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**THE EMPIRICAL EFFECTS OF
COLLEGIATE ATHLETICS:
AN UPDATE BASED ON 2004-2007 DATA**

**JONATHAN ORSZAG
MARK ISRAEL**



**COMMISSIONED BY THE NATIONAL COLLEGIATE ATHLETIC ASSOCIATION
FEBRUARY 2009**

ABOUT THIS UPDATE

This update was commissioned by the National Collegiate Athletic Association (NCAA) as an update to the August 2003 study (“The Effects of Collegiate Athletics: An Interim Report”) and April 2005 study (“The Empirical Effects of Collegiate Athletics: An Update).

The views and opinions expressed in this study are solely those of the authors and do not necessarily reflect the views and opinions of the NCAA or the institutions with which the authors are associated.

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The Empirical Effects of Collegiate Athletics: An Update Based on 2004-2007 Data

In previous reports, we have investigated trends in operating expenditures for athletics by NCAA “Division I-A” schools and the relationship between these expenditures and athletic revenues. Those reports drew upon a database of athletic expenditures from 1993-2003, collected by the National Collegiate Athletic Association (NCAA) in conjunction with the Equity in Athletics Disclosure Act (EADA), supplemented with data from a variety of other sources. In the previous reports, we examined ten hypotheses regarding trends in athletic spending and the relationship between spending and revenue.

In this report, we re-examine these ten hypotheses using more recent data (from 2004 - 2007), which has been collected based on an updated survey/data collection methodology implemented by the NCAA. We also consider a new eleventh hypothesis – concerning the relationship between changes in a college’s athletic capital stock (facilities, equipment, etc. funded via capital expenditures rather than operating expenditures) and revenue from athletics.

As with the previous reports, we supplement the NCAA/EADA data with data from other sources. In this case, the primary additional source of data is the U.S. Department of Education’s Integrated Postsecondary Education Data System (IPEDS), which collects data “from all primary providers of postsecondary education in the country in areas including enrollments, program completions, graduation rates, faculty, staff, finances, institutional prices, and student financial aid.”¹

Hypothesis #1: Operating athletic expenditures are a relatively small share of overall institutional spending.

- Our previous report found that, as of 2003, operating athletic expenditures represented slightly less than four percent (3.8%) of total higher education spending for Division I-A institutions.
- Using the updated EADA data, we find that, for 2004-2007, athletic operating expenditures represent a larger percentage of total institutional spending (between 5 and 6 percent). At least some of the jump from 3.8% in 2003 to 5.3% in 2004 is surely due to the updated survey/data collection methodology. However, the growth also continues steadily from 2004-2007, with athletic operating expenditures reaching 6.0 percent of total expenditures by 2006. (Table 1A).
- The growth in operating athletic expenditures over this time period was mirrored by growth in athletic revenue. From 2004-2007, average athletic operating expenditures

1. <http://nces.ed.gov/IPEDS/about/>

grew at a compound annual growth rate of 10.7 percent, while athletic revenue grew at a compound annual growth rate of 10.6 percent. (Figures 1A and 1B).²

- However, football and men’s basketball expenditures grew slightly more rapidly than corresponding revenue, with total operating expenditures for these sports growing at a rate of 11.2 percent per year, versus 9.8 percent for revenue. (Figures 1C and 1D).
- As in the previous reports, we find that the share of athletic expenditures in a school’s total budget is higher for smaller schools, most likely because of the fixed costs associated with an athletic department. In particular, for Division I-A schools with total spending over \$1 billion per year, operating athletic expenditures are generally below five percent of total spending, and generally below three percent for schools with over \$2 billion in total spending. However, the bulk of schools with total spending below \$1 billion have operating athletic expenditures between five and ten percent of total spending, with many schools as high as ten or even fifteen percent. (Figure 1E).
- However, despite the changes since 2003, we continue to conclude that operating athletic expenditures represent a relatively small share of total higher education expenditures at Division I-A schools, particularly for those larger schools with at least \$1 billion in total institutional expenditures.

Hypothesis #2: Football and basketball expenditures at Division I-A schools exhibit an increasing degree of inequality over time.

- In our previous report, we demonstrated that the Gini coefficient (a measure of inequality equal to one if a single school accounts for all spending and zero if spending is equal across all schools) for operating expenditures on men’s basketball and football at Division I-A schools rose sharply between 1993 and 2003, from roughly 0.23 to 0.30.
- In contrast, the results for 2004-2007 are mixed:
 - For total operating expenditures on athletics, the Gini coefficient was relatively stable at just under 0.30 across these years. (Figure 2A).
 - For combined football and basketball, the Gini coefficient increased slightly from roughly 0.27 to 0.29 between 2004 and 2007. This may suggest that the new survey methodology initially led to slightly lower *levels* of inequality, but that the upward *trend* has continued. (Figure 2B).

2. The 2006 revenue data includes a very large value for Oklahoma State, due to a gift from T. Boone Pickens. As a result, we investigated revenue growth excluding Oklahoma State and found that our overall results were effectively unchanged.

- However, breaking down football and basketball, we see that while the Gini coefficient for football has increased from roughly 0.27 to more than 0.3 from 2004 to 2007, the coefficient for basketball has actually decreased from roughly 0.32 to 0.31 over this time period. (Figure 2C, 2D).
- In addition, one potential source of inequality in reported football and basketball expenditures is differences in how different schools allocate expenditures to football and basketball (rather than leaving them in an “other” category in the survey instrument). When restricting analyses to a set of expenditure categories and a set of schools for which we are confident the allocation across sports was done properly (described in more detail in the Hypothesis 2 section of the attached Results/Methodology Appendix), the Gini coefficient for combined football and basketball expenditures stays flat at just under 0.25 from 2004 to 2007. This suggests that changes in reporting practices may have driven any observed increase in the Gini coefficient over this period. (Figure 2E).
- In sum, we conclude that there is at best weak evidence for continued increases in inequality in Division I-A football spending, with no such evidence for basketball or other sports.

Hypothesis #3: Division I-A schools exhibit mobility in athletic expenditures, revenues and winning percentages.

- In our previous reports, we concluded that football and basketball exhibit some mobility in expenditure, revenue, and winning percentage.
- For 2004-2007, we find that there is some mobility in expenditures, but its magnitude is quite limited. In particular, we find:
 - Dividing schools into five quintiles, roughly 10 percent of schools move up or down a single quintile for total athletic operating expenditures in any given year. No school moves two quintiles in a given year. (Table 3A).
 - For football and basketball, mobility is slightly higher, particularly for schools in the top three quintiles. Roughly 20 percent of schools in quintile three move up to quintile four in any given year; roughly 20 percent of schools in quintile four move up or down a single quintile in a given year; and roughly 20 percent of schools in quintile five move down to quintile four in any given year. However, there is less mobility within the bottom two quintiles, or between the top three and the bottom two. (Table 3B).
 - We also performed a regression analysis (described in the Appendix) that estimates the percentage of the variation in expenditures across schools and time

that is explained by *changes in schools' positions* in the distribution, versus *fixed differences across schools*. For total athletic operating expenditures, we find that only 2.1 percent of variation is explained by changes in schools' positions, while for combined basketball and football this figure is 3.8 percent.

- For 2004-2007 athletic revenue, we find even less mobility than for expenditures:
 - For total athletic revenue, we again find that roughly 10 percent of schools move up or down one quintile in a given year, with no school moving two quintiles. For combined basketball and football, we again find more mobility within the top three quintiles, although in this case only roughly 15 percent of schools move a single quintile within the top three, versus 20 percent for expenditures. (Table 3C, 3D).
 - Using the regression analysis described above, we find that changes in schools' positions in the distribution account for only 1.6 percent of the variation in total revenue (versus 2.1 percent for expenditures) and only 2.8 percent of the variation in football and basketball revenue (versus 3.8 percent for expenditures).
- Finally, for 2004-2007, we do find substantial mobility in winning percentages:
 - For men's basketball, we find that roughly 25 percent of schools move up or down a single quintile in the winning percentage distribution in a given year, with roughly 20 percent moving at least two quintiles.
 - With the regression analysis, we find that nearly 60 percent of variation in winning percentages is explained by schools' changing their position in the distribution. (Table 3E).
 - Results for football are quite similar to those for men's basketball. (Table 3F).
- In sum, we conclude that, in contrast to substantial mobility in success – measured by winning percentage – mobility in expenditures and revenues is quite modest in magnitude.

Hypothesis #4: Increasing operating expenditures on athletics in general, and football and basketball in particular, by one dollar leads to one additional dollar of revenue (on average) and thus no change in net revenue (revenue minus expenditures).

- Before revisiting our previous finding that one extra dollar of athletic expenditure leads to an average of one extra dollar of revenue, we note the following facts about athletic operating expenditures and revenues:

- As seen in Figure 4A, across all sports, net revenue from athletics tends to be negative, with the median annual net revenue for Division I-A schools just greater than -\$4 million and the 75th percentile just greater than -\$1 million.
- However, as seen in Figure 4B, among “Division I-A” schools, football and basketball tend to generate positive net revenue, with median net revenue of \$2.3 million dollars, 75th percentile net revenue of \$13.5 million and 90th percentile net revenue of more than \$22 million.
- For total operating expenditure on athletics, regression analysis (described in more detail in the Appendix) cannot reject the hypothesis that one extra dollar of spending leads to a corresponding one extra dollar of revenue. In particular, the estimated effect of increasing spending by \$1.00 is \$1.10 in revenue, with the 95 percent confidence interval indicating an effect on revenue between \$0.90 and \$1.30.
- For combined spending on football and basketball, these updated regression results suggest that one extra dollar of spending may lead to slightly more than one extra dollar of revenue. Figure 4C plots this relationship -- showing a *positive* relationship between changes in football and men’s basketball expenditures between 2004 and 2007 and the associated changes in net revenue (football and men’s basketball revenue less expenditures) over those years.
- However, if some schools have changed the accuracy with which they allocate expenditures and revenues to football and basketball over time,³ this change in reporting practice (if it affects *both* expenditures and revenues) could generate an overestimate of the true relationship between spending and revenue. When restricting our analysis to the set of expenditure/revenue categories and schools for which we are confident the allocation among categories was done properly (as described in the Appendix for Hypothesis 2), we cannot reject the hypothesis of a one-for-one relationship. This is reflected in the relatively flat relationship between changes in “narrow” football and basketball expenditures and net revenues, shown in Figure 4D.
- In sum, the balance of the evidence continues to support a one-for-one relationship between athletic expenditures and revenues, or equivalently, no effect of changes in athletic expenditures at a given school on net athletic revenues at that school.⁴

3. We understand that there may have been some trend between 2004 and 2007 toward *not* allocating expenditures or revenues by sport, perhaps due to legal concerns.

4. We also examined whether our conclusions are sensitive to controls for the number of football games played, since some schools added a twelfth regular season game during our sample period, while others did not. Our conclusions are unaffected by including this control.

Hypothesis #5: Increased operating expenditures on football or basketball are associated with increases in winning percentage (or other measures of success) and, in turn, higher winning percentages are associated with increases in revenue.

