



RESOURCE ALLOCATION DECISIONS IN COLLEGE ATHLETICS: DOES WINNING ALWAYS MATTER? HAS TRANSFER PORTAL SHIFTED TALENT DISTRIBUTION IN COLLEGE SPORTS?

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Video Summary: https://video.syr.edu/media/t/1_1i2irt46

This project provides data-driven insights into two critical areas of college athletics resource allocation: the financial returns to winning across multiple sports and the impact of the NCAA transfer portal on talent distribution. Analyzing over 12,000 team-seasons across 18 sports, we find that most sports show minimal revenue sensitivity to winning, with men's basketball as the notable exception. Our transfer portal analysis reveals that elite football programs increasingly substitute three-star high school recruits for transfer additions, creating a talent development pipeline where mid-tier programs develop athletes who subsequently transfer to top-tier institutions. These findings offer athletics administrators evidence-based guidance for resource allocation, roster construction, and recruitment strategy in an era of NIL compensation and increased athlete mobility.

Introduction

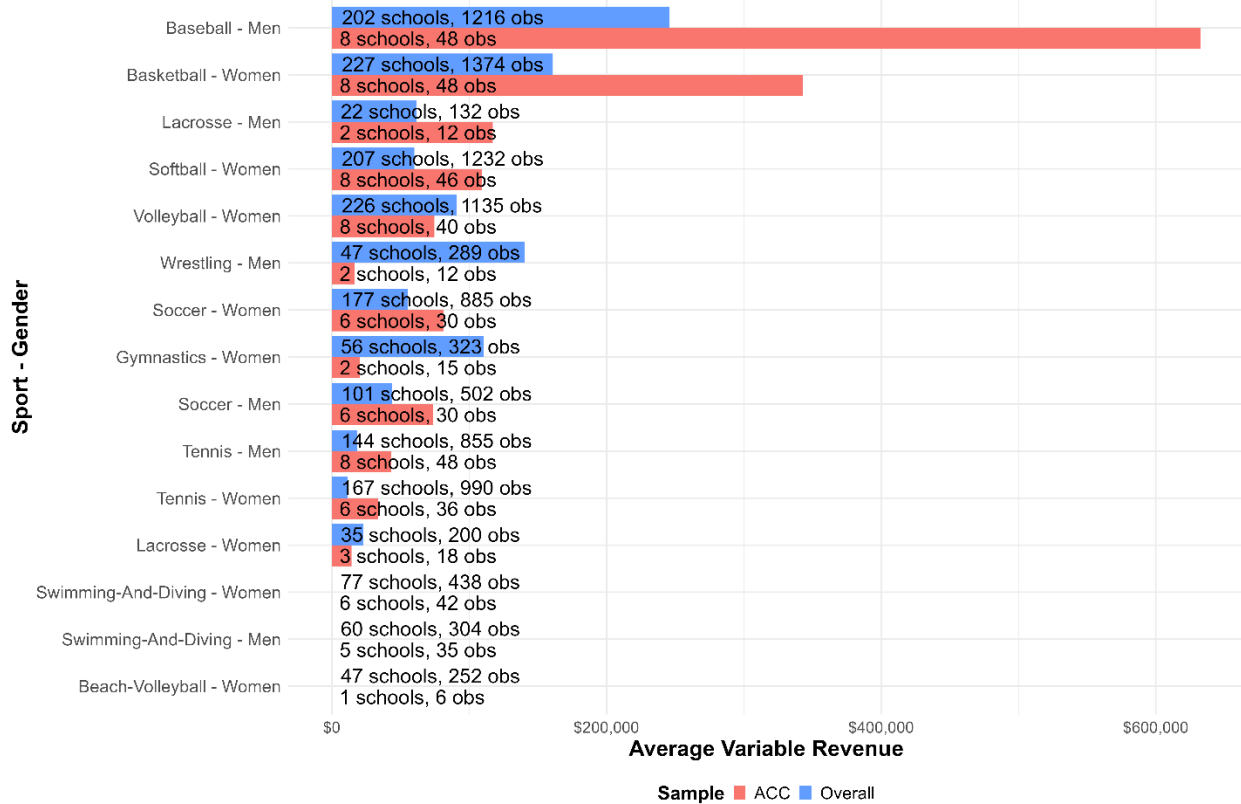
The introduction of NIL compensation and liberalization of the NCAA transfer portal have fundamentally altered college athletics. For athletics departments, these shifts create pressing questions: Where should limited dollars be invested to maximize returns? How should programs adapt their recruiting strategies in response to increased athlete mobility?

