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Empirical Article

COVID-19 and Collegiate Athletics: Exploring the Implications of the Pandemic on FBS and FCS Athletic Department Finances

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Abstract: The COVID-19 pandemic had a substantial impact on American institutions of higher education. The suspension of in-person learning, closed dormitories, and canceled events led to widespread worries about the impact of the pandemic on institutional finances. Concerns subsequently spread to include apprehensions regarding how the pandemic would affect college athletics budgets. Using data from the Knight-Newhouse College Athletics Database, this paper analyzes the financial impact of COVID-19 on the revenues and costs of Division I athletics departments. The results show that revenues fell across most athletic departments, with the greatest declines occurring in those institutions with the highest revenues prior to the pandemic. Although costs also fell during the pandemic for most institutions, these reductions did not fully cover losses in revenue for all institutions and, therefore, required some universities to increase subsidies from other institutional sources or student fees.

Keywords: COVID-19, college athletics, athletics revenues, expenses

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Looking Back at the Pandemic Response

The COVID-19 pandemic triggered a series of disruptions that impacted almost all aspects of the economy. Institutions of higher education faced substantial disruptions during the spring of 2020 (García-Morales et al., 2021; Krishnamurthy, 2020). The arrival of the COVID-19 pandemic in the United States caused the suspension of in-person learning, closed dormitories, and canceled events on campuses (Birmingham et al., 2021). Fears quickly arose about the impact of the pandemic on universities' budgets. Many of the earliest forecasts of the impact of COVID-19 on university finances predicted extremely dire consequences (Hubler, 2020; Yuen, 2020). For example, these earliest forecasts predicted significant losses of revenue from reduced campus operations and declining enrollment; increased costs from developing distance and/or hybrid learning capabilities; and raised the cost of testing, contract tracing, and sequestering students, faculty, and staff when these groups eventually returned to campus (Yuen, 2020). Some institutions prepared revenue and expense projections for multiple possible scenarios, including a year with no athletics events at all, partial capacity events, and contests with no in-person fans (Bukstein, 2022).

Prior research has noted that state funding for higher education typically decreases during economic downturns (Gándara et al., 2023).

The grimmest fiscal forecasts of the pandemic's long-term impact on the economy did not pass, and Kelchen et al. (2021) argued that the pandemic's impact on university finances will ultimately depend upon both how quickly the economic recovery continues, as well as how enrollment at institutions of higher education rebounds. According to the National Student Clearinghouse, undergraduate enrollment fell an average of 7.4% in the two years prior to the Spring 2022 term, although these declines varied substantially by institutional sector (National Student Clearinghouse Report, 2022). Some of the most serious negative consequences were mitigated by federal stimulus to colleges and universities, but also by choices these institutions made in confronting budgetary issues (Klinenberg & Startz, 2023). There is some evidence that institutional responses varied based on revenue models. For example, universities that relied more heavily on campus-based auxiliary revenues, such as room and board, were quicker to allow students to physically return to campus (Klinenberg & Startz, 2023).

One notable area of concern was the potential impact of COVID-19 on college athletics. Perhaps most visibly, on March 12th, 2020, the National Collegiate Athletic Association (NCAA) announced the cancellation of both the men's and women's NCAA basketball tournaments (Wolken, 2020). In fact, the cancellation of the tournament was one of the earliest signals to Americans of the seriousness of COVID-19 (Cooper & Alderman, 2020). The annual event is an important revenue generator for the NCAA, and this was the first time that the men's March Madness tournament had been canceled since 1939 (Forde, 2020). In the spring of 2020, a survey of athletics directors suggested that the financial uncertainty from COVID-19 was a leading concern of administrators, along with concerns about how the pandemic might impact academic progress and the overall mental health of student athletes (Lead1, 2020). When asked about imagining a worst-case scenario for the upcoming year's athletic revenue, a plurality (35%) of respondents estimated a drop of more than 30% in revenues. Worries differed by institutional classification; for example, respondents from the Power 5 (P5) conferences were more concerned about ticket sales than directors from other conferences.

Another concern was the elimination of sports teams as a cost-cutting measure. In the immediate aftermath of the pandemic, from March 2020 through June 2021, 77 Division I sports teams from 35 individual schools were cut, and speculation was that schools would continue dropping athletic teams to reduce athletic expenses (Anderson, 2020; Dosh, 2021a; Kletsel, 2022; Korn, 2020). Swanson and Smith (2020) noted that "[D]espite division, sport and conference, all of the universities and athletic departments that have recently cut sport programs cited concerns over financial stability due to the coronavirus pandemic as their explanation and reasoning for taking these drastic measures" (p. 1729). Many of the sports that were cut directly after the COVID-19 shutdown were non-revenue generating sports, i.e., tennis and golf, which are typically programs with low levels of fan interest, making them easy targets for administrators looking to cut budgets in the short term (Korn, 2020). Some high-profile universities, most notably Stanford, initially decided to eliminate sports in the immediate wake of the COVID-19 shutdown but later reversed their decisions and either stopped the cuts or reinstated the sports (Dosh, 2021b). Bukstein (2022) provides a comprehensive timeline of the impact of COVID-19 on college athletics, starting with the cancelation of the NCAA tournament.

