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## **Beyond Amateurism: Name, Image, and Likeness (NIL) and the Post-2021 Spending Pivot in NCAA Division I Athletics**

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### **Abstract**

This paper examines the spending behavior of NCAA Division I athletic departments in the wake of recent structural changes, including the implementation of Name, Image, and Likeness (NIL) policies. Using an event-study regression framework, we assess whether spending patterns diverged between Power Five (P5; currently Power Four) and Group of Five (G5) institutions. Results show a significant post-2021 increase in expenses among P5 schools relative to their G5 counterparts. Interestingly, while spending trends on facilities showed no significant difference, P5 schools showed significantly steeper uptrend than G5 schools on athlete-focused spendings, such as medical, travel, athletic student aid. These findings are interpreted through the lens of the Resource-Based View (RBV) theory, which posits that organizations achieve sustainable competitive advantage by leveraging unique, valuable, and inimitable resources. Athletic departments' financial outlays, institutional prestige, and ability to mobilize NIL collectives are analyzed as strategic resources that shape long-term performance outcomes.



## Introduction

This paper examines how the introduction of name, image, and likeness (NIL) policies following the *National Collegiate Athletic Association v. Alston* decision has shifted the spending habits of member institutions belonging to the NCAA Football Bowl Subdivision (FBS). Historically, many universities have made substantial investments in their athletic departments, aiming to enhance their programs, boost visibility, and secure a larger share of revenue (Humi et al., 2018). This phenomenon is often referred to as a Cold War-style “Arms Race,” where institutions continuously escalate spending to achieve athletic excellence and the associated financial and reputational rewards (Greenberg, 2001; Orszag & Orszag, 2005). The term “Arms Race” aptly captures the intense pressure on universities to outspend their rivals on facilities and recruitment efforts, often resulting in a cycle of ever-increasing expenditures with uncertain returns.

While the “Arms Race” often refers to college athletics spending on facilities, in the years since NIL payments to student athletes became allowed, the fiscal strategies of major NCAA powerhouse programs have entered a new phase, seemingly favoring athlete-focused spending (e.g., student-athlete meals, medical, game expenses and travel, athletic student aid, and recruiting) in lieu of traditional institutional spending in areas such as facilities. This paper investigates these differences bilaterally by comparing the habits of current “Power Five” (P5) conference institutions and their “Group of Five” (G5) counterparts.

Preceding the 2021 FBS season, the NCAA adopted a series of rules regarding NIL payments to athletes, sparked by the decision in *NCAA v. Alston*, which marked a shift in the governance of collegiate athletics. Since then, there has been research in the space that focuses on athletes’ earning potential and the legal challenges facing the “NIL era” of college athletics.



However, there has been considerably less research concerning the shift in institutional spending and allocation of resources now that NIL payments to athletes are a prominent line item on any athletic department's balance sheet. Even less is known about how these changes differ between P5 and G5 institutions, given the clear delineation of resources between the two. This paper aims to fill that gap in the literature by analyzing budget allocations before and after the de facto legalization of NIL payments.

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This paper draws on the Resource-Based View (RBV) theory (Barney, 1991) and explores institutional-level financial data from the Knight Commission on Intercollegiate Athletics from 2018 to 2024. This data enables us to compare the spending patterns of FBS schools between pre-NIL (Fiscal Year 2018-2020) and post-NIL (2021-2024). To do this, we compare total spending, spending on facilities, and spending on athlete-focused categories to assess how resource allocation has differed after 2021. The analysis is conducted at the school-year level, with institutions classified as either Power Four or Group of Five based on conference



affiliation at the time of study. We hypothesize that current Power Four institutions have increased their spending on athlete-focused categories (e.g., student-athlete meals, medical, game expenses and travel, athletic student aid, and recruiting) instead of traditional categories such as facility improvements at a greater rate than G5 institutions over the same period. After careful analysis of the spending patterns of FBS member institutions over the period of study, combined with a thorough review of current NIL literature, concrete declarations could be made regarding the current trend in allocation of resources.

### **Literature Review**

The NCAA's FBS level represents the highest level of collegiate athletic competition in North America. In this subdivision, schools are usually grouped into two "tiers" by conference affiliation: Power Four (formerly Power 5) and Group of Five. While historically referred to as the "Power 5", recent conference realignments have consolidated this group into a "Power 4", comprising the current Southeastern (SEC), Atlantic Coast (ACC), Big Ten (B10), and Big Twelve (B12) conferences. Power 4 schools operate with budgets multiple times larger than their G5 counterparts while also, as a product of greater national exposure and relevance, see larger media contracts which typically compose a large portion of their operating revenue. Group of Five programs compete at the same level but operate with far fewer resources. This clear delineation shapes how member institutions in either tier of competitiveness respond to outside influences, such as the introduction of NIL shortly following the ruling in *NCAA v. Alston*. Spending in NIL spaces, which we will label "athlete-focused", appears to follow similar patterns of peer-induced escalation.

