

Spring 5-10-2019

Maximizing the Return on Investment for College Marching Bands

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MAXIMIZING THE RETURN ON INVESTMENT FOR COLLEGE MARCHING BANDS

BRANDON ALT

HONORS PROJECT

Submitted to the Honors College
at Bowling Green State University in partial fulfillment of the
requirements for graduation with

UNIVERSITY HONORS SPRING 2019

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Abstract

This report outlines the findings from a study conducted of the income and budgets of college marching bands for the 2017-2018 academic year. The study was conducted with members of the College Band Directors National Association using their Athletic Band listserv. Participants were asked questions about their marching band's income, expenditures, use of development funds, and their school and band's demographics. The data is then analyzed to highlight trends within the data, and to generate recommendations for how marching bands can improve their budgets. Study limitations are also discussed.

Existing literature surrounding funding and budgeting issues is also reviewed, including articles on funding for specific marching bands, articles on funding and budgeting for high school music ensembles, and budgeting issues for colleges and universities from an administrative perspective. Knowledge gathered from this literature is then applied to analyzing the data gathered from the study to help form better conclusions and recommendations.

Keywords: College Marching Band Funding, College Marching Band Budgeting, University Development Funds

Introduction

College marching bands are a key aspect of the college football gameday experience. In addition to cheering for the team, fans can be entertained by pregame and halftime shows, and be energized by live music in between plays and during timeouts. Regardless of whether the football team wins or loses, fans can leave the game having had a positive, entertaining experience from the band. Without marching bands, college football would have a completely different atmosphere and would have one less source to attract fans to the game.

Like all other organizations, marching bands are dependent on strong financial support to make their presence possible. The finances are often managed by the marching band's director. While most college band directors are highly proficient in music education and performance, many new college band directors are inexperienced with managing budgets. As a result, budgeting for the marching band can be a daunting task for directors and potentially result in inefficiencies.

Literature Review

Prior to designing and performing the study, a review of literature was performed to see what publicly available information regarding college marching band funding and budgeting was available. While there were not any studies available specifically on college marching band funding and budgeting, there was established literature on a variety of related topics. Rowland published an article in 2013 reporting on how The Ohio State University's marching band budget was increased in order to permit the band to travel to more away games. Their annual operating budget was increased from \$220,000 to \$1,000,000 after the Development Office of the President provided funding so that the marching band could mimic how Southeastern Conference (SEC) marching bands travel extensively.

Cumberledge (2017) published an article that reviewed literature on the benefits of college marching bands for both universities and students. Various benefits for universities were identified, such as how the marching band can act as a recruitment tool for universities, as some students reported choosing a university based on their aspirations of joining the marching band. In addition, marching bands can attract family and friends to events that otherwise would not have come. Benefits identified for students included lessons on cooperation, leadership, responsibility, and discipline. In addition, marching bands provide members with opportunities to socialize with students from various majors and backgrounds and provide health benefits from physical activity.

There is existing literature intended for high school band directors on how to prepare budgets and budget requests for their ensembles. Darnall (1988) discusses how budgets should be prepared enough in advance so that any purchases made prior to the next school year have ample time for delivery. He also reminds readers to include cash in the budget for emergencies, such as minor purchases and repairs, and to keep in mind that the person who approves budget requests may not have a musical background, therefore, directors may have to explain their ensemble's needs using analogies relatable to him or her. In addition, he reminds band directors that some budget requests will be denied, so band directors should be prepared to determine what items can be cut if needed. Gordon (2001) provides additional advice for high school band directors. A

recommendation he makes is to make budget requests based on what director's anticipate the band will need in the coming year, and not what the band currently needs. In addition, he recommends ordering items as soon as the budget is approved to protect the program in the event of a spending freeze.

Lastly, literature was review that examines budgeting for colleges and universities. Schick (1985) explores university budgeting from the administrative perspective and proposes several hypotheses regarding how budgeting decisions are made from this perspective. The first hypothesis proposed is that the objective criteria that administrators use varies between decisions. This would suggest criteria that might be important to administrators for one program would be irrelevant for a different program. Another hypothesis proposed is that as resources become more scarce, objective criteria will become more important in making budgeting decisions relative to power. Meisinger (1994) provides in depth coverage of budgeting at colleges and universities, covering topics ranging from the budget process, economic and political factors that influence the budget, allocating resources, and handling retrenchment and reallocation. Also included are various approaches to budgeting that can be used, including incremental budgeting; planning, programming, and budgeting systems; zero-base budgeting; performance budgeting; formula budgeting; and responsibility-center budgeting.

As stated above, initial research did not uncover any published studies on college marching band funding. While the survey was open to responses, one person sent an email inquiring whether a study on college marching band funding by Dr. Gupta had been reviewed prior to conducting the study. After further research, it was discovered that this was an unpublished white paper that was only shared with the participants. This study analyzed various aspects of marching bands, including demographics, involvement, income, certain expenditures, and other various factors. The study, however, does not attempt to search for connections between various funding and budgeting items and factors with potential influence. In addition, since the study is not published, most researchers looking for literature relating to college marching band funding and budgeting would be unaware that it exists.

Study Process

This study was conducted using the online survey system Qualtrics. College Band Directors were invited to participate in the study by utilizing the College Band Directors National Association's (CBDNA) Athletic Band listserv. Members of the listserv were emailed one invitation and two reminders, all containing a link that would enable them to respond anonymously. The survey was open for responses for approximately three weeks, beginning January 28, 2019 and ending February 15, 2019. At the end of the response collection period, responses were disabled, and the data collected was exported into an Excel spreadsheet for analysis.

The survey was arranged with five distinct sections. First, respondents were asked to read an informed consent document, and electronically indicate their consent to participate. The second section asked questions regarding their bands' sources of funding for the 2017-2018 academic year. The third section inquired regarding their bands' expenditures for the 2017-2018 academic year. The fourth section asked about their bands' use of development funds. The final section inquired about various demographics. Participants were free to end their participation at any

time, and except for the informed consent section, elect to abstain from answering any question. The script for the survey is included in [Appendix A](#).

Regression outputs were used when analyzing the data, along with other basic statistical measures and charts. For the purposes of this study, a regression output was deemed to be statistically significant if its P-value is less than or equal to 0.05. A regression output was deemed to have weak statistical significance if its P-value is greater than 0.05 and less than or equal to 0.10. A regression output with a P-value greater than 0.10 was deemed not to be statistically significant.

Study Demographics

In total, 59 responses were collected by Qualtrics. Of these 59 responses, 26 did not submit any responses other than their consent to participate in the study, therefore, these responses were removed from the dataset. Of the remaining 33 responses, 6 respondents did not complete anything beyond the funding section, and 1 respondent did not complete anything after the expenditures section. These seven responses were left in the dataset, but analysis of these responses is limited due to the inability to segment this data by various demographics. A summary of the demographics discussed below can be viewed in [Appendix B](#).

The first demographic explored is the respondents' school size. Of the 26 respondents who completed the demographics sections, 4 respondents identified as being from small schools, 8 respondents identified as being from medium schools, 10 respondents identified as being from large schools, and 4 respondents identified as being from very large schools. For the purposes of this study, school sizes are defined as follows. Small schools enroll less than 5,000 students. Medium schools enroll between 5,000 and 14,999 students, inclusive. Large schools enroll between 15,000 and 29,999 students, inclusive. Very large schools enroll more than 29,999 students. Student enrollment includes both undergraduate and graduate students, as well as students enrolled at satellite campuses and in online classes only, if applicable.

The next demographic explored is whether the respondent is from a public or private institution. There were 23 respondents who identified as belonging to public institutions, while the remaining 3 respondents identifying as belonging to private institutions.

The third demographic explored is the National Collegiate Athletic Association (NCAA) division that the respondents' school belongs to for American Football. There were eight respondents who indicated that their school belongs to Division I Football Bowl Subdivision (FBS). Another 10 respondents indicated that their school belongs to Division I Football Championship Subdivision (FCS). Lastly, seven respondents indicated that their school belongs to Division II. There is also one respondent whose institution is a member of the National Junior College Athletic Association (NJCAA) rather than a member of the NCAA.

The fourth demographic explored is the athletic conference to which the respondent's school belongs. From this study, it was noted that five Power Five schools participated in this study. For the purposes of this study, a Power Five school is defined as a school belonging to the Atlantic Coast Conference, the Big Ten Conference, the Big 12 Conference, the Pacific-12 Conference,

or the Southeastern Conference. A complete list of athletic conferences represented in this study is included in [Appendix B](#).

The final demographic explored is band size. Out of the 26 respondents that answered the demographic questions, 3 respondents indicated they have very small bands, 10 respondents indicated they have small bands, 6 respondents indicated they have medium bands, 2 respondents indicated they have large bands, and 5 respondents indicated they have very large bands. For the purposes of this study, band sizes are defined as follows. A very small band has less than 50 members. A small band has between 50 and 150 members, inclusive. A medium band has between 151 and 250 members, inclusive. A large band has between 251 and 350 members. A very large band has more than 350 members. Auxiliary units are counted as band members for the purpose of this study.

Study Limitations

There are several limitations that must be discussed relating to this study. First, having a small sample size increases the potential that the data collected is skewed. In 2018, there were 130 FBS schools, 125 FCS schools, 166 Division II and 240 Division III American Football teams (College Football). The data sample gathered only contains about 6% of the potential FBS marching bands, about 8% of the potential FCS marching bands, about 4% of the potential Division II marching bands, and none of the potential Division III marching bands. If the sample data obtained is not representative of the population, then the conclusions derived from the study will be biased by the sample.

Second, misunderstandings regarding the meaning of questions can cause the data to be skewed. For example, the income and expenditures section asked for respondents to exclude development funds when answering these questions. It appears that some bands, however, may have included such funds when answering the questions, as some bands indicated other income sources such as “donations” and “fundraising”. Questions that are answered incorrectly create bad data, which can skew conclusions drawn from the dataset. Since the respondents are anonymous, there is no way to follow up on instances where questions may have been answered incorrectly to ensure data validity. No data has been modified, even in instances where it is believed that it may be incorrect.

Lastly, the data may be biased if bands in the sample had atypical years. For example, most marching bands only purchase items such as instruments and uniforms once their current instruments or uniforms near the end of their lifespan. If a band underwent a major instrument or uniform acquisition during the 2017-2018 academic year, this may have caused both their income and expenditures to increase above normal levels for that year.

Total Income

The amount of funding bands received annually, excluding development funds varies significantly. Amounts reported range from \$0 to \$793,000, with a mean of \$187,234, a median of \$132,500, and standard deviation of \$183,275. From analyzing this data, there appears to be two outliers: one band that reported income of \$550,000 and a second band that reported income

of \$793,000. Both bands are from Power Five schools and are very large bands. [Appendix C](#) shows the overall distribution of income reported by the respondents. [Appendix D](#) shows the outputs of various regression analyses of total income to various potential income drivers, which are further discussed in the following paragraphs.

Regression analysis has revealed several potential factors that drive total income. The first potential driver identified is the NCAA American Football Divisions to which the school belongs. The regression output indicated statistical significance for FBS schools only. A regression analysis of total income to FBS schools then showed statistical significance for both the intercept and the FBS variable, further confirming statistical significance. Lastly, a regression was run of total income to Power Five schools, which again showed statistical significance for both the intercept and the Power Five variable. One possible explanation for these findings could be that football is more popular among FBS and Power Five schools than other schools. Increased popularity encourages schools to invest more in their marching band, which in return helps improve the all-around game day experience.

Some other potential income drivers identified by regression analysis include the band's size, income sources, and school size. When analyzing total income in relation to band size, regression analysis revealed that very large bands receive significantly more income than other bands, and it also indicated that medium size bands also receive more income, but with weak statistical significance. This is expected, since as a band grows, the funding it needs to operate is likely to increase. When analyzing total income in relation to income sources, the regression analysis indicated income from the athletic department is the only source with statistical significance. This is meaningful, as it signifies that income from the athletic department is more consistent than income from any other source. Lastly, when analyzing total income relative to school size, the regression analysis revealed that bands from very large schools receive more income than other bands, and bands from large school receive more income with weak statistical significance. This is expected, as larger schools can be expected to generate more income than smaller schools, allowing for larger contributions to the band. In addition, larger schools also have greater potential to have larger bands, which would subsequently increase funding needs.

Income Sources

The survey asked respondents to declare what percentage of income came from their athletic department, college of music (or other appropriate college), university administration, corporate sponsors, fees charged exclusively to band members, university student fees, and other sources. No respondents reported receiving income from corporate sponsors, therefore, no further analysis of this income source was performed. Overall, income appears to be primarily sourced from university administration, university student fees, the college of musical arts and athletic department. A pie chart depicting overall average percentage of total income by source is included in [Appendix E](#).

Aside from the main income sources inquired about in the survey, several alternative income sources were listed by respondents. Identified sources include merchandise sales, concert ticket sales and band festival profits. Some respondents also listed sources such as donations, fundraising, and alumni association, which potentially should have been classified as

development fund income but cannot be confirmed without asking the respondents additional questions. One respondent listed an allocation from a corporation (the name of the corporation is being excluded from the report to allow the respondent to remain anonymous) which likely should have been classified as income from a corporate sponsor but cannot be confirmed without talking with the respondent. Lastly, one respondent indicated that their main source of income is from donations from family and friends, and from performing off campus, and that they also have limited access to a fund endowed by a former professor.

The percentage of total income for each source, except for fees charged exclusively to band members, varies significantly among certain factors. All the income sources were found to vary with at least weak statistical significance for select band sizes. The regression outputs for the various income sources to band size are shown in [Appendix F](#). The regression analysis indicates that very large bands receive significantly more income from both their athletic department and university administration than all other bands. Regression analysis also indicates that as bands get larger, the percentage of income they receive from their college of music, or other appropriate college, significantly decreases. Lastly, regression analysis shows weak statistical significance for income from university student fees for medium bands and for other income for very small bands. It should be noted that the R squared value for other income to band size is approximately 0.19, meaning that the regression analysis is unable to explain a large portion of the variation. Also, an f-statistic test shows weak statistical significance for athletic department funding to the band size regression model, and no statistical significance for the remaining regression analyses. [Appendix G](#) shows how the average percentage of total income by source varies from marching bands by band size.