After reviewing relevant literature, we investigated how revenues and costs of college athletics programs were impacted by the pandemic for three separate categories of Division I

institutions. Rather than focusing on the impact of the pandemic on a particular institution and its athletics program, we examined the broad descriptive trends across universities. We also provided changes in spending and expenses by disaggregated categories of revenue and cost in order to better understand the specific drivers of changes in college athletics finances due to the pandemic.

Literature Review

Theories of College Athletic Spending

Multiple theories exist to explain why universities operate college athletics departments and how administrators make decisions regarding athletics expenditures. Clotfelter (2019) argues that there are four main reasons for the existence of what he calls big-time college athletics. According to Clotfelter, college sports are (a) a consumption good that students value, (b) a business enterprise, (c) a method of acquiring resources from various constituencies outside the university itself, and (d) a way for students to develop skills like discipline, teamwork, and grace and winning. Although these functions of spending may sometimes conflict with other goals of these same institutions, administrators of universities rationally allocate resources toward college athletics.

Relatedly, college athletics is often referred to as the *front porch* of the university, which can act as a marketing tool for potential students, alumni, and donors (Bass et al., 2015; Harry, 2022; McDermand, 2021). The concept of the *front porch theory* in higher education posits that college athletics serve as a visible gateway through which universities connect with the public. This metaphorical front porch enhances institutional visibility and communication with diverse stakeholders, including prospective students, parents, and alumni (Shulman & Bowen, 2001). As articulated by Jason Cook, Texas A&M's Vice President, interweaving the athletics brand with the university's identity transforms sport into an effective front porch, providing a platform to reach millions and unify the institution's image (Bass et al., 2015; Stephenson, 2013). However, this role is not without complexities, as university administrators grapple with the balance between prioritizing a prominent athletic department and investing in other university factions (Bass et al., 2015). While the front porch theory has been extensively explored at the FBS Division I level, there remains a gap in understanding its implications within lower levels of college sports (Katz et al., 2017). This discourse underscores the nuanced and evolving relationship between the athletic department and the university, emphasizing the pivotal role of athletics as a communicative gateway to the academic institution.

Other theories rely on less sanguine assumptions about the motivation of those administrators in charge of athletics spending. Fort (2016) and Fort and Winfree (2013) compare and contrast two alternative theories to explain athletics spending levels: an arms race and a principal-agent problem. In an arms race, institutions are trapped in a constantly escalating battle against each other that leads to increased athletic expenditures. In order to compete for the best student athletes and coaches, each institution must offer higher salaries to coaches and increasingly more expensive facilities in a zero-sum competition against one another (Fort, 2016; Fort & Winfree, 2016). Increases in spending by one institution leave other institutions no choice but to also increase their administrator and coaches' salaries, construct new facilities, and provide additional amenities for student athletes. Fort and Winfree (2013) provide a history of the

application of the arms race metaphor to college athletics and trace its first usage to sociologist Harry Edwards in 1984. Fort and Winfree ultimately argue that the empirical evidence supporting the arms race theory is limited; in fact, they refer to the arms race as a myth with respect to its application to college athletics spending.

As an alternative consideration, Fort and Winfree propose that agency theory can help explain college spending levels. In this alternative theory, regents and university presidents are principals who task agents in various campus offices with managing the operations of the university. Problems arise when the agents' goals differ from those of their principals, especially when it is costly for the principals to monitor their agents (Stiglitz, 1989). In Fort and Winfree's framing, the goals of the athletic administrators differ from those of university presidents, with the latter group lacking the resources to monitor the workings of the athletics department fully. This problem is even more pernicious than Bowen's revenue theory of cost, in which costs always rise to the level of revenue collected by organizations (Bowen, 1980). In a principal-agent framework, university presidents can be convinced to increase spending on athletics by self-interested athletics administrators. These administrators might even use the front porch metaphor to drive their calls for increases in spending. Athletic administrators, recognizing the potential communicative power of the front porch, may leverage this concept to appeal for increased investments, emphasizing the broader institutional benefits that stem from a vibrant and well-supported athletic program. This nuanced interplay between administrative dynamics and communicative strategies further underscores the multifaceted nature of financial decision-making in collegiate sports.

Finances of College Athletics

Researchers have sought to understand the details of the finances of college athletics for myriad reasons. Revenue and expense data have been used to study a variety of issues in college athletics, including whether there is evidence of sex discrimination in athletics spending, to substantiate evidence of antitrust violations in college sports, and the extent to which institutions subsidize programs from their overall university budgets (Sanderson & Siegfried, 2017; Suggs, 2009; Tatos, 2018). Detailed estimates of sources of revenues and costs are necessary to understand the extent to which college athletics generates its own revenue or whether that revenue is simply allocated from other parts of the university budget (Denhart & Vedder, 2010). For example, it is now well understood that only a handful of athletic programs in the P5 conferences generate revenues that exceed their costs, while the vast majority of universities must subsidize their athletics programs from other sources of revenue (Dunn, 2013; Harry, 2022; Lawrence et al., 2020).

