2019

Audible: How the NCAA Can Restructure Its View of Amateur Athletics

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December 18, 2018

Abstract

This paper analyzes the relationships between NCAA schools' total athletic revenues and the revenues generated by individual sports, the scholarship money given to male and female athletes, the expenses of men and women' sports, and the recruiting expenses associated them. By using the data from the 2016-2017 academic year, provided to the Office of Postsecondary Education of the U.S. Department of Education under the Equity in Athletics Disclosure Act, this thesis adds to the growing library of sports economic literature. The idea of compensation for college athletes is one that has been discussed for many years, but very few have taken the time to determine how schools make their money and what factors have a positive effect on revenue, outside of the individual sports themselves. By using an ordinary least squares regression model, I was able to determine that for every dollar a school spends on women's athletic scholarships total revenue increases by $8.435; for every dollar spent on women's sports, revenue increases by $2.32 when spent on women's sports; lastly, for every dollar spent on women's recruiting, total revenue increases by $49.16.

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Introduction

Often overlooked in the minds of those outside of the sporting world, the National Collegiate Athletics Association (NCAA) is quickly making the case to be brought into the conversation as one of the most profitable sports leagues, not only in the United States but in the world. Although much further behind all other major US professional sports leagues, the NCAA pulled in $1 billion in revenue for the 2016-2017 academic year (Parker, 2018). When compared to the "Big 4" of American sports, the NFL($13 billion); MLB($9.5 billion); the NBA ($4.8 billion); and the NHL ($3.7 billion), $1 billion in revenue seems to show that there is still much more progress to be made (Kutz 2016). However, when the philosophy of "amateurism" is taken into consideration, $1 billion in revenue raises many questions about the treatment of the men and women to help create the revenue.

In the last few years, the American sports media has paid considerable attention to the rights of American athletes. Their freedoms of speech and expression, their right to choose who they work for and how they work, and also their ability to choose how much is a fair salary have all been called into question. However, despite all of the attention professional athletes have brought to these issues, one issue that is often overlooked is whether or not college athletes should be paid. Given their status as college students, it has become easy for media personalities and those who have no experience in an athletic environment to quickly dismiss the argument. "They receive a free education" has become the easiest defense to hide behind. Considering the economics behind revenue-generating sports such and football and basketball, in addition to the common low-income status of athletes upon their enrollment to their respective universities, this argument can now be considered invalid.

I believe that the data produced by this paper can provide valuable insight into how the generated revenue and student aid of the respective 126 FBS universities are affected by the major sports on campus. Within this topic, there have been a plethora of scholarly articles written, but very few have taken the time to look at the raw data and revenues generated over the past few years.

Using an ordinary least squares regression model, I established a linear relationship between a number of different athletic factors and the total athletic revenue of 126 universities in the United States. The data produced by the ordinary least squares model produced a number of results showing how, and to what extent, a university makes money for their athletic department. The first model I ran showed that the success of a school's football and basketball programs, both men's and women's, will ultimately determine the overall financial success of the athletic department. At the same time, on average, women's sports themselves have a negative effect on overall revenue of a school's athletic department, but spending money on athletic scholarships and women's sports have an overall positive effect on total revenue. Lastly, the recruiting expenses of individual universities do not prove to be a factor in overall revenue, but a high coefficient on women's recruiting expenses may provide some insight into the disparity of competition within women's sports.

The rest of this paper is written as follows. A literature review based on previous research and is followed by data, methodology, and empirical results. Finally, the paper closes with a policy recommendation.

Literature Review

The rise of college athletics in the United States has produced a form of entertainment not seen anywhere else in the world. What was once an extracurricular activity for college students has become a billion dollar a year industry. Since its inception in 1906, the National Collegiate Athletics Association (NCAA) has been tasked with regulating the actions of more than 1,200 universities around the country and the student-athletes that attend them. The term "student-athlete" is a phrase coined by the NCAA. Its original intent was to simply describe athletes on college campuses, because, as students, their main focus was on academics, with sports playing a secondary role. Despite its original intent, according to Robert and Amy McCormick, the term has taken on a new and much greedier meaning: "By creating and fostering the myth that football and men's basketball players at Division I universities are something other than employees, the NCAA and its member institutions obtain the astonishing pecuniary gain and related benefits of the athletes' talents, time, and energy-that is, their labor-while severely curtailing the costs associated with such labor." (McCormick pg. 74). This definition of "student-athlete" has become a mainstream term as more and more professional athletes, in addition to those who did not turn professional, speak out against it.

In order to gain an understanding of how to approach this topic, researchers first look at the definition and traditional relationship of employees and employers. In Texas, courts generally analyze the relationship using a "control test" and a "relative nature of work test" (Roberts pg.1322). These tests look at both the power structure within a business in addition to how substantial an employee's workload is. In many sports, football in particular, athletes face serious threats to permanent injury. In the case of *The University of Denver vs Nemeth*, the Colorado

Supreme Court ruled in favor of the former Denver football player and stated that he was entitled to workers' compensation after sustaining an injury during practice. Ten years later, in the case of *Van Horn vs. Industrial Accident Commission*, a California court of appeals followed the Nemeth decision and rewarded compensation to the family of a deceased football player after he died in a plane crash when returning from a game (Roberts, 2006, pg. 1329). These cases are intriguing because they both took place well before the commercialization of college sports. *The University of Denver vs Nemeth* took place in 1953, and the Van Horn case a decade later.

Rather than view these two court rulings as a sign of what the future may hold, the NCAA stood their ground and did nothing to avoid future conflicts. In fact, according to Walter Byers (the first executive director of the NCAA) and Charles Hammer, the NCAA had double downed on the "student-athlete" label. Leading up to and continuing throughout the 1990s, the NCAA reemphasized that players were only "amateurs," they adopted more rules that negatively affected athletes, they established a centralized bureaucracy, and they beefed up public relations campaigns to sway public opinion into believing the "virtues" of college athletics and that the power rested solely in the hands of college presidents (Byers & Hammer, 1998, pgs. 1-2).

Byers, despite being the NCAA's first executive director, was incredibly critical of the machine he helped create during the later years of his life. He became the NCAA's first full-time employee at the age of only 29, and quickly helped turn the organization into the money making machine it is today. He helped establish the NCAA's enforcement division in an effort to punish schools and coaches who broke the NCAA's rules. At the same time, he helped negotiate the television rights deals for colleges' football teams and for events such as the March Madness Tournament (Given 2017).

The television rights, it can be argued, helped turn the NCAA into what it is known as today. For years, Byers was focused on maintaining "amateurism." He wanted the NCAA to stand for original principles it was founded on. So when he negotiated the original television contracts for the NCAA, he limited the amount of exposure of each of the schools. Americans would not be able to see their favorite schools on television every week. Byers purposely did this to maintain the "student-athlete" label of the players on the field. At the same time, universities were not allowed to receive any portion of the agreements between the networks and the NCAA.