Income percentage from the athletics department was shown to vary significantly for FBS schools and for very large schools. The regression outputs, which show that athletic departments at FBS schools and very large schools provide bands with a significantly higher percentage of funding, can be seen in [Appendix H](#). The percentage of other income was shown to increase significantly as schools enter lower NCAA divisions. The percentage of miscellaneous income to school size was also shown to have weak statistical significance for small schools. It should be noted that this regression analysis has an R squared value of approximately 0.18, meaning that the analysis is unable to explain a large portion of the variation. In addition, an f-statistic test indicates that there is no statistical significance to this model. These regression analyses can be seen by viewing [Appendix I](#). [Appendix J](#) shows how the average percentage of total income by source varies with respect to NCAA division, and [Appendix K](#) shows how the average percentage of total income by source varies with respect to school size.

One last area relating to marching band funding analyzed was whether marching band is an academic course or an extra-curricular activity at the respondents' school. 31 respondents indicated marching band is an academic course at their school, while the remaining 2 respondents indicated that marching band is an extracurricular activity. The reason behind asking respondents this was to determine whether members must pay tuition to be in marching band, and therefore, potentially create an indirect revenue source for said ensemble.

Expenditures

Marching band expenditures were examined in this study in nine broad categories: Staff; Music, Drill, and Copyright Licensing; Band Camp Expenditures; Regular Season Travel; Instruments; Uniforms; Miscellaneous Equipment; Scholarships and Stipends; and Other. The initial review of the data shows that the largest expenditure is regular season travel, representing on average 19% of total band expenditures. [Appendix L](#) shows a pie chart of the average percentage of the budget spent on each category. From analyzing the data with regression analysis, potential drivers were identified for every expenditure category except for band camp expenditures and instruments. The following paragraphs will further examine potential cost drivers for each expenditure category.

Staff

The first expenditure category examined is staff. Three potential cost drivers were identified: NCAA Division, School Size and Band Size. It should be noted that all the regression analyses have low R Square values, with the highest of the three being approximately 0.19, signifying that there is still a large amount of variation that regression analysis is unable to explain. In addition, an f-statistic test indicates that none of these models are statistically significant. [Appendix M](#) shows the outputs of the regression analyses. The regression analysis of staff expenditures to band size revealed that there was statistical significance for very small bands. The regression analysis of staff expenditures to school size revealed that there is weak statistical significance for small schools. The regression analysis of staff expenditures to NCAA division revealed that there was weak statistical significance for FCS schools. While there was only weak statistical significance for FCS schools, this regression analysis has the highest R squared value of the three that showed any level of statistical significance. The overall low R Square values and minimal number of statistically significant independent variables suggests that none of these variables are effective in predicting staff expenditures.

Music, Drill and Copyright Licensing

The next expenditure category examined is music, drill and copyright licensing. The only potential cost driver that was revealed to have any statistical significance was school size. This regression analysis revealed that there was weak statistical significance for medium sized schools. It should also be noted that the R Square for this analysis is approximately 0.17, signifying that the regression is not explaining a large portion of the variation. In addition, an f-statistic test indicates that the model is not statistically significant. The outputs to this regression analysis can be viewed in [Appendix N](#).

Regular Season Travel

Next, regular season travel expenditures are examined. Regression analyses identified three potential cost drivers: Power Five Schools, Band Size, and School Size. These regression analyses can be seen by viewing [Appendix O](#). The regression analysis of regular season travel expenditures to power five schools reveals that power five schools spend a significantly higher percentage of their budget on regular season travel than non-power five schools. One possible

explanation is that bands from power five schools are expected to travel more often due to increased attention from the national spotlight, therefore, institutions want their band present as much as possible. The regression analysis of regular season travel to band size revealed that very large bands spend more on travel than all other bands with weak statistical significance. One possible explanation for this is as bands increase in size, institutions have more members and equipment to transport, naturally increasing costs. Lastly, the regression analysis of regular season travel to school size revealed that very large schools spend more on travel than all other schools with weak statistical significance. One possible explanation is that larger schools are more likely Power Five, which would suggest that the reason for statistical significance is really drawn from Power Five schools and not very large schools. The other possible explanation is that as institutions grow larger, bands can grow larger, suggesting that the statistical significance is really being drawn from band size and not very large school size. All these regression analyses have low R Square values, meaning that regression analysis is once again unable to explain a large portion of the variation in percentage of expenditures on regular season travel. In addition, f-statistic tests reveal that only the regression analysis of regular season travel to Power Five schools produces a statistically significant model. This, however, could be due to other factors that are not measured by this survey, such as distance traveled for games.

Uniforms

The next expenditure category examined is uniforms. Regression analysis revealed that income sources primarily drive how much is spent on uniforms. Statistical significance was identified for all income sources except for fees charged exclusively to band members and university student fees. It indicates that most of the funding for uniforms comes from university administrators, followed by the college of music (or other responsible college), athletic department, and other income sources. The difference in funding allocation from these sources, however, is minimal. [Appendix P](#) shows the regression output of uniform expenditures to income sources.

Miscellaneous Equipment

Next, expenditures on miscellaneous equipment are examined. The only potential cost driver that regression analysis indicated was statistically significant was for small schools. The R squared value, however, is approximately 0.13, meaning that the regression analysis is unable to explain a large percentage of the variation in miscellaneous equipment expenditures. In addition, an f-statistic test indicates that this regression model is not statistically significant. [Appendix Q](#) shows the outputs from this regression analysis.

Scholarships and Stipends

The next expenditure category examined is scholarships and stipends. Regression analysis identified two potential cost drivers: NCAA division and band size. These regression analyses can be viewed in [Appendix R](#). The regression analysis of scholarship and stipends to NCAA division revealed that FBS schools pay the most to students for scholarships and stipends, and that amount decreases in the lower divisions. One possible explanation for this is that larger schools receive more media coverage, therefore, in order to convince better collegiate musicians to join the band, these institutions have to offer financial incentives. The regression analysis of

scholarships and stipends to band size showed weak statistical significance for very small bands only. In addition, the R squared value for this regression analysis is approximately 0.08, meaning that a large portion of the variation is unexplained. An f-statistic test also indicates that this model is not statistically significant.

Miscellaneous

The final expenditure category examined is miscellaneous expenditures. Two potential cost drivers were identified by the regression analysis: band size and school size. [Appendix S](#) shows the outputs of the regression analyses. The regression analysis of miscellaneous expenditures to band size showed statistical significance for all bands, indicating that miscellaneous expenditures are high for very small bands, drop significantly for small bands, and see a spike for medium bands before returning to minimal levels for large and very large bands. The regression analysis of miscellaneous expenditures to school size showed statistical significance for small and medium schools, and weak statistical significance for large and very large schools. Miscellaneous expenditures are high for small schools, then drop significantly for medium schools, spiking slightly for large schools, before bottoming out for very large schools. Also, the R squared for this regression is approximately 0.20, meaning that a large percentage of the variation is unexplained. In addition, an f-statistic test indicates that this regression model is not statistically significant.

Respondents listed multiple line items for miscellaneous expenditures. The most commonly mentioned line item was food and/or refreshments. Other items include facility rentals, office supplies, recruiting materials, truck rentals, repairs, building maintenance and repairs, leadership clinic fees, online audition service, and private lesson support. In addition, uniform savings was included by two respondents, which potentially should be reclassified, but this is unable to be confirmed without discussion with these respondents.

Significant Observations

As shown above, the expenditure categories above often lack a common cost driver. In addition, in many instances the R squared values are low, which was often coincided with weak or no statistical significance as indicated by an f-statistic test. There are multiple possible conclusions that can be drawn from this. First, as discussed in the study limitations section, our study has a small sample size. The presence of outliers, considering two were identified based on an analysis of total income, can skew the data and interfere with the ability for regression analysis to generate statistically significant conclusions. The best remedy for this would be to increase the sample size and repeat the regression analyses. Another possible conclusion is that expenditures are primarily driven by another factor that was not measured in this survey, such as marching band style or success of the institution's football program. To check for this, it would be necessary to conduct a new survey asking respondents to answer additional questions relating to other possible cost drivers and conduct regression analyses against the new data. A third possible conclusion is that this could be due to lacking a universal college marching band budget model. As discussed in the literature review, there are not any published studies on college marching band funding, meaning that directors and university administrators have little outside guidance when constructing band budgets. This could lead to each university developing its own unique

budget model. Confirming this would require additional studies be performed, ideally with larger sample sizes, that repeatedly find regression analyses unable to produce models with statistical significance and good R squared values. One final possible explanation is that expenditures could vary on a cyclical pattern. This could be due to certain expenditures, such as uniforms and instruments typically only being purchased when they reach the end of their useful lives. Performing a multi-year study of college marching band income and expenditures might smooth out any cyclical patterns with expenditures and result in higher statistical significance from the data gathered.

Development Funds

The next section of the survey asked respondents about their band's use of development funds. For the purposes of this study, development funds are defined as funds donated directly to the marching band. Out of the 26 respondents that answered the development funds section, 15 respondents indicated that their band uses development funds, while the remaining 11 did not. Development fund income amounts reported range from \$0 to \$156,000, with a mean of \$23,696, median of \$10,000, and standard deviation of \$40,464. There are two outliers in this dataset: one band reported development fund income of \$120,000 and another band reported development fund income of \$156,000. While both bands are medium size, one band is from a Power Five school, while the other is from an FCS school, and neither of these bands were identified as outliers based on total income reported. [Appendix T](#) shows the distribution of development fund income amounts reported.

Analyzing development fund income revealed three potential drivers: development fund uses, development fund dependency, and band size. Regression analysis indicates that marching bands that use development funds for regular season travel or miscellaneous equipment receive significantly more development fund income than other bands. Interestingly, marching bands that use development funds for instruments and uniforms received significantly less development fund income than other bands. One possible explanation for this is the irregular nature of instrument and uniform expenditures. Since instruments and uniforms typically only occur after a fixed number of years or on an as-needed basis, bands may not work as hard to solicit development funds in years when they are not planning any major expenditures, lowering the amount of income generated. A different regression analysis indicates that marching bands that use development funds for special projects only, and bands that have indicated that they are highly dependent on development funds for their annual operations receive significantly more development fund income than other bands. It should be noted that an f-statistic test of this regression model indicates that this regression analysis has weak statistical significance. Lastly, regression analysis indicated that medium sized bands receive more development fund income than all other bands with weak statistical significance. It should be noted that an f-statistic test of this regression model indicates that this model is not statistically significant. These regression outputs can be viewed by seeing [Appendix U](#).

Respondents were also asked about what types of development funds they used. Two basic types of development funds were identified: general development funds and special purpose development funds. General development funds are defined as funds that can be used for any purpose at the director's discretion. Special purpose development funds are defined as funds that

can only be used for a pre-determined purpose or purposes, such as a development fund for uniforms. Of the 15 respondents that indicated their bands use development funds, 7 respondents indicated that they use general development funds only, 2 respondents indicated that they use special purpose development funds only, and 6 respondents indicated that they use both general and special purpose development funds. A regression analysis of development fund income to development funds types used revealed that special purpose development funds generate significantly more income than general development funds. The output from the regression analysis can be viewed by seeing [Appendix V](#). A possible explanation is that potential donors may be more comfortable donating money when they know how their funds will be used, and special purpose development funds ensure that legal use of funds is limited.

The next area analyzed relating to development funds is what they were used for. The most commonly reported use was for miscellaneous expenditures, which was reported by eight respondents, followed by regular season travel and miscellaneous equipment, which was reported by six respondents each. The least reported use was for music, drill and copyright licensing, being reported by only one respondent. [Appendix W](#) shows a summary of frequency in which each use of development funds was reported. Respondents listed multiple miscellaneous uses for band expenditures, which includes professional development travel for graduate students, banquet awards, an annual recording project, facilities improvements, and expendable items, such as reeds, mouthpieces, music, uniform cleaning, etc. In addition, one band stated that they used it to cover their budget shortfall, another band stated that the funds go to the total sum available, and a third band stated that funds are simply used at the director's discretion.

The last area analyzed relating to development funding for marching bands was how dependent bands were on development funds. Respondents were presented four statements and were asked to choose the statement that best describes their band's use of development funds or select that none of the above statements apply. A total of five respondents indicated that their marching band does not use development funds. Another five respondents indicated that their marching band uses development funds exclusively for special projects, such as post-season travel or other special trips, new uniforms, new instruments, or scholarships for band members. An additional three respondents indicated that they their band uses development funds for special projects, and as a supplemental income source to fund beneficial, but unnecessary expenditures. Another six respondents indicated that their marching band relies on development funds for their annual operations and would not be able to operate at the same capacity without them. Lastly, seven respondents indicated that none of the above statements apply.

Conclusions and Recommendations

Despite being limited by the small sample size, several conclusions can be drawn from the data gathered. First, it appears that several factors control how much income marching bands generate. Prevalence of the institution's football program appears to be a factor, as FBS and Power Five schools both show their bands receiving significantly more income than all other bands. In addition, factors such as band size, school size, and income sources also play a role. Regarding income sources, band size plays a significant role regarding funding from athletics, university administration, and the college of music (or other appropriate college). Larger bands receive a significantly higher portion of their funding from the athletics department and

university administration, while smaller bands receive more from their college of music (or other appropriate college). Expenditure trends varied significantly with each category, and regression analyses often showed either weak or no statistical significance. Based on the data gathered, this can be interpreted to signify that either there is no universal budget model for college marching bands, or that expenditure needs for college marching bands vary among additional factors not measured in this survey. Development fund income was shown to increase significantly when used for regular season travel and miscellaneous equipment, while decreasing when used for instruments and uniforms. Development funds income was also shown to increase significantly when attached to a special purpose. In addition, the level of dependency on development funds varies, however, several respondents reported that they are highly dependent on development funds.

While some of the trends vary by factors that band directors cannot control, such as school size and NCAA football divisions, there are actions that marching band directors can take. First, band directors that are from schools in the FBS division, especially if they are a Power Five school, should analyze their budget to ensure that athletics is providing enough income for their program. If additional income is needed, this should be the first place they attempt to obtain it. Second, band directors should leverage band growth with increased funding from athletics and university administration. This can be done by emphasizing that the increased size creates greater visibility and promotion for the university, and greater funding needs for the band. Regarding development funds, bands may find better success generating income using special purpose development funds as opposed to general development funds. In addition, bands should keep track of how development funds are utilized, especially in instances where they are necessary for the band to operate at the capacity that the institution expects. Demonstrating how development funds are utilized for operating essentials can be used to leverage budget requests for increased operating funding. This will allow for development funds to be devoted to less critical, but still necessary and beneficial expenditures.

While this study has its limitations, it can serve as a reference for college band directors seeking guidance for forming and managing budgets. It should help to ensure that college marching bands receive the strong financial support necessary for operations. This study can also serve as the foundation to inspire further studies investigating college marching band finances and how funds can be best utilized. College marching bands have become a staple at college football games, and efforts to maximize their financial potential could help ensure they continue to thrive.

