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Abstract: Collegiate sports programs are often characterized as the front porch of a university serving to publicize the institution and draw students to the door. We analyze if athletic malfeasance captured in NCAA sanctions, either a postseason tournament ban in men's basketball or a postseason bowl ban in football, negatively affects the profile of the sanctioned university. Our findings suggest that bans lower the academic quality of students as measured by test scores and class rank. Bans also decrease the amount of alumni giving and increases the student acceptance rate at the infracting university. Surprisingly, the school's peer ranking, in U.S. News and World Report, increases at a university following a ban. Our results demonstrate that impropriety by an athletics program serves as a negative signal to prospective students and alumni regarding the overall quality of the university, but does not appear to affect that institution's peer evaluators' perceptions.

JEL Codes: Z2, I2
Key Words: Education, (Anti) Flutie-Factor, NCAA, Athletic Malfeasance

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"Athletics truly is a front porch to the University. It is not the most important room in the house but it is the most visible and what comes with that is opportunity and responsibility." Scott Barnes (University of Pittsburgh Athletic Director, 2015)

Introduction

University athletic programs are uniquely situated to serve as a signal of university quality to their potential students, alumni, and even peer institutions. Since it can be difficult for people outside of a university to discern if an institution is being managed or operated efficiently, members of the public could view a school's athletic successes or failures as a proxy for the overall quality of a college. For instance, Mulholland et al. (2014) found that in the US News and World Report's *American's Best Colleges* rankings that administrators and faculty provide higher peer ratings to schools with higher ranked football programs.

Additionally, Jacob et al. (2018) noted that for every dollar a university spends on academics, the institution spends forty-five to eighty cents on consumption amenities. Their finding suggests that many universities allocate significant monetary resources to dormitories, athletic programs, and student recreational facilities, hoping to attract students with a preference for these amenities. The affiliation between sports and education helps explain why higher learning institutions invest significant monetary resources in athletics as opposed to more traditionally academic endeavors.

Our research examines the impact of athletic malfeasance on a university's profile as measured by peer rankings, alumni giving, and various student profile measures. Prior studies have illustrated how athletic successes can lead to increases in the quality and quantity of applicants in the overall student body. For this study, we use data from the U.S. News and World Report (USNWR) college rankings. Our findings indicate a negative effect on the student profile when a university's athletic program is caught cheating. We find that when gross malfeasance is

detected in an athletics program that leads to the imposition of an NCAA men's basketball postseason tournament ban or a football post-season bowl ban, it has a negative impact on alumni giving, student quality, and in the case of football, acceptance rates. We further find when analyzing peer ranking as measured by USNWR that peer rankings initially improve at the infracting university the year of the bowl ban but then subsequently decrease the following year.

Related Literature

Multiple studies have investigated the relationship between athletic success and student quality. In an early study, McCormick and Tinsley (1987) showed a positive relationship between SAT scores and athletic success when examining football performance. Mixon (1995) revealed a similar positive relationship between basketball tournament games and student SAT scores. In addition, Mixon, Treviño, and Minto (2004) noted a positive association between football win percentages and SAT scores.

However, this relationship between athletics and academics is not always clearly beneficial for a school. Bremmer and Kesselring (1993) found a positive, but not significant, association between athletic success and SAT scores. Tucker and Amato (1993) did not find consistent support that basketball success provides a boost to SAT scores (although they do support the idea that football success distributes higher-quality students towards those schools with successful programs). Tucker and Amato (2006) analyzed a multi-year sample of basketball success, allowing for lags in freshmen SAT scores, and discovered significantly positive results until the second half of the time period studied when BCS football was introduced. Other research has indicated a positive connection between increases in median SAT scores and having a Division I football program (Segura and Willner, 2018).

The impact of athletic success differs across the academic distribution of students. Pope and Pope (2009) noted that lower academic achieving students had a greater response to wins in athletics based on SAT scores. In addition, Chung (2013) discovered a positive relationship between athletic success and SAT scores, noting that while all students are affected by athletic success, lower-scoring students seem to be more heavily impacted. Pope and Pope (2014) later expanded this study and discerned that students who were athletes, from out-of-state, Black, or male were the most likely to be impacted by a winning sports season. They further discerned that SAT scores increased based on winning seasons, and this effect increases if the team continued to advance in postseason matches.

Murphy and Trandel (1994) analyzed the relationship between a football team's winning record and the number of applications received and discovered a positive and significant increase in applications sent to a school; however, this number was small in magnitude. Smith (2008) found similar results but discerned that merit-based criteria had a larger impact on potential students than athletic-based criteria. McEvoy (2005) found a positive and significant relationship between sports and applications, with football being the primary driver of increased applications. Humphreys (2006) discovered that state appropriations increase by having a big-time football team, and they are even higher when fielding a successful big-time football team.