Despite Byer's best efforts, the universities began to realize the true value of their athletic departments. So, on March 20, 1984, the NCAA was brought before the Supreme Court by the universities in a lawsuit alleging that the television rights deal negotiated by Byers, that lasted from 1981 to 1985, was illegal. On June 2, 1984, the Court ruled that the television broadcasting rights deal between the NCAA, ABC, and CBS Broadcasting Networks violated the Sherman Antitrust Act. (NCAA v. Board of Regents, 468 U.S. 85 (1984)). They concluded that the deal constituted "price fixing" and that it placed an artificial limit on live college football being broadcasted in the United States. As a result, universities and conferences were then given free rein to negotiate their own deals and allowed their schools to be broadcasted live every weekend. This court decision has given rise to things such as conference devoted television networks and an endless selection of college football games broadcasted on dozens of networks every weekend. As it currently sits, the University of Notre Dame, given its independent conference status, is the only school in the country to have negotiated its own exclusive television rights. Since 1991, NBC has held exclusive rights to broadcast Notre Dame football games. As of April

2013, their partnership has been extended through the 2025 football season and the financial terms of the deal remain undisclosed (Associated Press 2013).

This decision was seen as a huge blow for the NCAA and even Byers, after years of promoting amateurism, began to question the direction of the league. In an interview with famed sports writer Jack McCallum shortly after the decision, Byers was quoted as saying "You know, I've reached the point where I've started thinking about an open division, to make it more, for want of a better word, professional" (Given 2017). His about-face on the topic was met with harsh resistance and he was forced to sit before the NCAA council to explain himself. The sudden about-face and new business model allowed for corruption and greed to spread throughout the universities and the conferences as the money began to pour in.

Byers ultimately retired from the NCAA in 1988 and aired out the grievances against his former employer in his 1995 memoir "*Unsportsmanlike Conduct.*" In it, he talks about how the NCAA came up with the term "student-athlete," and how it ultimately became embedded in the NCAA's philosophy (Branch 2014). The cases of *The University of Denver vs Nemeth* and *Van Horn vs. Industrial Accident Commission* helped give rise to the mainstream and legal use of the term. By adopting the term "student-athlete" into its philosophy, the NCAA gave itself a shield and a justification for its treatment of the athletes. The term became purposefully ambiguous. The groups of athletes on the field are composed of men and women who serve a dual purpose. They are not strictly athletes, nor are they strictly students. They are somewhere in the middle. Their status as athletes means they would be forgiven for low academic performances, but their status as students means they are exempt from any form of compensation. Despite his best effort to expose the wrongs he helped create, Byers's memoir was not given much attention. There was

no book tour, nor was he called in front of Congress to expose the corruption. The book has sat mostly irrelevant in the realm of mainstream sports literature until his death in 2015.

The debate has since moved into the 21st century and had picked up mainstream popularity due to the case of *Ed O'Bannon vs NCAA*. Unlike the cases mentioned earlier, the O'Bannon case, as it has come to be known, is not about workers' compensation due to injury, but rather revenue sharing and whether or not the NCAA has the right to use a player's image and likeness for commercial purpose. O'Bannon brought the lawsuit against the NCAA, and later on Electronic Arts (EA), when he noticed that, in an NCAA video game, a player on the UCLA basketball team, his alma mater, wore the same jersey number, played the same position, and had the same physical features as he did. O'Bannon saw this as a clear attempt to represent himself without explicitly putting his name on it. At the end of a 5-year legal battle, a settlement was reached where thousands of former college football and basketball players were entitled to compensation for their representation in NCAA video games. In addition, the court ruled that the NCAA may no longer use any current or former player's image or likeness within a video game for commercial purposes (Edelman, 2014, pg. 2325). As a result, the beloved NCAA video game franchise, in both football and basketball, was ended. This case brought the topic into the mainstream not only because of its importance to collegiate athletes, but because it affected millions of people who never stepped foot on a collegiate field.

Despite the discontinuation of the NCAA video game franchise, the NCAA continues to have a number of revenue sources away from the field of play. As mentioned previously, television rights have become the main driver of income for both the NCAA and individual conferences. The most profitable of those deals is the one negotiated between the NCAA and

CBS Sports and Turner Broadcasting for the rights to broadcast the March Madness Tournament. This tournament is an American spectacle every year and represents the largest portion of the NCAA's annual revenue. Of the $1 billion in revenue the NCAA makes a year, approximately 90% of that money is directly related to the March Madness Tournament. This is due, in part to the 14 year, $10.8 billion contract they have with CBS and Turner Broadcasting that was signed in 2010 (Parker 2018). That deal was also extended in April 2016 through 2032, adding an additional $8.8 billion to the existing deal. According to the NCAA, 96% of the money collected each year is distributed to the universities that are a member of the Division I ranks.

The payout for the tournament, however, is the closest thing the NCAA has to paying out based on athletic performance. At the beginning of the 2016 tournament, there was a $220,000,000 money pot. Each conference received a percentage of that pot based on the number of teams in the tournament and how far each team went. The payout is then spread out over six seasons. Each conference gets a $1,700,000 payout for each team that it has in the tournament. The further a team goes, the higher the additional payout. If a team makes it to the finals, it can earn either five or six payments, depending on their starting place, totaling $8,300,000. Conferences are encouraged to evenly distribute the money amongst the universities but are not required to. Larger conferences like the Big 10 or ACC, who have multiple streams of revenue, are more like to follow the NCAA's recommendations, than a smaller, lesser-known conference. For the small conferences, the "Cinderella team," as they have come to be known, can represent a huge source of funding for an otherwise unprofitable conference.

In addition to television rights, merchandising has become another huge revenue stream for the NCAA and universities. Distribution deals with Fanatics, Dick's Sporting Goods, and

other national retail stores have extended the reach of universities in an effort to attract new fans. At the same time, sponsorship deals with Nike, Under Armour, and Adidas allow the universities to take the field with the newest, and most cutting edge uniforms, designed for peak performance and most futuristic designs. Revenue from these partnerships can sometimes reach up to 5% of an athletic department's revenue (Kleinman 2018). These sponsorships help attract new fans and also promote the sale of jerseys and other merchandise to people who are not even fans of the schools' teams, they just like the design.

Despite the economic benefits, like most things the NCAA does, merchandising does not come without its controversies. Much like the Ed O'Bannon case, college merchandising has been pulled into the question of how universities are unethically using and profiting off the images of their athletes. For a long time, the NCAA, the universities, and the global merchandising brands they partnered with would sell officially licensed jerseys online for fans to buy. The jerseys, however, would change every year. The jersey number would change from year to year to represent the top player on each team, but the nameplate would remain empty. For example, Nike would sell number 8 jerseys with no name on them for the University of Oregon. Although the jersey carried no name on the back, it was obvious that the jersey was fashioned to represent the 2014 Heisman winner Marcus Mariota. Each year the universities would update the jerseys being sold after the athletes have graduated to represent the new face of their program.

Thanks to the O'Bannon case, universities began to limit the jerseys available to consumers as the case shed new light on the situation. "I think most people understand the landscape has changed a little bit, and we need to be smart," said Mississippi State senior associate athletic director for external affairs Scott Wetherbee (Tracy 2015). Schools have

become more self-aware and are taking precautionary measures before they are forced to compensate those who they have previously wronged.

Currently, fans are only able to purchase jersey bearing the number 1, or bearing the year (Ex. 18 for 2018) that the jersey was purchased. Despite some schools making the change, other schools have refused to change their distribution habits based on the feedback of both current and former players who want their jerseys sold, even if they don't receive any compensation. The players sign permission forms to allow for their likeness to be used.