Unfortunately, there is not a single, consistent source of college athletics financial information. Instead, a variety of data sources are available, each with their own advantages and disadvantages. Additionally, both the names of some data sources and the coverage of these data have changed over time. The Knight-Newhouse College Athletics Database (KND) draws on publicly available data from reports by NCAA Division I institutions, with detailed information about the construction of the dataset (Knight Commission & Newhouse School of Public Communications, n.d.). This database is the latest iteration from the Knight Commission on Intercollegiate Athletics, which released the College Athletics Financial Information (CAFI) database online in December 2013. Financial information in the database comes largely from the

reports initially collected and published by *USA Today* and other reports institutions are required to file with the federal government (USA Today Sports, 2013). The data in the KND are "self-reported by institutions on NCAA financial reports and on reports required by the federal government (Equity in Athletics Disclosure Act and the Integrated Postsecondary Education Data System)" (Knight Commission & Newhouse School of Public Communications, n.d., para. 5). In March of 2022, the database was renamed following a multi-year, $840,000 grant from the John S. and James L. Knight Foundation to the S. I. Newhouse School of Public Communications at Syracuse University (Loughlin, 2022).

The KND and *USA Today* NCAA Financial databases are frequently used by researchers to explore the relationship between athletic spending and institutional outcomes. McEvoy et al. (2013) used *USA Today* data to examine the variation in generated revenues across schools, and Jewell (2020) used the same data source to model whether less efficient athletic programs rely on more subsidies (allocated revenue) for their programs. Morton (2017) found no evidence suggesting a relationship between winning (as defined by Director's Cup Standings) and student fees using this database. The KND was also used by Jablonski (2022) to predict the allocated revenues for schools and identify schools with higher-than-average subsidies. Further studies have used the databases to explain rent-sharing in college athletics, the marketing of generated revenue within Division I college football, and challenging the marketing efficacy of athletics in the neoliberal university (Garthwaite et al., 2020; Peterson-Horner & Eckstein, 2014; Romano et al., 2021).

One major limitation of KND is that the dataset is limited to public colleges and universities at the Division I level. Perhaps the most notable alternative to KND is the Equity in Athletics Database (EADA). This database was developed in response to the Equity in Athletics Disclosure Act of 1994, which required all institutions receiving federal financial aid and with an intercollegiate athletic program to provide a yearly report on participation, staffing, revenues, and expenses, separated by men's and women's teams. The data are then made publicly accessible as the EADA. Because all institutions that accept federal financial aid are required to submit reports to the EADA, this source includes information for most public and private universities, as well as institutions at all NCAA divisions. However, there are two major limitations to the EADA. First, there is evidence of significant typographical errors in the data, with one investigation finding that 34 % of Division I schools have at least one error in their annual expense figures (Upton & Brady, 2005).

Second, the data do not disaggregate the source of revenue to the athletics department. This fact makes it impossible to determine how a program generated revenue, and whether the funds were collected from student fees or simply transfers from a university's general budget. Tatos (2018) provided an in-depth analysis of each of these publicly available sources of data, including the EADA, but it should be noted that the revenues and expenses from the two sources do not perfectly align and should not be directly compared. Additionally, neither the KND nor the EADA can be directly compared to any other sources of financial information, as they likely have slight differences in categories of revenues and/or costs.

Methodology

Using the KND dataset, we examined the impact of the pandemic on both the revenues and costs of Division I athletics departments. As mentioned, this particular data source has several advantages as compared to other commonly used sources. KND provides disaggregated revenues and costs into subcategories on an annual basis for all reporting institutions. Although institutions differ slightly on how they account for revenue, the KND dataset allows for an examination of the impact of COVID-19 on disaggregated sources of revenue and costs for athletics departments (Knight Commission & Newhouse School of Public Communications, n.d.). As long as institutions do not drastically change their own reporting definitions over this time period, these data can provide insight as to how the pandemic affected the finances of college athletics programs. As Zimbalist (2010) has identified, there are shortcomings to each of the possible college athletic financial data sources, a finding supported by the Knight Commission itself in its assessment of college athletics financial reporting documents prepared in March 2020 (Knight Commission & Newhouse School of Public Communications, n.d.). The Knight Commission notes that "comparisons between institutions are possible, but some institutions interpret the NCAA financial reporting rules slightly differently despite efforts by the NCAA staff working with the National Association of College and University Business Officers (NACUBO) to standardize the definitions and reporting" (Knight Commission & Newhouse School of Public Communications, n.d., para. 3). Furthermore, for some institutions,

> …significant changes in spending trends may represent a change in reporting rather than actual spending. NCAA legislation requires that the financial reports be subject to agreed-upon procedures conducted by a "qualified independent accountant who is not a staff member of the institution." (Knight Commission, 2022, para. 3)

Given the heterogeneity of accounting procedures across institutions, our focus is not on any one specific institution's change in revenue or costs but instead on the overall trends in revenues and costs for groups of institutions.