This research addresses these questions through two studies. The first examines the marginal product of a win across diverse college sports, exploring whether team performance translates into revenue generation. The second investigates whether the transfer portal has reshaped talent distribution in college football, with particular attention to how elite and mid-tier programs utilize the portal differently.

Data Sources. Study 1 utilizes data from the Knight-Newhouse College Athletics Database, which includes detailed financial information from public institutions obtained through Freedom of Information Act (FOIA) requests. Our dataset comprises 12,451 single-season observations across 18 sports for both men and women, spanning fiscal years 2016-17 through 2022-23 (excluding 2020-21 due to COVID-19). Eight ACC schools are included in the sample. We focus on variable revenues—ticket sales, concessions, royalties, licensing, advertisements, sponsorships, and sports camps—because these revenue streams are most likely to respond to team performance. Total revenue includes fixed components like conference distributions and media contracts that are predetermined and not influenced by individual team performance in a given season. Sample sizes and average variable revenue data for all sports in our data (excluding football and men's basketball) are presented in Figure 1.

Average Variable Revenue by Sport and Gender: Overall vs ACC

Excluding Football and Men's Basketball. Sports with <15 schools or <100 observations excluded.



ACC schools in sample: Clemson, Florida State, Georgia Tech, Louisville, NC State, North Carolina, Virginia, Virginia Tech

Figure 1. Variable revenue summary measures.

Study 2 compiled comprehensive recruiting and transfer data from 247Sports covering the 2019-2024 seasons (excluding COVID-affected 2020) for all FBS football programs. Our dataset includes both high school recruiting class compositions (classified by star ratings) and transfer portal activity, tracking both the quantity and average quality of transfers entering and exiting each program. Basic summary measures of our 247Sports data are provided in Figure 2. Schools are separated by Power 5 (P5, including the former iteration of the Pac-12) and non-P5, and by performance in terms of win percentage over the sample period.



Average Recruiting and Transfer Portal Activity by Performance Group

Performance Group	Teams	Star Recruits				Transfers		Avg Win %
		Avg 5★	Avg 4★	Avg 3★	Avg 4★+5★	Avg In	Avg Out	
Group 1: High-Performing Power 5	17	1.53	11.56	9.09	13.09	6.17	11.47	0.73
Group 2: Other Power 5	48	0.16	4.12	15.88	4.28	8.63	10.81	0.49
Group 3: High-Performing Non-Power 5	18	0.00	0.35	16.04	0.35	7.38	6.26	0.63
Group 4: Other Non-Power 5	47	0.00	0.08	14.14	0.08	7.45	5.85	0.42

Group definitions:^a Group 1: Power 5 schools with ≥ 0.600 total win % AND ≥ 0.500 conference win % ^b Group 2: All other Power 5 schools ^c Group 3: Non-Power 5 schools with ≥ 0.500 total win % AND ≥ 0.600 conference win % ^d Group 4: All other Non-Power 5 schools
Notes: Power 5 conferences include SEC, Big Ten, Big 12, ACC, and Pac-12. Notre Dame classified as Power 5. Each team assigned to the group where they appear most frequently. If tied, assigned to the lower-numbered group.

Figure 2. Recruiting and transfer portal summary measures.

Study 1: Does Winning Always Matter? Revenue Sensitivity Across College Sports

Methodology. Using regression analysis with team-sport and year fixed effects, we estimated the marginal revenue impact of an additional win for each sport. We also conducted correlation analysis, examining whether schools with greater variation in winning percentage experienced correspondingly greater variation in revenues.