One common attribution to a "power" conference program is their participation in the college athletics "Arms Race." Termed originally by Greenberg (2001) and refined by Orszag



and Orszag (2005), the “Arms Race” describes the landscape of major conference collegiate athletics putting athletic stalwarts in a race against each other to raise the largest, most impressive athletic facilities in hopes of attracting top talent to their programs. Spending on athletic facilities and equipment has increased sharply in recent years. Between 2005 and 2020, spending on facilities and equipment by Football Bowl Subdivision (FBS) and Football Championship Subdivision (FCS) schools rose by 204%, from \$713.27 million to \$2.168 billion, or 131% when adjusted for inflation (Knight Commission, 2024; J. Petersen & Judge, 2021).

Schools participate in the Arms Race for several reasons, and one of them is the economic benefits of building prestigious athletic reputations. Hoffer and Pincin (2015) revealed that institutions transitioning into automatic-qualifying conferences saw a revenue increase of approximately \$12.15 million, which was accompanied by an additional \$10.12 million in expenditures. Beyond economic incentives, other extraneous benefits of having a prestigious athletic program have been reported. For example, having a successful football program over a 10- to 15-year period has been shown to significantly raise the SAT scores of incoming freshmen (McCormick & Tinsley, 1987). More recent studies by Tucker (2004, 2005) showed that a successful football program can attract more and higher-quality prospective student applicants within as little as five years.

However, the aspect of facilities arms race has been shifting towards athlete-focused spending since the NCAA allowed athletes to monetize their NIL rights in 2021. This policy shift fundamentally altered the competitive environment by enabling new flows of revenue to athletes through sponsorships, endorsements, and collective funding models. While NIL compensation flows directly to players, athletic departments face indirect pressures to maintain competitive rosters, expand support services, and justify their place within lucrative conferences.



To understand the current landscape surrounding college athletics, the Resource-Based View (RBV) provides a useful theoretical framework (Barney, 1991). According to RBV, organizations with rare, valuable, inimitable, and non-substitutable resources can achieve a competitive advantage. In the context of college sports, such resources may include strong donor bases, institutional brand equity, large fan markets, and the organizational capabilities to align with NIL collectives. Schools with such resources (e.g., P5 schools) will be able to recruit more talented athletes under NIL circumstances. Therefore, drawing on RBV, this study aims to test if P5 schools have shown distinct spending patterns compared to G5 schools after NIL legalization in 2021.

From the RBV perspective, the divergent expense patterns highlight the role of unique institutional resources in shaping strategy. First, financial capital can be a strategic resource. P5 schools possess deeper donor bases, higher media rights revenues, and stronger alumni networks. These financial resources enabled rapid scaling of expenses post-NIL, consistent with RBV's emphasis on leveraging rare and valuable assets. Second, P5 schools can leverage their institutional prestige and Brand Equity. Schools with strong athletic brands (e.g., Ohio State, Louisiana State, and Alabama) can attract NIL opportunities for athletes more easily. Maintaining such prestige requires continuous reinvestment in facilities, coaching, and athlete support, reinforcing the expense gap. Last, P5 schools' organizational capabilities for NIL alignment will make a difference. They have developed sophisticated infrastructures to support NIL activities, including compliance offices, legal resources, and partnerships with NIL collectives. These capabilities are harder for G5 schools to imitate, leading to sustained competitive advantage.

