Pass or Run?

The Impact of Football on Independent Colleges

David Welch Suggs, Jr., Jennifer May-Trifiletti, and James C. Hearn

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The Council of Independent Colleges (CIC) is an association of 770 nonprofit colleges and universities, state-based councils of independent colleges, and other higher education affiliates that works to support college and university leadership, advance institutional excellence, and enhance public understanding of private education's contributions to society. CIC is the major national organization that focuses on providing services to leaders of independent colleges and universities. CIC offers conferences, seminars, and other programs that help institutions improve educational quality, administrative and financial performance, student outcomes, and institutional visibility. CIC conducts the largest annual conferences of college and university presidents and of chief academic officers in the United States. Founded in 1956, CIC is headquartered at One Dupont Circle in Washington, DC. For more information, visit *www.cic.edu*.

About the Authors

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Authors' Note

The research and analysis for this project were completed in December 2019, prior to any idea of how the COVID-19 pandemic would affect college life. As of June 2020, there is no clear indication of how and when football will resume on college campuses.

Evidence is mixed on whether athletes are retained at higher rates than other students, and few studies have examined the question at Council of Independent Colleges (CIC) member institutions. However, if an athletic team is unable to compete, it may weaken the ties between students on that team and the institution they attend. That may in turn cause students to pursue education elsewhere. Several of the Berry College athletes interviewed for this report said they would not have considered the college were it not for the opportunity to continue to play football. Similarly, students desiring the atmosphere of football game days may find a particular college less attractive if football is not part of campus life.

With significant financial challenges rapidly approaching, colleges may be reconsidering whether the expenses needed to maintain football programs are justified by the enrollment benefits. The long-term prospects of the sport remain to be seen.

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Preface

The popular image of college football is that of National Collegiate Athletic Association (NCAA) Division I programs whose nationally known student athletes participate in televised bowl games before being drafted by the National Football League (sometimes entering the draft before finishing college). The salaries of Division I team coaches can outstrip those of their university presidents, not to mention those of their faculty, by millions of dollars. However, college football is also popular at smaller institutions whose players rarely go on to professional football careers or participate in nationally televised bowl games as college athletes. Indeed, roughly half the smaller private colleges and universities that are members of the Council of Independent Colleges (CIC) have football programs on their campuses.

The recent adoption of football by many smaller independent colleges is the focus of this report by the College Sports Research Group at the University of Georgia. The research team of David Welch Suggs, Jr., Jennifer May-Trifiletti, and James C. Hearn follow up on their previous report on athletics at CIC member campuses by delving more deeply into the effects of adopting football on recruitment and student enrollment in general, male student enrollment in particular, and net tuition revenue at CIC member campuses. In addition, they recount the story of Berry College (GA) as a case study of a college's decision-making process with regard to the addition of football to the college's sports roster.

I hope that you will find this research brief an informative examination of the role of college football at smaller independent colleges and universities.

Richard Ekman
President
Council of Independent Colleges

June 2020

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The Impact of Football on Independent Colleges

Executive Summary

Football has a unique place in American higher education. Roughly half of CIC's 660 institutional members sponsor the sport. Some have sponsored it for a century or more, with institutional lore harking back to victories over flagship universities and the powerhouses of the day. Notably, CIC member Sewanee: The University of the South was viewed as the most dominant team nationally in the late 1800s, after wins over powerhouse teams from around the country.

Today, institutions are divided into associations, divisions, and subdivisions, and David and Goliath matchups are far less common. Contemporary smaller private colleges play football before smaller crowds and fewer media. Still, the sport remains an integral part of institutional strategy at the places that sponsor it.

In point of fact, the sport is increasing in popularity as we marked the 150th anniversary of the first commonly recognized college football game in 1869. From 1993 to 2018, 67 CIC colleges and universities added the sport, while only 15 have dropped it. Two-thirds of those additions have come since 2004 as colleges seek new ways to build campus community, attract more male students, and appeal to a broader population of potential students.

For this report, we explored changes at CIC member institutions that added football by using a new dataset combining sports sponsorship and roster data from the National Collegiate Athletic Association (NCAA) and U.S. Department of Education's Office of Postsecondary Education (OPE) with institutional data from the Integrated Postsecondary Education Data System (IPEDS). We focused on the 31 CIC members that added football between 2007 and 2015. We developed a difference-in-difference model comparing these institutions to the 201 CIC members that did not sponsor the sport during this period to address the following research questions:

1. Among colleges that added a football team, does enrollment increase more than at comparable institutions that have never sponsored the sport?

   a. Does adding a football team have an effect on male enrollment, both in absolute terms and as a proportion of the student body?

   b. Does adding a football team have an effect on minority enrollment, both in absolute terms and as a proportion of the student body?

2. Among colleges that added a football team, do application numbers and yield rates change relative to comparable peer institutions that have never sponsored the sport?

3. Among colleges that added a football team, does net tuition revenue increase more than at comparable peer institutions that have never sponsored the sport?

We also visited Berry College in Rome, Georgia, which added football in 2013–2014, in the hope that the college's experiences would inform our assumptions and quantitative findings. Berry had more than 100 athletes come out for football in the sport's inaugural year but suffered through a couple difficult seasons. In 2015, the Vikings turned things around and were conference champions in 2016, 2017, and 2018.

Both at Berry and in our research, we found that adding football contributed to a significant increase in enrollment, male enrollment, African American enrollment, applications, and tuition revenue. However, when examining that impact over time, we found that the effects did not persist at a significant level beyond one or at most two years after adding the sport. In some cases, a significant decline was noted in both overall and male enrollment as well as in applications in the second year following the addition of the sport. As such, football appears to result in attracting new students and losing others, rather than increasing numbers of applications or enrolled students.

Such a shift may benefit institutions that seek to appeal to a broader range of students if forecasts of shrinking college-going populations come to fruition. However, football is not without its challenges. Further research linking long-term mental health issues to trauma suffered in contact/collision sports such as football may be dampening interest in the sport as participation rates decline at the high school level. Moreover, a handful of independent colleges have forfeited seasons because of injury-depleted rosters, fostering long-term concern about the cost and viability of the sport on some campuses.

In short, football is not a strategic panacea for smaller private colleges. But in the right place, with the right personnel, and with a commitment to facilities and expenses, it may enhance college life and make an institution more attractive to a broader range of applicants.

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Introduction

The Axe is on the move. Carried by linebacker Jack Carroll, the enormous two-sided battleaxe serves as a totem, battle flag, and mascot all rolled into one for the Berry College Vikings football team. Carroll leads the team as it marches from its locker rooms to the stadium, known as Valhalla, picking up a drumline along the way amid cheerleaders, cheering fans, and families out for Community Day.

It's a scene that plays out at colleges large and small across the country on fall Saturdays. Here in northwest Georgia, near the town of Rome, tailgaters set up grills and generators across lawns by the stadium (but no evident alcohol; Berry enforces its "dry campus" policies on game days). Student sections get loud and rowdy.

"I would say we don't have drunk and screaming fans. But either you don't go to any games, or you paint yourself purple and white and wear a Viking helmet," says Bailey Dingley, a Berry senior.[1]

What's striking is that Berry's football team has only been in existence for six years. Although the team went through losses and transitions in the first couple years, it brought nearly 100 players to campus as soon as it was announced. And as head coach Tony Kunczewski and team members got used to each other, things began to click. The Vikings are gunning for their fourth straight conference title, and going into this game, they are undefeated and ranked seventh in the NCAA's Division III.