We first provide an overview of revenues and costs associated with Division I institutions before the pandemic. We then examine how revenues and costs changed due to the pandemic for several separate groups of institutions. It is well known that revenues vary substantially across Division I athletics programs (Wanless et al., 2019). One obvious distinction can be made between the Football Bowl Subdivision (FBS) and the Football Championship Subdivision (FCS). Within the FBS, a further distinction can be made between programs in the P5 conferences: Southeastern, Atlantic Coast, Big Ten, Big 12, and the Pac-12 conferences; and the Group of Five (G5) Conferences: American Athletic Conference, Conference USA, Mid-American Conference, Mountain West Conference, and the Sun Belt Conference.

In order to compare finances before and after the start of the pandemic, data from the KND for the 2018-2019 and 2020-2021 fiscal years were utilized. We do not consider fiscal year 2020, as finances would cover a period both slightly before and after the onset of the pandemic. Revenues and expenses are adjusted for inflation using the Consumer Price Index for All Urban Consumers (CPI-U), with 2021 as the base year. In an attempt to describe the impact of the pandemic on a typical school within its subdivision, the current study focuses on the median institution's athletics revenues (where the money comes from) and expenses (where the money goes) for several different groups of institutions.

The KND contains revenue and expense data for 228 Division I schools for both years under study, including 182 public football-playing schools and 46 public non-football playing Division I institutions Four schools in the database (Tarleton State University, University of California San Diego, University of North Alabama, and Utah Tech University) only have 2021 fiscal year data reported, as they reclassified to Division I following the 2019 fiscal year and are therefore excluded from the analysis. One school (Savannah State University) appeared in the report for the 2019 fiscal year but did not in 2021, as the school reclassified from Division I to Division II. Four additional schools (Temple University, United States Military Academy, United States Naval Academy, and the University of Pittsburgh) did not report for either year in the study. One Division I school (University of Delaware) appeared in the 2019 fiscal year but did not appear in the 2021 year, even though it did not reclassify its Division I status. In total, the database contained financial information for both years from 52 schools in P5 Conferences, 56 schools in G5 Conferences, and 74 FCS schools.

Results/Findings

Table 1 provides descriptive statistics for overall revenue and expenses for these three separate groups of institutions. In pre-pandemic 2019, the overall mean revenue and expenses are $52,009,714 and $51,379,754 respectively. P5 conferences have the highest mean revenue and expenses at $136,965,632 and $134,666,989. G5 conferences have a mean revenue and expense of $43,741,058 and $43,433,671 respectively. The FCS group has the lowest mean revenue and expenses at $19,932,152 and $19,957,007, respectively. The median revenue and expense across all the subdivisions is $30,616,185 and $30,806,053, respectively. There is substantial range in spending and expenses across institutions, as the standard deviation of revenue and expenses is $51,230,609 and $49,928,485, respectively. In fact, comparing athletics revenues for G5 and FCS institutions to the P5 can be somewhat misleading, given that aggregate revenues will include revenue sources allocated from the general university budget and/or student fees. Simply comparing the magnitude of revenues somewhat understates the disparity between P5 and the rest of the institutions.

Table 1

NCAA Revenues and Expenses for 2019 by Football Subdivision

Revenues	*n*	Mean	Median	Min	Max	SD
Overall	228	$52,009,714	$30,616,185	$3,418,735	$237,289,045	$51,230,609
P5	52	$136,965,632	$132,066,797	$75,985,287	$237,289,045	$36,646,083
G5	56	$43,741,058	$39,761,336	$16,501,453	$85,745,928	$13,775,925
FCS	74	$19,932,152	$17,705,157	$4,353,848	$55,861,396	$9,002,868
Non-Football	46	$17,641,812	$16,963,365	$3,418,735	$37,894,048	$7,115,923