## **Methods**



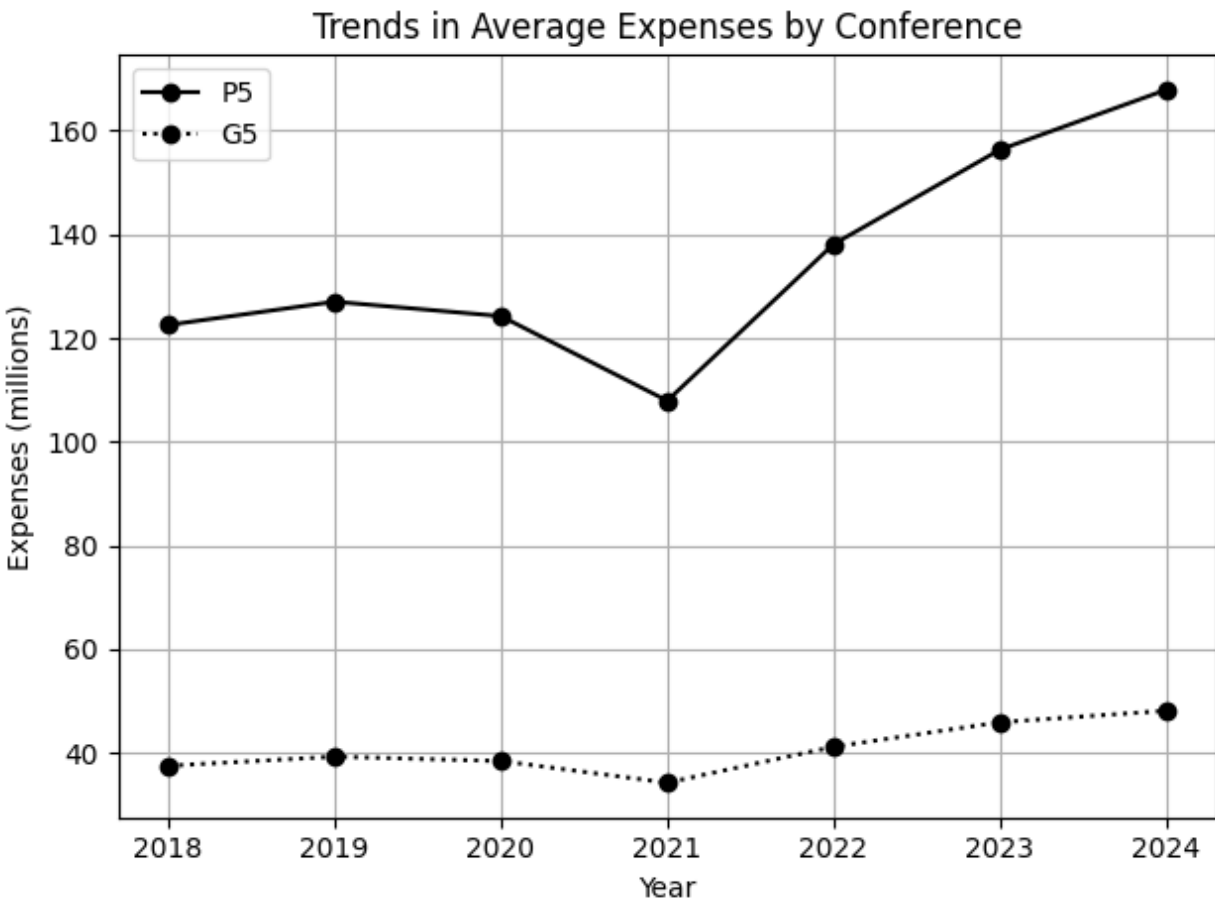
We employed an event-study difference-in-differences (DiD) design, centered on the 2021 introduction of NIL policies. Expense data from NCAA Division I FBS institutions between 2018 and 2024 were compiled and analyzed. We collected financial data of 106 schools in 11 conferences (AAC, ACC, Big10, Big12, CUSA, Ind, MAC, MW, PAC12, SEC, and SunBelt) from the Knight Commission’s website. The P5 schools (ACC, Big10, Big12, PAC 12, and SEC) are the treatment group, and the G5 schools (AAC, CUSA, Ind, MAC, MW, and SunBelt) are the control group in our analysis (conference = 1, if P5 school). We used 2021 as an event year (nil\_year = 1, if post 2021) for our DiD analysis. We included each school’s revenue as a control variable, as there are significant differences in revenue even between P5 schools (e.g., Ohio State vs Wake Forest). Results are robust to conference-by-year interactions (conference  $\times$  nil\_year), which account for contemporaneous shocks (e.g., new media-rights deals). Also, we included school- and year-fixed effects clustered standard errors at the school level, consistent with best practices for panel data analysis (Cameron & Miller, 2015). This approach allows for the estimation of causal effects of NIL on expenses while accounting for unobserved heterogeneity. In addition, to check the parallel trend assumption, which is required for the DiD (Baker et al., 2025), we utilized a trend analysis prior to the DiD analysis and a lead and lag analysis after the DiD analysis.

## **Results**

First, as shown in the following figure, P5 and G5 schools followed nearly identical spending trajectories before 2021, confirming comparable pre-trends (see Figure 1; the huge plummet in 2021 was likely due to COVID-19). However, after 2021, spending gaps widened substantially between P5 and G5 schools, consistent with expectations under the NIL environment. From 2021 to 2024, the average expense of P5 schools increased by approximately

55.58% from \$108M to \$168M (\$60M increase on average), while G5 schools increased their spending by approximately 40.53% from \$34M to \$48M (\$14M increase on average). Although G5 schools also experienced substantial growth (40.53%), the magnitude of P5 spending far outpaced it, amplifying inequality in financial resources.