"I'll be flat-out honest with you on that, I don't think I aimed this high," says Kunczewski, who came to Berry to start the program after serving as an assistant coach at another start-up program at LaGrange College. "I think it's a combination of the administration giving us the tools to succeed, meaning the facilities. I think I can make a strong argument that we're set up for conference success."

[1] Interviews were conducted on campus in October 2019 for this report.

Among current CIC institutions, 67 have added football teams since 1993. This is no small undertaking: Football teams have grown to an average of over 100 players at CIC institutions (Hearn, Suggs, and May-Trifiletti 2018), and all teams need helmets, pads, space to practice, lockers, strength-training facilities, coaching staffs far larger than most other sports, and bus seats or airline tickets to away games. But the sport creates an atmosphere and an excitement that dwarfs the scale of other sports at most institutions, and Berry officials saw that as an opportunity to strengthen an already unique campus culture. Berry is perhaps best known for its 27,000-acre campus, making it the largest college campus in the world, and a work program that includes significant jobs for most students.

"For us, the football decision was a hard decision, but it focused on several issues," says Steve Briggs, president of Berry since 2006. "What makes for a great residential campus? How do you really bring vibrancy to the campus when it matters most, particularly for your first-year students, which is those September/October months? You want the campus to be a place they're excited about. It's not that you can't do it with soccer or volleyball or other sports, but in the South, football is a big part of what you're doing."

Berry represents a case study for institutions considering football. Students and administrators alike use the word "vibrancy" to describe what the sport has brought to campus. Berry officials also confirmed that minority recruitment was one of their goals in starting football. However, football has not led to sustained increases in applications, enrollment, or tuition revenue. Instead, it created a buzz and excitement that spiked all those metrics for a year, but then they returned close to baselines. This is representative of trends across the 31 CIC members that added the sport from 2007 to 2015, according to a study we conducted for this report. Football can be a "shot in the arm," as Kunczewski puts it, but it appears to be shifting student demand rather than increasing it.

Background

Last year, media and fans celebrated the sesquicentennial of the first game officially recognized as an American football contest, between Princeton and Rutgers on November 6, 1869. Almost immediately, the sport became the most prominent of college sports, displacing rowing and baseball among others (Bernstein 2001; Watterson 2002). With Ivy League teams celebrated in the pages of the *New York Times* and the writing of F. Scott Fitzgerald, the sport spread rapidly across the country in the late 19th and early 20th centuries. Intercollegiate competition was much more ecumenical in those days. In 1892, Ohio State University recorded losses to Oberlin College (twice) and Case Western Reserve University while defeating Denison, Kenyon, and Marietta Colleges (Ohio State University 2019). Washington & Lee University was one of the founding members of the Southern Conference in 1921, alongside most of the current membership of the Atlantic Coast and Southeastern Conferences (Southern Conference 2020). In the 1930s, institutions began to separate themselves on the basis of athletic aspirations, often driven by football. In 1932, the flagship and land-grant universities of the Southern Conference broke away to form the Southeastern Conference, bringing Sewanee: The University of the South, Tulane University, and Vanderbilt University with them. Sewanee withdrew in 1940 and Tulane in 1966 (Southeastern Conference 2019). The University of Chicago disbanded its football team and left the Big Ten Conference in 1939 (Recchie 2012). The NCAA divided its members into "university" and "college" divisions in 1957 and then into Divisions I, II, and III in 1973 (Crowley 2006).

Slightly more than half of CIC members sponsored football in all years for which we had data (see Table 1). Another 35 institutions, or 7 percent of the total, added it during that time span.

TABLE 1

Football Sponsorship, CIC Colleges, 2004–2017

Sponsorship	N	Percent
Sponsored in all years	248	50.2%
Did not sponsor in any year	201	40.7%
Introduced 2004–2017	35	7.1%
Introduced 2007–2015	31	--
Discontinued 2004–2015	9	1.8%
Mixed sponsorship[2]	1	0.2%

Note: Only includes those CIC institutions that met all criteria for inclusion in this study. See Appendix B for details.

Enhancing Campus Vibrancy

But why? Why add a sport that demands significant investments, large facilities, injury risks, and long-term concerns (see "Emerging Challenges," p. 20)? Particularly one that, Berry alumni and faculty worried, would create the kind of raucous environment that one might find across the state at the University of Georgia, where a football game the same day as Berry's drew 93,000 spectators and tens of thousands of others to tailgate parties and downtown bars. There were worries that football would attract students who were interested in the hypermasculine attitude often associated with the sport (Hawzen, Anderson, and Newman 2018). A rumor even spread that founder Martha Berry had stipulated in her will that the college would never have football.

"From a faculty perspective, when you think of football, what you really start to think about is all the stereotypes of, 'We're going to bring in a bunch of huge, dumb kids that are just going to create issues,'" recalls Andy Bressette, Berry's vice president for enrollment management and a professor of chemistry. He recalls faculty and others being concerned about the academic performance of football players, whether they would violate student-conduct policies, and whether they would change the campus culture.

College administrators and faculty began weighing the pros and cons of football while also transitioning from the National Association of Intercollegiate Athletics (NAIA) to the NCAA's Division III in search of academic and athletic peers. The conference they ended up joining, the Southern Athletic Association, urged them to add the sport. Also, the college was trying to enhance the residential culture by creating new experiences on campus and addressing what had become a serious concern: the ratio of 70 female students to 30 males, says Debbie Heida, then the dean of students and now President Briggs' chief of staff.

"We did some focus groups trying to talk about male/female ratio," she says. "I had a group of students say to me, 'Dean Heida, you can do whatever you want to shift things to the weekend, but if we really want to hang out with guys, we're not staying at Berry.'"

In their due diligence process, Berry officials said, they were told they could address the liabilities of football by investing in facilities and, more importantly, by hiring a coach who understood the Division III atmosphere and could find players who could be successful at a college that doesn't offer scholarships, doesn't have Greek life, and is up-front about having a dry campus.

They appear to have been successful in finding Kunczewski, who played at Grove City College before embarking on a Division III coaching career that led him to Allegheny, Bowdoin, and LaGrange Colleges before Berry. He recruits athletes who were not recruited by the powerhouses, and even some who assumed that their football days had ended when they graduated from high school. Both players and other students say that the football team has integrated with the student body seamlessly.

Coaches "try really hard to say that 'Football will end, and you have to be a person after that, and we'd like you to be a good one,'" says Anna Katherine Drew, president of the Student Government Association. "And so they try to shape them into reasonably masculine men by the time they graduate, I think. There are definitely people who slip through the cracks on that one, but they try really hard."

[2] University of New Haven dropped football in 2005 and restarted it in 2010.

Our Study

Given the proliferation of football, we explore the impact of the sport in a first-of-its-kind study for CIC. While there is no direct measure for the kind of vibrancy that Berry claims football creates, we posit that a more vibrant institution would attract more applicants, more enrollees, and result in improvements in gender balance and racial diversity cited as goals by Berry officials.