In addition to the "use of player likeness" controversy, Adidas and the University of Louisville became embroiled in their own controversy, when a bribery scheme was discovered involving Adidas employees, Louisville coaches, and high school recruits. The deal between Adidas and Louisville was a 10-year agreement that included: "$79 million in cash payments, $61.3 million in merchandise, $16 million in 'activation funds' for such purposes as internships and strategic brand initiatives and $4.5 million in guaranteed royalties" (Sullivan 2018). The terms of the deal, specifically money allocated for "activation funds" were purposefully ambiguous. The University and Adidas claimed that it was written that way because they had not come to a conclusion as to the specific use of the money. However, in an indictment by a New York grand jury, eight people with connections Louisville and Adidas were using the money to sway the opinions of recruits into signing with Louisville to play basketball (Sayers & Lerner 2017).

Despite the amount of money the NCAA and its universities make, there have been very few empirical studies done into how these revenue sources fit into the topic of athletic compensation. In a 2012 study, Ramogi Huma, president of the National College Players

Association, and Drexel sports management professor Ellen J. Staurowsky, outlined how much money in fair market value they believe athletes have been forfeiting over the past decade. In their study, Huma and Staurowsky concluded a number of findings in their study, the first major finding being that despite the "full scholarships" athletes may receive, the aid provided by the university still puts students at an annual scholarship shortfall of $3,285. Secondly, the scholarship shortfalls cause between 80% and 90% of athletes to fall below the federal poverty line, depending on whether or not they live on campus. Lastly, if allowed to access the free market and capitalize off their images, the average FBS football and basketball player would be work approximately $137,357 and $289,031, respectively (Huma and Staurowsky 2012).

The findings by Huma and Staurowsky are only estimated values. There are still many other factors to consider, such as personal endorsement deals and the school they attend, but the evidence is still telling. By looking at the NFL's and NBA's revenue sharing models that the respective league put in place. Huma and Staurowsky were able to estimate these values that students have forfeited. In the end, they estimate that college athletes have been cheated out of more than $6.2 billion in fair profits based on the revenue they helped generate. Their policy recommendation suggests that the Department of Justice pursue a series of antitrust lawsuits against the NCAA, allow universities to make up the scholarship shortfalls, allow athletes to explore their own commercial opportunities, and to the extent of Title IX, allow these benefits to extend across sports off all genders and revenue generating capabilities.

Given the push back the NCAA has received, this past September, they have put into place a new set of rules giving college basketball players more freedoms in regards to the college recruitment process, in addition to the processes of turning professional and returning to school.

The reason they focused on basketball is that men's college basketball players only have to play for one season at their school before turning professional.

The first piece of flexibility the NCAA has offered is focused on high school students. The NCAA has granted prospective student more “official visits” that can be taken prior to their junior year of high school. In addition, high school students have been given the freedom to become represented by an agent, if and when the NBA lifts the restriction on entering the NBA straight out of high school.

In regards to college players, the NCAA has also granted them the ability to become represented by an agent once that player requests an evaluation from the NBA Undergraduate Advisory Committee. Once that request has been put through, agents are allowed to cover all expenses in regards to the agent selection process. Once an agent has been signed, all fees in relation to visiting professional teams or the agent themselves are allowed to be paid by the agent. The contract between a player and agent becomes void if a player either enrolls in college out of high school or re-enrolls after the NBA Draft.

The last area of focus the NCAA has focused on is in relations to the NBA Draft and beyond. Previously, once a player declared for the Draft, that player officially unenrolled from their university and their athletic scholarship becomes void. With their new rules, the NCAA now allows players to return to their universities if not selected in the Draft. For those who are selected, the NCAA will now allow them to return to their respective schools to complete their degree and have their tuition paid by the university, if it has been less than 10 years since they left. The NCAA has also set up a fund for schools who are unable to cover these costs (NCAA.org). These steps are by no means a comprehensive overhaul but are a step forward.

Data

In order to conduct my research, I used data published by the Office of Postsecondary Education of the U.S. Department of Education. Under the Equity in Athletics Disclosure Act of 1994, universities across the country are required to "disclose gender participation rates and program support expenditures in college athletic programs to prospective students and, upon request, to the public" (Equity in Athletics Disclosure Act of 1994). Using this data, I was able to collect the revenues, expenses, coaching salaries, and student aid of 126 FBS level schools. These variables were then added to my model and regressed against the total revenue of the universities to establish a linear relationship. The results of the model will help me to understand which sports make the most money for their athletic departments, in addition to determining how different spending habits also affect total revenue. Using these results, recommendations can be brought forward in order to determine what kind of compensatory system, if any, can be established that is fair to both the revenue generating and non-revenue generating sports.

Table 1 provides the number of observations, means, standard deviations, minimums and maximums of all the data used collected from the Department of Education. In order to investigate factors that affect the revenues of college athletic departments, data from the 2016-2017 academic years was used. Under the Equity in Athletics Disclosure Act (EADA), all colleges are required to report information that the government sees as vital to ensure the fair treatment of student-athletes across all sports and genders to the Office of Postsecondary Education of the U.S. Department of Education. In turn, the government makes this data available, annually, to the public through the OPE Equity in Athletics Disclosure Website database in the form of excel spreadsheets and other easily downloadable forms.

Table 1: Means, Standard Deviations, Minimums and Maximums

Variable	Obs	Mean	Std. Dev.	Min	Max
name	0				
State	0				
totlrev	126	7.35e+07	4.36e+07	1.42e+07	2.07e+08
totlexp	126	6.98e+07	3.90e+07	1.42e+07	1.83e+08
Profits	126	3678917	7421817	0	4.78e+07
maleund	126	9250.889	4536.748	1844	22973
femund	126	9805.579	4368.477	1396	22002
totund	126	19056.47	8714.204	3248	44975
bsblpart	112	35.74107	2.710492	25	45
mbsktblpart	126	15.74603	2.089733	12	30
wbsktblpart	126	19.63492	7.435701	11	45
mtrackpart	94	97.67021	26.99597	25	160
wtrackpart	117	110.735	30.97785	50	222
ftblpart	125	116.904	9.167284	97	139
sftblpart	106	22.50943	4.026685	15	39
menspart	126	312.254	86.6968	95	595
womenspart	126	291.0079	87.34964	137	575
totlpart	126	604.5476	163.5412	305	1170
msalperhc	126	665900.6	444453.3	98702	2235296
msalperfte	126	747762.8	504431.6	109669	2607845
wsalperhc	126	160587.1	77526.18	44312	391445
wsalperfte	126	176194.5	83868.28	54538	410129
menaid	126	6120090	2451451	1745432	1.32e+07
womenaid	126	4774153	2167264	1611362	1.16e+07
totlaid	126	1.09e+07	4537864	4127322	2.46e+07
aidpercap	126	18103.97	6495.2	7488.502	40056.88
bsblrev	112	1537301	1294185	87605	6386244
mbsktblrev	126	8603388	7229409	1382433	4.40e+07
wbsktblrev	126	2010405	2263574	74209	2.14e+07
mtrackrev	94	622813.2	481662.7	10960	2223745
wtrackrev	117	888101.8	614436.4	10360	2891062
ftblrev	125	3.41e+07	2.91e+07	5394664	1.41e+08
sftblrev	106	746879.9	445034.4	31567	2204241
menrev	126	4.62e+07	3.42e+07	6378500	1.68e+08
womenrev	126	7562865	5036759	366700	2.50e+07
revpercap	126	117065.1	56451.75	33122.27	281041.1
mensrecruit	126	893205.7	556579.5	130149	2826068
womensrecr~t	126	339477.6	177878.8	61561	825428
bsblexp	112	2233764	1315134	215311	6044963
mbsktblexp	126	6286923	3705181	1382433	1.95e+07
wbsktblexp	126	3230543	1579039	880800	7839480
mtrackexp	94	1403994	730811.8	271647	3961034
wtrackexp	117	1566599	711118.8	426926	3833273
ftblexp	125	2.01e+07	1.14e+07	5394664	6.23e+07
sftblexp	106	1369439	601805.1	530722	3362393
menexp	126	3.26e+07	1.79e+07	6366081	8.20e+07
womenexp	126	1.31e+07	6316132	3376639	2.70e+07
revnetaid	126	6.26e+07	4.06e+07	1.01e+07	1.96e+08
aidpct	126	.1790083	.071968	.0559227	.3691348
statename	126	20.75397	12.00845	1	41
bigprogram	126	.4761905	.5014265	0	1