Additional research examining the impact of athletics on a university's academic profile noted that a school is likely to experience changes when that institution is featured positively in a news story, had an upset victory, or dealt with some form of controversy surrounding their championship season (Toma and Cross, 1998). Additionally, Caudill, Hourican, and Mixon (2018) noted that cutting a university's football program contracts the student applicant pool and lowers incoming class quality as measured by ACT test scores. Using 'Cinderella' runs in the

NCAA Basketball Tournament, Collier et al. (2020) discovered that applications and freshman enrollments increase at schools that make these unexpected runs. Lastly, Eggers et al. (2021) showed that a 'Flutie Effect' exists for both the winning team and losing team in a game identified as a significant upset, with both schools seeing an increase in applications and the winning school experiencing an increase in enrollment.

The impact of athletic success on a university is not only found in enrollment numbers or incoming student quality but also found to impact students currently enrolled at the institution. Both Lindo et al. (2012) and Hernández-Julián and Rotthoff (2014) discovered that athletic success at a school negatively impacted overall grades on campus. In contrast, the research by Tucker (2004) showed that football success increased graduation rates. At the same time, Mixon and Trevino (2005) also showed a positive relation between football success and both freshman retention rates and graduation rates. Other studies, however, have found that basketball success does not impact graduation rates (Tucker) or change the average SAT scores of the incoming class (Tucker and Amato, 2006).

The question of how athletics impacts other areas of student life outside the classroom has also been examined. For instance, increased success in football has been correlated with increases in sexual assaults on college campuses (Lindo et al., 2018). Additionally, when examining the NCAA tournament, White, Cowan, and Wooten (2019) found increases in both binge drinking and drunk driving arrests.

Additional studies have attempted to examine the relationship between donor behavior and university athletics. Studies have shown that alumni donations are more likely to occur if the alumni are satisfied with their undergraduate experience. Both Monks (2003) and Rhoads and Gerking (2000) have shown that alumni are more likely to positively respond to intercollegiate

athletics with Rhoads and Gerking demonstrating that events like football bowls are viewed positively with basketball sanctions viewed negatively to basketball sanctions, while non-alumni giving is not impacted by short-term athletic success or playoff games.

There is some evidence, however, that an increased giving metric due to athletic achievement is not dispersed throughout the university, but instead is often concentrated within an athletics department (Stinson and Howard, 2004; Humphreys and Mondello, 2007; and Wolverton, 2007). Frank (2004) investigated athletics as advertising and determined both that the potential benefits are almost certainly small, and that across the board cuts in athletics would not likely impact either alumni giving or the number of applicants to a school. Baade and Sundberg (1996) found that at both public and private universities, there was a significant and positive correlation between football bowl appearances and alumni giving, but only public institutions demonstrated a correlation between alumni giving and postseason basketball appearances. Finally, a limited study noted that the existence of Division I athletics at a school was not a significant factor in alumni giving, while Greek life or part-time students were significant factors leading to alumni donations. (Harrison, Mitchell, and Peterson, 1995).

The association between school rankings and athletic success has also been examined by analyzing different factors. For example, Alter and Reback (2014) discovered that students considering colleges are impacted both by academic and other quality-of-life rankings. Lovaglia and Lucas (2005) noted an association between a highly visible athletics program and increased university prestige in a survey of students at one institution. However, a separate study was inconclusive when examining rankings and on the field performance (Fisher, 2009). It has also been noted that championships affect academic rankings, but otherwise, on the field

improvement from a sports team does not appear to have an impact on these metrics (Cox and Roden, 2010).

Monks and Ehrenberg (1999) further found that as school ranking lowers there is decreased freshman quality. Studies have also shown that an increased ranking helps gain high-ability students, with those students who are non-aided being the most responsive (Griffith and Rask, 2007). However, moving up in these rankings does not provide equal benefits throughout the list. Bowman and Bastedo (2009) discovered that moving up 1 position into the top 50 ranking, and again to the top 25, is more valuable than merely gaining five places in the 50-75 spot. Furthermore, ensuring a positive media relationship is also essential to the advertising value of a university (Kim, Carvalho, and Cooksey, 2007).

Additional literature has focused on whether athletic malfeasance has an impact on the academic profile of a university. The results are mixed. Hughes and Shank (2008) found that schools struggle to recover from scandals within a short-term period. In contrast, Smith (2015) observed that sanctions such as the loss of scholarships imposed on either basketball or football programs has no impact on the institution in terms of applications. Eggers et al. (2019 and 2020), however, showed that post season bowl bans in football, and post season tournament bans in basketball, decreased applications, admittances, and enrollment of freshman students. Chressanthis and Grimes (1993) also showed a negative enrollment yield correlated with sanctions applied to a school. Groothuis, Eggers, and Parker (2018) revealed that mean test scores fall when a university's basketball program is placed on probation by the NCAA.