We created a new dataset combining sports sponsorship and roster data from the NCAA and OPE with institutional data from IPEDS and used it to address the following research questions for CIC members:

1. Among colleges that added a football team, does enrollment increase more than at comparable institutions that have never sponsored the sport? (RQ1)
    a. Does adding a football team have an effect on male enrollment, both in absolute terms and as a proportion of the student body, distinct from peer institutions that never sponsored the sport? (RQ1a)
    b. Does adding a football team have an effect on minority enrollment, both in absolute terms and as a proportion of the student body, distinct from peer institutions that never sponsored the sport? (RQ1b)
2. Among colleges that added a football team, do application numbers and yield rates change relative to comparable peer institutions that have never sponsored the sport? (RQ2)
3. Among colleges that added a football team, does net tuition revenue increase more than at comparable peer institutions that have never sponsored the sport? (RQ3)

Methods

To identify the effects of football adoption on CIC members' enrollments, admissions, and revenues, we compared members adopting football in a specified time frame with those that never adopted the sport. If, on average, adopters and non-adopters were

similar in all respects other than football sponsorship (for example, in mission and financial stability), then we would be able to attribute any differences in outcomes exclusively to football adoption. Of course, adopters and non-adopters differed on characteristics other than football sponsorship. (See Appendix B for a discussion.) Most problematic are those characteristics that cannot be easily observed or measured. We thus supplemented a descriptive comparison of adopters and non-adopters with results from a generalized difference-in-differences regression model. This model statistically accounts for certain unmeasurable institutional differences (those that are constant over time) as well as for general time trends, enabling us to better isolate the effect of football adoption from the effects of other influences (Angrist and Pischke 2014; Murnane and Willett 2011). We also controlled for measurable time-varying factors (such as education and general expenditures [E&G]) and allowed for the possibility that each institution followed a unique trajectory in the dependent variable (but assumed that trajectory was linear).

The dependent variables were enrollment (RQ1), male enrollment (RQ1a), African American enrollment (RQ1b), number of applications, yield rate (both for RQ2), and inflation-adjusted net tuition revenue per FTE (RQ3). The independent variable was football adoption, defined as the year in which an institution first competed in the sport. We examined the relationship between the independent and dependent variables in the year of first competition as well as one, two, and three years later. (See Appendix B for additional methodological details.)

The Data

Our dataset spans the years 2003–2004 through 2016–2017. We used colleges that never added football as a control group, and excluded those that always had the sport to focus on the differences experienced by colleges that chose to adopt football. To assess whether adopting football was associated with any changes in dependent variables, it was important to establish pre- and post-adoption trends in the dependent variables. We thus limited our treatment group to those adopting football between 2006–2007 and 2014–2015, ensuring at least three years of pre-adoption data and two years (in most cases, at least three years) of post-adoption data for each football-adopting institution (St. Clair and Cook 2015). (Our control group consisted of all institutions that did not sponsor football in any year between 2003–2004 and 2016–2017). The final sample consisted of 31 adopters (treatment group) and 201 non-adopters (control group). Table 2 shows the adopters and the dates they started the sport.

We studied the effect of adding football on enrollment, applications, and tuition revenue.

TABLE 2

CIC Colleges Adopting Football, 2007–2015

College	Adoption Year	Athletics Affiliation
Brevard College	2007	NCAA D-II
LaGrange College	2007	NCAA D-III
Gallaudet University	2008	NCAA D-III
Saint Vincent College	2008	NCAA D-III
Birmingham-Southern College	2009	Varied
Campbell University	2009	NCAA D-I
Dordt College (now University)	2009	NAIA
Grand View University	2009	NAIA
Lake Erie College	2009	NCAA D-II
The College of St. Scholastica	2009	NCAA D-III
Anna Maria College	2010	NCAA D-III
University of the Incarnate Word	2010	Varied
Notre Dame College (Ohio)	2011	Varied
Pacific University (Oregon)	2011	NCAA D-III
Bluefield College	2012	NAIA
Siena Heights University	2012	NAIA
Stevenson University	2012	NCAA D-III
Misericordia University	2013	NCAA D-III
Stetson University	2013	NCAA D-I
Wayland Baptist University	2013	NAIA
Alderson Broaddus University	2014	NCAA D-II
Berry College	2014	Varied
Hendrix College	2014	NCAA D-III
Reinhardt University	2014	NAIA
Southwestern University (Texas)	2014	NCAA D-III
Warner University	2014	NAIA
George Fox University	2015	NCAA D-III
Limestone College	2015	NCAA D-II
Lyon College	2015	NAIA
Missouri Baptist University	2015	NAIA
The College of Idaho	2015	NAIA

Note: Only includes those CIC colleges that met all criteria for inclusion in this study. See Appendix B for details.

Findings

A constant theme of our findings was that adding a football team produced short-term benefits, but long-term effects were mixed or even negative, as Table 3 shows.

Let's consider each of these in turn.

Enrollment

As Figure 1 shows, average enrollment at football-adopting colleges and universities increased steadily for the years leading up to football adoption, but it leveled off in the years following. This is consistent with starting a program from scratch: Players will flock to a new opportunity that requires 50–100 athletes. However, lower numbers are needed in subsequent years.

This would seem to show a "new normal" in enrollment that is nearly 100 students higher than before the adoption of football. However, this masks general enrollment trends that resulted in non-football colleges increasing their enrollment nearly as much. This is difficult to demonstrate for all the colleges in our control and sample groups, so consider in Figure 2 colleges that added football in 2014 and in 2015 compared with those that never added the sport.

In both years, the "new normal" is only about 50 students higher than the prior baseline, and colleges that never adopted the sport appear to maintain enrollment levels consistently above the adopters. This reflects the fact that many other factors affect enrollment besides merely adding football. For instance, the economic downturn affected both attendance patterns and institutional resources, colleges may adjust admissions strategies, and football is more popular in some regions (such as the Southeast). As such, descriptive information cannot fully capture the impact of football. Instead, taking control variables, yearly trends, and institution-specific trends into account, our model predicts that adding a football team results in a 12 percent increase in first-year enrollment in the year of adoption (statistically significant at the $p < 0.01$ level). However,

TABLE 3

Summary of Key Findings, Football-Adopting CIC Colleges

Outcome	Key Finding
First-year enrollment	Significant positive relationship in year of adoption; no significant relationship or significant negative relationship in subsequent years
First-year male enrollment	Significant positive relationship in year of adoption; no significant relationship or significant negative relationship in subsequent years (for both absolute and relative measures)
African American enrollment	Significant positive relationship in year of adoption; no significant relationship in subsequent years (for both absolute and relative measures)
Number of applications	Significant positive relationship in year of adoption; no significant relationship or a significant negative relationship in subsequent years
Yield rate	No significant relationship
Net tuition revenue	Significant positive relationship in year of adoption; no significant relationship or a small significant negative relationship in subsequent years
Net tuition revenue per FTE	No significant relationship