The relationships between the selected variables were determined by using an ordinary least squares (OLS) model. The OLS model uses a set of explanatory variables to produce an estimated linear relationship. Those relationships are calculated by minimizing the sum of squares differences between the observed and predicted values. Given the output, a level of significance can be determined by a variable's p-value. P-values less than .05, in a 95% confidence test, show that the given variable has a significant effect, whether positive or negative, on the dependant variable.

In order to effectively analyze the data and relate it back to the topic of athletic compensation, a number of steps had to be taken to narrow the data. The first step taken was to narrow down the number of schools. Under the NCAA's umbrella, there are more than 1,200 universities that compete in some form of competitive athletics. Of those 1,200 schools, only 126 compete at the "football bowl subdivision" (FBS) level. These 126 schools have the highest regarded athletic programs in the country. They attract the top athletes from all over the country to compete for them, many of whom hope to turn professional. It is because of this level of competition that these schools athletic programs, particularly football and basketball, generate millions of dollars in revenue. Despite these two revenue-generating sports, as they are widely referred to, the high level of competition stretches across all sports and genders.

It is important to note, that in looking at the revenue and expense data of each of the universities, the accounting practices of the universities must be called into question. Of the 126 schools, 63 schools (exactly half) reported a profit for the 2016-2017 year, while the other 63 schools broke even. It is highly unlikely that no schools in the sample lost money on their athletic departments. Further research shows, that given the relationship between the athletic

programs and the universities, costs incurred by the athletic departments are easily transferable to the school and do not appear as costs to the schools' programs. This practice is known as transfer-price accounting and does not help present an accurate representation of the spending habits of university athletic departments.

After pulling out the top 126 schools, 5 individual sports were chosen to be the focus of the regression: football, men's and women's basketball, men's and women's track, softball, and baseball. These 5 sports are routinely amongst the top revenue sources for school athletic departments but are also the most even against both genders. The final step that was taken was determining the most important factors provided by the OPE Equity in Athletics Disclosure website. In the end, it was determined that total revenue, total expenditure, student enrollment by gender, participation by sport, head coaching salaries by gendered sport, athletic aid by gender, revenue generated by sport, and expenditures by sports and gender were all likely to be the key factors that have an effect on a school's revenue. In addition to the variables taken straight from the OPE Equity in Athletics Disclosure website, another series of variables were created using the data to help create a more complete model. Athletic aid per capita was calculated by dividing total athletic aid by the total number of athletes. Athletic aid as a percentage of revenue and total revenue after financial aid were also variables that were calculated. Lastly, a control variable for the state a university is located in was created by associating a quantifiable variable with each of the states in the sample data. By doing this, biases towards certain sports for particular regions on the United States (ie. the south and football) can be accounted for in the OLS model.

Models and Variables

In order to conduct a thorough study of the wide range of factors, a base equation was developed to focus on the total revenue of the university and the revenue generated by each of the sports selected to the study to determine the linear relationship between them:

(1) $$Totlrev = B_0 + B_1(bsblrev) + B_2(mbsktbl) + B_3(wbsktbl) + B_4(mtrackrev) + B_5(wtrackrev) + B_6(fbltrev) + B_7(sftblrev) + B_8(i.statename) + u$$

Total revenue of the schools' athletic departments in 2016 was selected as the dependent variable because it is the starting point in the conversation related to athletic compensation. This was calculated by each of the 126 universities in their report to the Department of Education by adding the revenue of all sports the university offers, not just the sports that are the focus of this study. The independent variables of baseball revenue, men's and women's basketball revenue, men's and women's track revenue, football revenue, and softball revenue were all selected to help represent some of the school's highest revenue generating sports. These sports are also the most balanced across both genders, with the exception of football, and help create a more complete representation of how athletic departments generate revenue. At the same time, *i.statename* was generated in order to control for the states the universities are located in. The reason for this is because there is typically a bias across different states towards different sports. Southern states tend to prioritize outdoor sports, especially football, whereas northern states focus more on indoor sports, like basketball. Lastly, *bigprogram* was created in order to control for the larger schools in the sample. Of the 126 universities, the average revenue generated by an athletic department was approximately $73,000,000. The variable controls for schools that earned above $75,000,000 by assigning a 0 to schools that earned below that mark, and a 1 for

those that earned above. As presented in the equation, it is believed that all sports will have a positive effect on a school's athletic revenue. The reason for this hypothesis is because due to business-like mentality of athletic departments, they would more often than not suspend any sport that costs the school money. The results of this model will help determine which sports generate the most money for the schools and which are most deserving of a form of compensation.

Following the creation of the base model, three more equations were created to test the effects of aid given to male and female athletes, the expenses of men's and women's sports, and the amount of money spent on recruiting male and female athletes on total revenue. The first equation is as follows:

$$(2)\quad Totlrev = B_0 + B_1(bsblrev) + B_2(mbsktbl) + B_3(wbsktbl) + B_4(mtrackrev) + B_5(wtrackrev) + B_6(fbltrev) + B_7(sftblrev) + B_8(i.statename) - B_9(menaid) - B_{10}(womenaid) + u$$

The inclusion of men's and women's aid represents the amount of scholarship money a university distributes amongst its male and female athletes. The inclusion of aid into the model is very important because many people see the aid given to athletes as the only form of compensation that they should receive. In addition, I believe its inclusion will be able to prove whether or not schools would be able to create a compensatory system under the current system. If both coefficients are positive, then the results would suggest that the more money a school provides its athletes, the more money they generate. However, as presented in the model, I believe that the coefficients will be the opposite. Simply handing more money to student-athletes will not generate any revenue. Money spent on aid should not have any positive effect on revenue because it does not improve the quality of the program or the "product on the field."

After looking at the effects of aid on total revenue, I then looked at the expenses of men's and women's sports on the total revenue of a university. Model 3 shows the equation:

(3) $$Totlrev = B_0 + B_1(bsblrev) + B_2(mbsktbl) + B_3(wbsktbl) + B_4(mtrackrev) + B_5(wtrackrev) + B_6(fbltrev) + B_7(sftblrev) + B_8(i.statename) + B_9(menexp) + B_{10}(womenexp) + u$$

Unlike aid given to students, I believe that the expenses of men's and women's sports will have a positive effect on revenue. The reason for this hypothesis is based on how spending can give athletes a competitive advantage over their opponents. Field surfaces, cleats, jerseys, weight rooms, and healthy meals all play a pivotal role in the performance of athletes. By providing these essential needs to athletes, schools have a greater opportunity to maximize revenue and better prepare their athletes for competition. Models 2 and 3 will help determine how spending money on student-athletes affects revenue and how simply paying money out-of-pocket affects the revenue of the schools and if this type of compensatory system is sustainable.