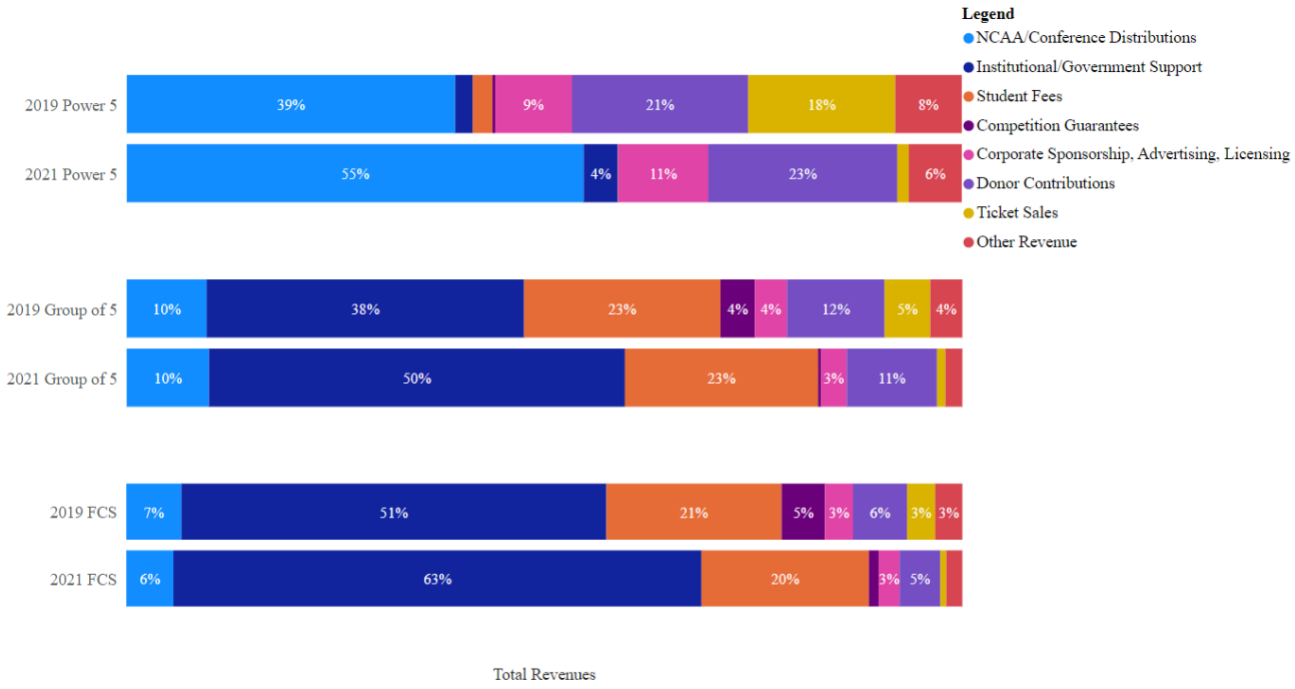
Expenses	*n*	Mean	Median	Min	Max	SD
Overall	228	$51,379,754	$30,806,053	$4,353,848	$236,998,226	$49,928,485
P5	52	$134,666,989	$131,166,234	$80,826,492	$236,998,226	$34,013,233
G5	56	$43,433,671	$39,772,253	$17,941,749	$85,654,532	$13,314,683

FCS	74	$19,957,007	$17,705,155	$4,353,848	$55,861,396	$8,856,482
Non-Football	46	$17,452,096	$16,863,535	$4,878,906	$37,972,849	$6,939,878

Figure 1 breaks down the source of revenues by the proportion of total revenue for the median school in each football subcategory in 2019, with 2021 as a reference for the change in proportion following COVID-19. The differences in proportions between the subgroups are not in the ways by which schools generate revenue but rather in the magnitude of revenues generated from each source.