Lastly, the literature examining the role of athletics on peer evaluation scores is relatively new. Volkwein and Sweitzer (2006) established a three-stage relationship in which institutional reputation, coupled with building a foundation for attracting high-quality faculty and students,

resulted in productive outcomes for students and faculty. Mulholland, Tomic, and Sholander (2014) examined if football performance affects a university's USNWR peer assessment score and found that the number of Associated Press (AP) votes a school's athletics program receives increases the peer ranking for all schools in the Football Bowl Subdivision (FBS) schools. They also found that being listed in the Coaches' poll for football increased peer rankings, and that just being a member of FBS football also positively affects peer assessment scores.

Data and Methodology

We utilize data similar to Mulholland, Tomic, and Sholander (2014) from the USNWR, including peer assessment scores. USNWR has been ranking colleges for many years including a peer ranking system they first started in 1998. The USNWR reports data on students in the top decile of their high school class, graduation rates, university acceptance rates, alumni giving, ACT scores (at both 75 and 25 percentiles), and peer ranking scores.

The peer assessment score is the metric allowing us to test whether peers at other institutions penalize institutions who undergo potentially adverse events, such as malfeasance in athletics. The peer assessment portion of the ranking is conducted via a survey which is sent to schools in which the institution in question shares its ranking category. This survey is to be completed by high-ranking administrators at peer institutions; this includes presidents, provosts, admissions deans, or other individuals in comparable positions within the university (Morse and Brooks, 2020).

The individuals who respond are asked to rank their peers based on "undergraduate academic programs on a scale from 1 (marginal) to 5 (distinguished)" (Morse and Brooks, 2020). If the respondent does not feel comfortable rating a school, they are asked to respond with 'don't

know,' which does not factor into the average of the ratings. These responses are then utilized for the USNWR ranking for that year.

The USNWR indicates the importance of this rating by stating, "Academic reputation matters because it factors things that cannot easily be captured elsewhere. For example, an institution known for having innovative approaches to teaching may perform especially well on this indicator, whereas a school struggling to keep its accreditation will likely perform poorly" (Morse and Brooks, 2020). We suggest this measure also provides a test of how athletics may serve as a signal of school quality.

These evaluations are sent in the spring of the year, so Mulholland, Tomic, and Sholander (2014) referenced the most recent sports year that had already occurred for the purposes of the survey. We will similarly relate our events measured to the nearest USNWR survey, and all the schools with identified athletic infractions fall within the National Universities ranking in USNWR. This category is defined by USNWR as those which offer broad undergraduate programs and graduate programs at both the masters and doctoral level programs with higher levels of research.

The data on instances of football malfeasance comes from the NCAA website. We consider a timeframe from 1998-2018 and the twenty-one seasons that occurred within that timeframe. This data includes 117 division I football programs. During this period, there are fourteen universities that engaged in football malfeasance resulting in a post season ban examined in this paper, including four schools that received two bans each. Postseason bowl bans occur for gross malfeasance, whereas sanctions can result from violations of the NCAA Division I Manual.

The types of malfeasance that may result in bowl bans or sanctions include, but are not limited to, recruiting violations, improperly paying student-athletes, academic fraud, and loss of institutional control. According to the NCAA rules, violations are handled in a four-stage manner as outlined by Barnhart (2012). Firstly, the NCAA investigates the infractions that they believe occurred. Secondly, the NCAA charges the athletic program with the violations. Thirdly, the Committee of Infractions (COI) of the NCAA conducts a hearing. Fourth and finally, the COI deliberates and can impose sanctions.

In table one, we list all the post season bowl bans by year for each school, including the reason for the ban and whether it was self-imposed. The data examining basketball malfeasance also comes from the NCAA website. In men's basketball, there were 21 schools that received a postseason tournament ban, and one school was sanctioned twice, for a total of 22 bans. Like football malfeasance leading to bowl bans, the bans against postseason tournament play resulted from violations of rules laid out in the NCAA Division I Manual. In table two, we list the schools that received basketball bans and the reasons for the ban.

[Tables 1 and 2]

The variables we use as our dependent variables are reported in table three. In the first three rows, we report various measures of the peer rankings. Initially, we report the mean peer score for a school that was 3.1, with a minimum of 1.3 and a maximum of 4.9. We further report the change in peer rankings between each year, finding very little difference in scores between years. This indicates that roughly the same number of schools increased as decreased for a mean of 0.01. In absolute value terms, the mean change is still small and equal to 0.061, suggesting that school's reputations as measured by peer rank only changes slightly each year.