The last model takes into account the amount of money schools spend on recruiting for both mens and womens sports, represented by the following equation:

(4) $$Totlrev = B_0 + B_1(bsblrev) + B_2(mbsktbl) + B_3(wbsktbl) + B_4(mtrackrev) + B_5(wtrackrev) + B_6(fbltrev) + B_7(sftblrev) + B_8(i.statename) + B_9(mensrecruit) + B_{10}(womensrecruit) + u$$

In this model, I hypothesize that recruiting expenses will have a positive effect on total revenue. The reason for this hypothesis is because I believe that schools that spend more money recruiting attract the best athletes, in turn, improving programs. By spending money to connect with high school athletes, athletes become more connected with a university, and have a higher chance of going there. In addition to building relationships with athletes, spending money also gives schools the opportunity to build relationships with high school and club programs, establishing a foundation for top athletes to transition into college.

Empirical Results & Discussion

After running a series of OLS regressions, the results in Table 2 report the effects of individual sports revenues, men's and women's aid, men's and women's expenditures, and men's and women's recruiting expenses have on a university's total athletic revenue. The results indicate that football and men's basketball will always have a significant effect on total revenue, no matter which variable is added to the equation.

Table 2: Base, Aid, Expenditure, and Recruiting Regression Estimations

	(1) totlrev	(2) totlrev	(3) totlrev	(4) totlrev
bsblrev	2.465	3.984**	1.983	3.098
	(2.081)	(1.737)	(1.876)	(1.926)
mbsktblrev	0.893**	0.645*	0.528*	0.814**
	(0.401)	(0.338)	(0.263)	(0.354)
wbsktblrev	1.033*	0.0813	0.563	0.985
	(0.594)	(0.659)	(0.467)	(0.589)
mtrackrev	6.315	12.18	5.075	7.327
	(10.03)	(8.482)	(8.336)	(10.34)
wtrackrev	-1.743	-11.53	-9.600	-2.009
	(8.835)	(8.186)	(7.922)	(8.661)
ftblrev	1.014***	0.862***	0.552***	0.910***
	(0.122)	(0.108)	(0.160)	(0.161)
sftblrev	-3.230	0.875	2.207	-5.906
	(10.13)	(8.366)	(5.948)	(9.070)
bigprogram	18657749.5**	12167995.8	1845235.6	4064619.1
	(8547707.7)	(7814248.8)	(9306560.1)	(8642633.7)
menaid		-3.706		
		(2.663)		
womenaid		8.431***		
		(3.009)		
menexp			0.507	
			(0.424)	
womenexp			2.327**	
			(0.971)	
mensrecruit				1.599
				(11.26)
womensrecr~t				49.16
				(29.37)
cons	24278141.0**	22374514.1**	8976818.9	19544926.6*
	(10014335.5)	(9458841.3)	(8567033.6)	(10069903.0)
N	73	73	73	73
R-sq	0.968	0.978	0.983	0.973
adj. R-sq	0.929	0.948	0.960	0.936

Standard errors in parentheses
* p<0.10, ** p<0.05, *** p<0.01

As presented in the first column, both football and men's basketball have a significant positive effect on total revenue. The level of significance of football and men' and women's basketball is of no real surprise given their popularity in America. With what we know about NCAA television rights, it is easy to assume that these two sports carry the highest demands amongst college athletics. Given the significance of men's basketball, it is surprising that women's basketball was not statistically significant at the 5% level, carrying a p-value 0.091, considering that television rights deals and other partnerships of that nature lump the men's and women's tournaments and games together. Its level of significance, however, is low in relations to the other variables and is also significant at the 10% level so I would still consider this variable's value to be an important part of the results.

The hypothesis for this equation was that all variables would have a positive coefficient, with the thought in mind that a school would shut down a program if it had a negative effect on total revenue. As produced in the results, women's track and softball were the only two variables to have a negative coefficient, with a statistically insignificant p-value of .845 and .756, respectively. The negative coefficients on women's track revenue and softball, I believe, can play into a much larger discussion into the effects women's sports in general play into an athletic department's revenue. The coefficients on each of the state control variables vary between positive and negative. I believe that this variance may be explained by factors outside of athletics themselves, although all state variables did prove to be statistically insignificant. Lastly, the coefficient on *bigprogram* was both positive and statistically significant. I believe that this level of significance shows that the health of football and basketball programs are shown most in these big programs, and are also the key to becoming considered a big program.

After running a regression on the base equation, men's and women's aid was included in the second model to account for the effect of scholarship money given to male and female athletes. Much like the base regression, football and men's basketball carry high levels of significance in the model amongst the sports, with baseball now picking up significance. However, unlike the base model, women's basketball now has an insignificant effect on total revenue, whereas the level of significance is now .903. The insignificance is surprising considering that the effect of women's aid on total revenue has a large positive coefficient of 8.431 and a p-value of 0.009. As stated in the hypothesis, I was of the belief that both men's and women's aid would have a negative effect on total revenue. The negative coefficient on men's aid reinforces the original belief that simply providing athletes more money will not increase a school's athletic revenue and that a simple out-of-pocket system to compensate athletes cannot be financially sustained. However, the statistical significance of the women's aid variable had a positive coefficient of 8.431. I believe that this can also be explained through outside factors given the negative effects of women's sports in the previous model. I believe that as advertisers and sponsors have become more focused on corporate social responsibility, they are more likely to partner with schools that provide more aid to their female athletes, and may even sponsor scholarships themselves, rather than partner simply based on revenue and exposure of men's sports. At the same time, there is a clear gap between the revenues generated by women's sports and the revenues generated by men's sports. The large coefficient can most likely explain the variance in revenues of the top and average earning women's programs

The third model represents the expenditures of men's and women's sports. As in both earlier model's, football and men's basketball both produced significant, positive effects on total

revenue. At the same time, there were also the only significant variables related to individual sports revenues. Women's track continued to have a negative effect on total revenue, with a negative coefficient of 9.600. Unlike the inclusion of student aid, expenditures had a positive effect for both men and women, proving the original hypothesis correct. This positive effect can be reasoned by the fact that expenditures stretch far beyond the limits of scholarship money. Expenditures, for both men and women, have the ability to positively affect the direction of a school's program, but only women's expenditures was of statistical significance. Schools that invest in the best sports technology, equipment, and facilities have a better chance of putting better teams on the field than other schools do. Better facilities allow for athletes to train at a much higher level and be better prepared to face their opponents. At the same time, state-of-the-art facilities also have the ability to impress visiting recruits and allow teams to preserve or change

The final regression model took into account the recruiting expenses of both men's and women's sports. The regression model carried many of the same characteristics as the first three. Men's basketball and football both carried positive coefficients with statistical significance. Also, women's track and softball continued to have a negative effect on total revenue. The positive coefficients on both recruiting expenses prove the original hypothesis to be true. Despite the positive coefficients, women's recruiting expenses carried a very large coefficient of 49.16. This was the largest coefficient of any of the regressions run and can most likely be explained through the differences in recruiting expenses of different schools. Schools with top women's programs spend a lot of money recruiting whereas those who do not have a very profitable women's program do not spend the same amount of money.

