1,547,801	1,029,817	1,045,109	132,997	530,062	-268,959	433,987
FBPostSeason	-522,521	1,310,904	-1,253,699	1,577,330	437,961	1,089,398	148,312	550,341	-588,120	448,930
FBWpct	4,703,135	3,146,770	6,256,026	3,762,533*	1,208,220	2,498,511	8,347	1,300,356	1,371,683	1,090,448
FBWpctFive	31,700,000	7,202,700***	19,300,000	8,799,586**	11,800,000	5,104,266***	10,300,000	2,874,079***	13,300,000	2,556,083***
Enrollment	834	255***	214	296	261	136*	235	91***	271	101***
Population	-2.07	1.25*	-1.12	1.19	-1.40	0.5274**	-0.1213	0.3964	-0.3812	0.5937
Income	714	288**	270	350	150	142	236	100**	120	117
yr2011	2,058,109	1,496,323	1,340,500	1,843,447	-627,084	1,248,241	1,899,191	627,340***	336,557	515,165
yr2012	4,931,792	1,693,199***	4,506,039	2,041,725**	982,878	1,316,973	4,292,908	687,124***	447,354	605,961
yr2013	9,514,328	1,935,860***	11,000,000	2,258,482***	1,577,063	1,391,533	7,407,691	758,627***	742,820	719,107
yr2014	13,800,000	2,003,638***	13,500,000	2,311,570***	2,706,553	1,419,764*	9,283,386	779,527***	1,266,737	752,894*
yr2015	18,300,000	2,279,869***	19,700,000	2,591,174***	2,115,329	1,520,067	15,800,000	865,388***	1,462,558	876,665*

ACC	-17,800,000	6,284,853***	-26,100,000	8,145,885***	-7,190,163	3,013,425**	-7,990,767	2,132,394***	-3,306,660	2,650,073
BigTen	-4,281,446	5,468,492	-14,000,000	8,097,002*	-7,185,843	2,773,857***	1,313,156	1,894,909	-331,031	2,266,034
BigTwelve	-6,817,628	4,123,030*	-21,600,000	7,889,941***	-4,375,058	2,507,755*	-1,040,848	1,560,922	-692,680	1,531,636
PacTwelve	-24,200,000	6,397,623***	-28,600,000	8,849,980***	-7,075,070	3,245,767**	-8,701,421	2,237,835***	-5,529,537	2,569,109**
SEC	---	---	---	---	---	---	---	---	---	---
constant	-14,000,000	16,900,000	37,600,000	20,400,000*	-4,094,196	8,575,467	2,484,959	5,823,771	-3,947,581	7,162,587
R ²	0.5478	---	0.4378	---	0.3262	---	0.7107	---	0.4627	---

Note: * $p < .05$, ** $p < .01$, *** $p < .001$