[Table 3]

We also use two measures of alumni giving in our analysis. Our first measure indicates the percentage of alumni that donate to their alma mater in a given year. The mean percent giving is 16%, with a maximum of 52% and a minimum of 1.5% of alumni giving each year. Our second measure is the average amount that is given per alumni, with a mean of $98.73. This amount ranges from $1.00 to $273.00. These two measures can be used to test the Sanderson and Siegfried (2017) conjecture that athletics may influence private donations.

We additionally use multiple measures of student success and academic quality in our analysis. Our first qualifying measure is the acceptance rate at a university, which measures the selectivity of the school. This measure is calculated by the number of students that are admitted to a school, divided by the number of students that applied to the institution. The mean acceptance rate for schools in our study is 64%, and ranges between 5% and 100%.

We also measure the academic quality of incoming students by the percentage of high school graduates who were ranked in the top ten percent of their class. For the purposes of this evaluation, the average percentage of students from the top ten percent of their high school class is 38.5% for all D1 schools, ranging from 2% to 100%. This measure illustrates that student quality between universities varies widely. We further use the American College Testing (ACT) score of students who ranked in both the 25^{th} and 75^{th} percentile of their incoming class to measure student quality. The mean test score of the 25^{th} percentile of students is 21.5, while the 75^{th} percentile is 26.8. ACT test scores range from 1 to 36, and a score of 22 is in the 64^{th} percentile of all test takers, while a score of 27 is in the 86^{th} percentile of all test takers.

The USNWR ranking system ranges between 1 and 300, with 1 being the highest ranked school, and we examine two measures of college rankings generated by the USNWR rankings system. The first ranking we analyze is the graduation and retention rank, with a mean ranking of

82.9. This ranking is calculated by using a moving average of freshman retention and graduation by students within six years. The second ranking we use is the Student Selectivity rank, with a mean of 83.1. This measurement is a combination of the "math and evidence-based reading and writing portions of the SAT and the composite ACT scores", coupled with "high school class standing in the top 10%." In some years prior to 2019, this measurement has also included the acceptance rate of the institution (Morse, Brooks, and Mason, 2018). The average rank for this category is 83.2, with a minimum of 1 indicating the highest-ranked school and a maximum of 300 indicating the lowest-ranked school. In previous research, athletics has been shown to affect student quality and graduation rates. We use these measures to determine if athletic malfeasance also affects student quality and retention measures.

Lastly, we examine teaching quality at a school as measured by class size and student-faculty ratio. The first measure is large classes greater than 50 students. This category has a mean percentage of 12.62 and ranges from 0 to 36.8. A larger percentage is in this category is considered lower teaching quality. Our second measure is small classes with less than 20 students and an average of 41.91 percent that ranges from 15.2 to 97.1 percent. A larger percentage in this category is considered higher teaching quality. Our last measure of teaching quality is the student-faculty ratio, with a mean of 16.75 that ranges from 4 to 32, where a lower ratio is considered higher teaching quality.

Methods and Results

To test the impact of detected athletic malfeasance at a university, as measured by NCAA football bans and NCAA men's basketball tournament bans, we use data from 117 Division I football programs for twenty seasons from 1998 to 2018.[2] We identify both the post season

[2]This sample represents all NCAA Division I FBS (formally D-IA) schools from the American Athletic Conference (AAC, with many of these schools formally in the Big East), Atlantic Coast Conference (ACC), the Big 12 Conference,

tournament bans and bowl game bans using a dummy variable equal to one if a school received an NCAA postseason ban. A ban occurs when an athletics program at a university violates one or more of the rules outlined in the NCAA Division I Manual (NCAA rules). During the period of our study, there were fifteen Division I football bowl bans and twenty-one men's basketball tournament bans. The schools sanctioned with bans are listed in table 1, along with the year of the ban and the reason for the ban. These bans generally occur when gross malfeasance is detected at a university, which can include academic fraud, improper payment of student-athletes, recruitment violations, as well as loss of institutional control.

Our analysis includes a dummy variable to measure the influence of the detected malfeasance and subsequent post season ban on our various dependent variables the year of the ban. We also include two lag variables after the ban to measure if the detected malfeasance has a lasting effect on the university. Contemporaneous measures with two lags are also included as our preliminary analysis found there were no statistically significant effects before the ban nor three years after the ban.