FIGURE 1

Mean First-Year Enrollment, Football-Adopting CIC Colleges

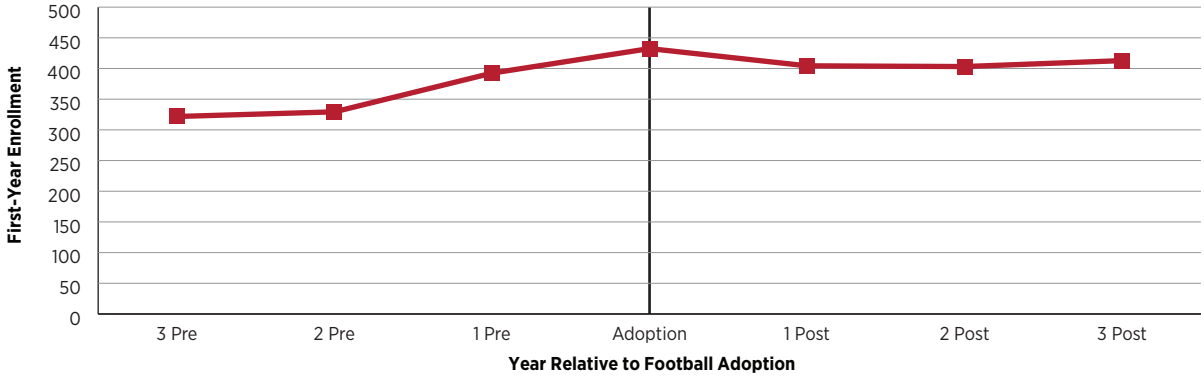


FIGURE 2

Mean First-Year Enrollment, CIC Colleges Adopting Football in 2014 or 2015

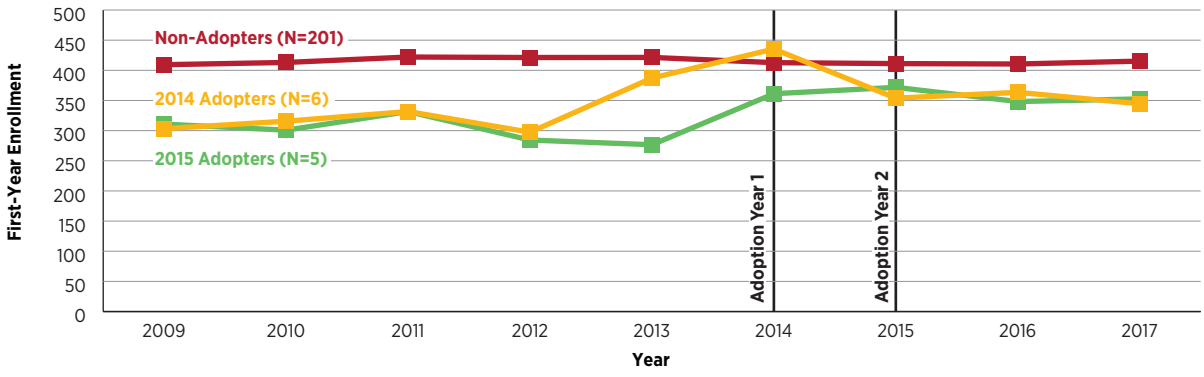


FIGURE 3a

Mean First-Year Male Enrollment, Football-Adopting CIC Colleges

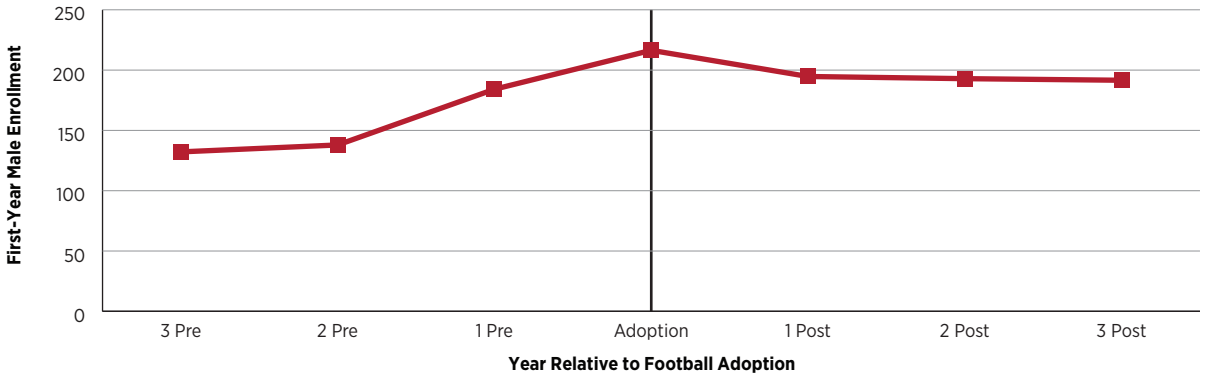
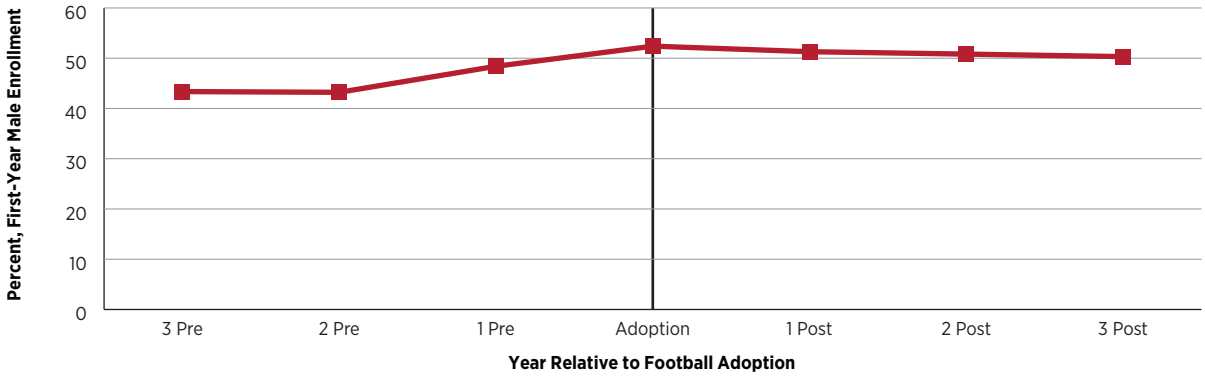


FIGURE 3b

Mean Percent First-Year Male Enrollment, Football-Adopting CIC Colleges



that spike did not last. Two years after adding football, we found that first-year enrollment actually decreased by almost as much: 11 percent ($p < 0.01$).

Male Enrollment

As for male enrollment, Figure 3a shows a spike in the number of male enrollees in the time period football was adopted. As with overall numbers, however, the spike cools fairly quickly. But Figure 3b shows that colleges that added football did see an increase in the representation of males in the overall student body, rising to an average of nearly 50 percent. Our model shows that adding football resulted in a 23 percent increase in male first-year enrollment ($p < 0.001$), but two years later, institutions saw a decrease of 13 percent ($p < 0.01$). This would seem to fit an overall strategy of bringing in a large number of men to start a team, but not subsequently needing to replenish a team with as many more male students. Similarly, adding a team added five points to the percentage of enrolled men ($p < 0.001$), but there was no significant effect in later years. However, the model shows that adding football can alter gender balance significantly in the long term.