Appendix A – Survey Script

Part 1 – Funding

For the following questions, please answer using your marching band's budget information for the 2017-2018 academic year. Please exclude income from development funds in your answers. Development funds shall be defined as funds donated directly to the marching band. Please also exclude extraordinary income, such as income relating to funding to post-season travel (i.e. Conference Championships).

1. What was your marching band's total income for the 2017-2018 academic year, excluding development fund income? Please include income needed to pay for all expenses related to the marching band but exclude any full-time faculty lines and graduate assistantships (i.e. drumline, color guard, visual staff, etc). Please round your answer to the nearest \$1,000.
2. What source(s) did your marching band's income originate from? Please select all that apply. Do not include development funds.
 - a. Athletics Department
 - b. College of Musical Arts (or other appropriate college)
 - c. University Administration
 - d. Corporate Sponsors
 - e. Fees Charged Exclusively to Band Members (i.e. uniform cleaning fees, instrument maintenance fees)
 - f. University Student Fees
 - g. Other (Please Specify) _____
3. Please indicate the percentage of income from each of the following sources, rounded to the nearest whole percent. Please be sure that your cumulative total percent equals 100%.
 - a. Athletic Department: ___%
 - b. College of Musical Arts (or other appropriate college): ___%
 - c. University Administration (i.e. the President's office): ___%
 - d. Corporate Sponsors: ___%
 - e. Fees Charged Exclusively to Band Members (i.e. uniform cleaning fees, instrument maintenance fees): ___%
 - f. University Student Fees: ___%
 - g. Other (Please Specify): ___%
4. Is marching band an academic course or extra-curricular at your college/university?
 - a. Academic Course
 - b. Extra-Curricular

Part 2 – Expenditures

For the following questions, please answer using your marching band's budget information for the 2017-2018 academic year. Also, please exclude extraordinary expenditures, including special trips not taken on a regular basis, and post-season travel (i.e., Conference Championship). Development funds shall be defined as funds donated directly to the marching band. Capital outlays shall be defined amounts reserved for future purchases.

1. Please indicate the percentage of your budget spent on the following, rounded to the nearest whole percent. Please be sure your cumulative total percent equals 100%.
 - a. Staff (Exclude any full-time faculty lines and graduate assistantships): ___%
 - b. Music, Drill and Copyright Licensing: ___%
 - c. Band Camp Expenditures (Including, but not limited to meals, room rentals and lodging. Please only include staff expenditures specifically for band camp): ___%
 - d. Regular Season Travel (Including Related Meals and Lodging): ___%
 - e. Instrument Purchase, Maintenance & Repairs (Include Capital Outlays): ___%
 - f. Uniforms (Including Dry-Cleaning, Maintenance, Repairs, and Capital Outlays): ___%
 - g. Miscellaneous Equipment (Such as Color Guard and Twirler Equipment, and other equipment such as ladders, podiums, etc. Also include capital outlays): ___%
 - h. Scholarships and stipends not supported by development funds: ___%
 - i. Miscellaneous expenditures that don't fall into any of the above categories (Do not include extraordinary expenses, such as postseason travel) (Please Specify): ___%

Part 3 – Development Funds

Development funds shall be defined as funds donated directly to the marching band.

1. Did your marching band utilize any development funds to generate revenue during the 2017 – 2018 academic year?
 - a. Yes
 - b. No
2. If your marching band utilized a development fund to generate revenue during the 2017 – 2018 academic year, what type(s) of development funds did your band utilize? Please select all that apply. If your marching band didn't utilize a development fund, please select N/A.
 - a. General Development Fund (Funds that can be used for any purpose at the director's discretion)
 - b. Special Purpose Development Fund (Funds that can only be used for a pre-determined purpose or purposes, such as a development fund for uniforms)
 - c. N/A
3. How much income did your marching band generate from development funds for the 2017 – 2018 academic year? Round your answer to the nearest \$1,000.
4. What did your marching band use development funds on for the 2017 – 2018 academic year? Please select all that apply. If your band did not use a development fund for the 2017 – 2018 academic year, please select N/A.
 - a. Staff (Exclude any full-time faculty lines and graduate assistantships)
 - b. Music, Drill, and Copyright Licensing
 - c. Band Camp Expenditures (Including, but not limited to meals, room rentals and lodging. Please only include staff expenditures specifically for band camp)
 - d. Regular Season Travel (Including Transportation, Meals, and Lodging)
 - e. Instrument Purchases, Maintenance & Repairs (Including Capital Outlays)
 - f. Uniforms (Including Purchases, Dry-Cleaning, Repairs, and Capital Outlays)

- g. Miscellaneous Equipment (Including equipment for color guard and twirlers, as well as other equipment and capital outlays)
 - h. Scholarships or Stipends to Band Members
 - i. Post-Season Travel (Including Transportation, Meals and Lodging)
 - j. Miscellaneous Expenditures (Please Specify)
 - k. N/A
5. Which of the following statements best describes your marching band's use of development funds as of the end of the 2017-2018 academic year?
- a. My marching band does not use any development funds to operate.
 - b. My marching band uses development funds exclusively for special projects, such as post-season travel or other special trips, new uniforms, new instruments, or scholarships for band members.
 - c. My marching band uses development funds for special projects, and as a supplemental income source to fund beneficial, but unnecessary expenditures.
 - d. My marching band relies on development funds for our annual operations and would be unable to operate at the same capacity without them.
 - e. None of the above statements apply.

Part 4 – Demographics

1. How many students (undergraduate and graduate) are enrolled at your school? Include those enrolled in online only classes and at satellite campuses, if applicable.
 - a. < 5,000
 - b. 5,000 – 14,999
 - c. 15,000 – 29,999
 - d. > 29,999
2. Is your school a public or private school?
 - a. Public
 - b. Private
3. What NCAA football division does your school belong to?
 - a. Division I FBS
 - b. Division I FCS
 - c. Division II
 - d. Division III
4. What athletic conference does your school belong to for football? Please type the full name of your conference (i.e., Mid-American Conference, not MAC). If your school does not belong to a conference for football, please type "Independent".
5. How many members did your marching band have in the 2017-2018 academic year? Please include color guard and twirlers. If you are unsure of an exact amount, please provide your best estimate.
 - a. < 50
 - b. 50 – 150
 - c. 151 – 250
 - d. 251 – 350
 - e. > 350

Part 5 – Thank You

This thank you message will appear after respondents have submitted their answers to the questions.

Thank you for participating in this study. To help ensure that your autonomy is maintained, it is recommended that you close your browser and clear your page history and cache at this time. In addition, if you would like to receive a copy of the study results upon completion of the research, please email Brandon Alt at bsalt@bgsu.edu.

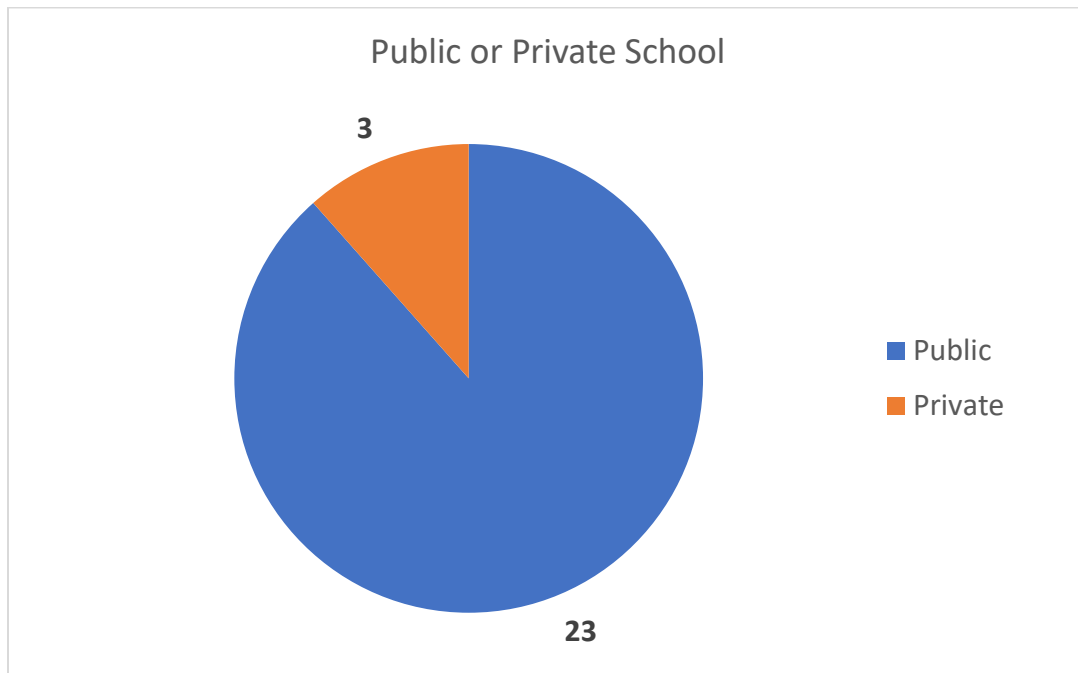
Appendix B – Participant Demographics

School Size

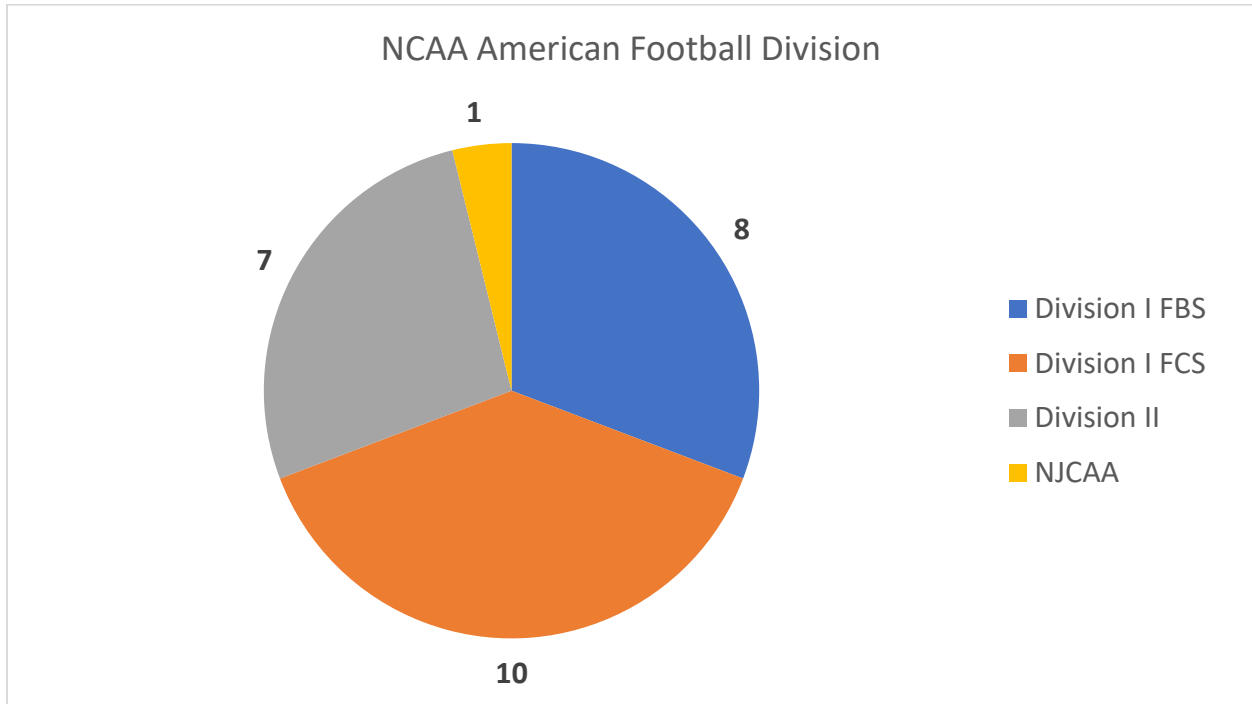
School Size	Total Enrollment*	Number of Respondents
Small	< 5,000	4
Medium	5,000 – 14,999	8
Large	15,000 – 29,999	10
Very Large	> 29,999	4

*Total enrollment includes both undergraduate and graduate students, as well as students enrolled in online only classes and at satellite campuses, if applicable.

Public or Private School



NCAA American Football Division



Conferences

Conference	NCAA Division	Number of Respondents
American Athletic Conference	FBS	1
Atlantic Coast Conference	FBS	1
Big 12 Conference	FBS	1
Big Sky Conference	FCS	3
Big South Conference	FCS	1
Colonial Athletic Association	FCS	2
Great American Conference	Division II	1
Gulf South Conference	Division II	1
Iowa Community College Athletic Conference	N/A – NJCAA Member	1
Ivy League	FCS	1
Mountain East Conference	Division II	1
Northern Sun Conference	Division II	1
Ohio Valley Conference	FCS	1
Pacific-12 Conference	FBS	2
Pennsylvania State Athletic Conference	Division II	3
Pioneer Football League	FCS	1
Southeastern Conference	FBS	2
Southland Conference	FCS	1
Independent*	FBS	1

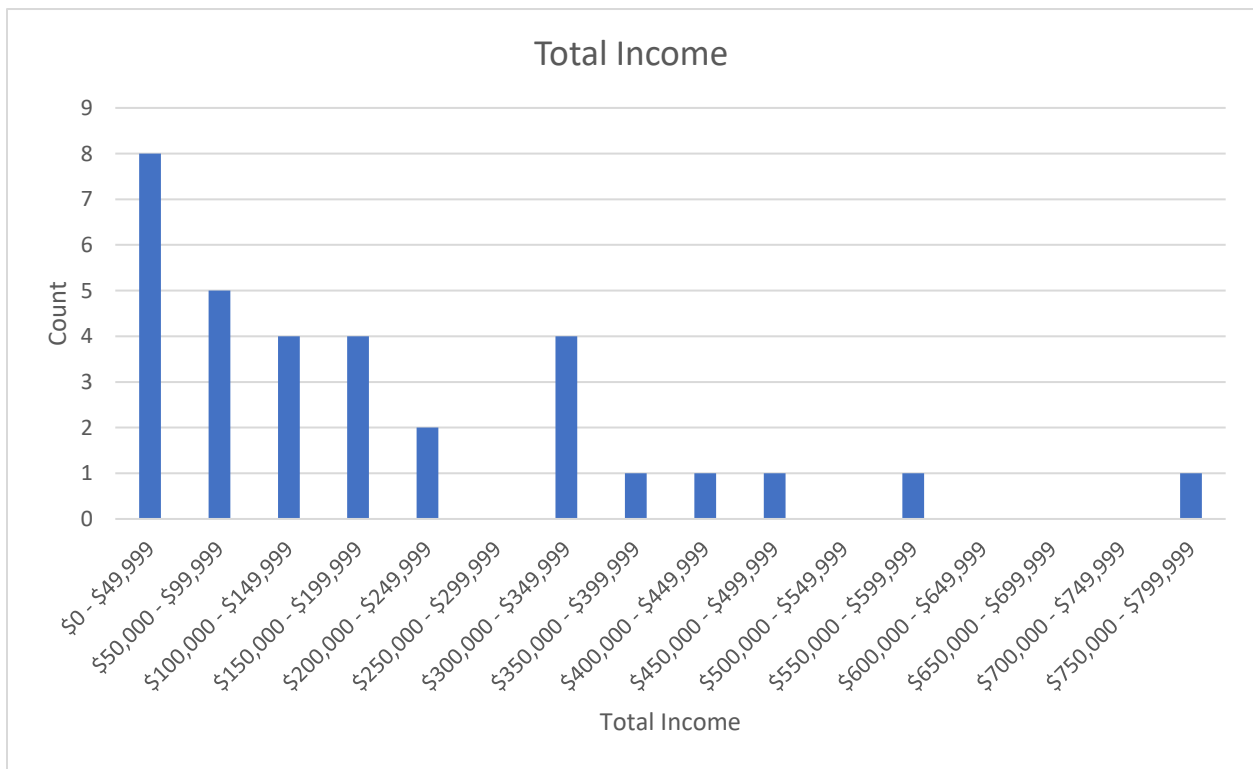
*These schools do not belong to a conference for American Football.