[Table 4]

In table four, we report the results of athletic malfeasance on the USNWR peer ranking. In columns one and two, we report the effect on the peer score. Column one includes only the bans and their lags as well as school and year fixed effects. In column two, we add school control variables, which include the percent alumni giving, amount of alumni giving, percent freshman from top ten percent of their class, ACT Test 25^{th} percentile, ACT 75^{th} percentile, percent classes greater than 50 students, student-faculty ratio, percent classes less than 20, student selectivity

the Big 10 Conference, Conference U.S.A., the Mid-American Conference (MAC), the Mountain West Conference, the PAC 12, the Southeastern Conference (SEC), the Sun Belt Conference, and the Western Athletic Conference.

rank, and graduation and retention rank. In columns three and four, we report the effect on the yearly change in peer score, and the college control variables.

Surprisingly, we find that peer rankings increase the year of the bowl ban or tournament ban, and also two years after the ban in the specification without the control variables. The year of the bowl ban, peer ranking increased by 0.063 compared to the mean absolute change of 0.061, indicating a 103% increase in ranking compared to the mean absolute change. In the year of a tournament ban, peer ranking increased by 0.081 with a mean absolute change 0.061, leading to a 133% increase compared to the standard deviation.

In the specification with the university control variables we find no statistically significant effect, while the effect of a bowl ban increases by 0.060, leading to a 100% increase in peer ranking compared to the standard deviation. The year after the bowl ban, these rankings fall by 0.048, or an 80% decrease compared to the standard deviation.

In table 5, we report the effects of malfeasance on alumni giving, the acceptance rates, and the USNWR graduation retention rank. There is no economically significant change in the percent of alumni who donate annually to their university after athletic malfeasance is detected at a school. However, the average amount donated to a university decreases by $15.90 during a tournament ban and $9.98 during a bowl ban. Comparing the average giving of $100 a year to our coefficients, we find that post season bans lead to a 16% and 10% decrease in alumni giving, respectively.

We also find that universities become less selective during a bowl ban, with acceptance rates of incoming students increasing by 3.8% the year of the ban and 2.9% the year after the ban. The average acceptance rate for the schools in our study is 64%, suggesting these universities are 6% and 4.5% less selective on average.

Lastly, we find the USNWR graduation and retention rank number decreases by 3.52 the year of the bowl ban, and 6.02 the year after the ban, indicating a lower number on a scale from 1 being the highest to 300 being the lowest (thus, a higher ranking is worse). The result suggests that more students graduate and are retained at the sanctioned school suggesting that a bowl ban has a positive effect on the school for this measure.

[Tables 5 and 6]

In table 6, we report the influence of post season bans on student academic quality. We find that a tournament ban lowers the amount of top academic performing students at a university by 3.8% the year of the ban, and 2.5% the year after the ban, as measured by being in the top 10% of their high school class. This is a 10% to 6.5% reduction evaluated at the mean of 38.5%. Additionally, we find that the USNWR selectivity rank goes up by 7.2 the year of a tournament ban and 4.3 the year of a bowl ban, indicating a lower rank on a scale from 1 being the highest to 300 the lowest. When analyzing ACT test scores, we find that a tournament ban lowers students' test scores in the 75th percentile by -0.612. Evaluated at the mean of 27, a decrease of 1 unit moves from the 85th percentile to the 82nd percentile of overall test takers.

We further find that a tournament ban lowers students' test scores in the 25th percentile by -0.736. Evaluated at the mean of 22, a decrease of 1 unit moves from the 64th percentile to the 58th percentile of overall test takers. Lastly, we find that a bowl ban increases students' test scores in the 25th percentile by about .3 both the year after and two years after the ban. When evaluated at the mean of 22, an increase of 1 unit moves test takers from the 64th percentile to the 69th percentile of overall test takers.

[Table 7]

In table seven, we examine teaching quality and graduation and retention ranks. When examining classes with more than 50 students, we find that the estimates are negative during and after the ban. This shows there are fewer large classes being held on these campuses. Likewise, the student-to-faculty ratio also falls after an athletics ban.

Ultimately, the overall effects of athletic malfeasance are that academic quality at an institution falls, alumni giving falls, acceptance rates rise (indicating a less selective university), and student selectivity rankings get worse (the rankings go up). Conversely, a school's peer ranking, the graduation and retention rank, and teaching quality measures improve. The teaching quality measures at these schools may have decreased because of lower enrollment at the infracting school, leading to a lower student-faculty ratio and fewer classes over 50 students.