FIGURE 4a

Mean African American Enrollment, Football-Adopting CIC Colleges

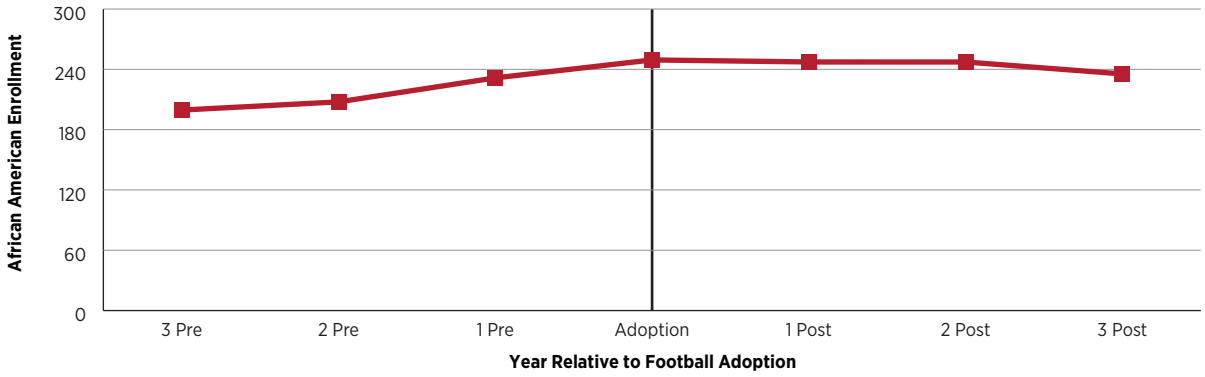
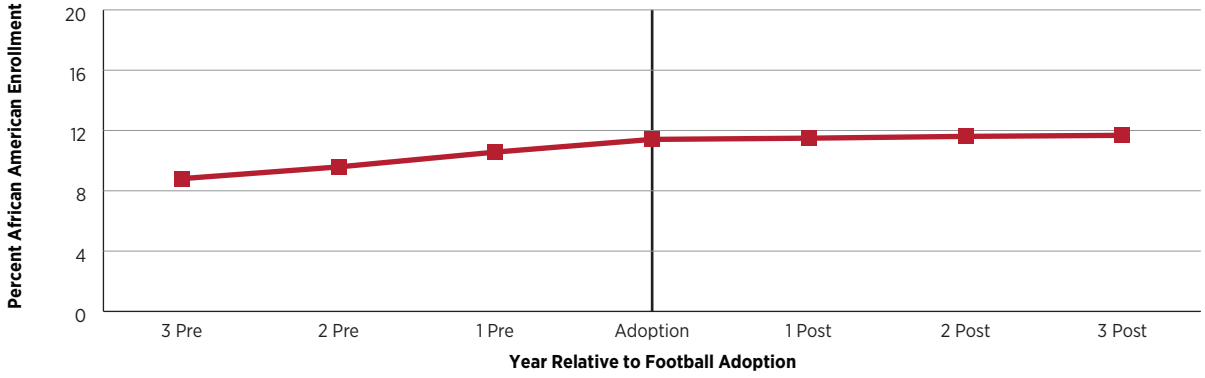


FIGURE 4b

Mean Percent African American Enrollment, Football-Adopting CIC Colleges



Diversity

In 2018, African Americans comprised 33 percent of football players in the NCAA's Divisions II and III, where most CIC members compete (data for the NAIA were unavailable) (Council of Independent Colleges 2017; NCAA n.d.). For comparison, 12 percent of CIC undergraduates in 2017 were African American. A football team, then, would seem to be a source of African American diversity. And indeed, adding a football team appears to create a new normal in African American enrollment, as seen in Figures 4a and 4b.

Our model shows that enrollment of African American undergraduates rose by 23 percent in the year that football was adopted ($p < 0.01$), and the percentage of African American undergraduates rose by 1 percentage point ($p < 0.05$). That effect leveled off, and no significant increases could be found in later years.

Applications and Yield

Generally speaking, the number of applications is increasing across institutions, both because the

population of college-going students is increasing and students are applying to more and more colleges. Even so, football appears to cause a spike immediately after it is adopted on a campus, as Figure 5 shows. However, the same factors are likely leading to declines in the yield rate (defined as the number of matriculants divided by the number of applicants) for both football adopters and non-adopters. Our model shows that football appears to have a 17 percent ($p < 0.01$) increase on applications in the first year of adding a team. However, that impact then results in significant declines in applications in the outlying years. Further, football has no significant impact on yield rates.

Generally speaking, the number of applications is increasing across institutions, both because the population of college-going students is increasing and students are applying to more and more colleges.

Revenue

Finally, we looked at how adding football impacts net tuition revenue, or total tuition revenue less institutional financial aid, both in the aggregate and per full-time equivalent student. On average, football adopters did appear to experience an increase in net tuition revenue, as Figure 6 shows.

However, as shown in Figure 7, net tuition revenue per FTE is stable or declining for all institutions, suggesting that colleges may be discounting more of their tuition to attract students. Thus, football does not appear to be a measure to help colleges catch up to non-adopters in tuition revenue. Our model found that adding football teams did appear to account for an 11 percent one-year increase in net tuition revenue ($p < 0.01$), and in the out years, a 5-percent decline with a three-year lag ($p < .10$). Football had no discernible impact on net tuition revenue per FTE.