Conclusion & Policy Recommendation

Given the results in this paper, a number of conclusions can be made in regard to the effects a number of variables have on an athletic department's revenue and can be included into the very broad topic of college athletic compensation. In addition, a number of recommendations can be presented in order to allow for college athletes to properly receive the compensation they deserve, while still allowing universities to generate money.

The first conclusion that can be made is that football and basketball will have the largest effects on a schools athletic revenue. As presented in the model, football and basketball both have a significant financial impact on an athletic department. Given what we know about the popularity of these sports in America, in addition to the television rights deals that the NCAA has entered to broadcast these sports, the results of the model make perfect sense and suggest that the individuals that participate in these sports deserve more compensation based on the revenue they generate.

The second conclusion that can be made is that money spent is not necessarily money earned. We can see in the results of the second and third model that money spent on women's sports and the scholarship money given to them both produce a positive effect on total revenue. These results are surprising considering the results of the first model which suggest that women's sports, other than basketball, do not have a positive effect on total revenue. With that said, a compensatory system that forces schools to simply pay money out of revenue to both male and female athletes will most likely cause the athletic department to financially collapse.

Lastly, if an effective system is put into place where athletes do earn the right to be compensated, not only does the disparity between men's and women's sports need to be reflected

in fair value, so too must the disparity within women's sports itself. In general, programs that spend a lot of money on recruiting are the most successful ones, generating more revenue. When looking at the coefficient on women's recruiting we see an incredibly high one of 49.16. This coefficient leads me to believe that the most successful programs in women's athletics are spending a lot of money, whereas the average and below average programs spend very little. This gap in women's athletics must be taken into account to produce a fair value system.

In terms of recommendations, the first one that I would make is to mandate NCAA colleges to change to a cash or accrual-based accounting system. By eliminating the possibility of using transfer-price accounting, universities will finally be able to produce an accurate representation of how they spend their money. In future academic years, athletic departments will be unable to hide any revenue generated or expenses incurred by transferring them to the university.

A second recommendation that I would make to universities is to not spend money on a sport(s) based solely off of these results. Although the data shown does show a positive relationship between revenue and sports such as football and basketball, in addition to factors such as women's scholarships, simply spending more money on a program will not produce an infinite amount of wealth. There are a number of athletic factors that must be taken into account, the most important being the quality of a team. We can clearly see in the model that spending money on women's scholarships and women's sports, in general, both have a positive effect on total revenue, even though the sports themselves do not. I believe that these can be explained through a number of outside factors not included in the model. Schools that see these results will quickly realize that following these results will not necessarily produce a positive outcome.

There is always room to improve in the sporting world but spending money is not always the answer. There is a large amount of luck that is involved and a university must not use finances as a way to compensate for bad luck. A school must spend within its means and not automatically assume that the money invested will have a net gain in the future.

The final recommendation I would make is to allow college athletes to market themselves. Although not represented in the model, I believe that allowing the athletes to make themselves available to merchandising deals, commercials, autograph signings, etc. policymakers will be able to fully understand what the value of these athletes is. Under this system, the university sacrifices no out-of-pocket expenses and supports the claim, as presented in the model, that simply paying more money out to college athletes will not have an overall positive effect on revenue. Transferring money from the university to the athletes would only hurt the university rather than help it and could force the athletic program to shut down. Although it could be argued that the name of the university aids in the marketability of the athlete. It is here I believe to be the reason that the NCAA is so hesitant to move forward with a form of compensatory reform. The lost future benefits, in addition to the inability to capitalize off the athletes, are holding the NCAA back.

It isn't until companies decide what these students are worth that any further reform will be able to be taken. No university will be willing to pay hundreds of "student-athletes" an out-of-pocket salary. Even if they did, the chances that the salary does not meet the fair value is very high. By allowing athletes to market themselves, mostly football and basketball players, schools will then be able to turn their focus to "non-revenue generating sports." The new shift in focus can allow for better funding for the students and sports given the new revenue stream for

mainstream sports, and can ultimately benefit sports programs across campus.

Future studies of this topic can help provide a much more detailed representation of revenue generated by including all sports that universities offer, not just the 5 in this paper. Similarly, by expanding the scope to all 1,200 NCAA schools, researchers will be able to determine how, or if, any form of a compensatory system can be extended throughout all college sports, and not those who just compete at the FBS level. Lastly, outside variables such as state spending on higher education could also provide valuable insight into other factors that have an effect on athletic revenue.

This paper has helped provide a valuable insight into which sports athletic departments generate their revenue from, despite the limitations presented by university accounting practices. The results produced help reinforce the belief that football and basketball are the "cash cows" of college sports. At the same time, we were also able to learn that athletic aid given to women has a positive effect on total revenue, in addition to money spent on recruiting. I believe that these conclusions provide valuable insight into this topic, and provide a good foundation moving forward.

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Appendix

reg totlrev bsblrev mbsktblrev wbsktblrev mtrackrev wtrackrev ftblrev sftblrev bigprogram i.statename, robust

Linear regression

Number of obs =			73
F(26,	32) =		.
Prob > F	=		.
R-squared	=		0.9685
Root MSE	=		1.2e+07

totlrev	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
bsblrev	2.464813	2.080648	1.18	0.245	-1.773328	6.702955
mbsktblrev	.8927484	.4013846	2.22	0.033	.0751548	1.710342
wbsktblrev	1.032877	.5936061	1.74	0.091	-.1762594	2.242013
mtrackrev	6.314711	10.03363	0.63	0.534	-14.12313	26.75255
wtrackrev	-1.742976	8.835402	-0.20	0.845	-19.7401	16.25415
ftblrev	1.013865	.1219127	8.32	0.000	.7655373	1.262193
sftblrev	-3.229688	10.12638	-0.32	0.752	-23.85644	17.39707
bigprogram	1.87e+07	8547708	2.18	0.037	1246639	3.61e+07
statename	-9679621	1.24e+07	-0.78	0.439	-3.49e+07	1.55e+07
AR						
AZ	-1.03e+07	1.58e+07	-0.65	0.521	-4.25e+07	2.20e+07
CA	-1185512	1.04e+07	-0.11	0.910	-2.24e+07	2.00e+07
CT	-1.30e+07	1.15e+07	-1.13	0.267	-3.65e+07	1.05e+07
FL	-5016245	1.04e+07	-0.48	0.633	-2.62e+07	1.62e+07
GA	690234.1	1.26e+07	0.05	0.956	-2.49e+07	2.63e+07
IA	1.22e+07	9173030	1.33	0.191	-6441557	3.09e+07
IL	-1.16e+07	9655618	-1.20	0.238	-3.13e+07	8053042
IN	-3253772	1.20e+07	-0.27	0.787	-2.76e+07	2.11e+07
KS	8056900	1.02e+07	0.79	0.435	-1.27e+07	2.88e+07
KY	-175528.7	1.70e+07	-0.01	0.992	-3.48e+07	3.45e+07
LA	-1.38e+07	1.02e+07	-1.35	0.186	-3.47e+07	7035441
MA	6246200	1.27e+07	0.49	0.625	-1.95e+07	3.20e+07
MI	-1.01e+07	9890623	-1.02	0.316	-3.02e+07	1.01e+07
MN	1555080	8713668	0.18	0.859	-1.62e+07	1.93e+07
MO	-1876071	1.29e+07	-0.15	0.885	-2.81e+07	2.44e+07
MS	-1.94e+07	1.47e+07	-1.32	0.196	-4.92e+07	1.05e+07
NC	-1.19e+07	1.04e+07	-1.15	0.260	-3.31e+07	9255391
NE	-9999687	8383863	-1.19	0.242	-2.71e+07	7077684
NJ	-6416157	1.08e+07	-0.60	0.556	-2.84e+07	1.55e+07
NM	-5900128	1.05e+07	-0.56	0.577	-2.72e+07	1.54e+07
NY	-4260269	9254743	-0.46	0.648	-2.31e+07	1.46e+07
OH	3545443	1.51e+07	0.23	0.816	-2.73e+07	3.44e+07
OK	-7146226	8643095	-0.83	0.414	-2.48e+07	1.05e+07
OR	-2.17e+07	7783470	-2.79	0.009	-3.76e+07	-5882140
PA	-6976925	1.54e+07	-0.45	0.654	-3.83e+07	2.44e+07
SC	7253028	1.30e+07	0.56	0.580	-1.92e+07	3.37e+07
TN	-1.73e+07	1.36e+07	-1.27	0.212	-4.49e+07	1.03e+07
TX	-9323959	1.05e+07	-0.89	0.381	-3.07e+07	1.21e+07
UT	-3663984	1.14e+07	-0.32	0.750	-2.69e+07	1.96e+07
VA	-1.18e+07	1.94e+07	-0.61	0.548	-5.13e+07	2.78e+07
WA	-5054537	7566706	-0.67	0.509	-2.05e+07	1.04e+07
_cons	2.43e+07	1.00e+07	2.42	0.021	3879607	4.47e+07