**Figure 1**  
*Trend Analysis of Average Expenses by Conference*



Second, DiD analysis provided statistical evidence of such differences in spending following NIL between P5 and G5 schools. The DiD estimates indicate that P5 schools' total expenses grew significantly more than G5 schools after NIL legislation in 2021 ( $p < .001$ ), supporting the hypothesis of a post-NIL divergence. The results show that P5 schools' total

expenses have significantly grown further than G5 schools since NIL legislation in 2021, as shown in the total expense analysis ( $\beta_{\text{Conference} \times \text{nil\_year}} = 7.644, p < .001$ ). However, this gap is significant only in athlete-focused spending. As shown in the athlete-focused spending analysis, P5 schools have increased their spending on athlete-focused categories significantly more than G5 schools ( $\beta_{\text{Conference} \times \text{nil\_year}} = 6.792, p < .001$ ), which implies that P5 schools were influenced significantly more by the NIL legislation in 2021. For the facility spending trends, P5 and G5 schools showed similar patterns; they all increased by a similar percentage ( $\beta_{\text{Conference} \times \text{nil\_year}} = 0.852, p = .269$ ).

**Table 1**  
*Results of Difference-in-Differences Analysis: Total Expense*

Dependent variable: Total Expense			
Independent variables	Coefficient	Standard Error	t-statistic
Conference $\times$ nil_year	7.644***	1.894	4.037
Revenue	0.425**	0.159	2.672
AAC $\times$ nil_year	0.270	1.475	0.183
ACC $\times$ nil_year	-2.742	2.332	-1.175
Big10 $\times$ nil_year	5.929**	2.126	2.789
Big12 $\times$ nil_year	-1.518	2.079	-0.730
CUSA $\times$ nil_year	2.813*	1.398	2.012
Ind $\times$ nil_year	4.286	2.968	1.444
MAC $\times$ nil_year	-2.268	1.240	-1.829
MW $\times$ nil_year	1.530	1.698	0.901
PAC12 $\times$ nil_year	-0.784	1.701	-0.461
SEC $\times$ nil_year	6.758**	2.601	2.598
SunBelt $\times$ nil_year	-0.934	0.942	-0.991
Constant	14.911**	4.762	3.131
Year fixed effects	Yes		
School fixed effects	Yes		
Adjusted R <sup>2</sup>	.978		

*Notes.* Standard errors are clustered by each school. For nil\_year, 2021 and after are coded as 1. The standalone dummy variables conference and nil\_year were excluded due to potential collinearity with the year fixed effects and school fixed effects.

\*p<0.05

\*\*p<0.01

\*\*\*p <0.001

**Table 2**

*Results of Difference-in-Differences Analysis: Athlete-focused Spending*

Dependent variable: Athlete-focused Spending			
Independent variables	Coefficient	Standard Error	t-statistic
Conference × nil_year	6.792***	1.416	4.797
Revenue	0.294**	0.110	2.663
AAC × nil_year	-0.120	1.152	-0.104
ACC × nil_year	-1.119	2.068	-0.541
Big10 × nil_year	4.610*	2.005	2.299
Big12 × nil_year	-1.409	1.549	-0.909
CUSA × nil_year	2.064	1.214	1.701
Ind × nil_year	3.101	2.372	1.307
MAC × nil_year	-1.664	0.952	-1.748
MW × nil_year	0.558	0.954	0.585
PAC12 × nil_year	-0.429	1.053	-0.408
SEC × nil_year	5.139**	1.825	2.816
SunBelt × nil_year	-0.340	0.842	-0.404
Constant	16.089***	3.313	4.857
Year fixed effects	Yes		
School fixed effects	Yes		
Adjusted R <sup>2</sup>	.975		

*Notes.* Standard errors are clustered by each school. For nil\_year, 2021 and after are coded as 1. The standalone dummy variables conference and nil\_year were excluded due to potential collinearity with the year fixed effects and school fixed effects.

\*p<0.05

\*\*p<0.01

\*\*\*p <0.001

**Table 3**

*Results of Difference-in-Differences Analysis: Facility Spending*

Dependent variable: Facility Spending			
Independent variables	Coefficient	Standard Error	t-statistic
Conference × nil_year	0.852	0.771	1.104
Revenue	0.131*	0.059	2.232
AAC × nil_year	0.390	0.551	0.708
ACC × nil_year	-1.623	1.144	-1.419
Big10 × nil_year	1.319	1.320	0.999
Big12 × nil_year	-0.109	2.481	-0.044
CUSA × nil_year	0.749	0.535	1.399
Ind × nil_year	1.185	0.641	1.848
MAC × nil_year	-0.604	0.536	-1.127
MW × nil_year	0.972	1.361	0.714
PAC12 × nil_year	-0.354	1.041	-0.340
SEC × nil_year	1.619	2.134	0.759
SunBelt × nil_year	-0.594	0.396	-1.501

Constant	-1.78	1.722	-0.684
Year fixed effects	Yes		
School fixed effects	Yes		
Adjusted R <sup>2</sup>	.898		

*Notes.* Standard errors are clustered by each school. For nil\_year, 2021 and after are coded as 1. The standalone dummy variables conference and nil\_year were excluded due to potential collinearity with the year fixed effects and school fixed effects.