FIGURE 5

Mean Number of Applications, Football-Adopting CIC Colleges

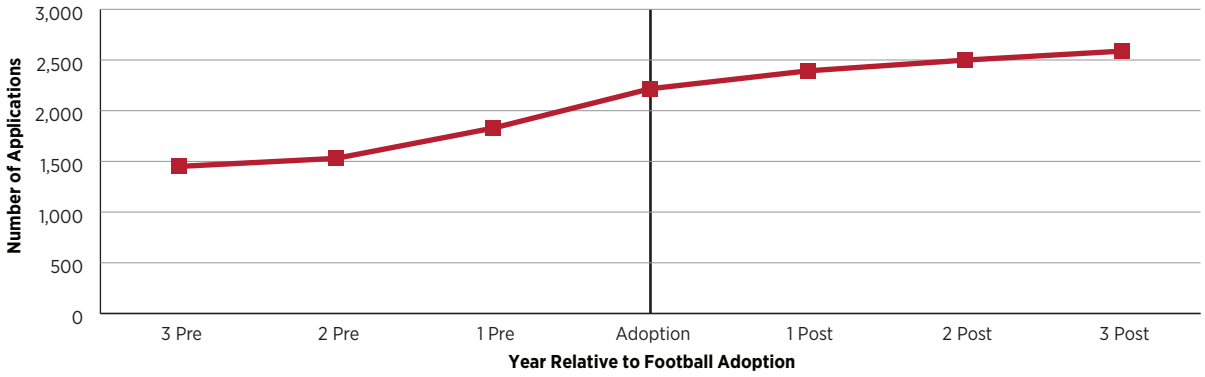


FIGURE 6

Mean Net Tuition Revenue, Football-Adopting CIC Colleges

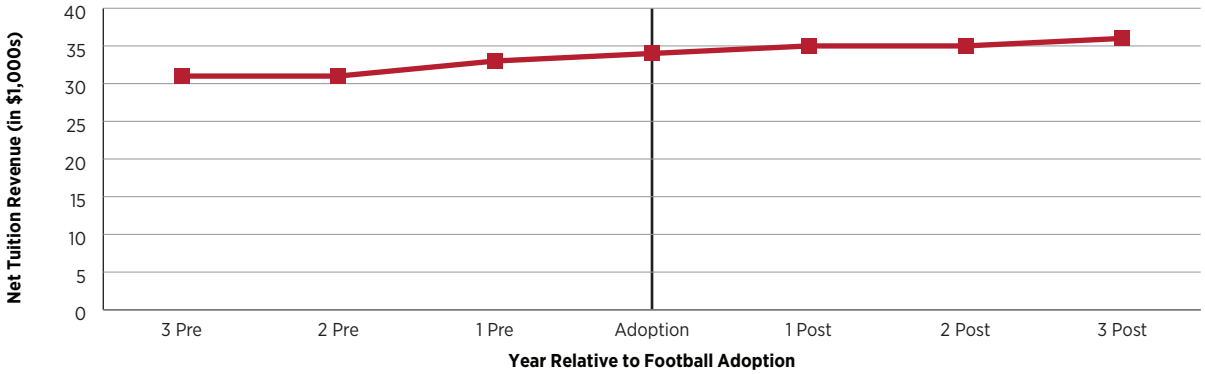
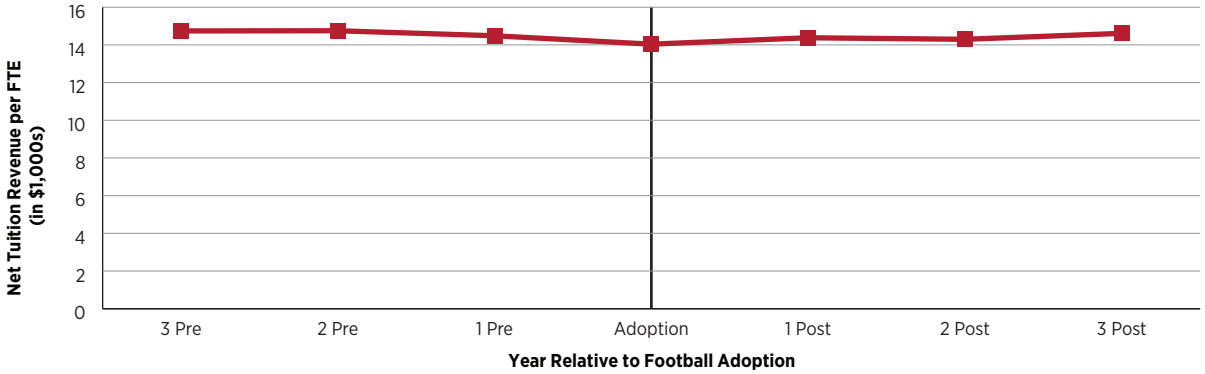


FIGURE 7

Mean Net Tuition Revenue per FTE, Football-Adopting CIC Colleges



Discussion

To recap, across a variety of metrics, football provided a boost to overall enrollment, male enrollment, African American enrollment, applications, and net tuition revenue for a short-term basis at adopting institutions compared with institutions that did not add the sport. Our difference-in-differences approach enabled us to control for both measurable and certain types of unmeasurable factors differentiating football adopters and non-adopters. We could thus better isolate the impact of football, although it is important to keep in mind that we could not control for all possible confounding variables. But all these impacts of football adoption appeared to fade within a few years, suggesting that football may shift a campus's enrollment and tuition base instead of permanently enlarging it.

These findings all resonate with Berry officials, who noted that their enrollment numbers spiked with the addition of football but then settled back down. "So, I think that's very true, where we got that bump," says Bressette, the vice president for enrollment management. "Now, as the marketplace is getting more competitive, is that something that helps us get more competitive? Absolutely. On the vibrancy issue, we can count on a certain number of football players, and a certain number of athletes every year. I think what is true is that the percentage of our entering class that is made up of students on an athletic roster has come up and has stayed pretty significantly increased.

"So we are probably averaging…almost a third of our entering students are student athletes. So from a perspective of recruiting and maintaining, that has certainly diversified our base. And for somebody who wants to play in any of the sports that we have, [they aren't] going to consider us if we don't have their sport."

Bressette and Kunczewski add that Berry's work program and scholarships that come with it have allowed the college to appeal to a broad range of students, not only those eligible for federal Pell Grants but those with family income above the cut-off for eligibility. That has enabled the team and the college alike to have a "middle class" of students between those whose

full financial need is met and those with no financial need. In essence, these initiatives—including adding other sports such as men's and women's lacrosse and equestrian in recent years—have enabled Berry to offer something to a broader range of students, which is likely to be critical in years to come.

Limitations

Our study is not without its limitations. First, although the difference-in-differences (DD) methodology we employ can identify causal effects under certain conditions, this is unlikely to hold in this particular study because of the differences between adopters and non-adopters. That said, DD accounts for more sources of variation between adopters and non-adopters than do other approaches, and thus produces some of the best possible estimates (see Appendix B for a further discussion of this issue).

In addition, results are not necessarily representative of all CIC institutions and may not hold over time. Due to data limitations, we could not consider CIC institutions with open admissions policies even though several have adopted football in recent years. Moreover, our estimates measured the impact of football when adopted within a specific, relatively short, time period that overlapped with the Great Recession. These estimates do not necessarily apply to an institution that adopted football in 1995 or will adopt it in 2020. Finally, our estimates are overall averages, but individual campuses may have experienced a range of impacts.

Our difference-in-differences approach enabled us to control for both measurable and certain types of unmeasurable factors differentiating football adopters and non-adopters.

Emerging Challenges

All colleges that sponsor football teams will face two key issues in upcoming years. The first, which is not unique to football, is whether institutions are doing enough to make those sports safe, especially in terms of head trauma. Research findings based on studies of deceased football players with significant brain injuries have filtered into the public consciousness, and people are more aware of the long-term dangers posed by the concussions and subconcussive hits suffered by football players (and athletes in other sports). The threat of litigation by athletes thus exists; at Berry, President Briggs says that it is one of a number of risk-management scenarios faced in athletics.

The second, and related, issue is whether football will continue to attract enough players with the desire and ability to play at the college level. Nationally, the number of athletes participating in high school football has declined in recent years, from 1.1 million in 2008 to just over 1 million in 2018 (National Federation of State High School Associations 2019). Concerns about head injuries as well as overall population declines are reducing demand for the sport at the high school level. There have been some indications that football's popularity at the college level has declined as well. While few institutions have discontinued the sport altogether, several have ended seasons early due to declining rosters and mounting injuries. Angel Mason, Berry's athletics director, says that colleges sponsoring football must be prepared to provide the resources to create a high-quality team experience that will attract students in sufficient numbers to sustain a team from season to season—even though such resources are far more expensive for football than for any other sport.

"There are definitely lessons to be learned" from colleges ending seasons early, says Mason. "The bigger lesson is about compliance and providing equitable experiences. I love football. What I will say though is that I do firmly feel that if you cannot provide those students an equitable experience to what you provide a basketball player, a swimmer, or a tennis player, then you have to reconsider whether football is something you should actually sponsor."

Beyond football, an increasing number of forecasts suggest that the national college-going population is likely to fall; one estimate, by Nathan Grawe at Carleton College, foresees a nationwide decline of 15 percent between 2025 and 2029 (Barshay 2018). Bressette notes that the decline of white, non-Hispanic students is likely to be steeper. More broadly, though, Berry is likely to face stiffer competition for students from both expanding state universities and private institutions trying to maintain their own student populations.

Thus, making any college as attractive to as broad a range of students as possible is not merely an opportunity, but a strategy for survival.

Research findings based on studies of deceased football players with significant brain injuries have filtered into the public consciousness, and people are more aware of the long-term dangers posed by the concussions and subconcussive hits suffered by football players (and athletes in other sports).