reg totlrev bsblrev mbsktblrev wbsktblrev mtrackrev wtrackrev ftblrev sftblrev bigprogram menaid womenaid i.statename

Source	SS	df	MS		Number of obs =	73
					F(42, 30) =	32.29
Model	1.5000e+17	42	3.5713e+15		Prob > F =	0.0000
Residual	3.3179e+15	30	1.1060e+14		R-squared =	0.9784
					Adj R-squared =	0.9481
Total	1.5331e+17	72	2.1294e+15		Root MSE =	1.1e+07

totlrev	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
bsblrev	3.984103	1.737466	2.29	0.029	.4357246	7.53248
mbsktblrev	.6447254	.3381495	1.91	0.066	-.045868	1.335319
wbsktblrev	.0812919	.6589743	0.12	0.903	-1.264513	1.427097
mtrackrev	12.1756	8.482374	1.44	0.162	-5.147723	29.49892
wtrackrev	-11.52746	8.185506	-1.41	0.169	-28.2445	5.189569
ftblrev	.8620323	.1079864	7.98	0.000	.6414947	1.08257
sftblrev	.8747967	8.366339	0.10	0.917	-16.21155	17.96114
bigprogram	1.22e+07	7814249	1.56	0.130	-3790829	2.81e+07
menaid	-3.706316	2.662806	-1.39	0.174	-9.144493	1.73186
womenaid	8.431184	3.00899	2.80	0.009	2.286007	14.57636
statename	-9230578	1.45e+07	-0.64	0.529	-3.88e+07	2.04e+07
AR						
AZ	-1.64e+07	1.09e+07	-1.50	0.144	-3.88e+07	5919567
CA	-1.30e+07	1.00e+07	-1.30	0.204	-3.34e+07	7442246
CT	-2.48e+07	1.45e+07	-1.70	0.099	-5.45e+07	4920391
FL	-6992144	9014698	-0.78	0.444	-2.54e+07	1.14e+07
GA	321069.2	1.08e+07	0.03	0.977	-2.18e+07	2.24e+07
IA	842803.4	1.38e+07	0.06	0.952	-2.73e+07	2.90e+07
IL	-1.12e+07	1.35e+07	-0.83	0.412	-3.87e+07	1.63e+07
IN	-4371578	1.05e+07	-0.42	0.679	-2.57e+07	1.70e+07
KS	3002495	1.36e+07	0.22	0.827	-2.48e+07	3.08e+07
KY	1435215	1.12e+07	0.13	0.899	-2.15e+07	2.43e+07
LA	-1.96e+07	9438270	-2.07	0.047	-3.88e+07	-297924.5
MA	-1.02e+07	1.19e+07	-0.86	0.398	-3.44e+07	1.41e+07
MI	-2.11e+07	9196983	-2.30	0.029	-3.99e+07	-2348249
MN	301956.7	1.30e+07	0.02	0.982	-2.63e+07	2.69e+07
MO	-3616053	1.41e+07	-0.26	0.800	-3.25e+07	2.53e+07
MS	-1.78e+07	1.19e+07	-1.51	0.143	-4.21e+07	6358591
NC	-1.20e+07	8733556	-1.37	0.180	-2.98e+07	5841244
NE	-9006507	1.29e+07	-0.70	0.491	-3.54e+07	1.74e+07
NJ	-1.94e+07	1.42e+07	-1.36	0.183	-4.84e+07	9642166
NM	-6530069	1.32e+07	-0.50	0.624	-3.35e+07	2.04e+07
NY	-8983231	1.29e+07	-0.70	0.490	-3.52e+07	1.73e+07
OH	-5803088	9466657	-0.61	0.544	-2.51e+07	1.35e+07
OK	3253177	1.05e+07	0.31	0.759	-1.82e+07	2.47e+07
OR	-2.47e+07	1.28e+07	-1.93	0.063	-5.08e+07	1405806
PA	-4978454	1.10e+07	-0.45	0.656	-2.75e+07	1.76e+07
SC	2951935	1.49e+07	0.20	0.844	-2.74e+07	3.33e+07
TN	-1.50e+07	9251008	-1.62	0.116	-3.39e+07	3932696
TX	-8988504	8284472	-1.08	0.287	-2.59e+07	7930646
UT	-4422614	1.15e+07	-0.38	0.704	-2.80e+07	1.91e+07
VA	-2.04e+07	1.20e+07	-1.71	0.098	-4.49e+07	3975856
WA	1595262	1.26e+07	0.13	0.900	-2.41e+07	2.73e+07
_cons	2.24e+07	9458841	2.37	0.025	3056983	4.17e+07

reg totlrev bsblrev mbsktblrev wbsktblrev mtrackrev wtrackrev ftblrev sftblrev menexp womenexp bigprogram i.statename, robust