- In our prior reports, we found no evidence for a link between higher expenditures on football or basketball and greater team success, nor a link between greater team success and higher revenues.
- In contrast, using the updated data, we do find a small positive and statistically significant relationship between greater operating expenditure on football and team success. Using the regression methodology detailed in the Appendix, we find that an extra million dollars of operating expenditure on football is estimated to increase the team’s winning percentage by 1.8 percentage points and the chances of finishing in the top 25 of the season ending AP poll by five percentage points.
- However, breaking down various types of football expenditures, the only category of spending that has a statistically significant effect on performance is “team expenditures” – a category in which we include recruiting, travel, equipment, and other game-day expenses.⁵
 - Notably, we do not find a significant relationship between coaching salaries or scholarships and a team’s winning percentage.
 - The relationship between team expenditures and winning percentage may reflect reverse causality, if, for example, more successful seasons lead to an extra (bowl) game and thus also lead to higher expenses.
- For basketball, we do not find a statistically significant relationship between total operating expenditure and winning percentage or the probability of reaching the NCAA tournament.
 - But, as with football, we do find a significant relationship between team expenditures and both winning percentage and the probability of reaching the NCAA tournament. However, the reverse causality concern may be larger here, as basketball seasons can be extended several games by making the NCAA tournament, leading to higher team expenditures.
- In contrast to our prior report, we do find a positive and statistically significant relationship between finishing the season in the top 25 of the AP football poll and revenue. In particular, our estimates suggest that finishing the season in the top 25 is associated with roughly \$3 million more in revenue. However, after controlling for this

5. The detailed breakdown is presented in the discussion of Hypothesis 5 in the Appendix.

football ranking, we do not find such a relationship for football or basketball winning percentage nor for reaching the NCAA basketball tournament.

- In sum, we conclude that there is weak evidence that increasing “team-related” expenditures on football increases the chances of a successful football season, *and* that this success may increase revenue. However, this combined result does not extend to other types of football spending nor any basketball spending, and we feel that more work (with additional data generated in future years) is required to have confidence in this result for football, particularly given the reverse causality concerns.

Hypothesis #6: The relationship between athletic spending and revenue varies significantly by sub-groups of schools.

- In our previous reports, we did not find systematic variation in the relationship between athletic expenditures and revenue across different groups of schools.
- In contrast, our updated regression results (detailed in the Appendix) provide some evidence that, for schools in the bottom $\frac{3}{4}$ of the distribution of total athletic operating expenditures, an extra dollar of total athletic spending generates significantly *less* than one dollar of revenue. In contrast, for schools in the top $\frac{1}{4}$ of the expenditure distribution, an extra dollar of spending generates significantly *more* than one dollar of revenue. This indicates that athletic expenditures may generate additional net revenue for Division I-A schools with the largest athletic programs, but not for schools with smaller programs.
- The same pattern holds for the effect of combined football and basketball expenditures on combined football and basketball revenue. However, when restricting analysis to the types of football and basketball spending and revenue (and schools) for which we have confidence that funds are properly allocated by sport, this pattern disappears. This suggests that, at least for football and basketball, the larger effect for schools with greater athletic expenditures may be driven by the fact that those schools more accurately allocate spending and revenue by sport.
- We find evidence that, for public institutions, an extra dollar of spending is associated with slightly more than one dollar of revenue (total or basketball/football), while for private institutions, there is no such evidence. This basic pattern holds even when looking at the restricted set of basketball/football expenditures and revenues (and schools) for which we are confident in allocation.
- We do not find a stable pattern across Division I-A schools in the top or bottom half of the SAT score distribution or the top or bottom half of the acceptance-rate distribution.

Hypothesis #7: Increased operating expenditures or net revenues from football and basketball affect operating expenditures on women's or other sports.

- In our previous reports, we found weak evidence that an extra dollar spent on football by Division I-A schools was associated with a small increase in expenditures on women's sports.
- In our updated regression results, we continue to find weak evidence of such a relationship:
 - We find that an extra dollar of *spending* on football or men's basketball is associated with a (statistically significant) extra 23.5 cents on all other sports, of which 13 cents goes to women's sports (also statistically significant).
 - We find that an extra dollar of *net revenue* from football and men's basketball is associated with a (statistically significant) extra 27 cents on all other sports, of which 5 cents goes to women's sports (also statistically significant).
- However, if earning net revenue from football or men's basketball truly has a causal effect on spending on other sports, one might expect this to occur with a lag. Looking at the relationship between net revenue from one year earlier and spending on other sports in the current year, we find no relationship.
- In sum, we do see evidence for a small association between spending/net revenue on football and men's basketball and spending on other sports. However, we do not see such a relationship between lagged football/basketball net revenue and current expenditures on other sports, as might be expected if the relationship were causal.

Hypothesis #8: Increased operating expenditures on sports are associated with changes in measurable academic quality.

- In our previous reports we found no evidence to establish a pattern, positive or negative between athletic expenditures and academic quality.
- Looking at SAT and ACT scores, our updated results continue to show no consistent support for such a relationship between athletic expenditures and academic quality.

Hypothesis #9: Increased operating expenditures on sports affect alumni giving.

- In our previous reports, we found no consistent evidence for a relationship between operating expenditures on sports and alumni giving.

- Using the data from 2004-2007, while we do find a statistically significant relationship between changes in athletic expenditures by Division I-A schools and alumni giving in the same year, we find no evidence to establish a relationship between lagged expenditures and current alumni giving.
- Since we would expect any causal relationship between expenditures and alumni giving to show up (at least partially) with a lag, we do not consider the observed statistical relationship between athletic expenditures and alumni giving to be robust enough to suggest a causal relationship.

Hypothesis #10: Division I-A athletic expenditures exhibit an “arms race,” in which increased operating expenditures by schools in a conference are associated with increases at other schools in the same conference.

- As noted in our previous reports, we define an “arms race” as a situation in which the athletic expenditures by a given school tend to increase along with expenditures by *other* schools in the same conference. In our previous reports, we found weak, but inconclusive, evidence in support of such an arms race.
- Using the data from 2004-2007, we find additional evidence in support of such an arms race. In particular, a \$1 increase in the average athletic operating expenditure by other schools in a given school’s conference is associated with roughly a (statistically significant) \$0.60 increase in spending by the school. For football/basketball expenditures, a \$1 increase in average conference spending is associated with a \$0.55 increase at a given school.
- The statistically significant, positive relationship also holds separately for football (\$1 increase in conference average associated with a \$0.47 increase at a given school) and basketball (\$1 increase in conference average associated with a \$0.46 increase at a given school).
- As with previous hypotheses, one might expect a causal relationship to occur with a lag:
 - In this case, we do find evidence for a statistically significant relationship between lagged expenditures at other schools in the conference and a school’s current expenditure (with a \$1 increase at other schools leading to a \$0.50 increase in overall athletic spending, or a \$0.37 increase when considering football/basketball expenditures).
 - In fact, if we include both current and lagged expenditure by other schools in the conference, we find a statistically significant relationship between each of these variables and current expenditures at a particular school. For example, the results suggest that a one dollar increase in average operating expenditures at other

school's in the conference increase a school's spending by roughly 40 cents in the current year and 33 cents in the subsequent year.

- In sum, then, the data do provide some support for an arms race between schools in a given conference, or at least correlation between current and lagged athletic spending across schools in the same conference.

Hypothesis #11: Capital expenditures that increase a school's athletic capital stock – equipment, facilities, etc. – are associated with increases in athletic revenue.

- The 2004-2007 EADA data contain additional variables on schools' athletic capital expenditures, which were not available for our previous reports. In particular, they include the variable "athletic plant funds," which is defined as the "total book value of athletically-related equipment net of depreciation." We use this as our measure of the athletic capital stock.
- Our regression analysis provides preliminary evidence that *changes* in the athletic capital stock at Division I-A schools – such as those induced by capital expenditures on athletics – are associated with statistically significant increases in athletic revenue. In particular, we estimate that a \$1 increase in the capital stock is associated with a \$0.06 increase in athletic revenue.
- Note that unlike operating expenditures, capital expenditures lead to long-term increases in the capital stock, which depreciate over a period of years. Our estimate of a \$0.06 effect on current revenue implies that if the depreciation rate is slower than six percent per year, then \$1 in capital expenditures leads to more than \$1 in revenue over the long term.
- However, accounting for a reasonable time value of money (of at least five percent per year) depreciation would have to be very slow – probably less than one percent per year – for our results to suggest that capital expenditure on athletics generate positive net present value.
- When including both operating expenditures and capital stock in the same regression, the effect of changes in the capital stock is no longer statistically significant.
- In sum, we conclude that the data on athletic capital stock suggest that there may be some relationship with revenue, but that the relationship may be well below the one-for-one relationship observed for operating expenditures. However, several additional years of data will be required before any firm conclusions can be drawn.

The Empirical Effects of Collegiate Athletics: An Update Based on 2004-2007 Data Results/Methodology Appendix

EADA Data

Our analysis is based on EADA data from the NCAA for the years 2004-2007. We consider only Division I-A Schools, yielding a total of 119 schools or 476 school-years.

The athletic revenue and expenditure variables from the EADA data are listed in the attached Table A1. Our total expense variable is defined as the sum of all expense variables, 17-35. However, for revenue, we exclude the following government or “internal” revenue variables (money coming from other parts of the institution to support athletics): variable 6 (Direct State or Other Governmental Support); variable 7 (Direct Institutional Support); variable 8 (Indirect Facilities and Administrative Support); and variable 14 (endowment and investment income).

Hypothesis 2 – “Narrow” Expense and Revenue Variables

As discussed in the body of the update, one issue in analyzing expenditures by sport (including football and men’s basketball) is that some categories of expenses and revenues may not be easily allocated by sport, and there may be variation across schools in which types of expenses and revenues can be allocated by sport. In fact, we understand that there has been some trend toward less allocation by sport, with some schools choosing to leave expenses and revenues in an “other” category.

To address the impacts of these allocation issues on our analysis of football/basketball expenses and revenues, we conducted some of our analyses (both in Hypothesis 2 and other hypotheses) on “Narrow” expense and revenue categories. To build these, we took two steps:

- We limited analysis to the set of variables for which the allocation by sport appears to be appropriate in the data. These are:
 - Expense Variables 17 – 20, 24 – 27
 - Revenue Variables 1, 3, 4, 9
- We dropped those school-years in which one of these included variables was missing or zero for both football and men’s basketball but positive for all sports combined, since these were likely cases in which the sport-by-sport allocation was not accurate.

Results using these narrow categories are discussed in several places throughout the body of the update. To the extent that these results vary from the results using total football/basketball revenues and expenses, it could be due to the different variables or schools included, but it also suggests that the results based on total revenues and expenses may be driven by reporting practices and thus should be interpreted with caution.

Hypothesis 3 – Regression Analysis

To examine the mobility of schools within the expense, revenue, and winning percentage distributions, we supplemented our quintile analysis with a fixed effect regression analysis, conducted as follows.

- We regressed the expense, revenue, or winning percentage variable of interest on year fixed effects and school fixed effects. These capture the effect of movements in the overall distribution and each school’s average position in the overall distribution, respectively.
- The R^2 from this regression is the percentage of variation explained by factors *other than* schools’ mobility within the distribution. So $1 - R^2$ gives the percentage of variation explained by schools’ mobility within the distribution.
- These numbers are reported in Tables A2 – A4.