Band Size

Band Size	Total Number of Members*	Number of Respondents
Very Small	< 50	3
Small	50 – 150	10
Medium	151 – 250	6
Large	251 – 350	2
Very Large	> 350	5

*Auxiliary units are included in membership totals.

Appendix C – Total Income



Appendix D – Regression Analyses of Total Income to Various Potential Income Drivers

NCAA Football Division

<i>Regression Statistics</i>	
Multiple R	0.82266692
R Square	0.67678086
Adjusted R Square	0.63270552
Standard Error	116189.497
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	6.21881E+11	2.0729E+11	15.3550918	1.30504E-05
Residual	22	2.97E+11	1.35E+10		
Total	25	9.18881E+11			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	2000	116189.4969	0.01721326	0.98642164	-238962.2684	242962.268	-238962.27	242962.268
FBS	404250	123237.5717	3.28024964	0.00341844	148670.919	659829.081	148670.919	659829.081
FCS	100250	121860.5724	0.82266149	0.41952842	-152473.3592	352973.359	-152473.36	352973.359
DII	46857.1429	124211.7969	0.37723585	0.70961286	-210742.3575	304456.643	-210742.36	304456.643

NCAA FBS Schools

<i>Regression Statistics</i>	
Multiple R	0.81099336
R Square	0.65771023
Adjusted R Square	0.64344815
Standard Error	114477.732
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	6.04358E+11	6.0436E+11	46.11603	5.04308E-07
Residual	24	3.14524E+11	1.3105E+10		
Total	25	9.18881E+11			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	75916.6667	26982.66011	2.8135353	0.00962163	20227.19327	131606.14	20227.1933	131606.14
FBS School?	330333.333	48643.68229	6.79087844	5.0431E-07	229937.7074	430728.959	229937.707	430728.959

Power Five Schools

<i>Regression Statistics</i>	
Multiple R	0.58515076
R Square	0.34240142
Adjusted R Square	0.31500147
Standard Error	158673.532
Observations	26

ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1	3.14626E+11	3.1463E+11	12.4964289	0.001689297	
Residual	24	6.04255E+11	2.5177E+10			
Total	25	9.18881E+11				

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	123880.952	34625.40334	3.57774756	0.00151937	52417.63224	195344.273	52417.6322	195344.273
Power Five School?	279119.048	78958.06794	3.53502884	0.0016893	116157.6048	442080.49	116157.605	442080.49

Band Size

<i>Regression Statistics</i>	
Multiple R	0.80241995
R Square	0.64387778
Adjusted R Square	0.57604498
Standard Error	124830.17
Observations	26

ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	4	5.91647E+11	1.4791E+11	9.49212982	0.000151947	
Residual	21	3.27234E+11	1.5583E+10			
Total	25	9.18881E+11				

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	42833.3333	72070.73245	0.59432355	0.55864493	-107045.9597	192712.626	-107045.96	192712.626
50 - 150	8166.66667	82173.27801	0.09938348	0.92177642	-162722.02	179055.353	-162722.02	179055.353
151 - 250	168500	88268.25995	1.90895346	0.07002853	-15063.89544	352063.895	-15063.895	352063.895
251 - 350	194666.667	113953.8336	1.70829414	0.10232292	-42313.30333	431646.637	-42313.303	431646.637
> 350	404166.667	91163.06687	4.43344745	0.00023049	214582.6907	593750.643	214582.691	593750.643

Income Sources

<i>Regression Statistics</i>	
Multiple R	0.79966554
R Square	0.63946498
Adjusted R Square	0.49933122
Standard Error	128702.922
Observations	26

<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	6	5.87592E+11	9.7932E+10	7.09462255	0.000442967
Residual	20	3.31289E+11	1.6564E+10		
Total	26	9.18881E+11			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-98380.703	274085.1493	-0.3589421	0.72339987	-670112.3059	473350.9	-670112.31	473350.9
Athletic Dept Income	6411.84331	2759.141767	2.32385425	0.03078407	656.3744395	12167.3122	656.374439	12167.3122
College of Musical Arts Income	1683.68419	2902.931633	0.57999443	0.56839565	-4371.725087	7739.09346	-4371.7251	7739.09346
University Administration	3133.37901	3244.371983	0.96578907	0.34568377	-3634.262361	9901.02037	-3634.2624	9901.02037
Band Member Fees	0	0	65535	#NUM!	0	0	0	0
University Student Fees	2384.57026	2902.718841	0.82149543	#NUM!	-3670.395143	8439.53566	-3670.3951	8439.53566
Other	819.739213	2909.900745	0.28170693	0.78106245	-5250.207377	6889.6858	-5250.2074	6889.6858

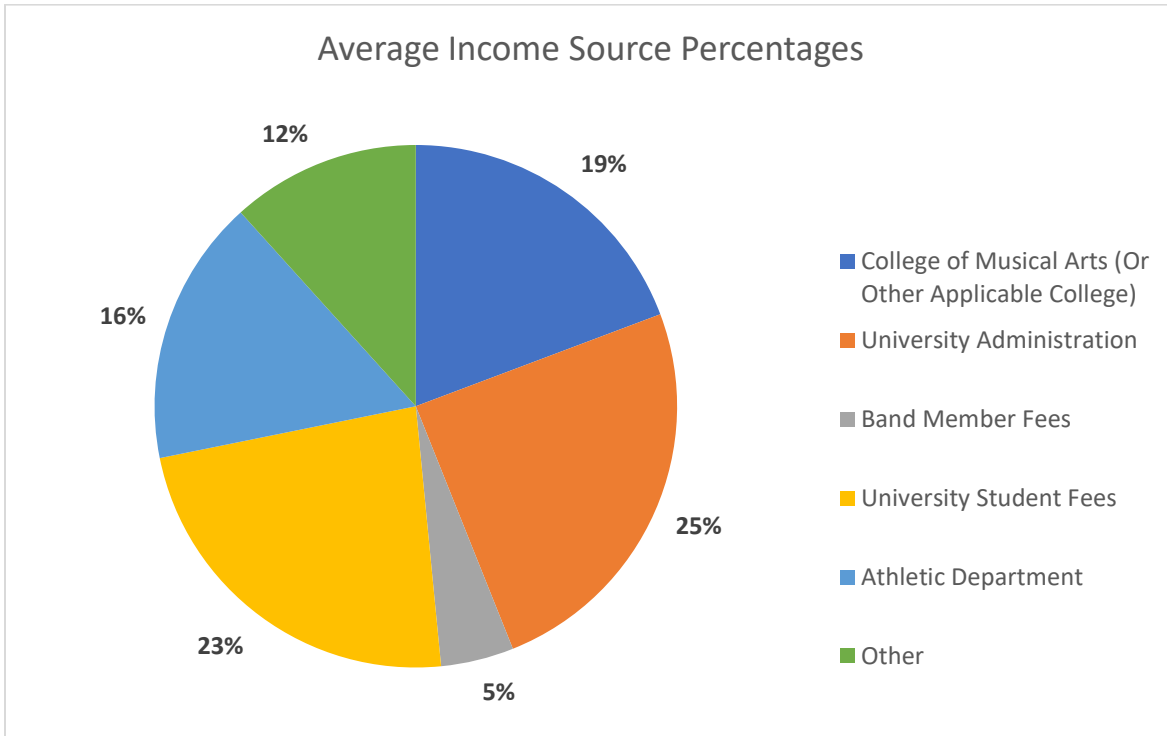
School Size

<i>Regression Statistics</i>	
Multiple R	0.62915314
R Square	0.39583367
Adjusted R Square	0.31344735
Standard Error	158853.429
Observations	26

<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	3.63724E+11	1.2124E+11	4.80460442	0.010103055
Residual	22	5.55157E+11	2.5234E+10		
Total	25	9.18881E+11			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	68625	79426.71454	0.86400401	0.39690833	-96095.92416	233345.924	-96095.924	233345.924
5,000 - 14,999	-15500	97277.46129	-0.159338	0.87485633	-217241.1071	186241.107	-217241.11	186241.107
15,000 - 29,999	174875	93978.95603	1.86078892	0.07619266	-20025.42586	369775.426	-20025.426	369775.426
> 29,999	301875	112326.3369	2.68748192	0.01345091	68924.43504	534825.565	68924.435	534825.565

Appendix E – Average Total Income Percentage per Source



Appendix F– Regression Analyses of Income Sources to Band Size

Athletic Department

<i>Regression Statistics</i>	
Multiple R	0.55522505
R Square	0.30827486
Adjusted R Square	0.17651769
Standard Error	26.7796416
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	6711.712821	1677.92821	2.33971981	0.088379016
Residual	21	15060.13333	717.149206		
Total	25	21771.84615			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-1.776E-15	15.46123331	-1.149E-16	1	-32.15339485	32.1533948	-32.153395	32.1533948
50 - 150	5.8	17.62851826	0.32901234	0.74540504	-30.86051064	42.4605106	-30.860511	42.4605106
151 - 250	22.33333333	18.9360662	1.17940723	0.25142568	-17.0463721	61.7130388	-17.046372	61.7130388
251 - 350	10	24.44635635	0.40905891	0.68663829	-40.83898111	60.8389811	-40.838981	60.8389811
> 350	46.4	19.55708508	2.37254171	0.02729485	5.728815111	87.0711849	5.72881511	87.0711849

College of Musical Arts (or Other Applicable College)

<i>Regression Statistics</i>	
Multiple R	0.48255389
R Square	0.23285826
Adjusted R Square	0.08673602
Standard Error	36.0625119
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	8289.861538	2072.46538	1.59358539	0.213002472
Residual	21	27310.6	1300.50476		
Total	25	35600.46154			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	66.6666667	20.82070093	3.20194151	0.00428417	23.36764875	109.965685	23.3676488	109.965685
50 - 150	-46.3666667	23.73925154	-1.9531646	0.06425384	-95.73514282	3.00180949	-95.735143	3.00180949
151 - 250	-51	25.50004669	-1.9999963	0.05860044	-104.0302501	2.03025013	-104.03025	2.03025013
251 - 350	-40.1666667	32.92041871	-1.2201141	0.23594684	-108.6284252	28.2950919	-108.62843	28.2950919
> 350	-64.6666667	26.33633497	-2.4554163	0.02287214	-119.4360735	-9.8972598	-119.43607	-9.8972598

University Administration

<i>Regression Statistics</i>	
Multiple R	0.488976886
R Square	0.239098395
Adjusted R Square	0.094164756
Standard Error	27.27575236
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	4909.315385	1227.329	1.649709	0.199215135
Residual	21	15623.3	743.9667		
Total	25	20532.61538			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-7.10543E-15	15.74766297	-4.5E-16	1	-32.74905793	32.74905793	-32.74905793	32.74905793
50 - 150	26.3	17.95509832	1.464765	0.157797	-11.03967104	63.63967104	-11.03967104	63.63967104
151 - 250	11	19.28686945	0.570336	0.574502	-29.10924074	51.10924074	-29.10924074	51.10924074
251 - 350	20	24.8992414	0.803237	0.430836	-31.78080714	71.78080714	-31.78080714	71.78080714
> 350	44.6	19.91939312	2.239024	0.03611	3.175354292	86.02464571	3.175354292	86.02464571

University Student Fees

<i>Regression Statistics</i>	
Multiple R	0.49870363
R Square	0.24870531
Adjusted R Square	0.10560156
Standard Error	35.7062086
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	8863.015385	2215.75385	1.73793703	0.179343091
Residual	21	26773.6	1274.93333		
Total	25	35636.61538			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-1.641E-14	20.61498915	-7.959E-16	1	-42.87121685	42.8712169	-42.871217	42.8712169
50 - 150	16.8	23.50470402	0.71475054	0.48263394	-32.0807079	65.6807079	-32.080708	65.6807079
151 - 250	50	25.24810224	1.98034686	0.0609163	-2.506302969	102.506303	-2.506303	102.506303
251 - 350	29	32.59515983	0.88970265	0.38370475	-38.78534566	96.7853457	-38.785346	96.7853457
> 350	4.4939E-15	26.07612787	1.7234E-16	1	-54.22827653	54.2282765	-54.228277	54.2282765