Linear regression

Number of obs	=		73
F(28, 30)	=		.
Prob > F	=		.
R-squared	=		0.9835
Root MSE	=		9.2e+06

totlrev	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
bsblrev	1.982513	1.875637	1.06	0.299	-1.848048	5.813074
mbsktblrev	.5275958	.2634922	2.00	0.054	-.0105271	1.065719
wbsktblrev	.5628798	.466794	1.21	0.237	-.3904406	1.5162
mtrackrev	5.074985	8.336026	0.61	0.547	-11.94945	22.09942
wtrackrev	-9.600244	7.922416	-1.21	0.235	-25.77998	6.579487
ftblrev	.551633	.1599087	3.45	0.002	.2250558	.8782102
sftblrev	2.20703	5.948059	0.37	0.713	-9.940528	14.35459
menexp	.5065691	.4237686	1.20	0.241	-.3588818	1.37202
womenexp	2.327161	.9712483	2.40	0.023	.3436077	4.310715
bigprogram	1845236	9306560	0.20	0.844	-1.72e+07	2.09e+07
statename						
AR	-8589802	8711448	-0.99	0.332	-2.64e+07	9201349
AZ	-1.23e+07	7486366	-1.64	0.112	-2.76e+07	3026315
CA	-1.07e+07	8447866	-1.27	0.213	-2.80e+07	6508516
CT	-2.38e+07	1.09e+07	-2.18	0.037	-4.62e+07	-1476543
FL	-3424431	8065700	-0.42	0.674	-1.99e+07	1.30e+07
GA	3955933	1.90e+07	0.21	0.836	-3.48e+07	4.27e+07
IA	3630116	7374289	0.49	0.626	-1.14e+07	1.87e+07
IL	-8059032	6889169	-1.17	0.251	-2.21e+07	6010528
IN	-5220056	9505862	-0.55	0.587	-2.46e+07	1.42e+07
KS	7857276	8940903	0.88	0.386	-1.04e+07	2.61e+07
KY	-2605446	9859984	-0.26	0.793	-2.27e+07	1.75e+07
LA	-8411115	7526858	-1.12	0.273	-2.38e+07	6960779
MA	-8269357	8793908	-0.94	0.355	-2.62e+07	9690199
MI	-1.21e+07	7832285	-1.55	0.132	-2.81e+07	3882992
MN	-9124035	6965463	-1.31	0.200	-2.33e+07	5101338
MO	357117	1.05e+07	0.03	0.973	-2.12e+07	2.19e+07
MS	-1.01e+07	1.44e+07	-0.70	0.489	-3.95e+07	1.93e+07
NC	-5519370	7037623	-0.78	0.439	-1.99e+07	8853374
NE	-1.12e+07	6362084	-1.76	0.088	-2.42e+07	1777112
NJ	-1.11e+07	9256355	-1.20	0.239	-3.00e+07	7782228
NM	-6775379	6855854	-0.99	0.331	-2.08e+07	7226143
NY	-3335773	6977166	-0.48	0.636	-1.76e+07	1.09e+07
OH	-1866699	1.01e+07	-0.18	0.855	-2.26e+07	1.88e+07
OK	2572897	7535296	0.34	0.735	-1.28e+07	1.80e+07
OR	-1.69e+07	6911899	-2.44	0.021	-3.10e+07	-2754028
PA	-3432042	9592547	-0.36	0.723	-2.30e+07	1.62e+07
SC	-785714.1	9885898	-0.08	0.937	-2.10e+07	1.94e+07
TN	-1.05e+07	7443915	-1.41	0.168	-2.57e+07	4679930
TX	-8272587	8540868	-0.97	0.340	-2.57e+07	9170192
UT	-5738861	7981031	-0.72	0.478	-2.20e+07	1.06e+07
VA	-1.45e+07	1.12e+07	-1.29	0.207	-3.75e+07	8476878
WA	-4898431	7573779	-0.65	0.523	-2.04e+07	1.06e+07
_cons	8976819	8567034	1.05	0.303	-8519398	2.65e+07

```
reg totlrev bsblrev mbsktblrev wbsktblrev mtrackrev wtrackrev ftblrev sftblrev
    mensrecruit womensrecruit bigprogram i.statename, robust
```

Linear regression

Number of obs =	73
F(28, 30) =	.
Prob > F =	.
R-squared =	0.9734
Root MSE =	1.2e+07

totlrev	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
bsblrev	3.097699	1.925987	1.61	0.118	-.8356902	7.031088
mbsktblrev	.8139074	.3536209	2.30	0.028	.0917171	1.536098
wbsktblrev	.9853954	.5893317	1.67	0.105	-.2181805	2.188971
mtrackrev	7.326896	10.33643	0.71	0.484	-13.78292	28.43671
wtrackrev	-2.008992	8.66085	-0.23	0.818	-19.69681	15.67882
ftblrev	.9101598	.1614192	5.64	0.000	.5804977	1.239822
sftblrev	-5.905633	9.070351	-0.65	0.520	-24.42976	12.61849
mensrecruit	1.599372	11.26051	0.14	0.888	-21.39766	24.59641
womensrecruit	49.16045	29.37062	1.67	0.105	-10.82235	109.1433
bigprogram	4064619	8642634	0.47	0.642	-1.36e+07	2.17e+07
statename						
AR	-1.73e+07	1.24e+07	-1.40	0.172	-4.26e+07	7962878
AZ	-8881512	1.61e+07	-0.55	0.585	-4.17e+07	2.40e+07
CA	1736273	9977642	0.17	0.863	-1.86e+07	2.21e+07
CT	-7733489	1.11e+07	-0.69	0.493	-3.05e+07	1.50e+07
FL	-9202344	1.10e+07	-0.84	0.408	-3.16e+07	1.32e+07
GA	-8655041	1.58e+07	-0.55	0.589	-4.10e+07	2.37e+07
IA	1.10e+07	9456072	1.17	0.252	-8273910	3.03e+07
IL	-1.04e+07	1.15e+07	-0.91	0.369	-3.38e+07	1.30e+07
IN	-1779499	1.26e+07	-0.14	0.889	-2.76e+07	2.40e+07
KS	2358133	1.13e+07	0.21	0.836	-2.07e+07	2.54e+07
KY	-8003625	1.21e+07	-0.66	0.514	-3.28e+07	1.68e+07
LA	-1.30e+07	9642155	-1.35	0.186	-3.27e+07	6648076
MA	-9172.745	1.42e+07	-0.00	0.999	-2.89e+07	2.89e+07
MI	-1.23e+07	9135653	-1.35	0.188	-3.10e+07	6335605
MN	2119998	9038525	0.23	0.816	-1.63e+07	2.06e+07
MO	616393.5	1.20e+07	0.05	0.959	-2.40e+07	2.52e+07
MS	-1.95e+07	1.38e+07	-1.41	0.170	-4.77e+07	8804051
NC	-1.33e+07	1.02e+07	-1.30	0.204	-3.41e+07	7584635
NE	-1.65e+07	9748217	-1.69	0.101	-3.64e+07	3432035
NJ	-7030906	1.13e+07	-0.62	0.540	-3.02e+07	1.61e+07
NM	-8628886	1.02e+07	-0.84	0.406	-2.96e+07	1.23e+07
NY	-7081462	9264172	-0.76	0.451	-2.60e+07	1.18e+07
OH	-360647.6	1.28e+07	-0.03	0.978	-2.65e+07	2.58e+07
OK	-4120454	8351614	-0.49	0.625	-2.12e+07	1.29e+07
OR	-1.58e+07	8777502	-1.80	0.082	-3.37e+07	2155222
PA	-5773773	1.63e+07	-0.35	0.726	-3.91e+07	2.76e+07
SC	2476348	1.27e+07	0.20	0.846	-2.34e+07	2.83e+07
TN	-1.84e+07	1.32e+07	-1.39	0.175	-4.54e+07	8628111
TX	-1.19e+07	1.08e+07	-1.11	0.278	-3.39e+07	1.01e+07
UT	-8089751	1.12e+07	-0.72	0.477	-3.10e+07	1.49e+07
VA	-9293373	1.88e+07	-0.49	0.625	-4.78e+07	2.92e+07
WA	2816985	9745134	0.29	0.775	-1.71e+07	2.27e+07
_cons	1.95e+07	1.01e+07	1.94	0.062	-1020559	4.01e+07