\*p<0.05

\*\*p<0.01

\*\*\*p <0.001

Last, the lead and lag analysis confirmed the parallel trend assumption, which makes the results of the DiD analysis valid. For this analysis, we estimated the dependent variables with six time dummies over three years before and after the NIL legislation in 2021. We set the -1 relative time dummy (2020) as a baseline to check the parallel trends between P5 and G5 schools. The results show that there were no significant changes in the difference in total expenses between P5 and G5 schools before NIL, which supports the parallel trends assumption. Since 2023, however, the differences between P5 and G5 schools have become significant and continued to be significant in later years, which implies that the NIL has affected college athletics' spending since its legislation in 2021. We believe the insignificant result of 2022 is due to the bounce-back from the plummeted expenses in 2021. Please see the following figures and the table for the results.

**Table 4**

*Results of Lead and Lag Analysis: Total Expense*

Independent variables	Dependent variable: Total Expense		
	Coefficient	Standard Error	t-statistic
lead_3 (2018)	-0.916	1.823	-0.503
lead_2 (2019)	1.633	1.784	0.915
lead_1 (2020)		Baseline	
event year	-11.805**	4.047	-2.917
lag_1 (2022)	1.283	1.989	0.645
lag_2 (2023)	11.675***	3.334	3.501
lag_3 (2024)	20.437***	4.622	4.421
revenue	0.284	0.146	1.943
AAC × nil_year	1.425	1.337	1.066

ACC × nil_year	0.524	2.890	0.181
Big10 × nil_year	7.409**	2.230	3.323
Big12 × nil_year	-0.552	2.178	-0.254
CUSA × nil_year	-0.130	0.635	-0.204
Ind × nil_year	0.347	0.506	0.686
MAC × nil_year	-4.125**	1.264	-3.264
MW × nil_year	0.842	1.856	0.454
PAC12 × nil_year	3.344	2.112	1.583
SEC × nil_year	10.865**	3.195	3.400
SunBelt × nil_year	-1.397	0.855	-1.633
Constant	19.369	4.147	4.671
Year fixed effects	Yes		
School fixed effects	Yes		
Adjusted R <sup>2</sup>	.984		

Notes. Standard errors are clustered by each school. For nil\_year, 2021 and after are coded as 1.