Conclusion

As the Vikings march into Valhalla with their axe and prepare to take on the Hendrix College Warriors, a crowd streams in behind them. It's fall break, so the student section is much sparser than usual, but Berry still reports an attendance of 1,821—far below last year's average of 2,626, but still enough to fill most of the seats in an intimate stadium.

Berry jumps out to a 10-0 lead in the first quarter, getting a touchdown on a 36-yard pass from Gavin Gray to Mason Kinsey as time expires. They go on to keep the Warriors out of the end zone all day, holding them to three field goals in what turns out to be a 27-9 rout of a previously undefeated team. The game leaves Berry in command of the top spot in the Southern Athletic Association standings, where they have been a fixture over the past three seasons.

And it's clear football has been blended into the fabric of Berry. Although it meant a big change for the college, players say they feel welcomed by their classmates and nurtured by their coaches. They are part of the college's culture of student work and are spread across majors and student activities.

In short, the fears people had about Berry football do not seem to have come to fruition. But neither has the sport been a game-changer for enrollment or operations. It simply has become another facet of what people see and do at an idyllic campus in northwest Georgia.

Appendix A: Detailed Results

TABLE A1

Difference-in-Differences Estimates of the Effects of Football Adoption on Enrollment

		Post-Adoption		
Dependent Variable	**Year of Adoption**	**One Year**	**Two Years**	**Three Years**
First-year enrollment	12.1%**	-4.5%	-11.1%**	-17.3%***
First-year male enrollment	22.5%***	-0.4%	-12.6%**	-21.8%***
Percent first-year male enrollment	5.2 pp***	2.0 pp*	-0.9 pp	-1.9 pp+
African American enrollment	23.4%**	8.6%	2.5%	-3.1%
Percent African American enrollment	1.5 pp*	0.4 pp	-0.2 pp	-0.8 pp
N	3,248	3,016	2,784	2,552

Notes: + significant at p<.10, *significant at p<.05, **significant at p<.01, ***significant at p<.001, pp = percentage point.

Estimates for first-year enrollment, first-year male enrollment, and African American enrollment are presented as percent changes. For example: On average, football adoption was associated with a 12.1 percent increase in first-year enrollment (and was statistically significant at p<.01).

Estimates for percent first-year male enrollment and percent African American enrollment are presented as percentage point changes. For example: On average, football adoption was associated with a 1.5 percentage point increase in the percent of African Americans enrolled (and was statistically significant at p<.05).

Model controlled for institution fixed effects, year fixed effects, time-varying control variables (see Appendix B), and institution-specific linear trends.

In some alternative model specifications, the relationship between football and first-year enrollment in the year of adoption was nonsignificant. Full statistical results, including results from alternate models, are available upon request.

TABLE A2

Difference-in-Differences Estimates of the Effects of Football Adoption on Admissions

		Post-Adoption		
Dependent Variable	**Year of Adoption**	**One Year**	**Two Years**	**Three Years**
Number of applications	16.9%**	-1.8%	-15.5%**	-27.4%***
Yield rate	< -0.1 pp	-2.0 pp	-2.2 pp	-0.7 pp
N	3,248	3,016	2,784	2,552

Notes: + significant at p<.10, *significant at p<.05, **significant at p<.01, ***significant at p<.001, pp = percentage point.

Estimates for number of applications are presented as percent changes. For example: On average, football adoption was associated with a 16.9 percent increase in applications (and was statistically significant at p<.01).

Estimates for yield rate are presented as percentage point changes. For example: On average, football adoption was associated with less than a 0.1 percentage point decrease in yield (and was not statistically significant).

Model controlled for institution fixed effects, year fixed effects, time-varying control variables (see Appendix B), and institution-specific linear trends.

In some alternative model specifications, the relationship between football and applications in the year of adoption was nonsignificant. Full statistical results, including results from alternate models, are available upon request.

TABLE A3

Difference-in-Differences Estimates of the Effects of Football Adoption on Net Tuition Revenue

		Post-Adoption		
Dependent Variable	**Year of Adoption**	**One Year**	**Two Years**	**Three Years**
Net tuition revenue	11.3%**	6.0%	-1.4%	-4.7%+
Net tuition revenue per FTE	0.6%	2.9%	2.2%	2.7%
N	3,248	3,016	2,784	2,552

Notes: + significant at p<.10, *significant at p<.05, **significant at p<.01, ***significant at p<.001, pp = percentage point.

Estimates for net tuition revenue and net tuition revenue per FTE are presented as percent changes. For example: On average, football adoption was associated with an 11.3 percent increase in net tuition revenue (and was statistically significant at p<.01).

Model controlled for institution fixed effects, year fixed effects, time-varying control variables (see Appendix B), and institution-specific linear trends.

In some alternative model specifications, the relationship between football and net tuition revenue in the year of adoption was nonsignificant. Full statistical results, including results from alternate models, are available upon request.

This report sought to understand the relationship between the introduction of football at small independent colleges with no prior football tradition and the colleges' enrollments, admissions, and revenues. Specifically, we considered the following research questions:

RQ1: Among colleges that added a football team, does enrollment increase more than at comparable institutions that have never sponsored the sport?

RQ1a: Does adding a football team have an effect on male enrollment, both in absolute terms and as a proportion of the student body, distinct from peer institutions that never sponsored the sport?

RQ1b: Does adding a football team have an effect on minority enrollment, both in absolute terms and as a proportion of the student body, distinct from peer institutions that never sponsored the sport?

RQ2: Among colleges that added a football team, do application numbers and yield rates change relative to comparable peer institutions that have never sponsored the sport?

RQ3: Among colleges that added a football team, does net tuition revenue increase more than at comparable peer institutions that have never sponsored the sport?

This appendix details the data and analytic approaches used to address these questions.

Data Sources

We obtained longitudinal data for the years 2003–2004 through 2016–2017 from several sources.[3] The National Collegiate Athletics Association (NCAA) provided data on football sponsorships and other institutional athletics characteristics for NCAA members. We supplemented this with comparable data for non-NCAA institutions from the U.S. Department of Education's Office of Postsecondary Education (collected under the Equity in Athletics Disclosure Act [EADA] and available at http://ope.ed.gov/athletics). Data on enrollments, admissions, revenues, and other institutional characteristics were from the Integrated Postsecondary Education Data System (IPEDS). We also acquired data on the number of high school graduates per geographic region from the Common Core of Data (CCD) and on the number of high school football participants per region from the National Federation of State High School Associations (NFHS). Table B1 summarizes the variables used in this study and their sources.

We employed several strategies to address missing and questionable data. Since the majority of institutions reported data to both the NCAA and EADA, we were able to compare football sponsorship patterns and other athletics characteristics across datasets, and to research and correct any discrepancies. For institutions reporting to only one source and missing one year of data on a particular variable, we estimated the missing data using data from the prior and subsequent years. We used the same approach to address missing data on non-athletics control variables; however, we excluded observations if data for a dependent variable were missing or questionable (for example, a yield rate greater than 100 percent). This affected only a handful of observations.

Sample

This analysis focused on the subset of CIC member colleges and universities in 2019 that reported to IPEDS and either the NCAA or EADA in all years 2003–2004 through 2016–2017. We excluded women's colleges,

[3] We limited analysis to these years because 2003–2004 was the first year for which OPE data were available and 2016–2017 was the last year for which IPEDS data were available at the time of this study.

colleges with open admissions policies,[4] colleges reporting athletics data as part of consortia, and colleges missing data on any of the dependent or control variables (after imputing missing data as described above).