Figure 1

Total Revenues by NCAA Subdivision – 2019-2021



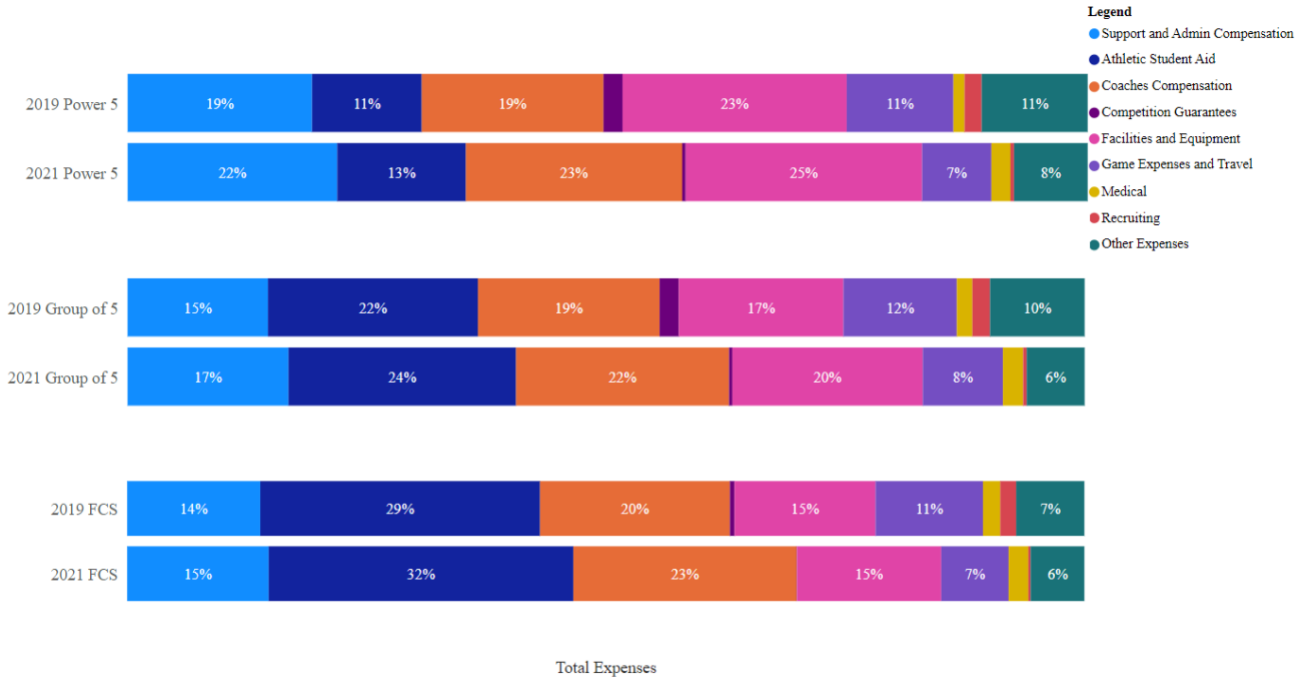
For the typical P5 school in 2019, for example, the largest source of revenue was NCAA and conference distributions, media rights, and post-season football revenues, which accounted for roughly 39% of total revenue, while donor contributions (21%), ticket sales (18%), and corporate sponsorships (9%) were also large income sources. Unlike the P5, institutional and governmental support was the largest revenue source for G5 (38%) and FCS (51%) subdivisions in 2019, with student fees (G5 at 23%, FCS at 21%), conference distributions (G5 at 10%, FCS at 7%) and donor contributions (G5 at 12%, FCS at 6%) accounting for the next three largest sources of revenues. In other words, in 2019, the typical P5 institution generated a substantial portion of its revenue from conference revenues, media rights, and ticket sales. G5 and FCS schools rely heavily on allocated revenues from institutional sources and/or student fees to help fund athletics. Figure 1 provides some useful context for understanding the pandemic's impact on college athletics finances. Because P5 schools generate a substantial portion of their own revenues through athletics

competitions, a pandemic shutdown had a larger impact on the overall revenues of the athletics budgets for these institutions.

Figure 2 offers a detailed breakdown of expenses for P5, G5, and FCS institutions in 2019, representing pre-pandemic expenditure patterns, with a comparative view of 2021 expenses. The outlined expenses encompass coaching staff salaries, scholarships, facility costs, travel, medical expenses, recruiting, marketing, promotion, and administrative costs.

Figure 2

Total Expenses by NCAA Subdivision: 2019-2021



In 2019, P5 institutions allocated their median institution's largest expense shares to facilities and equipment (23%), coaches' compensation (19%), support and admin compensation (19%), and athletic student aid (11%). In contrast, the median G5 institution directed the highest portion of its expenses toward athletic student aid (22%), followed by facilities and equipment (17%), and game expenses and travel (12%). Similarly, the median FCS institution assigned the greatest percentage of its expenses to athletic student aid (29%), followed by facilities and equipment (15%), and game expenses and travel (11%). Notably, all three sub-groups share similar expense distributions in medical (1-2%), competition guarantees (0-2%), recruiting (2%), and other expenses (7-11%). While expense categories align across institutions, distinctions emerge in the percentage of overall costs attributed to each category, highlighting variations between P5, G5, and FCS institutions. Specifically, student aid constitutes a notably larger proportion of overall expenses for typical FBS schools compared to the other groups, while facilities hold a greater share for typical P5 institutions.

Table 2 offers a comprehensive analysis of the median changes in revenues and expenses over the fiscal years 2019 to 2021 for three distinct institutional classifications: P5, G5, and FCS. The findings reveal stark trends in revenue dynamics across these institutions, transcending the experiences of individual universities. Particularly noteworthy is the significant decline in revenue experienced by the median P5 school, amounting to nearly $31 million during the specified period. This decline is primarily attributed to a substantial decrease of $21 million in ticket sales, underscoring the pivotal role of live events as a significant revenue source for P5 schools.

Table 2

Percentage Change in Revenues and Expenses by Classification - 2019-2021

Category	FBS - Autonomy 5	FBS - Group of 5	FCS
Revenues			
Corporate Sponsorship, Advertising, Licensing	-28.08%	-35.81%	-35.87%
Donor Contributions	-34.50%	-25.68%	-35.35%
Competition Guarantees	-97.35%	-93.23%	-80.91%
NCAA/Conference Distributions, Media Rights, and Post-Season Football	-15.03%	-17.32%	-26.62%
Ticket Sales	-95.24%	-85.24%	-82.08%
Institutional/Government Support	19.09%	5.22%	6.47%
Student Fees	-99.11%	-20.93%	-18.08%
Total Institutional/Government Support and Student Fees	46.28%	0.54%	-1.66%
Other Revenue	-51.36%	-57.68%	-49.24%
Total Revenues	-23.39%	-16.66%	-13.05%
Expenses			
Medical	37.30%	5.91%	-3.78%
Competition Guarantees	-85.32%	-86.56%	-92.27%
Recruiting	-82.99%	-83.52%	-87.81%
Game Expenses and Travel	-47.93%	-42.72%	-47.06%
Facilities and Equipment	-15.44%	-6.15%	-13.67%
Coaches Compensation	-4.59%	-4.94%	-0.72%
Support and Admin Compensation w/Severance	-8.89%	-7.09%	-10.27%
Athletic Student Aid	-5.92%	-12.14%	-8.07%
Other Expenses	-44.33%	-50.35%	-33.34%
Total Expenses	-20.75%	-14.51%	-15.21%