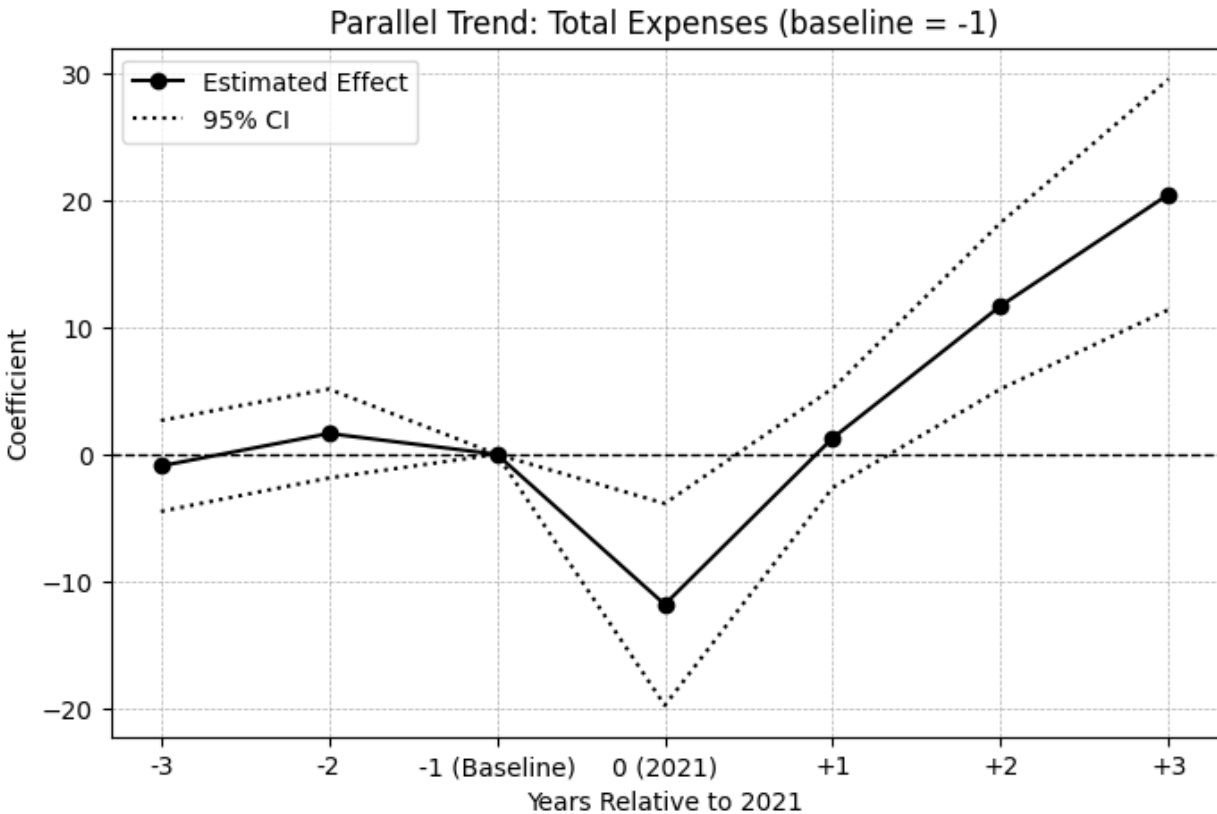
\*p<0.05

\*\*p<0.01

\*\*\*p <0.001

**Figure 2**

*Lead and Lag Analysis for Testing the Parallel Trend Assumption (Total Expenses)*





Athlete-focused spending showed the same pattern. There were no significant changes in the difference in athlete-focused spending between P5 and G5 schools before NIL, which supports the parallel trends assumption. However, P5 schools began to spend significantly more on athlete-focused categories than G5 schools since 2023. Like the results from total expense analysis, the insignificant result of 2022 is likely due to the bounce-back from the plummeted expenses in 2021.

**Table 5**  
*Results of Lead and Lag Analysis: Athlete-focused Spending*

Dependent variable: Athlete-focused Spending			
Independent variables	Coefficient	Standard Error	t-statistic
lead_3 (2018)	-1.550	1.334	-1.162
lead_2 (2019)	0.954	1.322	0.722
lead_1 (2020)		Baseline	
event year	-10.893***	2.535	-4.296
lag_1 (2022)	1.288	1.353	0.952
lag_2 (2023)	9.910***	2.033	4.875
lag_3 (2024)	18.063***	3.014	5.993
revenue	0.168	0.087	1.920
AAC × nil_year	0.899	0.967	0.930
ACC × nil_year	1.612	2.270	0.710
Big10 × nil_year	5.740**	1.987	2.889
Big12 × nil_year	-0.690	1.790	-0.385
CUSA × nil_year	-0.542	0.620	-0.874
Ind × nil_year	-0.348	0.299	-1.164
MAC × nil_year	-3.299***	0.904	-3.648
MW × nil_year	-0.029	1.009	-0.029
PAC12 × nil_year	3.081*	1.481	2.080
SEC × nil_year	8.624***	2.098	4.110
SunBelt × nil_year	-0.721	0.728	-0.991
Constant	20.237***	2.494	8.115
Year fixed effects	Yes		
School fixed effects	Yes		
Adjusted R <sup>2</sup>	.983		

*Notes.* Standard errors are clustered by each school. For nil\_year, 2021 and after are coded as 1.