We further limited our sample to (1) a treatment group of institutions that adopted football between 2006–2007 and 2014–2015, and (2) a control group of those that never sponsored football between 2003–2004 and 2016–2017. These limitations on the treatment group ensured at least three years of pre-adoption and two years of post-adoption data for each adopting institution (although most had three or more years of post-adoption data). This allowed us to examine the extent to which football adopters and non-adopters followed similar trajectories in the dependent variables before and after adoption (St. Clair and Cook 2015). Figure A1 presents a timeline for institutions in this study.

Our final analytic sample included 232 CIC institutions (31 adopters and 201 non-adopters) with 14 years of data each for a total of 3,248 institution-year observations.

Analysis

The dependent variables were first-year enrollment, enrollment of first-year male students (absolute and relative), enrollment of students identifying as black/African American (absolute and relative), number of applications to the institution, yield rate, and net tuition revenue. We defined the independent variable, football adoption, as the year in which an institution began competition in football.

We used a generalized difference-in-differences (DD) approach to model the relationship between the independent variable and each dependent variable. Conceptually, DD views adopters as the treatment group and non-adopters as the control group, and assumes that, in the absence of treatment adoption, the treatment group would have experienced the changes in the dependent variables comparable to those the control group experienced (Angrist and Pischke 2014; Murnane and Willett 2011). However, this assumption only holds if the treatment and control groups are similar, that is, if the CIC institutions adopting football are similar to those that did not adopt football.

Although it is impossible to definitively test this assumption, we graphically examined trends in the dependent variables in the pre-adoption period for football adopters and non-adopters. We also compared the two groups on key institutional characteristics. These analyses (available upon request) suggested that adopters and non-adopters differed systematically on several characteristics, such as region, age of institution, and enrollment size. To mitigate the influence of such differences on estimates of the effect of football adoption, we controlled for institution fixed effects, year fixed effects, institution-specific linear trends, and observable time-varying control variables (Angrist and Pischke 2014).

Fixed effects are differences between institutions that were static over time, including those that were difficult or impossible to measure. For example, one college might have an especially appealing campus culture that generates a greater number of applications; DD controls for such characteristics even in the absence of data explicitly measuring them. Note that the fixed effects terms also accounted for measurable static differences, such as region. Year fixed effects control for general time trends that affect all institutions in similar ways. For instance, although each institution may have experienced the Great Recession slightly differently, DD controls for the portion of the effects of the Great Recession common to all institutions. Institution-specific linear trends control for each institution's unique trajectory over time.

[4] We excluded institutions with open admissions policies because they are not required to complete the IPEDS Admissions Survey, a source of several dependent variables and key control variables.

We selected our observable time-varying control variables based on prior studies of the impact of successful football and basketball seasons (usually among NCAA Division I institutions) on institutional admissions processes (Bremmer and Kesselring 1995; Chressanthis and Grimes 1993; McCormick and Tinsley 1987; Murphy and Trandel 1994; Pope and Pope 2009, 2014; Tucker 2005), and on models of college choice (e.g., Perna 2006; Toutkoushian and Paulsen 2016). Specifically, we controlled for:

- Institutional size (full-time equivalent undergraduate and graduate enrollment);
- Price (published tuition and fees and average gross grant award per student);
- Admission profile (SAT/ACT scores and admission rate);
- Financial characteristics (education and general expenditures [E&G] and expenditures for instruction and student services as percentages of those expenditures);
- Student body characteristics (percent of undergraduates enrolled part-time);
- Degree-granting profile (percent of awards that were research/scholarship or professional practice doctorates, and percent of awards that were master's degrees);
- Athletics profile (total number of varsity sports sponsored and athletics association affiliation/division); and
- Market for the institution and its football program (number of high school graduates in the region and number of high school football players in the region).

Because the impact of football may change as a college's program matures, we modeled changes in the outcomes of interest in the year of adoption as well as one, two, and three years after adoption.

Limitations

Readers should consider several limitations when interpreting this report's findings. First, although DD estimation can identify causal effects under certain conditions, our estimates of football are unlikely to be causal. Interpretation as causal hinges on the assumption that, had they not adopted football, adopters would have experienced the same change in the dependent variable as non-adopters (net of fixed effects, institution-specific trends, and control variables). It is unlikely that our analysis met this stringent assumption even with our comprehensive set of controls. Nevertheless, our approach accounts for a large number of differences between adopters and non-adopters, resulting in some of the best possible estimates of the relationship between football adoption and the dependent variables. Further, we report here the most statistically conservative estimates from our main models.

It is also important to note that the impacts of adopting football likely vary by campus context. DD only captures average effects, and the effects at individual institutions may be above or below average. Likewise, we were unable to capture variation in the ways in which institutions implemented their football programs.

Finally, results are not necessarily representative of all CIC institutions and may not hold over time. Because data on most dependent variables were not available for institutions with open admissions policies, we had to exclude several that adopted football from our analysis. Our estimates measured the relationship between football and the dependent variables when adoption occurred in a particular time period, and these do not necessarily apply to adoption that might occur in the future.

TABLE B1

Data Sources and Variables

Source	Variables
NCAA and EADA	*Independent variable of interest:* Football sponsorship by year
	Control variables: Athletics affiliation (NCAA Division I, NCAA Division II, NCAA Division III, NAIA, other); total number of varsity sports sponsored[2]
IPEDS	*Dependent variables:* First-year enrollment,[1] first-year male enrollment[1] (absolute and proportional), African American enrollment (absolute and proportional),[1] number of applications,[1] yield rate, net tuition revenue (total and per FTE)[1,3]
	Control variables: Full-time equivalent (FTE) enrollment, tuition and fees, average student grant award, admission rate, 25th percentile SAT/ACT score, percent of undergraduates enrolled part-time, research/scholarship doctorates as a percent of degrees awarded, professional practice doctorates (e.g. JD, MD) as a percent of degrees awarded, master's degrees as a percent of degrees awarded, education and general expenditures per FTE,[3] instructional expenditures as a percent of E&G expenditures, student services expenditures as a percent of E&G expenditures
CCD	*Control variable:* Number of high school graduates by region[4]
NFHS	*Control variable:* Number of high school football participants by region[4]

Notes:

1. In order to reduce the influence of extreme values and enable interpretation of results as percent changes, we used the natural log of first-year enrollment, first-year male enrollment (absolute only), first-year African American enrollment (absolute only), number of applications, and net tuition revenue.
2. Limited to 45 sports on which both NCAA and EADA collected data in all years of analysis.
3. All financial variables were adjusted to 2015 dollars.
4. Regions: New England, Mid-Atlantic, Great Lakes, Plains, Southeast, Southwest, Rockies, and Far West.

TABLE B2

Study Timeline

Period	Year	Adopters	Non-Adopters
Pre	2003–2004	Did not sponsor football	Did not sponsor football
	2004–2005		
	2005–2006		
Adoption	2006–2007	2 CIC colleges began competition in football	Did not sponsor football
	2007–2008	2 adopters	
	2008–2009	6 adopters	
	2009–2010	2 adopters	
	2010–2011	2 adopters	
	2011–2012	3 adopters	
	2012–2013	3 adopters	
	2013–2014	6 adopters	
	2014–2015	5 adopters	
Post	2015–2016	No new adopters	Did not sponsor football
	2016–2017		

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