These revenue challenges extend beyond P5 institutions, with both G5 and FCS schools also witnessing declines in ticket sales, albeit with comparatively smaller decreases in revenue.

The data from Table 2 underscores that the median institutions across all classifications experienced reductions in various revenue categories, encompassing advertising, licensing, donations, conference distributions, media rights, post-season football payments, and other revenue streams. Amid the COVID-19 pandemic, the proportional makeup of revenue for the median G5 school shifted to align more closely with FCS programs pre-pandemic. In 2021, nearly three-quarters of the median G5 school's revenue emanated from institutional and government support and student fees (73%), while conference distributions and donor contributions maintained proportions similar to 2019. However, the share of revenue derived from ticket sales, competition guarantees, and corporate sponsorships plummeted from over 13% in 2019 to just 4% in 2021, indicating the profound impact of the pandemic on traditional revenue streams in collegiate athletics.

Expenses mirrored revenue trends, with commonalities and distinctions among the classifications. Medical expenses increased across the board, but FBS Autonomy 5 saw a higher surge at 37.30%, compared to 5.91% for FBS Group of 5 and a decrease of -3.78% for FCS. Notably, competition guarantees, recruiting, game expenses, and travel displayed substantial declines in all classifications, reflecting the broader impact of the COVID-19 pandemic on sporting activities. While facilities and equipment, coaches' compensation, support and admin compensation with severance, athletic student aid, and other expenses all exhibited varying degrees of decline, total expenses showed a decline in FBS Autonomy 5 (-20.75%), FBS Group of 5 (-14.51%), and FCS (-15.21%). These findings highlight the shared challenges faced by all classifications yet underscore the nuanced financial responses and disparities in the magnitude of change within the diverse landscape of collegiate athletics.

Discussion/Implications

Amid the ongoing challenges posed by the COVID-19 pandemic, athletic administrators expressed notable concerns regarding its impact on their institutions' finances (Lead1, 2020). Subsequent data from the KND underscored these apprehensions, revealing a general decline in generated revenues across most Division I institutions. P5 institutions experienced the most significant reductions in expenditures, with all 52 schools in the sample reporting a decrease in ticket sales. The majority of P5 schools also saw declining revenues in various categories, except for institutional support and student fees. An intriguing interpretation emerges, suggesting that some universities responded to the decline in revenue from athletics by temporarily bolstering athletic finances with increased institutional support. This strategic decision reflects a recognition that the financial strain induced by the pandemic was anticipated to be temporary, prompting a choice to fortify athletic finances through additional subsidies rather than implementing further expenditure limitations.

The impact of the pandemic on G5 and FBS schools mirrored that of P5 institutions, with the majority reporting declining revenues. However, these institutions, having traditionally relied less heavily on athletic-generated revenues, experienced a comparatively smaller overall impact on total revenues than their P5 counterparts. Interestingly, the median FCS institution witnessed a decrease in institutional support post-pandemic, with 34 institutions increasing support and 40 decreasing allocated revenues.

Turning to expenditures, a pervasive trend emerged across P5, G5, and FCS institutions, wherein the vast majority witnessed decreases in spending on competition guarantees, recruiting, and game expenses, including travel. The cancellation of games due to the pandemic logically contributed to the reduction in travel-related costs. Notably, medical costs showed a contrasting pattern, largely increasing for institutions, reflecting the implementation of COVID-19 protocols and testing. These findings underscore the challenging decisions institutions had to make in response to the dual pressures of declining revenues and the evolving landscape of the pandemic.

The findings strongly support Fort and Winfree's agency theory, showcasing the influential role of athletic administrators as agents in steering financial decisions. The increase in institutional support, particularly amid challenges like the COVID-19 pandemic, underscores the agency relationship. The reliance on subsidies further emphasizes the administrators' capacity to sway university presidents toward allocating additional resources to the athletic department. The challenges associated with monitoring and aligning goals highlight the dynamic interplay between principals and agents in shaping the financial trajectory of collegiate sports.