Hypotheses 4 -11: Regression Analysis

To examine the relationship between expenditures and revenue, we performed a series of regression analyses. Each takes the same basic form. Observations are school-years. We include a separate fixed effect for each year to account for any nationwide trends or changes. In addition, we include a fixed effect for each school, so that all analysis is “within school,” meaning that we study the effect of year-to-year *changes* in expenditures at a given school on year-to-year *changes in revenue* (or more generally, the effect of changes in the right-hand-side variable on changes in the left hand side variable).

Results are presented in Tables A5 – A29. These results use various combinations of the following dependent and independent variables:

Dependent Variables

Total Athletic Revenue (as defined above)
Total Football and Men’s Basketball Revenue (as defined above)
Narrow Football and Men’s Basketball Revenue (as defined above)
Football Winning Percentage
Indicator for Finishing in Top 25 of Year-End AP Football Poll
Men’s Basketball Winning Percentage
Indicator for Making Men’s Basketball NCAA Tournament
Total Expenditures on Sports Other than Football and Men’s Basketball
Total Expenditures on Women’s Sports
Sum of 75th Percentile SAT Math and SAT Verbal Scores
75th Percentile ACT Composite Score
Total Alumni Revenue (Sum of Revenue Variables 4 and 5)
Football and Men’s Basketball Alumni Revenue
Total Athletic Expenditures

Total Football and Men's Basketball Expenditures

Total Football Expenditures

Total Basketball Expenditures

Independent Variables

Total Athletic Operating Expenditures

Total Football and Men's Basketball Expenditures

Narrow Football and Men's Basketball Expenditures (as defined above)

Total Football Expenditures

Football Athletes and Coaches Expenditures (Sum of Expenditure Variables 17, 19, 20)

Football Administrative Expenditures (Sum of Expenditure Variables 21, 22, 23)

Football Team Expenditures (Sum of Expenditure Variables 18, 24, 25, 26, 27)

Football Marketing Expenditures (Sum of Expenditure Variables 28, 29, 31)

Total Men's Basketball Expenditures

Basketball Athletes and Coaches Expenditures (Sum of Expenditure Variables 17, 19, 20)

Basketball Administrative Expenditures (Sum of Expenditure Variables 21, 22, 23)

Basketball Team Expenditures (Sum of Expenditure Variables 18, 24, 25, 26, 27)

Basketball Marketing Expenditures (Sum of Expenditure Variables 28, 29, 31)

Football Winning Percentage

Indicator for Finishing in Top 25 of Year-End AP Football Poll

Men's Basketball Winning Percentage

Indicator for Making Men's Basketball NCAA Tournament

Football and Men's Basketball Net Revenue (Total Revenue minus Total Expenditures)

One-year Lag of Football and Men's Basketball Net Revenue

One-year Lag of Total Athletic Operating Expenditures

One-year Lag of Total Football and Men's Basketball Expenditures

Average of Total Athletic Operating Expenditures by Other Schools in the Conference

Average of Football and Men's Basketball Expenditures by Other Schools in the Conference

Average of Football Expenditures by Other Schools in the Conference

Average of Men's Basketball Expenditures by Other Schools in the Conference

One-year Lag of Avg. Total Athletic Operating Expenditures by Other Schools in the Conf.

One-year Lag of Avg. Football and Men's Basketball Expenditures by Other Schools in the Conf.

Athletic Capital Stock

Table 1A: Average expenditure for Division I-A schools, by year					
	Mean	2004	2005	2006	2007
Total Operating Athletic Expenditure (\$ Million)	36.6	31.1	34.5	38.6	42.2
Total Expenditure (\$ Million)	897.2	829.9	880.1	922.7	957.8
Athletic Expenditure as % of Total	5.6%	5.3%	5.4%	5.8%	6.0%