Conclusion

Our study demonstrates that an NCAA postseason football bowl ban or men's basketball tournament ban significantly reduces the academic quality of students opting to attend the sanctioned university, and also negatively impacts the amount of alumni giving at the school. Given the negative media attention surrounding a postseason ban, these events may serve as a signal to prospective students and alumni regarding the overall quality of the university. These schools then respond by increasing their acceptance rate (becoming less selective) when faced with a bowl ban. These statistics show that malfeasance in college athletics can have significant detrimental effects on non-athlete students, and the university as a whole, and further supports the theory that university athletics are indeed an amenity or a signal that students use in their college choice decision. Our results suggest an Anti-Flutie effect exists for students and alumni following detected athletic malfeasance at a university.

Ironically, however, when schools face athletic malfeasances their peer rankings slightly improve. This could be a signal to other schools that the sanctioned university, and its administration are willing to penalize bad behaviors (and thus, prioritize good behaviors). Alternatively, this could also indicate that there is no such thing as bad publicity – and that all publicity is good publicity. It is further plausible that schools facing athletic malfeasance penalties choose to devote additional resources to highlight they have changed their behavior.

In addition, we find that more students graduate and are retained at the sanctioned school, suggesting that a bowl ban has a positive effect on the school for this measure. This potentially beneficial effect of athletic malfeasance could be due to students paying more attention to academic work than athletic events.

Our research also helps answer the question posed by Sanderson and Siegfried (2018) "How have over 100 of the top 128 athletics departments persuaded their university presidents and trustees to continue devoting scarce general funding to intercollegiate sports? When these institutions incur financial losses on athletics, universities seem to double down, spending even more on salaries for coaches and improving physical facilities, rather than viewing losses as a signal to redeploy assets and efforts." Sanderson and Siegfried (2018) offer three answers to the above question: first, intercollegiate athletics might attract greater appropriations from state legislators; second, intercollegiate athletics may boost private donations; and third, high-profile sports programs, like other campus amenities, may attract more applicants and thus additional enrollment. Ultimately, collegiate sports are an exceptionally visible aspect of a university and athletic malfeasance, culminating in highly publicized football bowl bans or men's basketball tournament bans, can have detrimental ramifications on an institution's overall academic profile.

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Table 1: List of NCAA Football Postseason Bowl Bans

Season Year	University	Year of Ban	Reason for Ban
2002-3	University of Alabama	2002	Recruiting violations and repeat offender status. Ban appealed and upheld by NCAA appeals committee.
2002-3	University of California	2002	Academic fraud, academic eligibility, obligation to withhold ineligible student-athletes from competition, extra benefits, recruiting and lack of institutional control. Ban appealed and upheld by NCAA appeals committee.
2002-3	University of Kentucky	2002	Recruiting violations, academic fraud, lack of institutional control. Ban appealed and upheld by NCAA appeals committee.
2003-4	University of Alabama	2003	Recruiting violations and repeat offender status. Ban appealed and upheld by NCAA appeals committee.
2004-5	Mississippi State University	2004	Recruiting violations and repeat offender status. Ban not appealed.
2010-11	University of Southern California	2010	Improper benefits, lack of institutional control. Ban appealed and upheld by NCAA appeals committee.
2011-12	University of Southern California	2011	Improper benefits, lack of institutional control. Ban appealed and upheld by NCAA appeals committee.
2011-12	University of Miami Florida	2011	Booster violations, lack of institutional control. Self-imposed ban of two years of postseason competition.
2012-13	Pennsylvania State University	2012	Sexual abuse scandal. Four-year ban appealed and overturned by NCAA appeals committee, but only after the second year of the ban had occurred.
2012-13	University of North Carolina	2012	Academic fraud, impermissible agent benefits, participation by ineligible players and failure to monitor the football program. Ban not appealed.
2012-13	The Ohio State University	2012	Non-booster, shop owner providing impermissible extra benefits, loans and discounts in exchange for football awards and equipment. Preferential treatment violations, and unethical conduct. Repeat offender status. Ban not appealed.

2012-13	University of Miami Florida	2012	Booster violations, lack of institutional control. Self-imposed ban of two years of postseason competition.
2013-14	Pennsylvania State University	2013	Sexual abuse scandal. Four-year ban appealed and over-turned by NCAA appeals committee, but only after second year of ban had occurred.
2017-18	Ole Miss	2017	Recruiting violations. Self-imposed ban.
2018-19	Ole Miss	2018	Same recruiting violations case. This ban is part of two-year ban imposed by NCAA committee (self-imposed 2017 counted as first year of the ban). Appealed and upheld by NCAA appeals committee.