Other Income

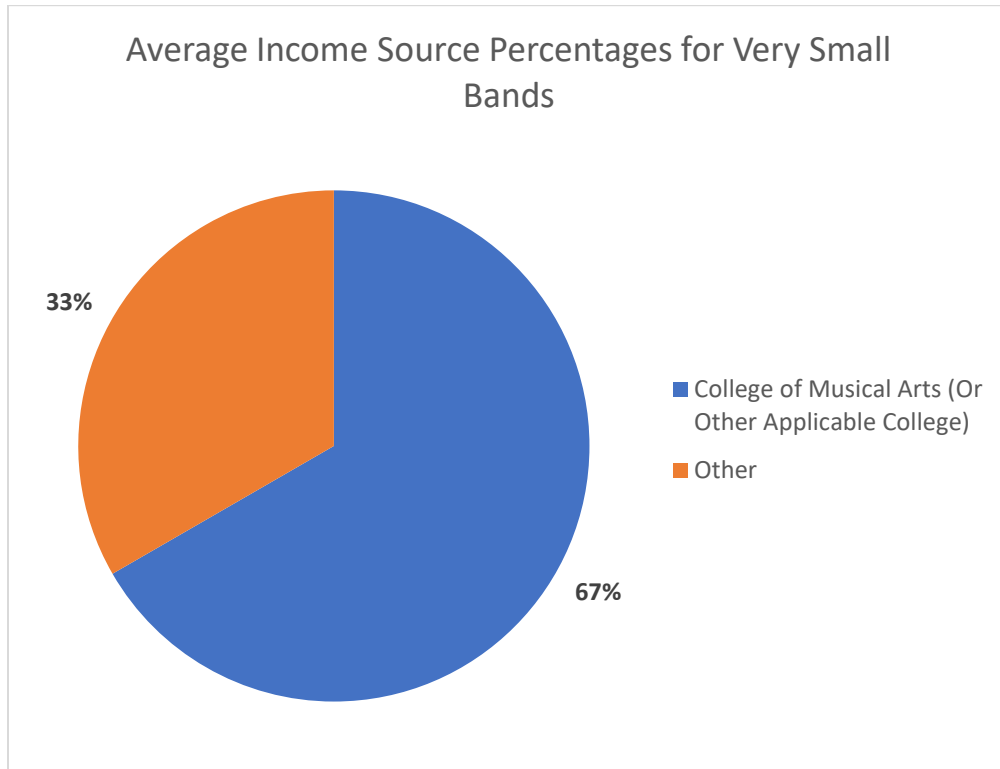
<i>Regression Statistics</i>	
Multiple R	0.43049513
R Square	0.18532606
Adjusted R Square	0.03015007
Standard Error	29.2034462
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	4074.179487	1018.54487	1.19429595	0.342414114
Residual	21	17909.66667	852.84127		
Total	25	21983.84615			

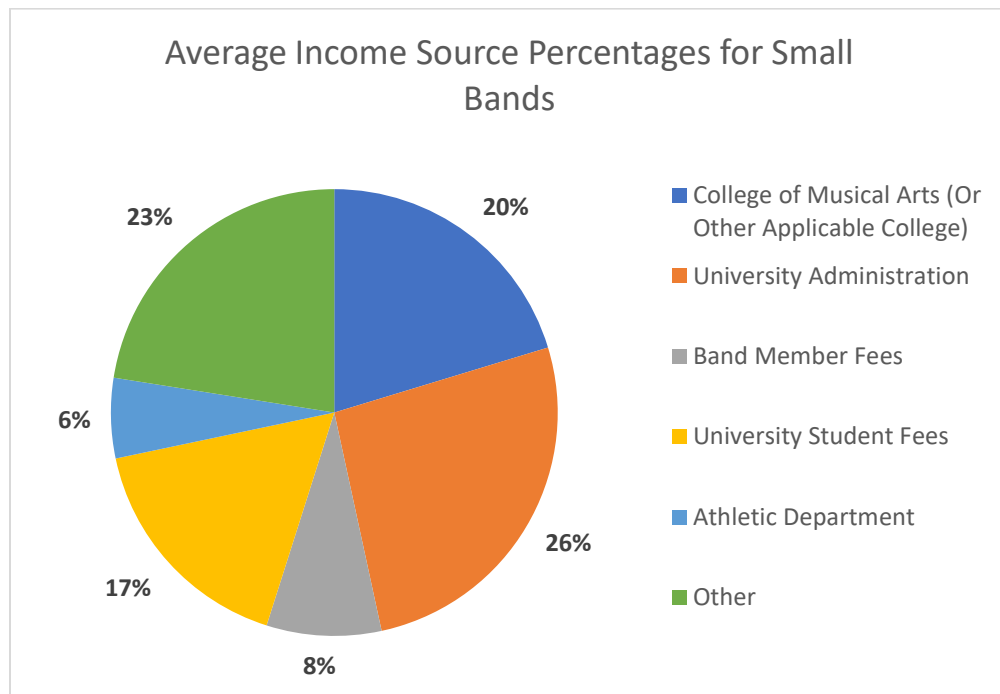
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	33.3333333	16.86061752	1.97699362	0.06131953	-1.7302403	68.396907	-1.7302403	68.396907
50 - 150	-10.8333333	19.22406175	-0.5635299	0.57904259	-50.81195831	29.1452916	-50.811958	29.1452916
151 - 250	-33.3333333	20.64995484	-1.6142085	0.12140873	-76.27726531	9.61059865	-76.277265	9.61059865
251 - 350	-32.8333333	26.65897707	-1.2316051	0.23171083	-88.27371113	22.6070445	-88.273711	22.6070445
> 350	-31.3333333	21.32718165	-1.4691737	0.156608	-75.68563557	13.0189689	-75.685636	13.0189689

Appendix G – Average Total Income Percentage per Source by Band Size

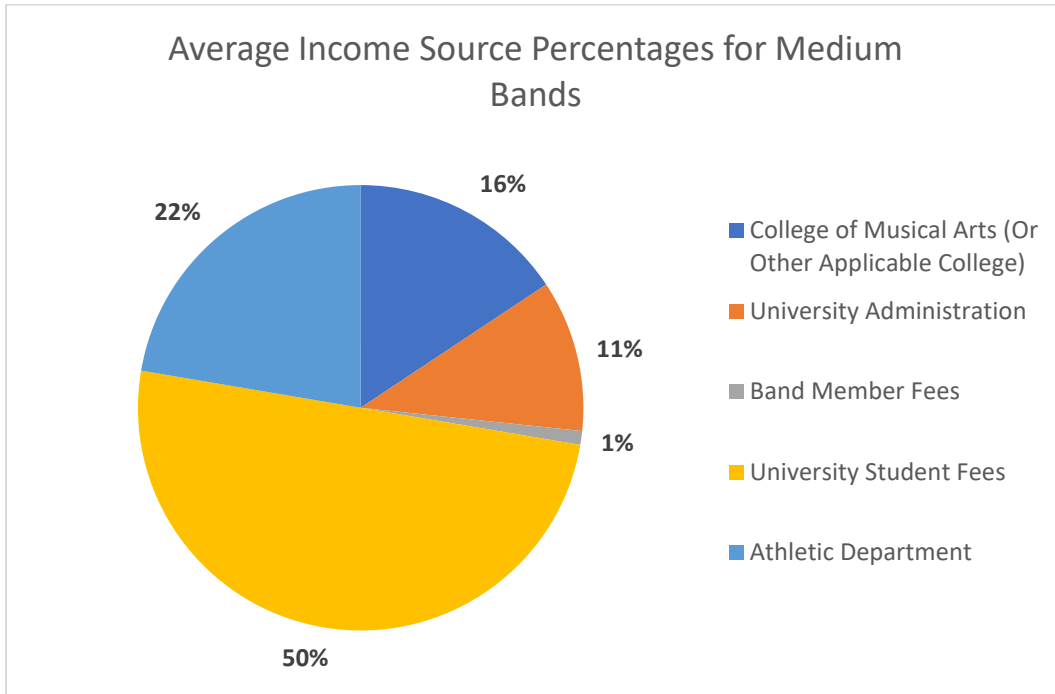
Very Small Bands



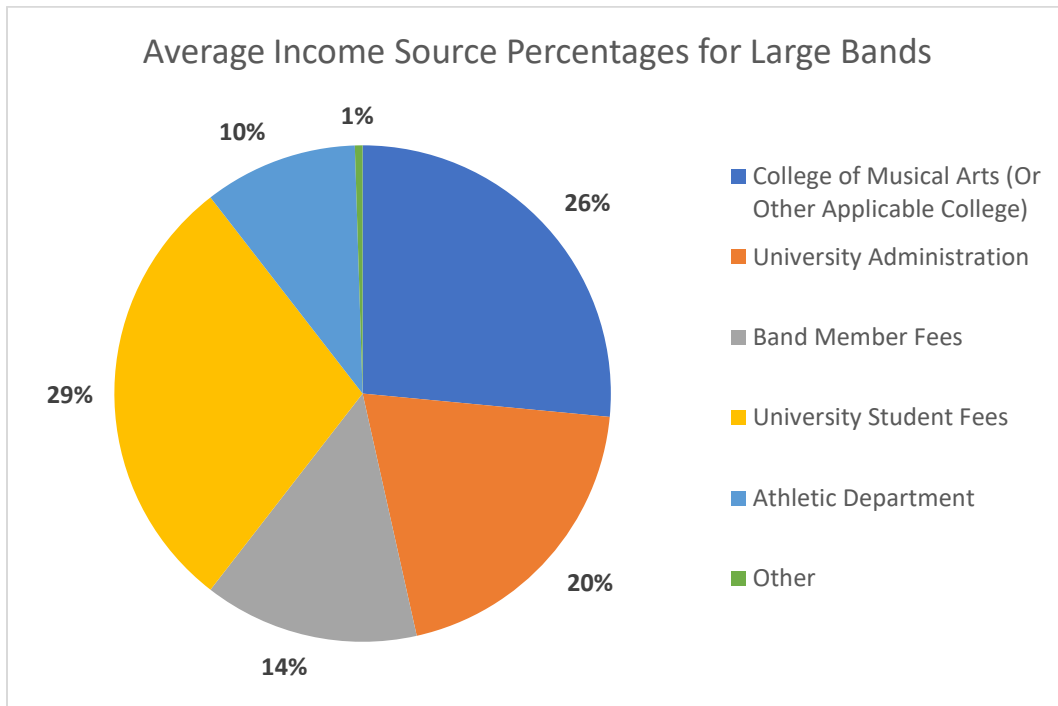
Small Bands



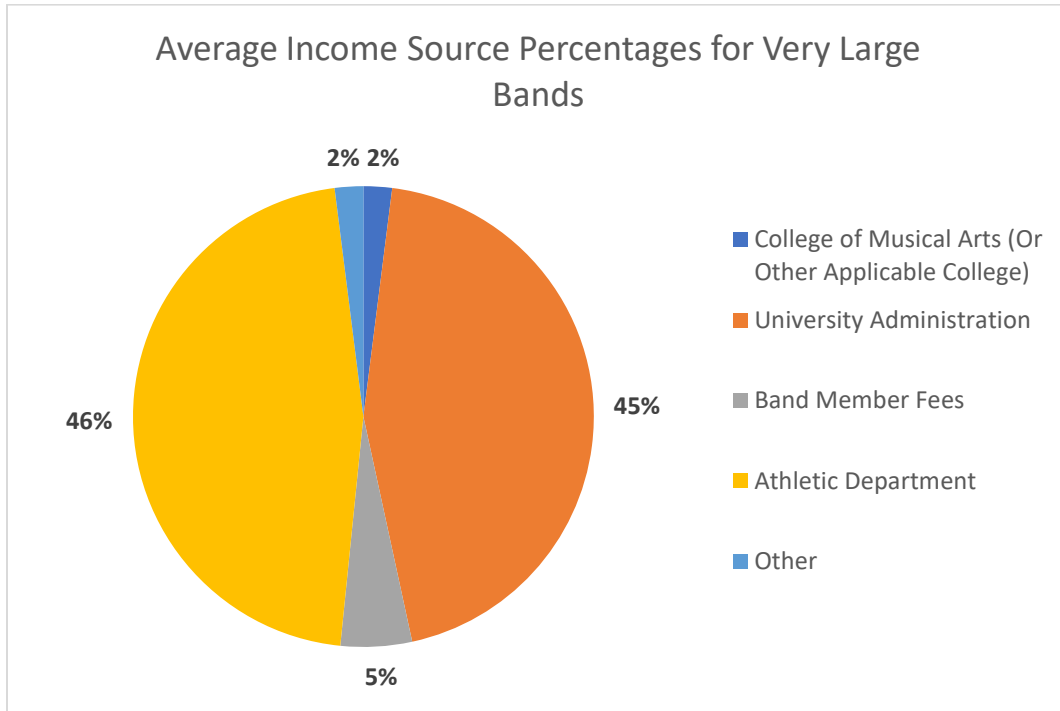
Medium Bands



Large Bands



Very Large Bands



Appendix H – Regression Analyses of Athletic Income to Various Demographics

NCAA Division

<i>Regression Statistics</i>	
Multiple R	0.72293554
R Square	0.5226358
Adjusted R Square	0.45754068
Standard Error	21.7350785
Observations	26

<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	11378.7462	3792.91538	8.02880165	0.00085051
Residual	22	10393.1	472.413636		
Total	25	21771.8462			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	2.8689E-14	21.7350785	1.3199E-15	1	-45.075794	45.0757939	-45.075794	45.0757939
FBS	48.25	23.0535321	2.09295477	0.04810196	0.43990072	96.0600993	0.43990072	96.0600993
FCS	5.8	22.7959426	0.25443124	0.80152552	-41.475891	53.0758915	-41.475891	53.0758915
DII	-3.893E-14	23.2357763	-1.675E-15	1	-48.188051	48.1880506	-48.188051	48.1880506

School Size

<i>Regression Statistics</i>	
Multiple R	0.66985309
R Square	0.44870316
Adjusted R Square	0.37352632
Standard Error	23.3576443
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	9769.096154	3256.36538	5.96863539	0.003886294
Residual	22	12002.75	545.579545		
Total	25	21771.84615			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.25	11.67882213	0.02140627	0.98311454	-23.97039468	24.4703947	-23.970395	24.4703947
5,000 - 14,999	6.5	14.30357751	0.45443177	0.65397006	-23.16380417	36.1638042	-23.163804	36.1638042
15,000 - 29,999	14.25	13.8185687	1.03122113	0.31364139	-14.40795746	42.9079575	-14.407957	42.9079575
> 29,999	60.75	16.51634865	3.67817375	0.00131783	26.49718935	95.0028106	26.4971894	95.0028106

Appendix I – Regression Analysis of Other Income Percentage to Various Demographics

NCAA Division

<i>Regression Statistics</i>	
Multiple R	0.62778141
R Square	0.3941095
Adjusted R Square	0.31148807
Standard Error	24.6058045
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	8664.042582	2888.01419	4.77006376	0.010406128
Residual	22	13319.80357	605.445617		
Total	25	21983.84615			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	100	24.60580454	4.0640817	0.00051589	48.97068466	151.029315	48.9706847	151.029315
FBS	-98.625	26.09839687	-3.7789677	0.00103244	-152.7497624	-44.500238	-152.74976	-44.500238
FCS	-87.5	25.80678551	-3.3905811	0.00262975	-141.0199974	-33.980003	-141.02	-33.980003
DII	-85.714286	26.30471151	-3.2585146	0.00359894	-140.2669185	-31.161653	-140.26692	-31.161653