Source: EADA 2004 to 2007

Figure 1A

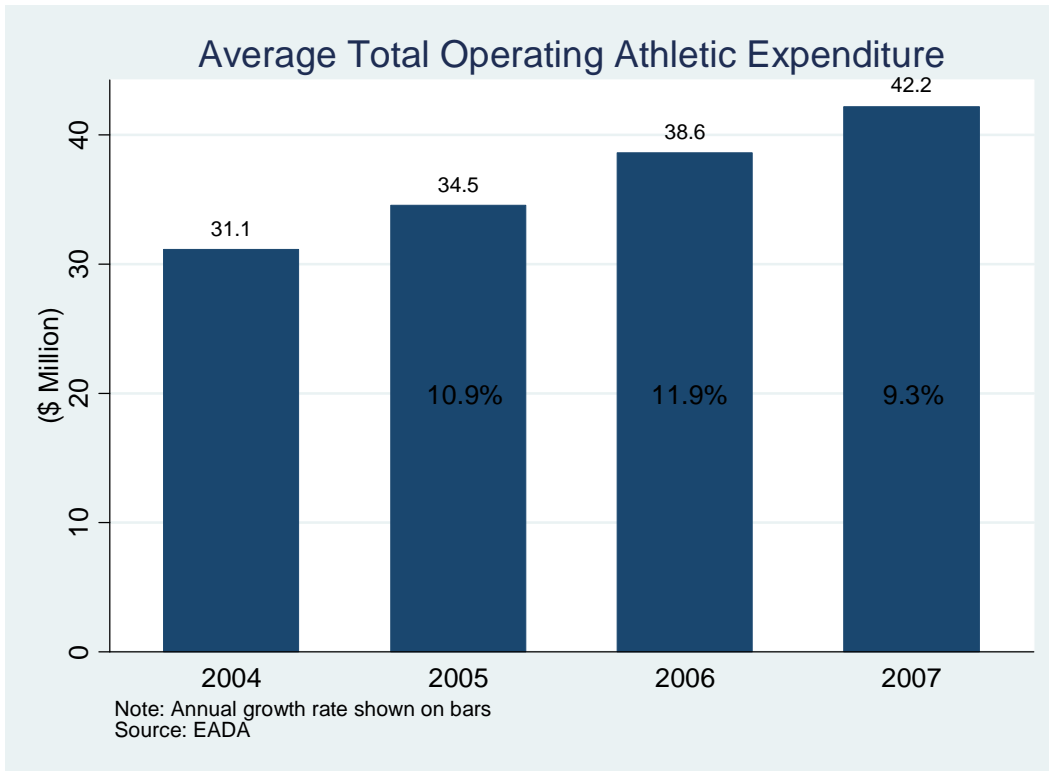


Figure 1B

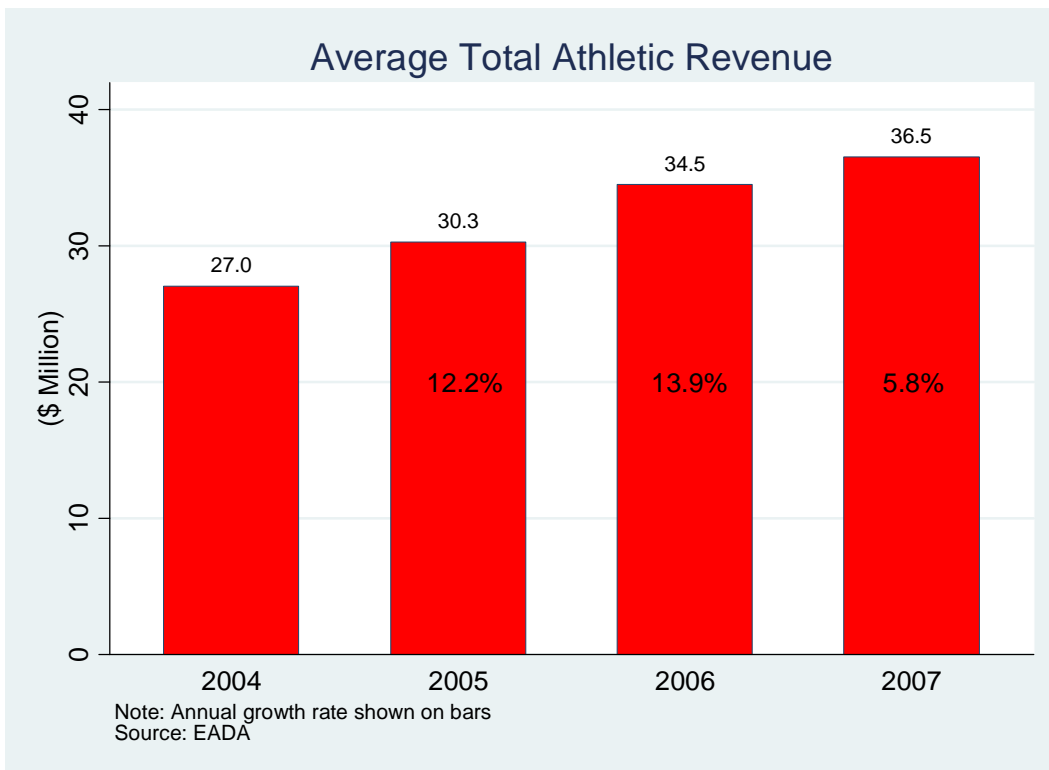


Figure 1C

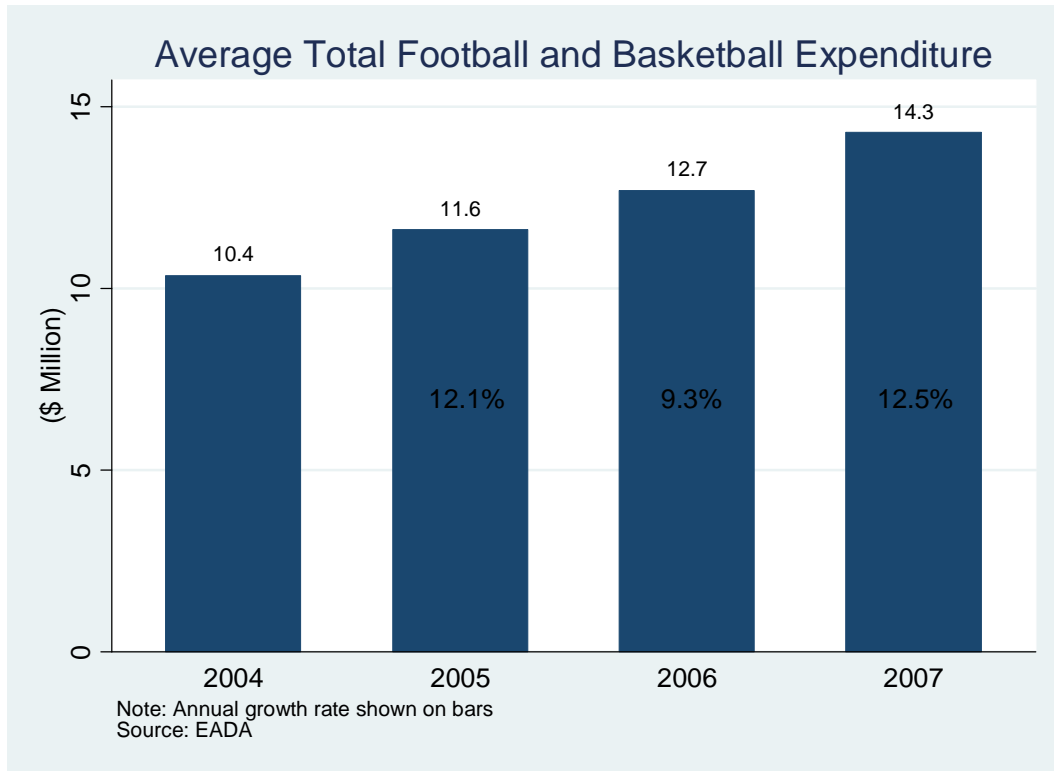


Figure 1D

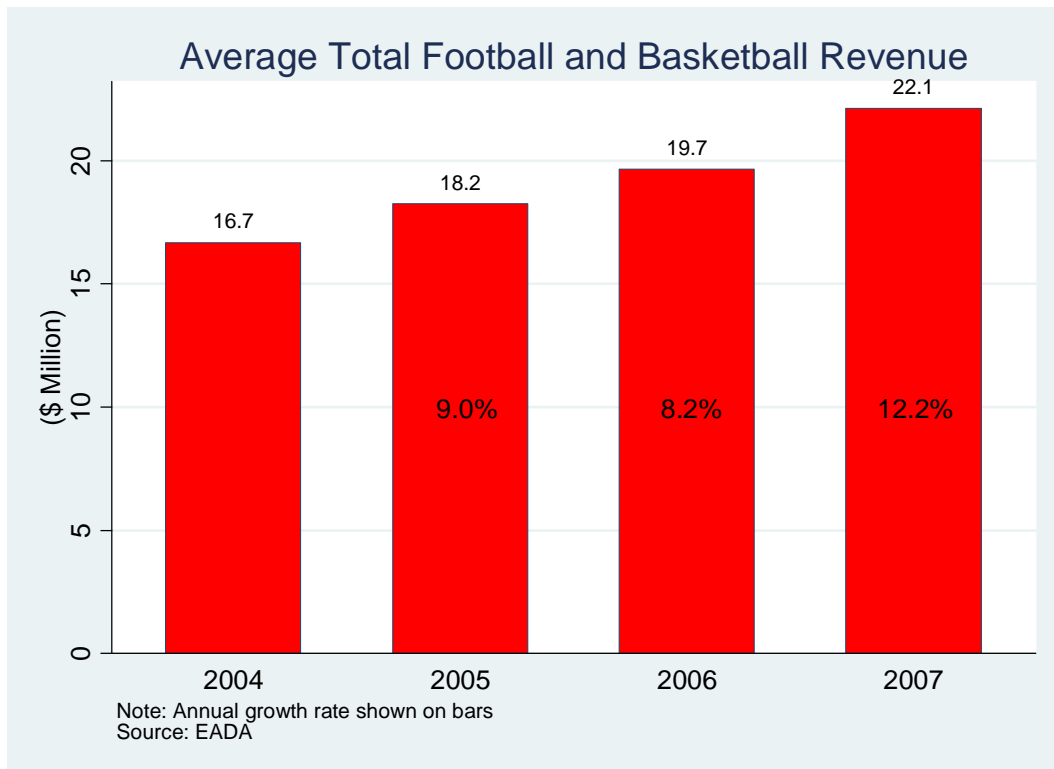


Figure 1E

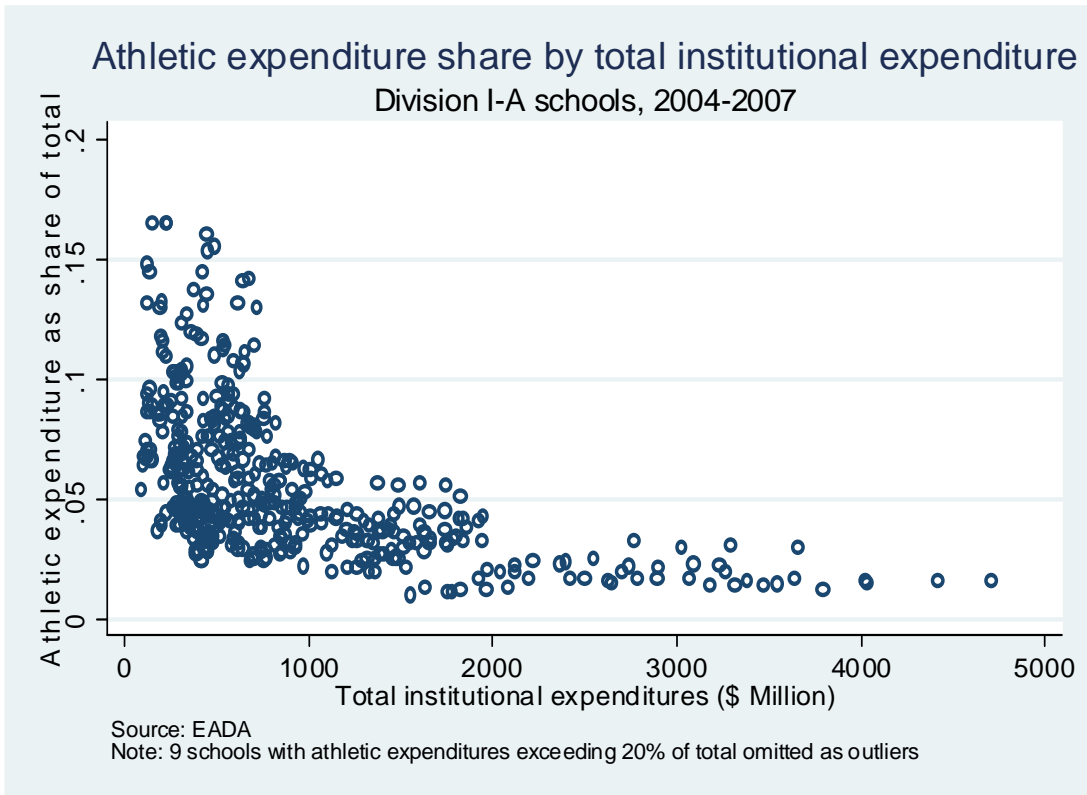


Figure 2A

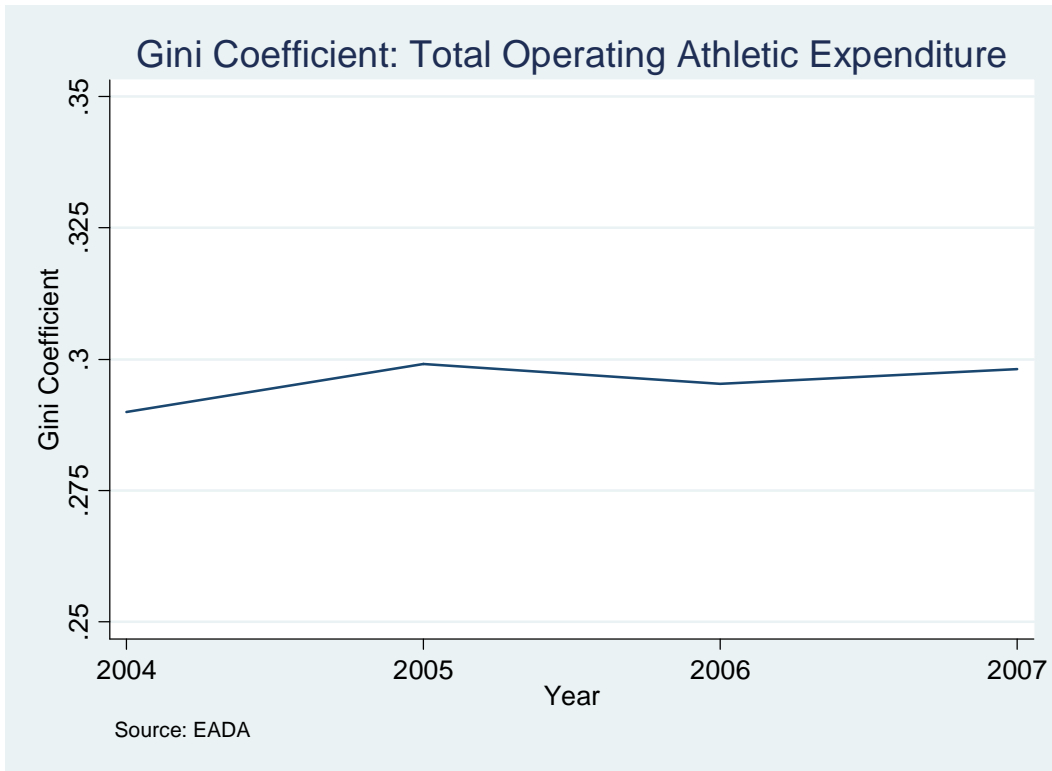


Figure 2B

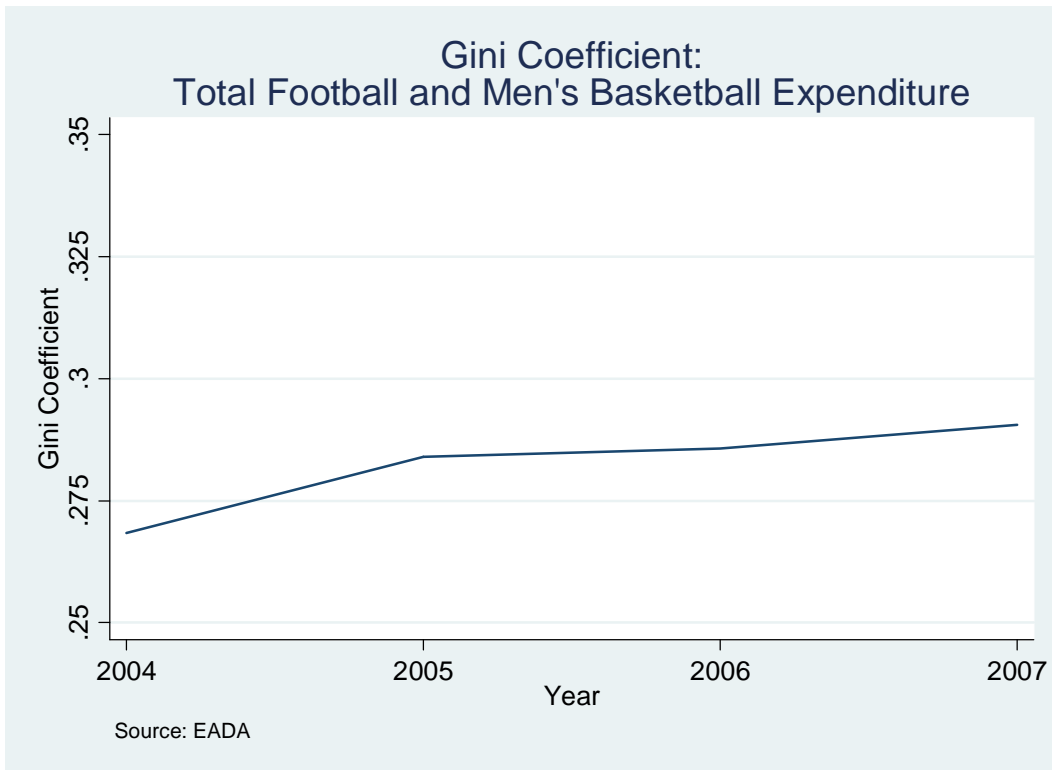


Figure 2C

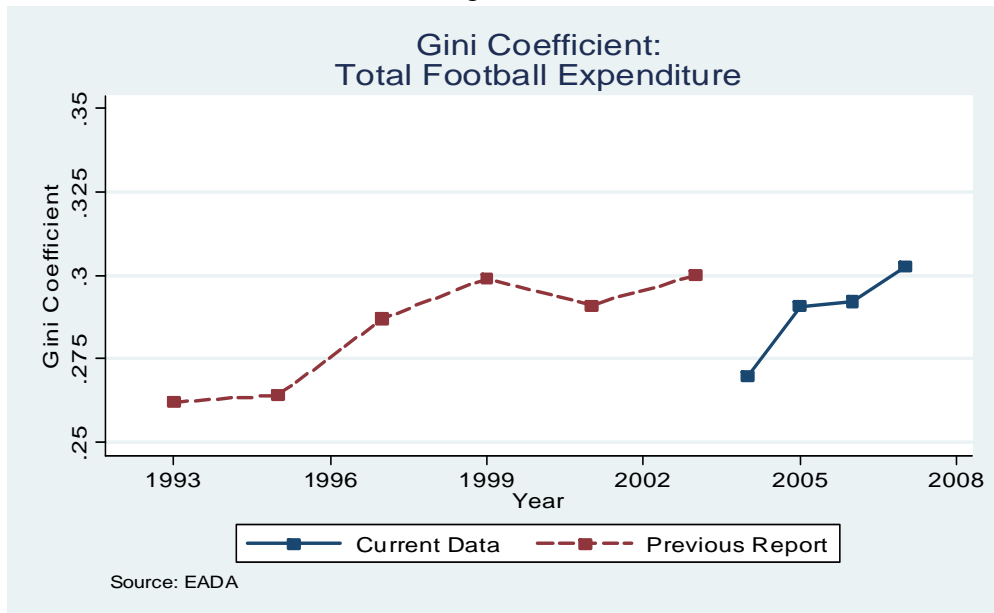


Figure 2D

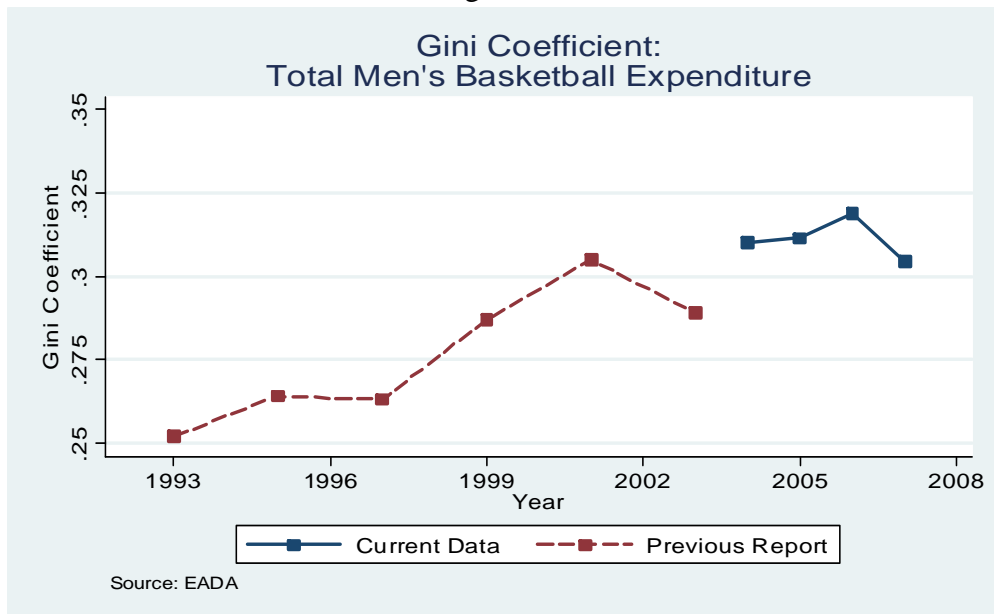


Figure 2E

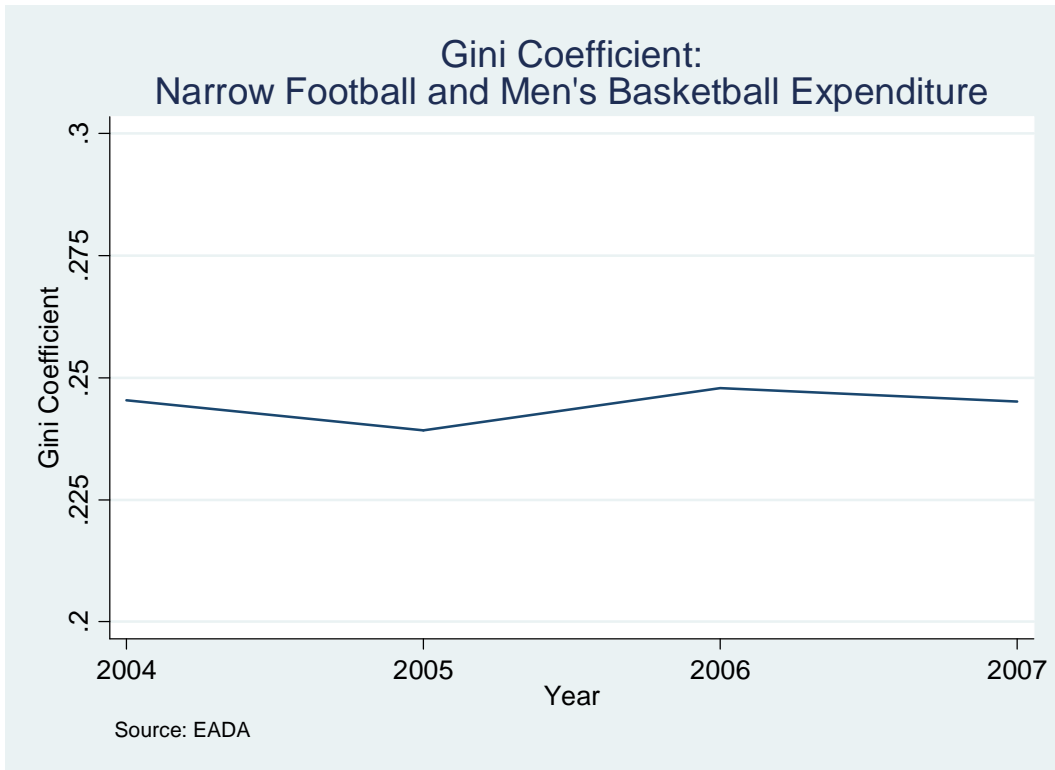


Table 3A: Annual mobility of Division I-A schools, Total operating athletic expenditure					
Expense Quintile	1	2	3	4	5
1	90.3	9.7	0.0	0.0	0.0
2	8.6	82.9	8.6	0.0	0.0
3	0.0	8.6	77.1	14.3	0.0
4	0.0	0.0	14.1	74.7	11.3
5	0.0	0.0	0.0	11.6	88.4

Source: EADA

Table 3B: Annual mobility of Division I-A schools, Total football and men's basketball expenditure					
Expense Quintile	1	2	3	4	5
1	90.3	8.3	1.4	0.0	0.0
2	9.9	78.9	9.9	0.0	1.4
3	0.0	11.6	69.6	17.4	1.5
4	0.0	0.0	18.3	60.6	21.1