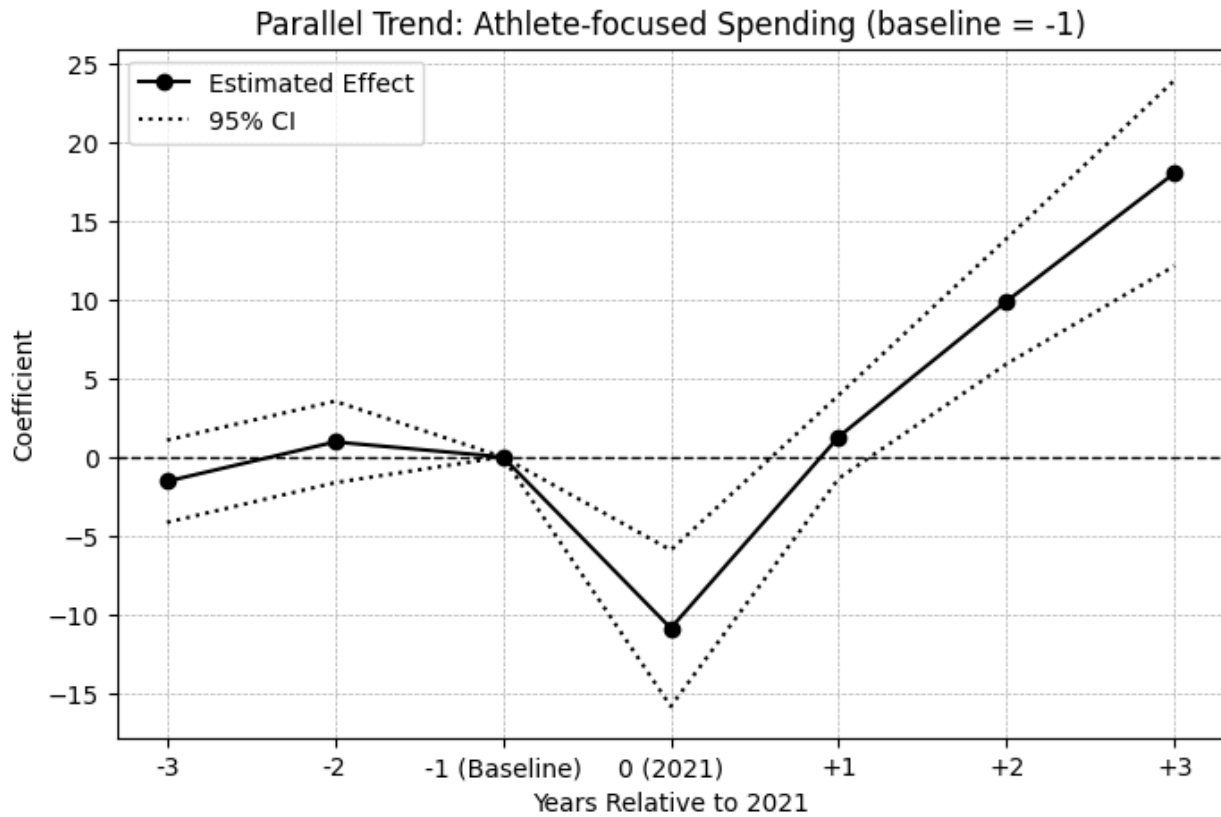
\*p<0.05

\*\*p<0.01

\*\*\*p <0.001

**Figure 3**

*Lead and Lag Analysis for Testing the Parallel Trend Assumption (Athlete-focused Spending)*



However, the spending patterns on facilities showed no significant distinction between P5 and G5 schools. They both increased facility spending by a similar level. In other words, the parallel trend between P5 and G5 schools continued through 2024.

**Table 6**  
*Results of Lead and Lag Analysis: Facility Spending*

Dependent variable: Facility Spending			
Independent variables	Coefficient	Standard Error	t-statistic
lead_3 (2018)	0.634	1.099	0.577
lead_2 (2019)	0.679	0.842	0.807
lead_1 (2020)		Baseline	
event year	-0.912	1.841	-0.495
lag_1 (2022)	-0.005	1.041	-0.005
lag_2 (2023)	1.765	1.647	1.072
lag_3 (2024)	2.374	2.038	1.165
revenue	0.116	0.068	1.704
AAC × nil_year	0.526	0.585	0.898
ACC × nil_year	-1.088	1.312	-0.829

Big10 × nil_year	1.669	1.372	1.217
Big12 × nil_year	0.137	2.520	0.054
CUSA × nil_year	0.412	0.476	0.866
Ind × nil_year	0.695*	0.324	2.147
MAC × nil_year	-0.826	0.615	-1.344
MW × nil_year	0.871	1.386	0.628
PAC12 × nil_year	0.263	1.211	0.217
SEC × nil_year	2.240	2.303	0.973
SunBelt × nil_year	-0.676	0.408	-1.658
Constant	-0.868	1.953	-0.445
Year fixed effects	Yes		
School fixed effects	Yes		
Adjusted R <sup>2</sup>	.898		

Notes. Standard errors are clustered by each school. For nil\_year, 2021 and after are coded as 1.