School Size

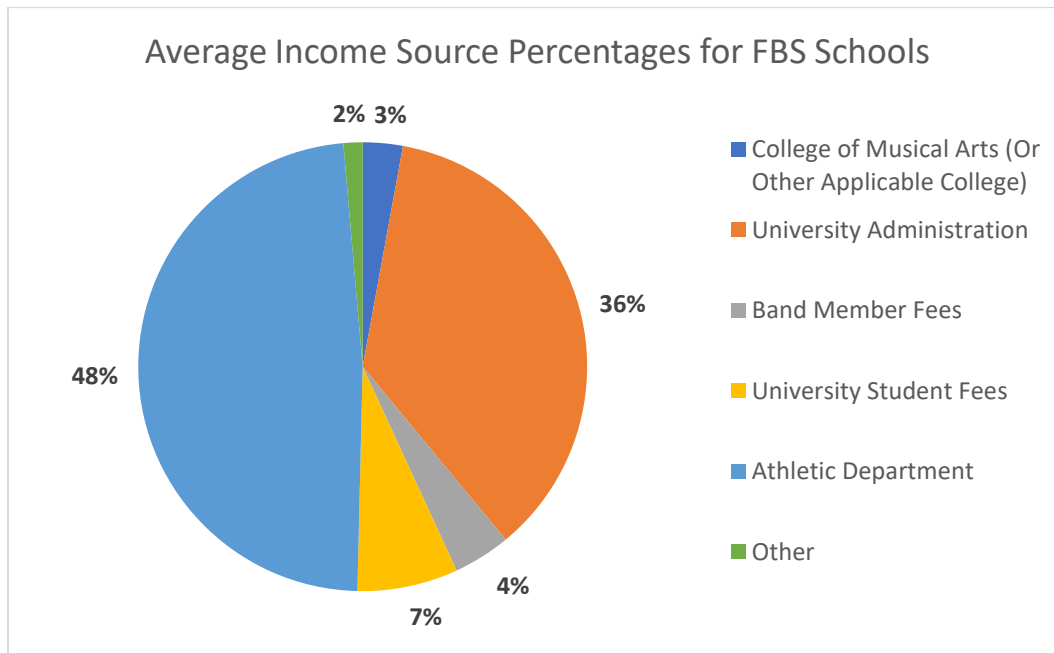
<i>Regression Statistics</i>	
Multiple R	0.42549414
R Square	0.18104526
Adjusted R Square	0.06936961
Standard Error	28.606877
Observations	26

<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	3980.071154	1326.69038	1.62117047	0.213153813
Residual	22	18003.775	818.353409		
Total	25	21983.84615			

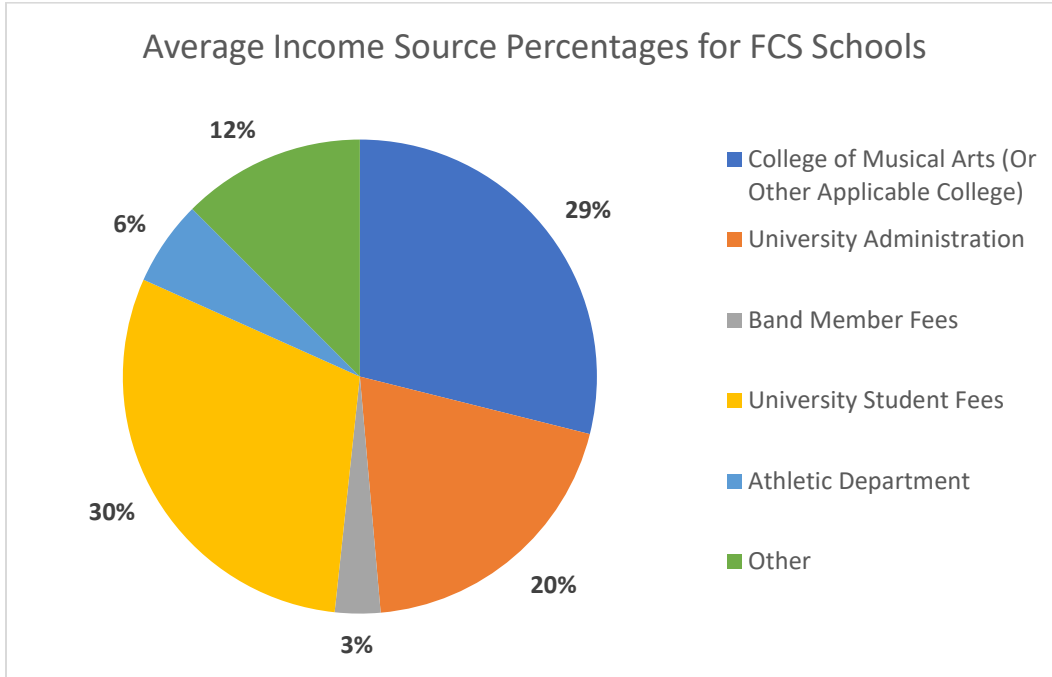
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	25	14.30343848	1.74783148	0.09443786	-4.663515836	54.6635158	-4.6635158	54.6635158
5,000 - 14,999	1.875	17.51806292	0.10703238	0.91573335	-34.45523889	38.2052389	-34.455239	38.2052389
15,000 - 29,999	-22.9	16.92405664	-1.3531035	0.18976473	-57.99834527	12.1983453	-57.998345	12.1983453
> 29,999	-25	20.22811668	-1.2359035	0.2295287	-66.9505464	16.9505464	-66.950546	16.9505464