5	0.0	0.0	2.9	21.7	75.4

Source: EADA

Table 3C: Annual mobility of Division I-A schools, Total revenue for all sports					
Revenue Quintile	1	2	3	4	5
1	88.6	11.4	0.0	0.0	0.0
2	11.3	77.5	11.3	0.0	0.0
3	0.0	11.3	80.3	8.5	0.0
4	0.0	0.0	8.5	80.3	11.3
5	0.0	0.0	0.0	11.6	88.4

Source: EADA

Table 3D: Annual mobility of Division I-A schools, Total revenue for football and basketball					
Revenue Quintile	1	2	3	4	5
1	88.7	11.3	0.0	0.0	0.0
2	11.4	80.0	8.6	0.0	0.0
3	0.0	8.5	77.5	14.1	0.0
4	0.0	0.0	15.5	70.4	14.1
5	0.0	0.0	0.0	14.5	85.5

Source: EADA

Table 3E: Annual mobility of Division I-A schools, Winning percentages for men's basketball					
Winning % Quintile	1	2	3	4	5
1	50.0	19.7	14.5	13.2	2.6
2	24.7	32.9	23.3	13.7	5.5
3	19.4	20.9	20.9	23.9	14.9
4	9.7	18.1	23.6	20.8	27.8
5	1.5	7.3	14.5	29.0	47.8

Source: EADA

Table 3F: Annual mobility of Division I-A schools, Winning percentages for football					
Winning % Quintile	1	2	3	4	5
1	55.4	19.3	16.9	7.2	1.2
2	35.9	19.2	28.2	10.3	6.4
3	19.8	23.3	29.1	15.1	12.8
4	9.6	13.5	32.7	21.2	23.1
5	0.0	13.8	13.8	25.9	46.6