The alignment of these findings with an economic arms race theory becomes nuanced. While certain aspects, such as the decline in revenue, resonate with the theory's premise of continuous escalation in spending, unexpected elements emerge. The reduction in expenses and the temporary surge in institutional support during the pandemic suggest that financial constraints and external challenges can introduce unpredictability into the expected arms race scenario. The temporary shift in priorities, focusing on financial stability over immediate competitive escalation, suggests that institutions may deviate from the expectations of an uninterrupted arms race, especially in the face of external challenges like the COVID-19 pandemic. The economic arms race theory anticipates continuous spending, but the pandemic-induced decline in revenues challenges this expectation, demonstrating that financial realities can influence spending decisions. The study reveals that the arms race is not a straightforward, unrelenting trajectory but a complex dance influenced by contextual factors, such as the unprecedented challenges posed by the COVID-19 pandemic.

In the context of Bowen's revenue theory of cost, the findings of this study echo the theory's emphasis on the reciprocal relationship between revenue and expenditures. The decline in revenues prompts a strategic reduction in expenses, aligning with the core principles of Bowen's framework. However, the study introduces a vital nuance through the temporary increase in institutional support during the pandemic. This element challenges the rigid structure of Bowen's theory, indicating that exceptional circumstances can prompt institutions to seek alternative funding sources, thereby introducing a level of flexibility not explicitly addressed by the original framework.

Finally, the findings of this study can be contextualized in relation to the *front porch theory*, which suggests that college athletics serve as a visible gateway for universities to connect with the public, enhancing institutional visibility and communication with diverse stakeholders. The findings reveal a significant decline in revenue for P5 schools, primarily driven by a substantial decrease in ticket sales, a key component of the front porch theory that acts as a visible gateway for public engagement. This decline challenges the theory, suggesting that traditional revenue streams linked to the front porch, such as attendance at live events, may not be as reliable during

periods of external challenges like the COVID-19 pandemic. The study further notes a shift in revenue sources for P5 schools during the pandemic, indicating a decrease in reliance on traditional revenue streams like ticket sales and an increase in institutional and government support and student fees. This shift challenges the front porch theory, signaling that during crises, reliance on institutional support may overshadow the traditional front porch function of ticket sales. Despite these challenges, the discussion acknowledges the complexities university administrators face in balancing a prominent athletic department and investing in other university factions, aligning with the front porch theory's recognition of the nuanced relationship between the athletic department and the broader university. The temporary increase in institutional support during the pandemic may be viewed as a strategic response to maintain the 'front porch,' suggesting that administrators recognize the importance of sustaining the visible connection between the athletic department and the university community, even during challenging financial times. Overall, the synthesis of these theories underscores the dynamic and evolving nature of college athletic spending, shaped by the interplay of agency relationships, contextual challenges, and the reciprocal relationship between revenue and expenditures.

Future Research

The COVID-19 pandemic has had a significant impact on college athletics, and there are several opportunities for future research in this area. One area of focus could be the long-term effects of the pandemic on college athletics programs' finances. Once more time has passed, researchers could examine whether specific cost-cutting measures have remained permanent. Have recruiting budgets returned to pre-pandemic level, or have institutions found ways to reduce recruiting expenses using technology? Have some college athletics programs streamlined expenses due to the pandemic, and how have they been able to maintain or improve their operations in the face of significant challenges? It might be interesting to see if some programs saw a permanent increase in subsidies from the overall university funds or if these were temporary subsidies that were removed after the pandemic. Another potential area of research is whether the pandemic had differential impacts on different sports and whether the changing financial landscape affected resource allocations across different sports. Although there is disagreement as to the extent to which the current pandemic is behind us, some researchers have attempted to provide lessons from the pandemic to prepare for future pandemics (Coyne et al., 2020; Fisher et al., 2021; Schofield, 2022). It would be interesting to understand the extent to which universities and the athletics departments within these institutions have adjusted their budgeting approaches to prepare for possible crises in the future. Relatedly, many professional sports franchises began to experiment with novel approaches to fan interaction during the pandemic. Ideas such as exclusively cashless sales and virtual fan integration into live sporting events were tried out of necessity (Bukstein, 2022), but it would be interesting to understand if any of these techniques continue to be effective post-pandemic and whether any of the digital fan interaction strategies are still being utilized by either universities or professional sports franchises.

The pandemic has also had a significant impact on recruiting in college athletics, and researchers could focus on the impact of the pandemic on recruiting and the future of recruiting in college athletics. Furthermore, researchers could investigate the impact of the pandemic on the mental health and well-being of student-athletes, coaches, and staff, as well as best practices for safely returning to sports and the effectiveness of different protocols and measures in preventing

the spread of the virus. Lastly, researchers could focus on the effect of the pandemic on the college sports industry as a whole, including the impact on revenue, media rights, and the future of college sports.

Overall, there are many opportunities for future research about COVID-19 and college athletics. This research could provide valuable insights and information that can help to inform decision-making and support the long-term success of college athletics programs. The effects of the pandemic on different sports, specific groups, recruiting, mental health, best practices for safe return, and the college sports industry as a whole are important areas to be studied for a better understanding of the impact of the pandemic and to inform decision-makers on how to support the long-term success of college athletics programs.

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