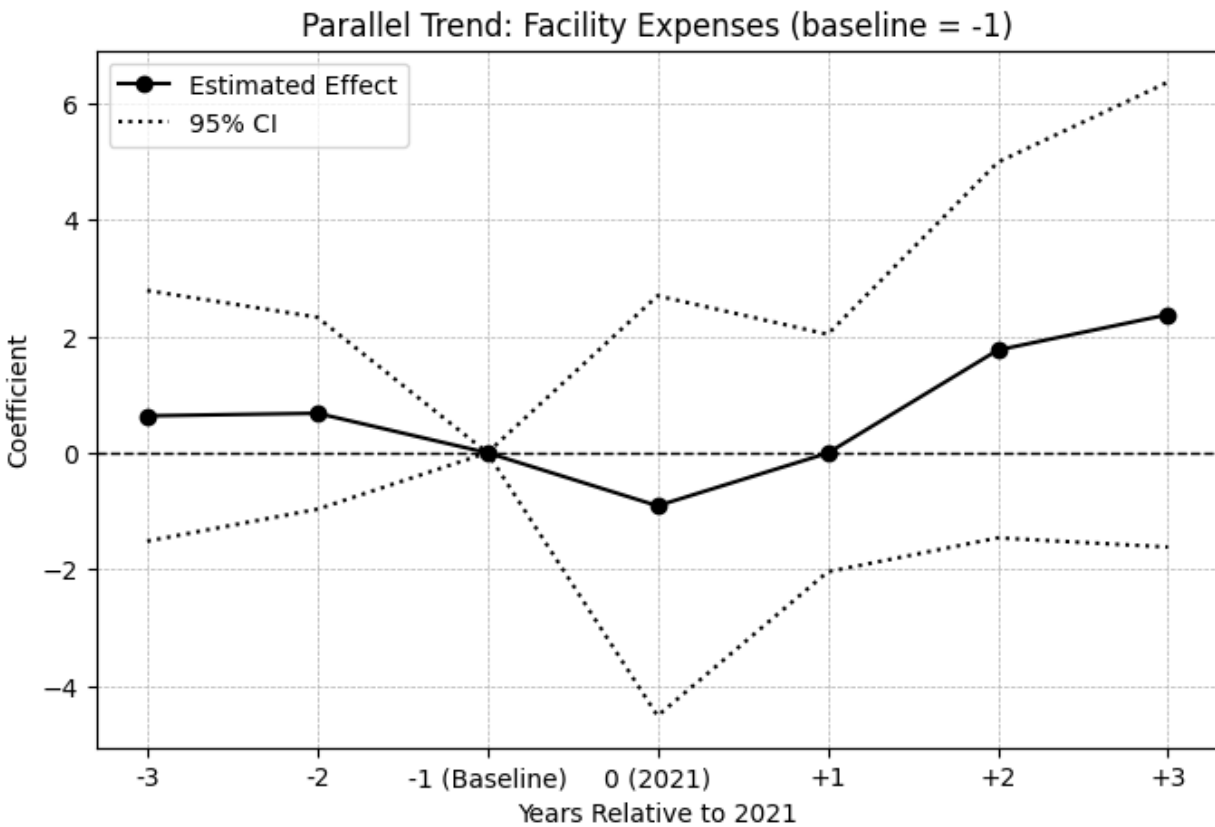
\*p<0.05

\*\*p<0.01

\*\*\*p <0.001

**Figure 4**

*Lead and Lag Analysis for Testing the Parallel Trend Assumption (Facility Expenses)*





## Discussion

In sum, the results show significant differences in expense trajectories between P5 and G5 institutions. The baseline is that there were no statistically significant differences in pre-trends between the two groups, supporting the parallel trends assumption. Then, in 2021, there was a negative and significant dip for P5 institutions, reflecting initial uncertainty (COVID-19) or reallocation of resources (NIL). Post 2021, P5 schools began to show a distinct spending pattern compared to G5 schools. There were large and statistically significant increases in P5 expenses relative to G5 peers. These results suggest that NIL implementation catalyzed a new “spending race” among P5 schools, shifting the arms race from facilities toward athlete-focused categories (J. C. Petersen & Judge, 2021).

These patterns align with both the Resource-Based View (Barney, 1991); NIL intensifies competition for scarce talent, encouraging P5 programs to invest more heavily in athlete acquisition, retention, and performance infrastructure—even when direct NIL payments often flow through third-party collectives. P5 schools’ ability to marshal financial and organizational resources has allowed them to reinforce competitive advantages, while G5 institutions face structural disadvantages under the NIL landscape. Policy discussions should recognize that NIL has altered where the gap between resource-rich and resource-constrained programs is derived from; it was mainly facilities before NIL, and now athlete-focused spending post NIL. Increasing spending on athlete-focused areas, such as athlete compensation, and top talents’ concentration on big-name schools will accelerate. It can be expected that this trend will be even stronger than before, as athletes were looking for school prestige and practice environment before NIL, but now they are looking for direct monetary benefits for themselves. Therefore, if this aspect is left unchecked, this dynamic may consolidate power further among a small number of athletic



departments, raising questions about competitive balance and the sustainability of the broader college athletics ecosystem.

Future studies should examine whether these expense increases yield measurable outcomes (e.g., ticket prices, winning percentages, playoff appearances, recruiting success), as prior work links resource investment to performance (e.g., Hoffer & Pincin, 2015). For policymakers and administrators, the RBV framework offers a reminder that resources, once leveraged, shape not only competitive dynamics but also long-term institutional trajectories.



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