Source: EADA

Figure 4A

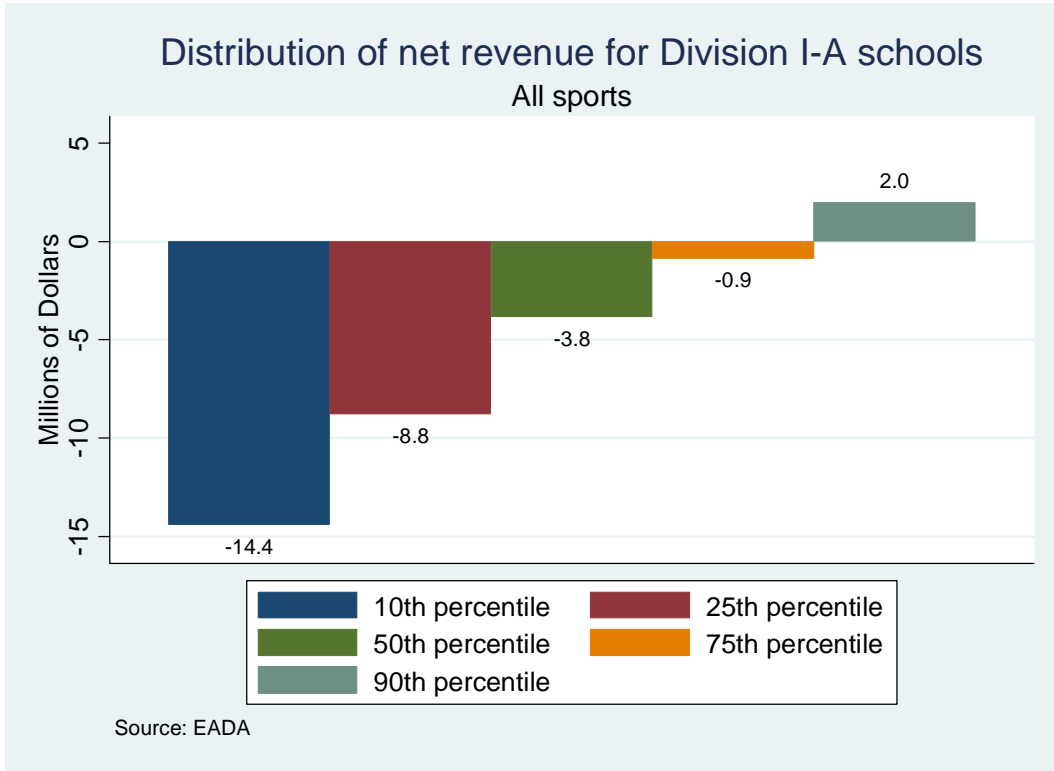


Figure 4B

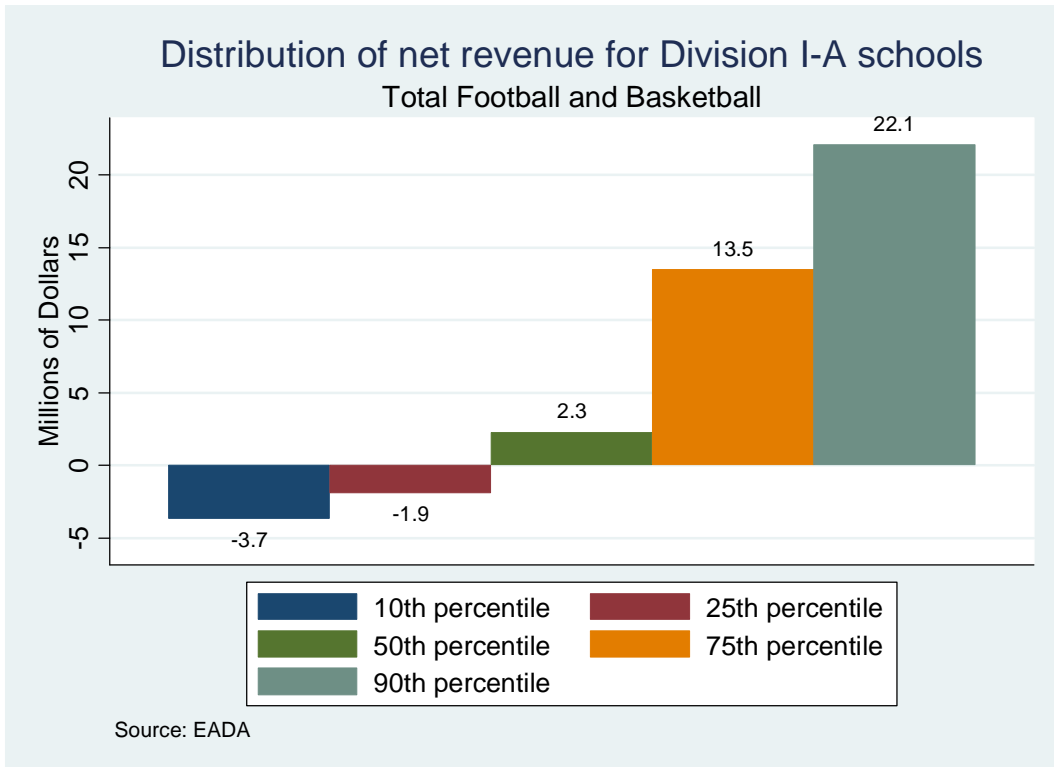


Figure 4C

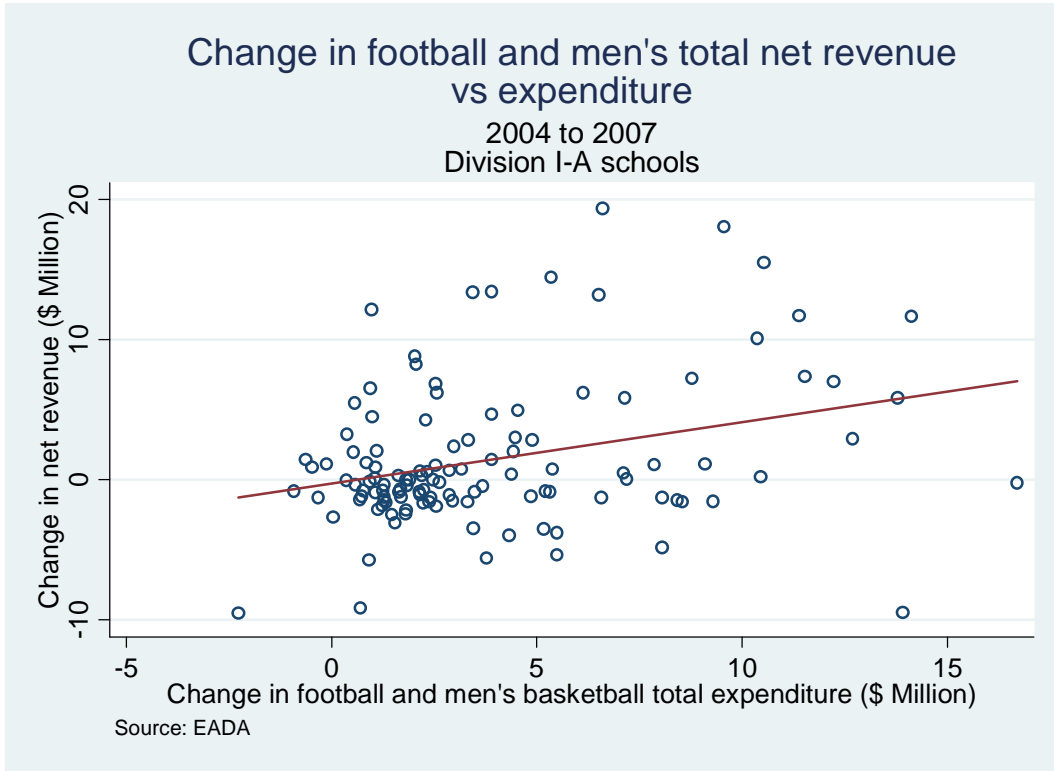


Figure 4D

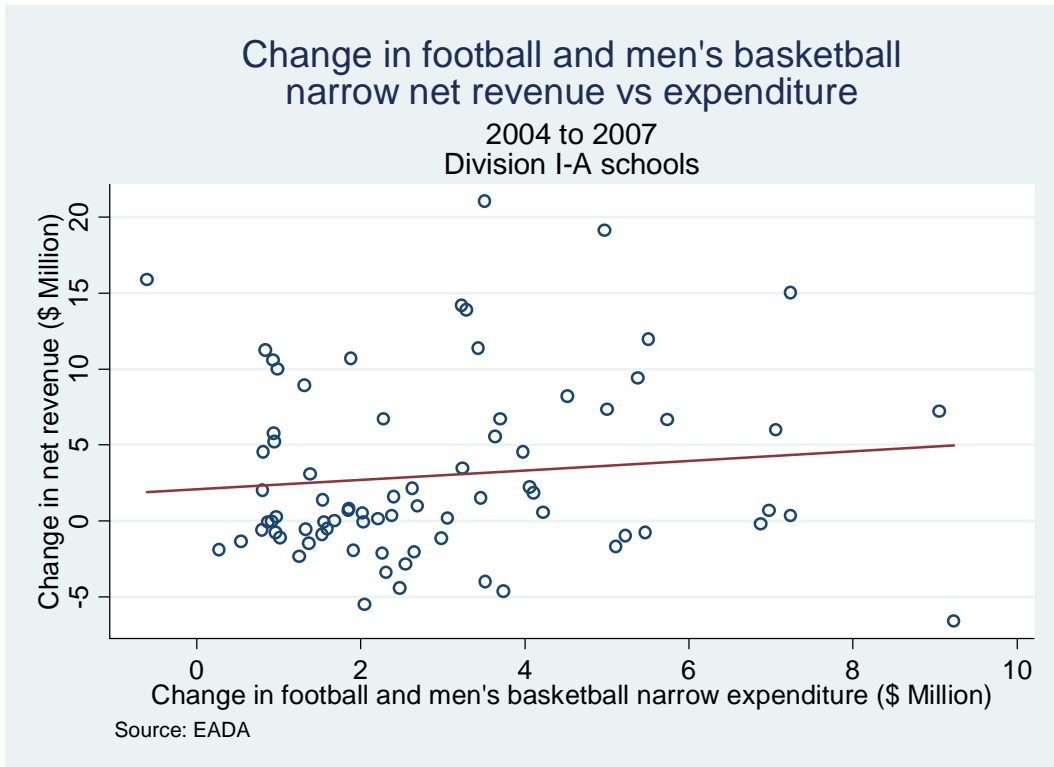


Table A1: EADA Variable Definitions

Revenues

1	Ticket Sales.		Include revenue received for sales of admissions to athletics events. Include ticket sales to the public, faculty and students, and money received for shipping and handling of tickets. Do not include ticket sales for conference and national tournaments that are pass-through transactions. Report amounts in excess of a ticket's face value paid by ticket purchasers (for example, to obtain preferential seating) in Category 4 (Contributions).
2	Student Fees		Include student fees assessed and restricted for support of intercollegiate athletics.
3	Guarantees.		Include revenue received from participation in away games.
4	Contributions.		Include amounts received directly from individuals, corporations, associations, foundations, clubs or other organizations that are designated, restricted or unrestricted by the donor for the operation of the athletics program. Report amounts paid in excess of a ticket's value. Contributions shall include cash, marketable securities and in-kind contributions. In-kind contributions may include dealer-provided automobiles (market value of the use of a car), apparel and soft-drink products for use by staff and teams. Do not report pledges until funds are allocated. Report gifts and merchandise from corporate sponsorship agreements in Category 12 (Royalties, Licensing, Advertisement and Sponsorship).
5	Compensation and Benefits Provided by a Third Party.		Include all amounts provided by a third party and contractually guaranteed by the institution, but not included on the institution's W-2 (e.g., car stipend, country club membership, entertainment allowance, clothing allowance, speaking fees, housing allowance, compensation from camps, radio income, television income, and shoe and apparel income). This should equal Expense Categories 20 and 22 combined.
6	Direct State or Other Government Support.		Include state, municipal, federal and other government appropriations made in support of the operations of intercollegiate athletics. This amount includes funding specifically earmarked to the athletics department by government agencies for which the institution has no discretion to reallocate. Any state or other government support appropriated to the university, for which the university determines the dollar allocation to the athletics department shall be reported in Direct Institutional Support (item 7).
7	Direct Institutional Support.		Include value of institutional resources for the current operations of intercollegiate athletics, as well as all unrestricted funds allocated to the athletics department by the university (e.g., state funds, tuition, tuition waivers and transfers). Also include Federal Work Study support for student workers employed by athletics.
8	Indirect Facilities and Administrative Support.		Include value of facilities and services provided by the institution not charged to athletics. This support may include an allocation for institutional administrative cost, facilities and maintenance, grounds and field maintenance, security, risk management, utilities, depreciation and debt service. If your institution does not currently track indirect institutional support, consult your business office for a reasonable allocation. If counted here, include offsetting expenditure equal in value in Expense Category 32 (Indirect Facilities and Administrative Support).
9	NCAA/Conference Distributions including all tournament revenues.		Include revenue received from participation in bowl games, tournaments and all NCAA distributions. This category includes amounts received for direct participation or through a sharing arrangement with an athletics conference, including shares of conference television agreements. If known by sport, report as such. Include any payments received from the NCAA for hosting a championship (permissible to include in Revenue Not Related to Specific Teams).