Appendix J –Average Total Income Percentage per Source by NCAA Division

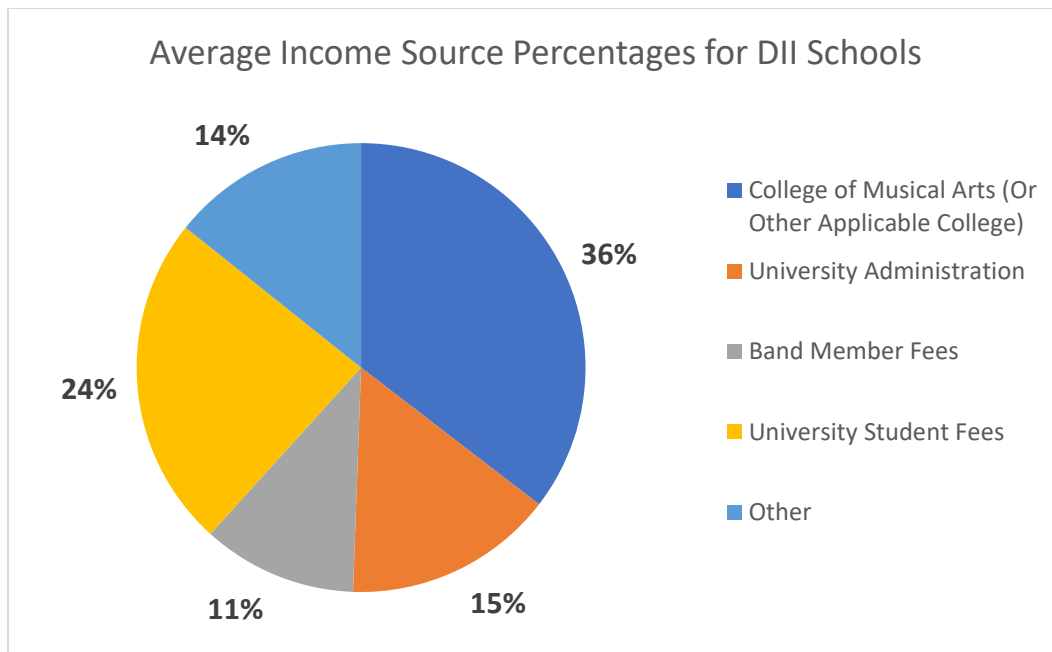
FBS Schools



FCS Schools

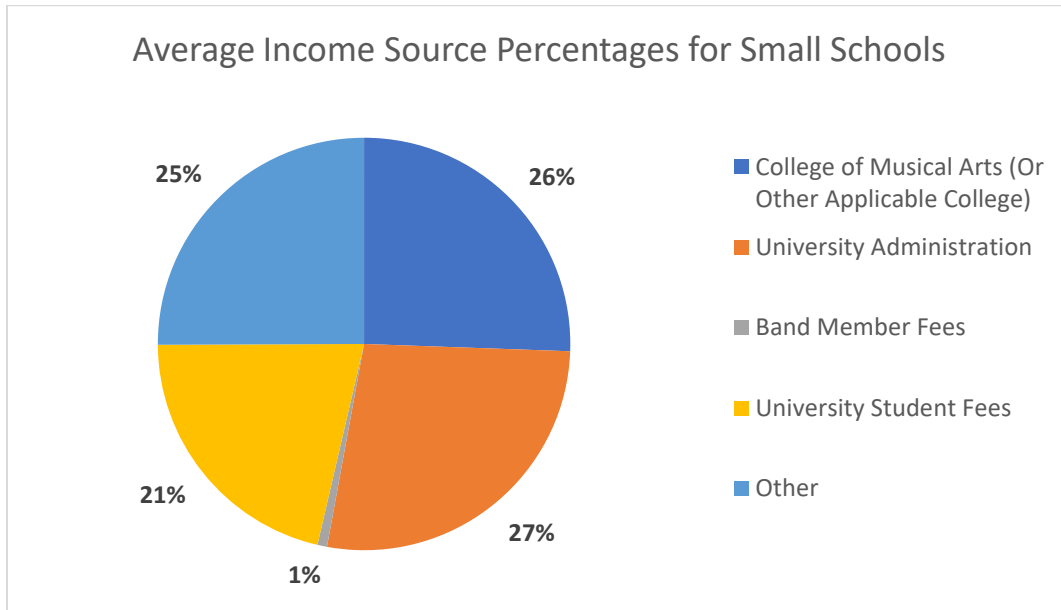


Division II Schools

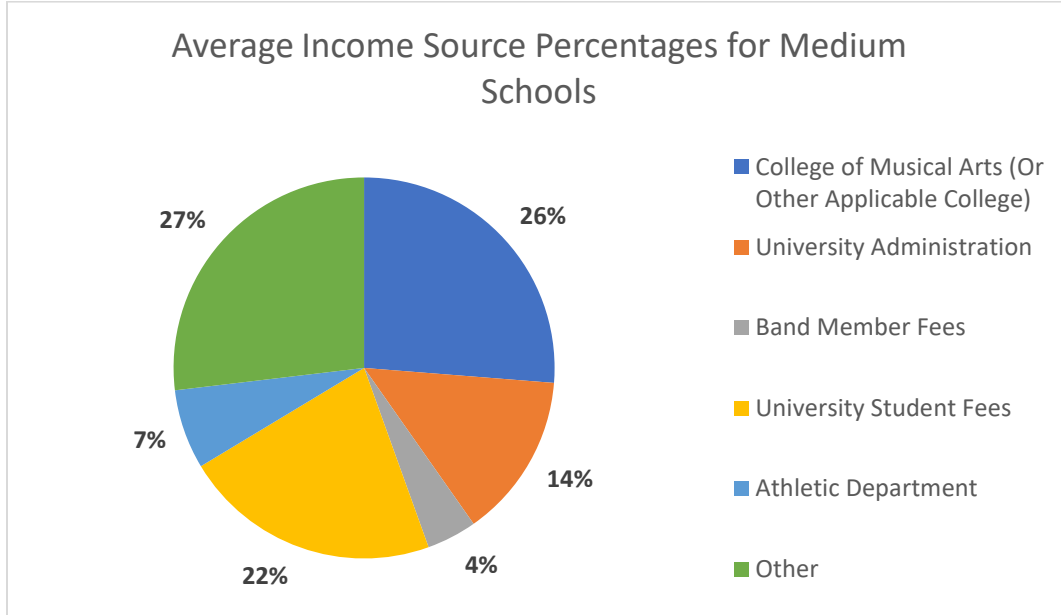


Appendix K – Average Total Income Percentage per Source by School Size

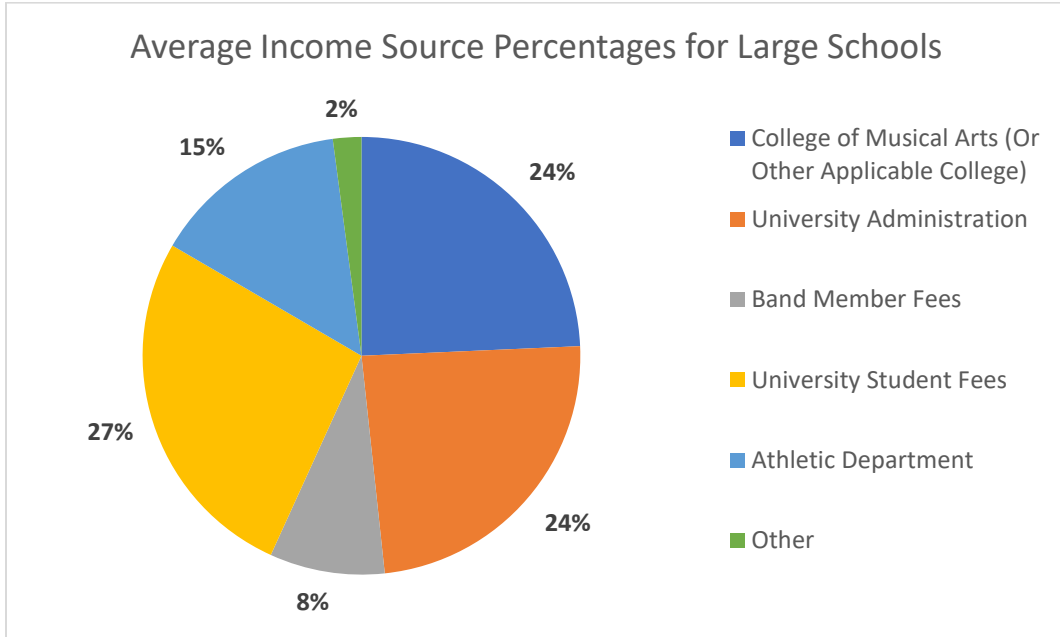
Small Schools



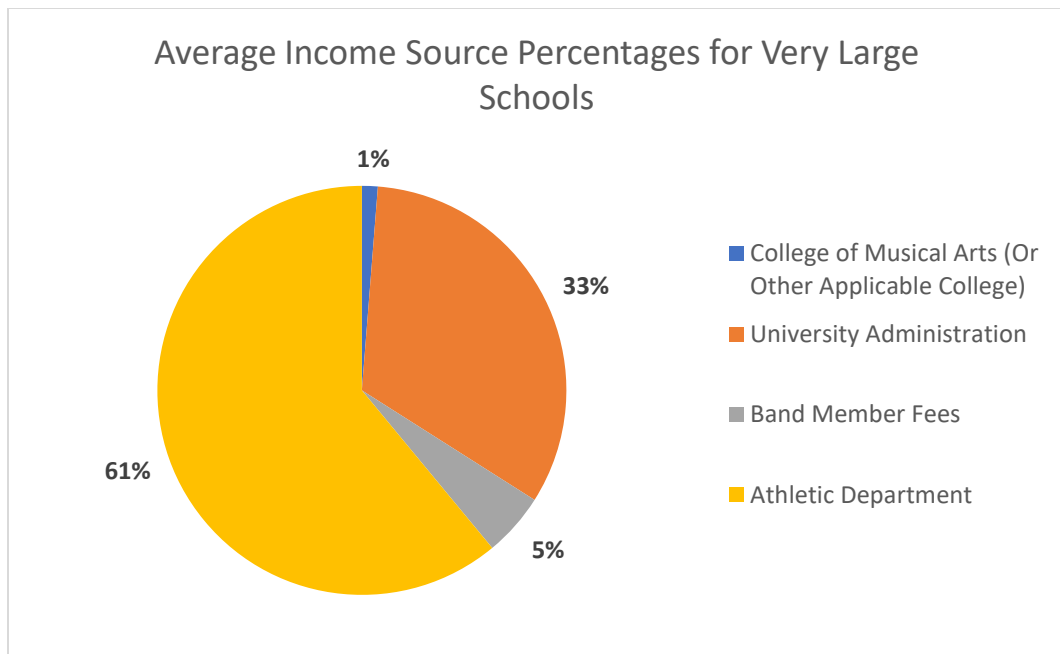
Medium Schools



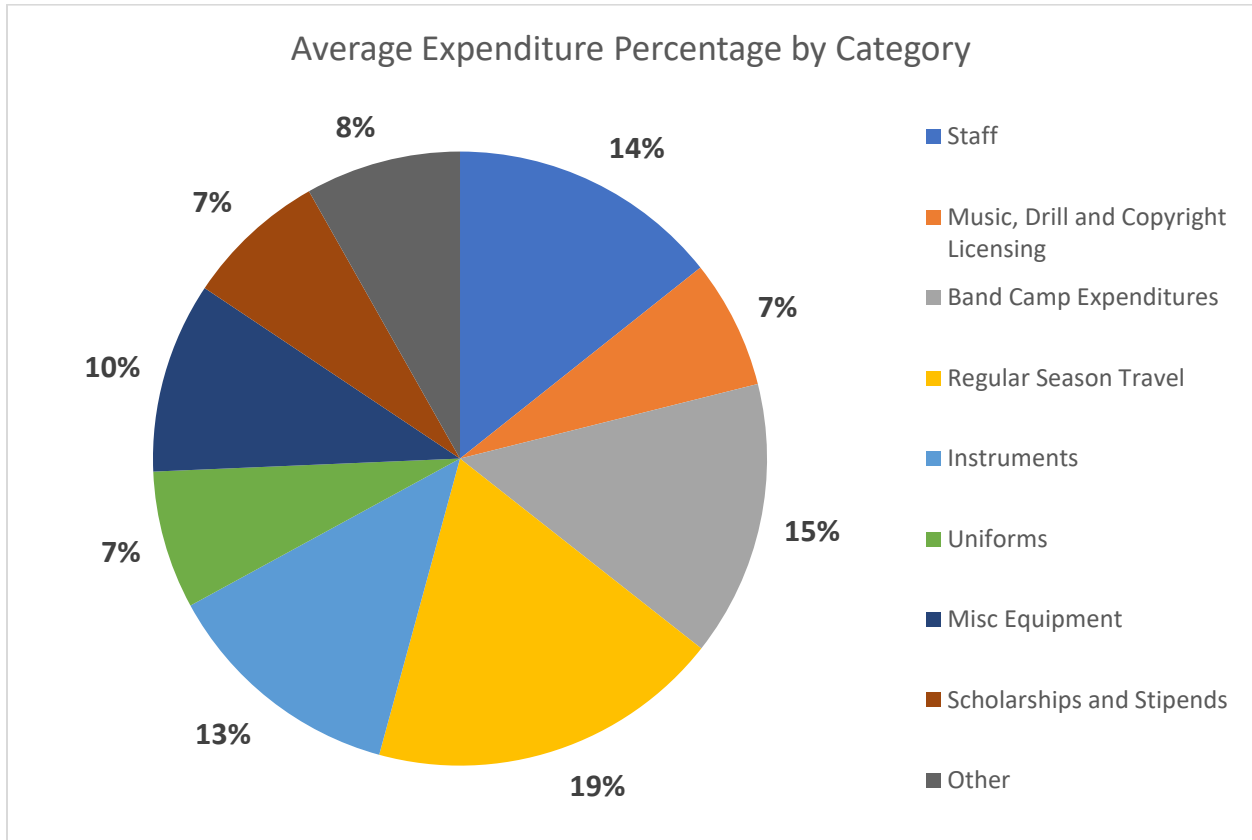
Large Schools



Very Large Schools



Appendix L – Average Percentage Expenditures by Category



Appendix M – Regression Analyses of Staff Expenditures to Various Demographics

NCAA Division

<i>Regression Statistics</i>	
Multiple R	0.43890942
R Square	0.19264148
Adjusted R Square	0.08254714
Standard Error	9.77516109
Observations	26

<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	501.5958104	167.198603	1.74978544	0.1861847
Residual	22	2102.183036	95.5537744		
Total	25	2603.778846			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-1.776E-15	9.775161091	-1.817E-16	1	-20.27244332	20.2724433	-20.272443	20.2724433
FBS	10.8125	10.36812404	1.04285982	0.30833812	-10.68967321	32.3146732	-10.689673	32.3146732
FCS	18.5	10.25227544	1.80447746	0.08486537	-2.761917929	39.7619179	-2.7619179	39.7619179
DII	16.4285714	10.45008677	1.57209904	0.13019982	-5.243582085	38.1007249	-5.2435821	38.1007249

School Size

<i>Regression Statistics</i>	
Multiple R	0.08196144
R Square	0.00671768
Adjusted R Square	-0.1287299
Standard Error	10.8424408
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	17.49134615	5.83044872	0.04959614	0.984997135
Residual	22	2586.2875	117.558523		
Total	25	2603.778846			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	15	5.421220405	2.76690466	0.01124843	3.757077006	26.242923	3.75707701	26.242923
5,000 - 14,999	1	6.639611888	0.15061121	0.88165481	-12.76971228	14.7697123	-12.769712	14.7697123
15,000 - 29,999	-0.7	6.414474488	-0.1091282	0.91409009	-14.00280588	12.6028059	-14.002806	12.6028059
> 29,999	-1.125	7.666763422	-0.1467373	0.88467576	-17.02489418	14.7748942	-17.024894	14.7748942

Band Size

<i>Regression Statistics</i>	
Multiple R	0.22238535
R Square	0.04945524
Adjusted R Square	-0.1316009
Standard Error	10.8562212
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	128.7705128	32.1926282	0.27314865	0.891969142
Residual	21	2475.008333	117.85754		
Total	25	2603.778846			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	15	6.267842257	2.39316808	0.0261255	1.965308465	28.0346915	1.96530847	28.0346915
50 - 150	2	7.14643971	0.27985963	0.78232328	-12.86183496	16.861835	-12.861835	16.861835
151 - 250	0.08333333	7.676507659	0.01085563	0.9914411	-15.88083827	16.0475049	-15.880838	16.0475049
251 - 350	-5	9.910328774	-0.5045241	0.61914612	-25.60965692	15.6096569	-25.609657	15.6096569
> 350	-2.8	7.928263019	-0.3531669	0.7274838	-19.28772554	13.6877255	-19.287726	13.6877255

Appendix N – Regression Analysis of Music Expenditures to School Size

<i>Regression Statistics</i>	
Multiple R	0.40954098
R Square	0.16772382
Adjusted R Square	0.05423161
Standard Error	5.76933508
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	147.5711538	49.1903846	1.47784434	0.248001479
Residual	22	732.275	33.2852273		
Total	25	879.8461538			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.75	2.88466754	0.6066557	0.55028919	-4.232434322	7.73243432	-4.2324343	7.73243432
5,000 - 14,999	6.875	3.532981776	1.94594833	0.0645463	-0.451955754	14.2019558	-0.4519558	14.2019558
15,000 - 29,999	3.35	3.413184663	0.98148806	0.33702327	-3.728511749	10.4285117	-3.7285117	10.4285117
> 29,999	6	4.079535958	1.47075551	0.1555164	-2.460439754	14.4604398	-2.4604398	14.4604398

Appendix O – Regression Analyses of Travel Expenditures to Various Demographics

Power Five Schools

<i>Regression Statistics</i>	
Multiple R	0.40277788
R Square	0.16223002
Adjusted R Square	0.12732294
Standard Error	17.8179284
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1475.475824	1475.47582	4.64748162	0.041340091
Residual	24	7619.485714	317.478571		
Total	25	9094.961538			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	15.2857143	3.888190737	3.93131801	0.00062666	7.260883015	23.3105456	7.26088302	23.3105456
Power-Five School?	19.1142857	8.866439054	2.15580185	0.04134009	0.814854904	37.4137165	0.8148549	37.4137165

Band Size

<i>Regression Statistics</i>	
Multiple R	0.43185873
R Square	0.18650197
Adjusted R Square	0.03154996
Standard Error	18.770206
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	1696.228205	424.057051	1.20361117	0.338673515
Residual	21	7398.733333	352.320635		
Total	25	9094.961538			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-9.77E-15	10.83698351	-9.015E-16	1	-22.53674095	22.5367409	-22.536741	22.5367409
50 - 150	17.3	12.35606228	1.40012243	0.17607804	-8.395838189	42.9958382	-8.3958382	42.9958382
151 - 250	20.6666667	13.27253998	1.5570996	0.13439015	-6.935091226	48.2684246	-6.9350912	48.2684246
251 - 350	28.5	17.13477543	1.66328413	0.1111093	-7.133716214	64.1337162	-7.1337162	64.1337162
> 350	27.8	13.70782035	2.02803942	0.05543112	-0.706972972	56.306973	-0.706973	56.306973

School Size

<i>Regression Statistics</i>	
Multiple R	0.37659202
R Square	0.14182155
Adjusted R Square	0.02479722
Standard Error	18.8355322
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	1289.861538	429.953846	1.21189794	0.328782317
Residual	22	7805.1	354.777273		
Total	25	9094.961538			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	7.25	9.417766093	0.76982163	0.44959324	-12.28125146	26.7812515	-12.281251	26.7812515
5,000 - 14,999	8.5	11.53436072	0.73692857	0.46895247	-15.42080006	32.4208001	-15.4208	32.4208001
15,000 - 29,999	14.05	11.14325112	1.26085286	0.22056995	-9.05968838	37.1596884	-9.0596884	37.1596884
> 29,999	24	13.31873254	1.80197327	0.08527014	-3.621360705	51.6213607	-3.6213607	51.6213607

Appendix P – Regression Analysis of Uniform Expenditures to Income Sources

<i>Regression Statistics</i>	
Multiple R	0.64808249
R Square	0.42001092
Adjusted R Square	0.22501365
Standard Error	5.24839475
Observations	26

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	6	398.9548403	66.4924734	2.89668153	0.035350374
Residual	20	550.9129482	27.5456474		
Total	26	949.8677885			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	37.3647273	11.17695727	3.34301424	0.00323984	14.05000303	60.6794516	14.050003	60.6794516
Athletic Dept Incorr	-0.3393475	0.112515434	-3.0160083	0.00682531	-0.57405057	-0.1046444	-0.5740506	-0.1046444
College of Musical /	-0.3299869	0.118379062	-2.7875443	0.01136567	-0.576921274	-0.0830525	-0.5769213	-0.0830525
University Administ	-0.2804265	0.132302706	-2.1195827	0.04674662	-0.556405142	-0.0044479	-0.5564051	-0.0044479
Band Member Fees	0	0	65535	#NUM!	0	0	0	0
University Student I	-0.3129447	0.118370384	-2.6437756	#NUM!	-0.559861023	-0.0660284	-0.559861	-0.0660284
Other	-0.3546088	0.118663256	-2.9883619	0.00726363	-0.602135966	-0.1070815	-0.602136	-0.1070815

Appendix Q – Regression Analysis of Misc Equipment Expenditures to School Size

<i>Regression Statistics</i>	
Multiple R	0.35760023
R Square	0.12787793
Adjusted R Square	0.00895219
Standard Error	9.71736233
Observations	26

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	304.6055288	101.535176	1.07527546	0.37997463
Residual	22	2077.396875	94.4271307		
Total	25	2382.002404			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	16	4.858681166	3.2930747	0.00331609	5.923711985	26.076288	5.92371198	26.076288
5,000 - 14,999	-3.75	5.950644839	-0.6301838	0.53506577	-16.09088207	8.59088207	-16.090882	8.59088207
15,000 - 29,999	-8.7	5.748869083	-1.5133411	0.14442751	-20.62242476	3.22242476	-20.622425	3.22242476
> 29,999	-9.4375	6.8712128	-1.3734839	0.18343804	-23.68752317	4.81252317	-23.687523	4.81252317

Appendix R – Regression Analyses of Scholarships and Stipends to Various Demographics

NCAA Division

<i>Regression Statistics</i>	
Multiple R	0.61978145
R Square	0.38412904
Adjusted R Square	0.30014664
Standard Error	12.7391219
Observations	26

ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	3	2226.840385	742.280128	4.57392297	0.012324919	
Residual	22	3570.275	162.285227			
Total	25	5797.115385				

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	50	12.73912192	3.9249173	0.00072418	23.58067814	76.4193219	23.5806781	76.4193219
FBS	-40.625	13.51187924	-3.0066136	0.00649428	-68.64692246	-12.603078	-68.646922	-12.603078
FCS	-42.4	13.36090379	-3.173438	0.00439864	-70.10881853	-14.691181	-70.108819	-14.691181
DII	-50	13.61869418	-3.671424	0.0013395	-78.24344308	-21.756557	-78.243443	-21.756557

Band Size

<i>Regression Statistics</i>	
Multiple R	0.28411434
R Square	0.08072096
Adjusted R Square	-0.0943798
Standard Error	15.9301551
Observations	26

ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	4	467.9487179	116.987179	0.46099717	0.763480908	
Residual	21	5329.166667	253.769841			
Total	25	5797.115385				