Table 2: List of NCAA Men's Basketball Tournament Bans

Season	University	Year of Ban	Reason for Ban
1999-2000	University of Minnesota	2000	Academic Fraud Self-Imposed Ban
2000-01	New Mexico State University	2001	Academic Fraud, Unethical Conduct, Recruiting Violations Self-Imposed Ban
2000-01	University of Nevada Las Vegas	2001	Improper Recruiting Inducements, Extra Benefits, Unethical Conduct, Failure to Monitor NOT Self-Imposed Ban, Upheld on Appeal
2002-03	Fresno State University	2003	Academic Fraud Self-Imposed Ban
2002-03	University of Georgia	2003	Academic Fraud, Unethical Conduct, Improper Benefits Self-Imposed Ban
2002-2003	University of Michigan	2003	Improper Benefits, Gambling Self-Imposed Ban
2002-03	St. Bonaventure	2003	Eligibility Violations, Lack of Institutional Control, Unethical Conduct Conference-Imposed Ban
2003-04	Baylor University	2004	Lack of Institutional Control, Unethical Conduct Self-Imposed Ban
2003-04	Gardner-Webb University	2004	Lack of Institutional Control, Eligibility Violations, Extra Benefits, Unethical Conduct NOT Self-Imposed Ban
2004-05	The Ohio State University	2005	Improper Benefits, Impermissible Academic Assistance, Failure to Monitor Self-Imposed Ban
2005-06	Fresno State University	2006	Recruiting Violations Self-Imposed Ban
2004-05	St.John's (New York)	2005	Impermissible Benefits Self-Imposed Ban

2009-10	University of Southern California	2010	Improper Benefits Self-Imposed Ban
2012-13	Texas Southern University	2013	Lack of Institutional Control, Academic Improprieties, Eligibility Violations, Repeat Offender Status NOT Self-Imposed Ban
2012-13	University of Central Florida	2013	Recruiting Violations, Benefits Violations, Unethical Conduct, Lack of Institutional Control NOT Self-Imposed Ban
2014-15	University of Arkansas	2015	Eligibility Violations, Academic Eligibility Issues NOT Self-Imposed Ban
2014-15	Syracuse University	2015	Lack of Institutional Control, Academic Fraud, Extra Benefits, Booster Activity Violations, Failure to Follow Drug Test Regulations Self-Imposed Ban
2014-15	University of Southern Mississippi	2015	Academic Fraud, Falsifying Documents, Failure to Monitor Self-Imposed Ban
2015-16	University of Southern Mississippi	2016	Academic Fraud, Falsifying Documents, Failure to Monitor Self-Imposed Ban
2015-16	University of Missouri Columbia	2016	Failure to Monitor Program, Impermissible Benefits Self-Imposed Ban
2015-16	Southern Methodist University	2016	Academic Fraud, Unethical Conduct NOT Self-Imposed Ban
2015-16	Louisville	2016	Sex Scandal Self-imposed Ban

Table 3: Means

	Mean (Standard Deviation)	Minimum	Maximum
Peer Ranking	3.117 (0.665)	1.3	4.9
Change in Peer Ranking	0.010 (0.126)	-1.1	1.0
Absolute Value Change in Peer Ranking	0.061 (0.110)	0	1.1
Percent Alumni Giving	15.553% (9.030)	1.5%	52.1%
Amount Alumni Giving	$98.731 (64.96)	$1.00	$273.00
Acceptance Rate	63.96% (21.834)	5%	100%
Graduation and Retention Rank	82.990 (18.131)	1	300
Student Selectivity Rank	83.193 (62.976)	1	300
Freshman Top 10%	38.503% (24.614)	2%	99%
ACT Test 25th Percentile	21.459 (2.956)	16	32
ACT Test 75th Percentile	26.796 (2.570)	21	35
Percent Class Size Over 50	12.624 (5.796)	0	36.8
Percent Class Size Under 20	41.913 (12.800)	15.2	97.1
Student Faculty Ratio	16.753 (4.511)	4	32

Schools=117 Years=21 (clustered standard error in parentheses)
Change in Peer rank: Schools=117 Years=19 (clustered standard error in parentheses)

Table 4: Peer Effects

Variable	Peer Rank	Peer Rank	Change in Peer Rank	Change in Peer Rank
Tournament Ban	0.081** (0.037)	0.021 (0.029)	0.018 (0.017)	.004 (0.039)
Lag: Tournament Ban	0.001 (0.025)	-.015 (0.017)	-0.076 (0.051)	-0.047** (0.019)
Lag2 Tournament Ban	0.035* (0.021)	0.035 (0.049)	0.027 (0.021)	0.048 (0.037)
Bowl Ban	0.063* (0.033)	0.060** (0.011)	0.074** (0.037)	0.062 (0.037)
Lag: Bowl Ban	-.009 (0.023)	-0.048* (0.029)	-0.069* (0.041)	-0.039 (0.024)
Lag2: Bowl Ban	0.002 (0.033)	-0.003 (0.023)	0.015 (0.024)	0.035* (0.021)
Constant	3.237** (0.042)	3.872** (0.395)	0.028* (0.015)	0.489** (0.169)
School fixed Effects	Yes	Yes	Yes	Yes
Year fixed Effects	Yes	Yes	Yes	Yes
School Control Variables	No	Yes	No	Yes
R-sq Within Between Overall	 0.088 0.031 0.009	 0.531 0.392 0.418	 0.091 0.014 0.088	 0.200 0.000 0.061