10	Broadcast, Television, Radio, and Internet Rights.		Include institutional revenue received directly for radio and television broadcasts, Internet and e-commerce rights received through institution-negotiated contracts.
11	Program Sales, Concessions, Novelty Sales, and Parking.		Include revenue of game programs, novelties, food or other concessions, and parking revenues. Revenue from sales of game program advertising is to be included in Revenue Category 12 (Royalties, Licensing, Advertisements and Sponsorships).
12	Royalties, Licensing, Advertisements and Sponsorships.		Include all revenue from corporate sponsorships, licensing, sales of advertisements, trademarks and royalties. An allocation will be necessary to distinguish revenues generated by athletics versus the university if payments are combined. Include the value of in-kind products and services provided as part of the sponsorship (e.g., equipment, apparel, soft drinks, water and isotonic products).
13	Sports Camp Revenues.		Include amounts received by the athletics department for sports-camps and clinics.
14	Endowment and Investment Income.		Include endowment spending policy distribution and other investment income in support of the athletics department. These categories include only restricted investment and endowment income for the operations of intercollegiate athletics; institutional allocations of income from unrestricted endowments qualify as ?Direct Institutional Support.?
15	Other.		Less than 5% of total revenues may appear on this line. If the number is greater than 5%, please reclassify adequate revenue to the appropriate category(ies) above to bring the category to less than 5% of the total revenue.
16	Subtotal Operating Revenue.		Add Columns 1-15.

Expenses

17	Athletic Student Aid.		Include the total amount of athletically related student aid awarded, including summer school and tuition discounts and waivers (including aid given to student-athletes who have exhausted their eligibility or who are inactive due to medical reasons). Athletics aid awarded to non-athletes (student-managers, graduate assistants, trainers) should be reported as Expenses Not Related to Specific Teams. If you supply dollar amounts in any of the rows (including the "Expenses Not Related to Specific Teams"), you must provide non-zero entries for the Equivalencies and Number of Students.
18	Guarantees.		Include amounts paid to visiting participating institutions.
19	Coaching Salaries, Benefits, and Bonuses Paid by the University and Related Entities.		Include gross salaries, bonuses and benefits provided to head and assistant coaches, which includes all gross wages, benefits and bonuses attributable to coaching that would be reportable on university and related entities (e.g., foundations, booster clubs) W-2 and 1099 forms (e.g., car stipend, country club membership, entertainment allowance, clothing allowance, speaking fees, housing allowance, supplemental retirement allowance, compensation from camps, radio income, television income, tuition remission, earned deferred compensation benefits). Place any payment made to previous coaches to satisfy a contractual agreement for coaching in Category 23 (Severance Payments).
20	Coaching Other Compensation and Benefits Paid by a Third Party.		Include all compensation paid to the coaching staff by a third party and contractually guaranteed by the institution, but not included on the institution?s W-2 (e.g., car stipend, country club membership, entertainment allowance, clothing allowance, speaking fees, housing allowance, compensation from camps, radio income, television income, shoe and apparel income). Expense Categories 20 and 22 combined should equal Revenue Category 5 (Compensation and Benefits Provided by a Third Party).

21	Support Staff/Administrative Salaries, Benefits and Bonuses Paid by the University and Related Entities.			Include gross salaries, bonuses and benefits paid to administrative staff (i.e., football secretary, sport-specific trainer) that would be reportable on university and related entities (e.g., foundations, booster clubs) W-2 and 1099 forms (e.g., car stipend, country club membership, entertainment allowance, clothing allowance, speaking fees, housing allowance, supplemental retirement allowance, compensation from camps, radio income, television income, tuition remission, earned deferred compensation benefits). Staff members responsible for the gender-specific athletics department, but not a specific sport (i.e., director of men's athletics), will have their compensation figures reported as Expenses Not Related to Specific Teams fields. Athletics department staff members who assist both men's and women's teams (sports information director, academic advisor) will be reported as Not Allocated by Gender column.
22	Support Staff/Administrative Other Compensation and Benefits Paid by a Third Party.			Include all compensation paid to the support staff by a third party and contractually guaranteed by the institution, but not included on the institution's W-2 (e.g., car stipend, country club membership, entertainment allowance, clothing allowance, speaking allowance, compensation from camps, radio income, television income, shoe and apparel income). Expense Categories 20 and 22 combined should equal Revenue Category 5 (Compensation and Benefits Provided by a Third Party).
23	Severance Payments.			Include severance payments and applicable benefits recognized for past coaching and administrative personnel.
24	Recruiting.			Include transportation, lodging and meals for prospective student-athletes and institutional personnel on official and unofficial visits, telephone call charges, postage and such. Include value of use of institution's own vehicles or airplanes as well as in-kind value of loaned or contributed transportation.
25	Team Travel			Include air and ground travel, lodging, meals and incidentals for competition related to preseason, regular season and postseason. Amounts incurred for food and lodging for housing the team before a home game also should be included. Include value of use of the institution's own vehicles or airplanes as well as in-kind value of donor-provided transportation.
26	Equipment, Uniforms and Supplies.			Include items that are provided to the teams only. Equipment amounts are those expended from current or operating funds.
27	Game Expenses.			Include game-day expenses other than travel that are necessary for intercollegiate athletics competition, including officials, security, event staff, ambulance and such.
28	Fund Raising, Marketing and Promotion.			Include costs associated with fund raising, marketing and promotion for media guides, brochures, recruiting publications and such.
29	Sports Camp Expenses.			Include all expenses paid by the athletics department, including non-athletics personnel salaries and benefits, from hosting sports camps and clinics. Athletics personnel salaries and benefits should be reported in Categories 19, 20, 21 or 22.
30	Direct Facilities, Maintenance, and Rental.			Include direct facilities costs charged to intercollegiate athletics, including building and grounds maintenance, utilities, rental fees, operating leases, equipment repair and maintenance, and debt service.
31	Spirit Groups			Include support for spirit groups including bands, cheerleaders, mascots, dancers, etc.
32	Indirect Facilities and Administrative Support.			Include value of facilities and services provided by the institution not charged to athletics. This support may include an allocation for institutional administrative cost, facilities and maintenance, grounds and field maintenance, security, risk management, utilities, depreciation and debt service. If your institution does not currently track indirect institutional support, consult your business office for a reasonable allocation. If counted here, include offsetting amount equal in value in Revenue in

				Category 8 (Indirect Facilities and Administrative Support).
33		Medical Expenses and Medical Insurance		Include medical expenses and medical insurance premiums for student-athletes.
34		Memberships and Dues.		Include memberships, conference and association dues.
35		Other Operating Expenses.		Other operating expenses include printing and duplicating, subscriptions, business insurance, telephone, postage, operating and equipment leases, non-team travel and any other operating expense not reported elsewhere. Do not include indirect administration overhead provided by the university (use Category 32) or salaries and benefits (use Categories 19 or 21). Attempt to allocate all expenses to Categories 17 through 34 before using this category. As a guide, please limit this category to 10% of total operating expenses. If the number is greater than 10%, please provide the top three categories and amounts in the comments section below.
36		Total Operating Expenses.		Add Columns 17-35.

Table A2: Percent of variation explained by changes in school's position in distribution, 2004 - 2007	
Total Operating Athletic Expenditure	Total Football and Men's Basketball Expenditure
2.1%	3.8%

Source: EADA

Table A3: Percent of variation explained by changes in school's position in distribution, 2004 - 2007

Total Revenue for All Sports	Total Football and Men's Basketball Revenue
1.6%	2.8%

Source: EADA

Table A4: Percent of variation explained by changes in school's position in distribution, 2004 - 2007		
Winning Percentage for Men's		
	Basketball	Winning Percentage for Football
	58.9%	61.6%

Source: EADA

**Table A5: Regression analysis of revenue on expenditures:
Division IA schools, 2004 - 2007**

Dependent Variable	Independent Variable	Coefficient	Standard Error	95% Confidence	
				Interval Lower Bound	Interval Upper Bound
Total Athletic Rev.	Total Operating Exp.	1.098	0.102	0.898	1.298
Total Football & Basketball Rev.	Total Football & Basketball Exp.	1.225	0.081	1.065	1.385
Narrow Football & Basketball Rev.	Narrow Football & Basketball Exp.	1.146	0.171	0.809	1.484

Source: EADA

**Table A6: Regression analysis of football team performance on expenditures:
Division IA schools, 2004 - 2007**

Dependent Variable	Independent Variable (\$ Million)	Coefficient	Standard Error	95% Confidence	
				Interval Lower Bound	Interval Upper Bound
FB Winning Percentage	FB Total Operating Exp.	0.018	0.005	0.009	0.028
FB Top 25 AP Poll	FB Total Operating Exp.	0.050	0.009	0.032	0.068

Source: EADA expense data, winning percentages calculated from win/loss records at
<http://cfbdatawarehouse.com/data/div_ia_team_index.php>, AP poll from <<http://sports.espn.go.com/ncf/rankingsindex>>

Expenditure variables are in millions of dollars

**Table A7: Regression analysis of football team performance on expenditures:
Division IA schools, 2004 - 2007**
Dependent variable: Football winning percentage

Independent Variable (\$ Million)	Coefficient	Standard Error	95% Confidence	
			Interval Lower Bound	Interval Upper Bound
Football Athletes and Coaches Exp.	0.021	0.021	-0.020	0.062
Football Administrative Expenditure	-0.029	0.021	-0.071	0.013
Football Team Expenditure	0.067	0.013	0.041	0.092
Football Marketing Expenditure	0.028	0.037	-0.045	0.102

Source: EADA expense data, winning percentages calculated from win/loss records at
<http://cfbdatawarehouse.com/data/div_ia_team_index.php>

Expenditure variables are in millions of dollars

Table A8: Regression analysis of football team performance on expenditures:**Division IA schools, 2004 - 2007****Dependent variable: Indicator for football team in top 25 of final AP poll**

Independent Variable (\$ Million)	Coefficient	Standard Error	95% Confidence	
			Interval Lower Bound	Interval Upper Bound
Football Athletes and Coaches Exp.	0.063	0.042	-0.020	0.146
Football Administrative Expenditure	-0.091	0.044	-0.177	-0.005
Football Team Expenditure	0.113	0.027	0.060	0.166
Football Marketing Expenditure	0.119	0.076	-0.031	0.269

Source: EADA expense data, AP poll from <<http://sports.espn.go.com/ncf/rankingsindex>>

Expenditure variables are in millions of dollars

**Table A9: Regression analysis of basketball team performance on expenditures:
Division IA schools, 2004 - 2007**

Dependent Variable	Independent Variable (\$ Million)	Coefficient	Standard Error	95% Confidence	
				Interval Lower Bound	Interval Upper Bound
Men's BB Winning Percentage	MBB Total Operating Exp.	0.020	0.011	-0.002	0.042
Made NCAA Tournament	MBB Total Operating Exp.	0.000	0.033	-0.065	0.065