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	16.6666667	9.197279331	1.81213009	0.08429095	-2.460122764	35.7934561	-2.4601228	35.7934561
50 - 150	-11.166667	10.48651187	-1.06486	0.29903051	-32.97456194	10.6412286	-32.974562	10.6412286
151 - 250	-13.166667	11.26432069	-1.1688824	0.25554887	-36.59210393	10.2587706	-36.592104	10.2587706
251 - 350	-4.1666667	14.54217548	-0.2865229	0.77728537	-34.40877613	26.0754428	-34.408776	26.0754428
> 350	-6.6666667	11.63374038	-0.5730459	0.57269929	-30.86035424	17.5270209	-30.860354	17.5270209

Appendix S – Regression Analyses of Misc Expenditures to Various Demographics

Band Size

<i>Regression Statistics</i>	
Multiple R	0.5966032
R Square	0.35593537
Adjusted R Square	0.2332564
Standard Error	17.180831
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	3425.7	856.425	2.90135591	0.04669733
Residual	21	6198.8	295.180952		
Total	25	9624.5			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	38.3333333	9.919357378	3.86449766	0.00089783	17.7049004	58.9617663	17.7049004	58.9617663
50 - 150	-36.5333333	11.30980752	-3.2302348	0.00401168	-60.05336562	-13.013301	-60.053366	-13.013301
151 - 250	-26.6666667	12.14868208	-2.1950255	0.03954256	-51.93123411	-1.4020992	-51.931234	-1.4020992
251 - 350	-35.3333333	15.68388112	-2.2528437	0.03508929	-67.94974965	-2.716917	-67.94975	-2.716917
> 350	-35.9333333	12.5471049	-2.8638745	0.00929358	-62.02646639	-9.8402003	-62.026466	-9.8402003

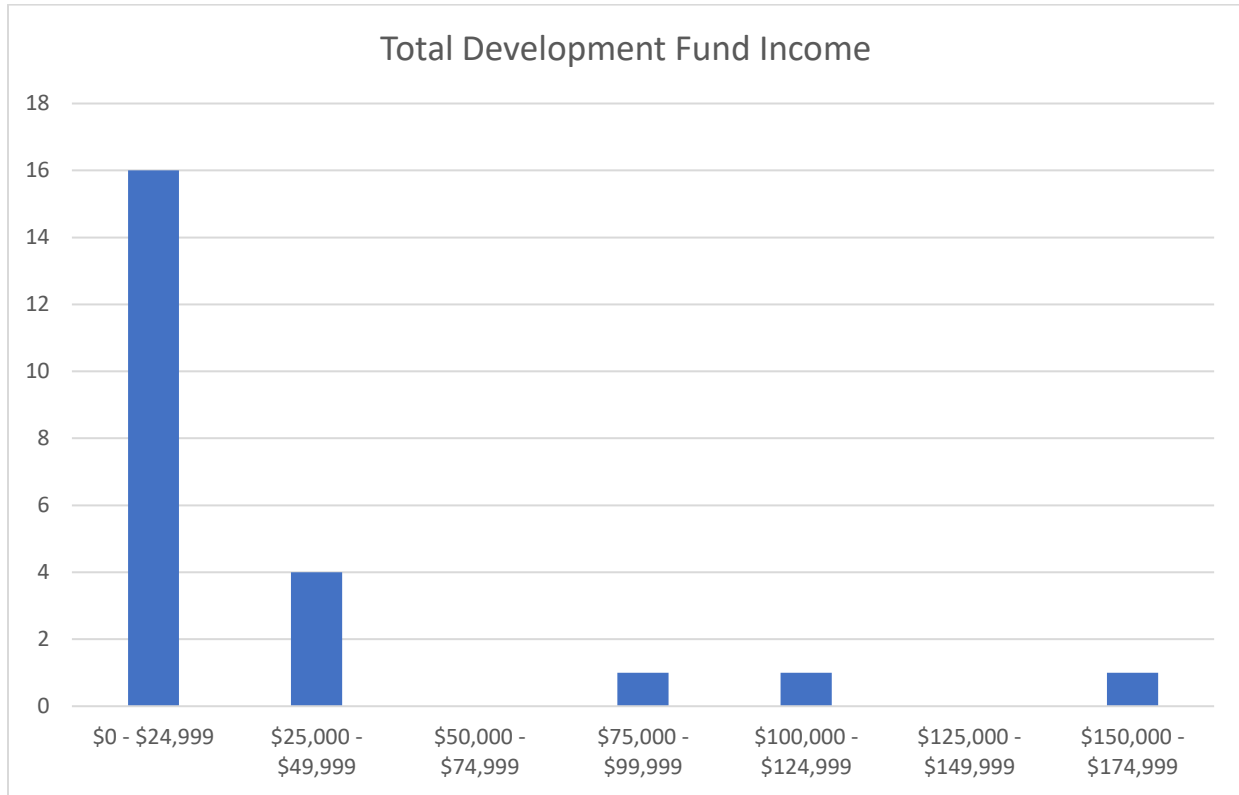
School Size

<i>Regression Statistics</i>	
Multiple R	0.44590482
R Square	0.19883111
Adjusted R Sq	0.0895808
Standard Errc	18.7214631
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	1913.65	637.883333	1.81995932	0.172988509
Residual	22	7710.85	350.493182		
Total	25	9624.5			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	28.25	9.360731566	3.01792652	0.00632605	8.837030909	47.6629691	8.83703091	47.6629691
5,000 - 14,999	-24.5	11.46450798	-2.1370302	0.04396302	-48.27593433	-0.7240657	-48.275934	-0.7240657
15,000 - 29,999	-21.45	11.07576695	-1.9366605	0.06573543	-44.41973479	1.51973479	-44.419735	1.51973479
> 29,999	-25.75	13.23807353	-1.9451471	0.06464813	-53.20408417	1.70408417	-53.204084	1.70408417

Appendix T – Total Development Fund Income



Appendix U – Development Fund Income to Various Factors

Development Fund Uses

<i>Regression Statistics</i>	
Multiple R	0.96062569
R Square	0.92280172
Adjusted R Square	0.81687768
Standard Error	15365.745
Observations	26

<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	10	45157302083	4515730208	19.1258499	9.04436E-07
Residual	16	3777697917	236106120		
Total	26	48935000000			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Staff	-4750	15365.74501	-0.3091292	0.76121237	-37323.92428	27823.9243	-37323.924	27823.9243
Music, Drill, and Copyright Licensing	17916.6667	20805.3171	0.86115807	0.40187247	-26188.6353	62021.9686	-26188.635	62021.9686
Band Camp	28770.8333	27522.8475	1.04534363	0.31140086	-29574.99692	87116.6636	-29574.997	87116.6636
Regular Season Travel	122260.417	22011.57499	5.55436931	4.3575E-05	75597.96221	168922.871	75597.9622	168922.871
Instruments	-120260.42	26844.28343	-4.4799265	0.00037895	-177167.7554	-63353.078	-177167.76	-63353.078
Uniforms	-75375	15365.74501	-4.9053918	0.00015846	-107948.9243	-42801.076	-107948.92	-42801.076
Misc Equipment	47468.75	15123.74965	3.13868922	0.00634396	15407.83297	79529.667	15407.833	79529.667
Scholarships & Stipends	-4791.6667	8871.417019	-0.5401242	0.59655002	-23598.23062	14014.8973	-23598.231	14014.8973
Post-Season Travel	26604.1667	20083.52446	1.32467619	0.20388841	-15971.00326	69179.3366	-15971.003	69179.3366
Misc	9614.58333	8445.337393	1.13844869	0.27169308	-8288.73216	27517.8988	-8288.7322	27517.8988

Development Fund Dependency

<i>Regression Statistics</i>	
Multiple R	0.56822605
R Square	0.32288085
Adjusted R Square	0.19390577
Standard Error	34777.7915
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	12111571062	3027892766	2.50343598	0.073193526
Residual	21	25399390476	1209494785		
Total	25	37510961538			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	2857.14286	13144.76965	0.21735967	0.83002602	-24478.9021	30193.1878	-24478.902	30193.1878
Don't Use	-2857.1429	20363.78958	-0.1403051	0.88975601	-45205.9616	39491.6759	-45205.962	39491.6759
Special Projects Only	43742.8571	20363.78958	2.14807057	0.0435311	1394.038397	86091.6759	1394.0384	86091.6759
Special Projects and Supplemental Income	3142.85714	23998.95617	0.13095808	0.89705494	-46765.70437	53051.4187	-46765.704	53051.4187
Highly Dependent	42809.5238	19348.57704	2.2125412	0.0381419	2571.955129	83047.0925	2571.95513	83047.0925

Band Size

<i>Regression Statistics</i>	
Multiple R	0.50296689
R Square	0.25297569
Adjusted R Square	0.11068535
Standard Error	36528.9187
Observations	26

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	9489361538	2372340385	1.77788378	0.171021203
Residual	21	28021600000	1334361905		
Total	25	37510961538			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	4666.66667	21089.98107	0.2212741	0.82701641	-39192.34995	48525.6833	-39192.35	48525.6833
50 - 150	633.333333	24046.27813	0.0263381	0.97923635	-49373.63959	50640.3063	-49373.64	50640.3063
151 - 250	47166.6667	25829.84615	1.82605295	0.0820958	-6549.439004	100882.772	-6549.439	100882.772
251 - 350	6333.33333	33346.188	0.18992676	0.8511904	-63013.8609	75680.5276	-63013.861	75680.5276
> 350	24333.3333	26676.9504	0.91214824	0.37204372	-31144.42205	79811.0887	-31144.422	79811.0887

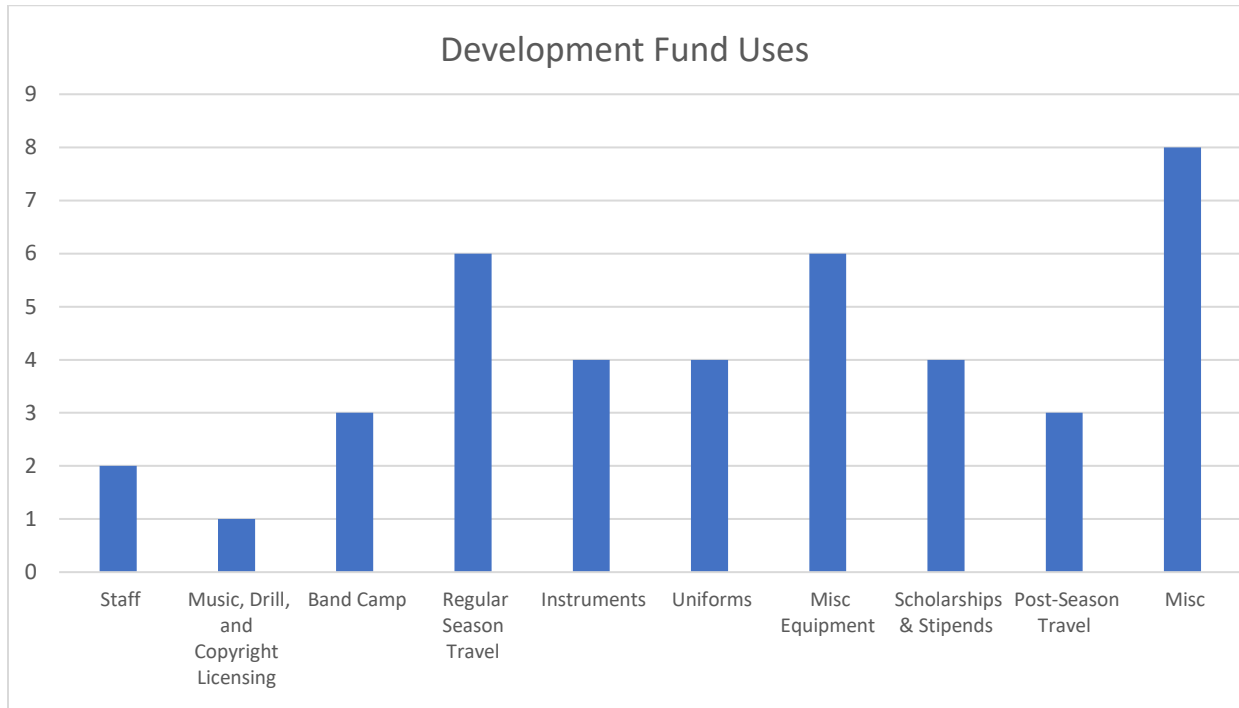
Appendix V – Regression Analysis of Development Fund Income to Development Fund Type

<i>Regression Statistics</i>	
Multiple R	0.66585219
R Square	0.44335914
Adjusted R Square	0.3784991
Standard Error	33689.2791
Observations	26

<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	21695779412	1.0848E+10	9.55788555	0.00095226
Residual	24	27239220588	1134967525		
Total	26	48935000000			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
General Development Fund	4441.17647	11555.32739	0.38434017	0.70411074	-19407.84711	28290.2001	-19407.847	28290.2001
Special Purpose Development Fund	48544.1176	14730.20996	3.29554825	0.00304479	18142.45849	78945.7768	18142.4585	78945.7768

Appendix W – Development Fund Uses



References

College Football Standings – 2018 (n.d.). Retrieved from <http://www.espn.com/college-football/standings>

Cumberledge, J. P. (2017). The Benefits of College Marching Bands for Students and Universities: A Review of the Literature. *Update: Applications of Research in Music Education*, 36 (1), 44-50. Retrieved from <http://ezproxy.bgsu.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1152377&site=ehost-live&scope=site>

Darnall, J. (1988). Budgeting the School Instrumental Music Program. *The Instrumentalist*, 42, 36-38.

Gordon, S. (2001). Good Budget Proposals Include Statistics, Details, and Reasons. *The Instrumentalist*, 55 (8), 17-20.

Gupta, K. (2014). *White Paper Study of U.S. University Marching Bands*. Unpublished white paper, Department of Performing Arts, University of Pennsylvania, Philadelphia, PA.

Meisinger, R. J., Jr. (1994). *College and University Budgeting: An Introduction for Faculty and Academic Administrators* (2nd ed.). Washington, DC: National Association of College and University Business Officers. Retrieved from <http://ezproxy.bgsu.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED378911&site=ehost-live&scope=site>

Rowland, K. (2013, May 21). TBDBITL Marches Into New Era. *Eleven Warriors*. Retrieved from <https://www.elevenwarriors.com/2013/05/22215/ohio-state-marching-band-new-era-tbdbitl>

Schick, A. G. (1985). University Budgeting: Administrative Perspective, Budget Structure, and Budget Process. *Academy of Management Review*, 10 (4), 794-802. Retrieved from <https://doi-org.ezproxy.bgsu.edu/10.5465/AMR.1985.4279102>