Peer rank: Schools=117 Years=21 (clustered standard error in parentheses)
Change in Peer rank: Schools=117 Years=19 (clustered standard error in parentheses)
*significant at the 90% level. **significant at the 95% level.

Table 5: University Effects

Variable	Percent Alumni Giving	Amount Alumni Giving	Acceptance Rate	Graduation Retention Rank
Tournament Ban	1.528 (1.138)	-15.929 (10.544)	2.712 (2.74)	2.578 (5.252)
Lag: Tournament Ban	1.667 (1.056)	-12.939 (8.648)	1.061 (1.917)	2.525 (4.724)
Lag2 Tournament Ban	1.134 (0.923)	-15.901** (7.365)	1.217 (1.711)	2.069 (5.516)
Bowl Ban	0.153 (1.420)	-9.984* (6.080)	3.767** (1.811)	0.323 (2.761)
Lag: Bowl Ban	-0.307 (1.514)	-1.02 (6.836)	2.910** (0.957)	-3.517* (1.878)
Lag2: Bowl Ban	-0.104 (0.463)	-0.945 (2.891)	4.278 (2.909)	-6.019** (2.983)
Constant	17.780** (0.766)	107.884** (4.247)	71.553** (0.467)	108.898** (2.206)
School fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
R-sq Within Between Overall	 0.185 0.005 0.025	 0.033 0.015 0.001	 0.246 0.001 0.021	 0.030 0.000 0.056

Schools=117 Years=21 (clustered standard error in parentheses)
*significant at the 90% level. **significant at the 95% level.

Table 6: Student Academic Quality Effects

Variable	Freshmen Top 10 Percent	ACT Test 75th Percentile	ACT Test 25th Percentile	Student Selectivity Rank
Tournament Ban	-3.819**	-0.612**	-0.736**	7.163**
	(1.795)	(0.311)	(0.268)	(3.490)
Lag: Tournament Ban	-2.539**	-0.302	-0.375*	3.679
	(1.259)	(0.299)	(0.225)	(3.797)
Lag2 Tournament Ban	-2.222	-0.388	-0.405*	-0.234
	(1.522)	(0.383)	(0.254)	(2.937)
Bowl Ban	0.929	-0.438	0.215	4.344**
	(1.367)	(0.370)	(0.262)	(2.211)
Lag: Bowl Ban	0.810	-0.315	0.296*	0.936
	(1.251)	(0.257)	(0.148)	(2.143)
Lag2: Bowl Ban	-1.005	-0.617	0.304*	4.875
	(2.079)	(0.450)	(0.175)	(4.760)
Constant	34.907**	26.445**	20.526**	104.685**
	(1.667)	(0.478)	(0.475)	(2.635)
School fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
R-sq				
Within	0.154	0.474	0.373	0.031
Between	0.064	0.211	0.273	0.044
Overall	0.001	0.153	0.134	0.001

Schools=117 Years=21 (clustered standard error in parentheses)
*significant at the 90% level. **significant at the 95% level.

Table 7: Class size effects

Variable	Percent of Class over 50 Students	Percent of Classes under 20 Students	Student-Faculty Ratio
Tournament Ban	0.0142 (0.505)	0.876 (1.635)	-0.252 (0.601)
Lag: Tournament Ban	0.183 (0.380)	1.270 (0.299)	0.050 (0.504)
Lag2 Tournament Ban	-0108 (0.425)	0.186 (1.848)	0.088 (0.490)
Bowl Ban	-1.36* (0.833)	1.902 (1.421)	0.171 (0.445)
Lag: Bowl Ban	-1.01** (0.476)	0.499 (1.223)	-0.226 (0.175)
Lag2: Bowl Ban	-1.634* (0.879)	1.335 (1.684)	-0.768** (0.361)
Constant	12.828** (1.667)	40.733** (0.478)	17.505** (0.475)
School fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
R-sq Within Between Overall	 0.099 0.088 0.005	 0.031 0.001 0.002	 0.062 0.175 0.003

Schools=117 Years=21 (clustered standard error in parentheses)
*significant at the 90% level. **significant at the 95% level.