Source: EADA expense data, winning percentages calculated from win/loss records at <<http://sports.espn.go.com/ncb/standings>>, tournament participation determined from <<http://bracketville.tripod.com/>>

Expenditure variables are in millions of dollars

**Table A10: Regression analysis of basketball team performance on expenditures:
Division IA schools, 2004 - 2007
Dependent variable: Basketball winning percentage**

Independent Variable (\$ Million)	Coefficient	Standard Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Men's BB Athletes and Coaches Exp.	-0.001	0.018	-0.037	0.035
Men's BB Administrative Expenditure	-0.034	0.034	-0.100	0.033
Men's BB Team Expenditure	0.136	0.038	0.061	0.211
Men's BB Marketing Expenditure	0.031	0.121	-0.208	0.270

Source: EADA expense data, winning percentages calculated from win/loss records at
<<http://sports.espn.go.com/ncb/standings>>

Expenditure variables are in millions of dollars

**Table A11: Regression analysis of basketball team performance on expenditures:
Division IA schools, 2004 - 2007**

Dependent variable: Indicator for basketball team made NCAA tournament

Independent Variable (\$ Million)	Coefficient	Standard Error	95% Confidence	
			Interval Lower Bound	Interval Upper Bound
Men's BB Athletes and Coaches Exp.	-0.048	0.053	-0.153	0.057
Men's BB Administrative Expenditure	-0.161	0.098	-0.355	0.032
Men's BB Team Expenditure	0.372	0.111	0.154	0.591
Men's BB Marketing Expenditure	-0.310	0.352	-1.003	0.384

Source: EADA expense data, tournament participation determined from <<http://bracketville.tripod.com/>>

Expenditure variables are in millions of dollars

**Table A12: Regression analysis of revenue on sports team performance:
Division IA schools, 2004 - 2007**

Dependent variable: Total football and men's basketball revenue (\$ Millions)

Independent Variable	Coefficient	Standard Error	95% Confidence	
			Interval Lower Bound	Interval Upper Bound
FB Winning Percentage	1.12	1.45	-1.73	3.97
Men's BB Winning Percentage	3.15	1.94	-0.67	6.98
FB Top 25 AP Poll	2.96	0.75	1.49	4.43
NCAA Tournament	-0.32	0.66	-1.61	0.98

Source: EADA revenue data, football winning percentages calculated from win/loss records at http://cfbdatawarehouse.com/data/div_ia_team_index.php, AP poll from <http://sports.espn.go.com/ncf/rankingsindex>, basketball winning percentages calculated from win/loss records at <http://sports.espn.go.com/ncb/standings>, tournament participation determined from <http://bracketville.tripod.com/>

Table A13: Regression analysis of total athletic revenue on total athletic operating expenditure

By total athletic operating expenditure quartile, 2004 - 2007

Quartile	Coefficient	Standard Error	95% Confidence	
			Interval Lower Bound	Interval Upper Bound
Quartile 1	0.479	0.115	0.251	0.707
Quartile 2	0.134	0.101	-0.067	0.335
Quartile 3	0.374	0.100	0.176	0.572
Quartile 4	1.695	0.321	1.058	2.333

Source: EADA revenue and expense data

Table A14: Regression analysis of total football and men's basketball revenue on total football and men's basketball expenditure				
By total athletic operating expenditure quartile, 2004 - 2007				
Quartile	Coefficient	Standard Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Quartile 1	0.553	0.129	0.295	0.810
Quartile 2	0.247	0.167	-0.084	0.579
Quartile 3	0.836	0.169	0.500	1.171
Quartile 4	1.337	0.178	0.983	1.690

Source: EADA revenue and expense data

Table A15: Regression analysis of narrow football and men's basketball revenue on narrow football and men's basketball expenditure				
By total athletic operating expenditure quartile, 2004 - 2007				
Quartile	Coefficient	Standard Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Quartile 1	0.614	0.222	0.159	1.069
Quartile 2	0.936	0.332	0.270	1.602
Quartile 3	0.653	0.288	0.080	1.226
Quartile 4	0.894	0.354	0.188	1.600

Source: EADA revenue and expense data

Table A16: Regression analysis of total athletic revenue on total athletic operating expenditure
By public/private status, 2004 - 2007

Institution Status	Coefficient	Standard Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Public	1.378	0.126	1.131	1.626
Private	0.483	0.083	0.315	0.650

Source: EADA revenue and expense data; institution status from IPEDs

Table A17: Regression analysis of total football and men's basketball revenue on total football and men's basketball expenditure
By public/private status, 2004 - 2007

Institution Status	Coefficient	Standard Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Public	1.322	0.081	1.163	1.481
Private	0.590	0.307	-0.029	1.209

Source: EADA revenue and expense data; institution status from IPEDs

Table A18: Regression analysis of narrow football and men's basketball revenue on narrow football and men's basketball expenditure				
By public/private status, 2004 - 2007				
Institution Status	Coefficient	Standard Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Public	1.228	0.188	0.857	1.598
Private	0.784	0.401	-0.029	1.596

Source: EADA revenue and expense data; institution status from IPEDs

**Table A19: Regression analysis of expenditures for other / women's sports
on men's football and basketball expenditures:
Division IA schools, 2004 - 2007**

Dependent Variable	Independent Variable	Coefficient	Standard Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Total Other Exp.	Total Football & Basketball Exp.	0.235	0.099	0.039	0.430
Total Women's Exp.	Total Football & Basketball Exp.	0.129	0.028	0.074	0.184

Source: EADA

**Table A20: Regression analysis of expenditures for other / women's sports
on men's football and basketball net revenue:
Division IA schools, 2004 - 2007**

Dependent Variable	Independent Variable	Coefficient	Standard Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Total Other Exp.	FB & Men's BB Total Net Rev.	0.272	0.064	0.147	0.397
Total Women's Exp.	FB & Men's BB Total Net Rev.	0.050	0.018	0.014	0.086

Source: EADA

**Table A21: Regression analysis of expenditures for other / women's sports
on lagged men's football and basketball net revenue:
Division IA schools, 2005 - 2007**

Dependent Variable	Independent Variable	Coefficient	Standard Error	95% Confidence	
				Interval Lower Bound	Interval Upper Bound
Total Other Exp.	Lagged FB & Men's BB Total Net Rev.	-0.001	0.062	-0.124	0.121
Total Women's Exp.	Lagged FB & Men's BB Total Net Rev.	0.026	0.022	-0.017	0.069

Source: EADA

Table A22: Regression analysis of 75th percentile SAT and ACT scores on football and men's basketball expenditure: Division IA schools, 2004 - 2007

Dependent Variable	Independent Variable (\$ Million)	Coefficient	Standard Error	95% Confidence	
				Interval Lower Bound	Interval Upper Bound
SAT 75th Percentile	Total Operating Exp.	0.447	0.211	0.032	0.862
SAT 75th Percentile	Total Football & Basketball Exp.	-0.445	0.470	-1.371	0.480
ACT 75th Percentile	Total Operating Exp.	0.000	0.006	-0.013	0.012
ACT 75th Percentile	Total Football & Basketball Exp.	-0.009	0.015	-0.038	0.020

Source: EADA expense data; SAT and ACT scores from IPEDs

Note: Expenditure variables are in millions of dollars

SAT score is the sum of the 75th percentile scores for the verbal and math sections

ACT score is the 75th percentile composite score

**Table A23: Regression analysis of alumni contributions on expenditures:
Division IA schools, 2004 - 2007**

Dependent Variable	Independent Variable	Coefficient	Standard Error	95% Confidence	
				Interval Lower Bound	Interval Upper Bound
Total Alumni Rev.	Total Operating Exp.	0.687	0.106	0.478	0.895
Football & Basketball Alumni Rev.	Total Football & Basketball Exp.	0.475	0.055	0.366	0.584

Source: EADA expense data

Note: Alumni contribution calculated as sum of revenue categories four and five

**Table A24: Regression analysis of alumni contributions on expenditures:
Division IA schools, 2004 - 2007**

Dependent Variable	Independent Variable	Coefficient	Standard Error	95% Confidence	
				Interval Lower Bound	Interval Upper Bound
Total Alumni Rev.	Lagged Total Operating Exp.	-0.105	0.168	-0.435	0.225
Football & Basketball Alumni Rev.	Lagged Total Football & Basketball Exp.	0.115	0.067	-0.018	0.247

Source: EADA

Note: Alumni contribution calculated as sum of revenue categories four and five

**Table A25: Regression analysis of expenditures on conference mean expenditures:
Division IA schools, 2004 - 2007**

Dependent Variable	Independent Variable	Coefficient	Standard Error	95% Confidence	
				Interval Lower Bound	Interval Upper Bound
Total Operating Exp.	Conf. Total Operating Exp.	0.609	0.084	0.445	0.774
Total Football & Basketball Exp.	Conf. Total Football & Basketball Exp.	0.548	0.097	0.357	0.739
Total Football Exp.	Conf. Total Football Exp.	0.467	0.104	0.264	0.672
Total Basketball Exp.	Conf. Total Basketball Exp.	0.461	0.117	0.231	0.691

Source: EADA

Note: Conference averages do not include the value of the dependent variable

**Table A26: Regression analysis of expenditures on lagged conference mean expenditures:
Division IA schools, 2005 - 2007**

Dependent Variable	Independent Variable	Coefficient	Standard Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Total Operating Exp.	Lagged Conf. Total Operating Exp.	0.498	0.091	0.319	0.677
Total Football & Basketball Exp	Lagged Conf. Total Football & Basketball Exp	0.368	0.121	0.129	0.606

Source: EADA

Note: Conference averages do not include the value of the dependent variable

**Table A27: Regression analysis of expenditures on conference mean expenditures with lags:
Division IA schools, 2005 - 2007**

Dependent Variable	Independent Variable	Coefficient	Standard Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Total Operating Exp.	Conf. Total Operating Exp.	0.397	0.122	0.156	0.638
	Lagged Conf. Total Operating Exp.	0.332	0.103	0.130	0.535
Total Football & Basketball Exp	Conf. Total Football & Basketball Exp	0.341	0.140	0.064	0.617
	Lagged Conf. Total Football & Basketball Exp	0.287	0.124	0.043	0.532

Source: EADA

Note: Conference averages do not include the value of the dependent variable

**Table A28: Regression analysis of athletic revenue on athletic capital stock:
 Division IA schools, 2004 - 2007
 Dependent variable: Total athletic revenue**

Independent Variable	Coefficient	Standard Error	95% Confidence	
			Interval Lower Bound	Interval Upper Bound
Athletic Capital Stock	0.060	0.018	0.024	0.096

Source: EADA

Table A29: Regression analysis of athletic revenue on expenditures and athletic capital stock: Division IA schools, 2004 - 2007
Dependent variable: Total athletic revenue

Independent Variable	Coefficient	Standard Error	95% Confidence	
			Interval Lower Bound	Interval Upper Bound
Total Operating Exp.	1.073	0.105	0.865	1.280
Athletic Capital Stock	0.015	0.017	-0.017	0.048

Source: EADA