Key Findings. For most college sports, the short-term revenue impact of winning is either economically negligible or statistically insignificant. Figure 3 presents the estimated marginal revenue effect of an additional win across sports. Several women's sports show statistically significant positive effects: women's lacrosse (\$3,229 per win), women's basketball (\$7,137 per win), women's soccer (\$4,107 per win), women's tennis (\$649 per win), and women's softball (\$1,259 per win). While statistically significant, these magnitudes are modest. For women's basketball—the largest absolute impact—even rostering a player that adds five additional wins (~16 percentage point increase in win percentage) barely recoups the costs of the scholarship (\$30,000-\$80,000 annually).¹

¹ Note that these are only average effects. We acknowledge that the value of star players, for example, may generate financial returns that exceeds the strict returns to winning.



Marginal Revenue Effect of Winning by Sport and Gender (Full Sample)

Sport	Gender	Joint Effect	MR per Win	Avg. Games
Wrestling	Men	1.714	\$9,788.34	14.8
Gymnastics	Women	2.161*	\$8,754.64	15.1
Basketball	Women	2.85***	\$7,136.63	31.1
Soccer	Women	2.271***	\$4,107.44	16.6
Lacrosse	Women	7.557***	\$3,228.99	16.2
Baseball	Men	0.538	\$2,171.29	49.0
Soccer	Men	0.651	\$1,426.72	15.7
Softball	Women	1.688**	\$1,259.08	47.7
Tennis	Women	2.195***	\$649.30	21.3
Tennis	Men	0.264	\$196.95	22.2
Volleyball	Women	0.063	\$183.98	30.0
Beach-Volleyball	Women	0.455**	\$0.00	25.8
Swimming-And-Diving	Men	-0.008	\$0.00	7.2
Swimming-And-Diving	Women	-0.161	\$0.00	8.7
Lacrosse	Men	-0.521	-\$3,209.73	13.8
Basketball	Men	-0.278	-\$14,823.70	32.6

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Joint Effect represents the percentage change in revenue from an additional win, assuming average conference strength. MR per Win shows the dollar impact.

Figure 3. The marginal product of a win by sport.²

Notably, men's basketball shows no statistically significant relationship. We exclude football from this analysis, although preliminary evidence shows inconclusive results for the short-term returns to winning.

We acknowledge the winning-revenue relationship may operate on longer time horizons than our same-season analysis captures. As a consequence, we explore an alternative approach: examining the correlation between each program's variation in winning percentage and variation in revenues. If revenues are sensitive to performance, schools whose winning varies more should experience greater revenue variation. This analysis yielded one clear positive signal: men's basketball showed a statistically significant positive correlation (0.481, $p = 0.015$) when examining the top 25 programs with highest win variation. This suggests men's basketball revenues are indeed sensitive to performance, though this weakens when examining all programs (0.090, $p = 0.177$). No other sport showed consistent evidence of positive revenue sensitivity.

Implications for Athletics Administrators.

² Results related to women's beach volleyball, while statistically significant, can effectively be ignored given the especially low variable revenue levels for programs in our sample.



- **Investment decisions should not be driven primarily by short-term revenue ROI.** With the possible exception of men's basketball, there is limited evidence that investing additional resources to improve team performance will generate meaningful same-season revenue returns. Winning serves institutional goals related to visibility, community engagement, and donor satisfaction that extend beyond direct revenue generation, but administrators should not expect incremental investments in most sports to "pay for themselves" through increased variable revenues.
- **Women's sports show modest but measurable revenue sensitivity.** Several women's sports demonstrate statistically significant relationships between winning and revenues, though dollar magnitudes are small.
- **Long-term effects may differ from short-term patterns.** Our analysis focuses on same-season impacts. Winning may influence subsequent years' ticket sales and donations in ways our methodology does not fully capture.

Study 2: Has The Transfer Portal Shifted Talent Distribution in College Sports?

Methodology. Using regression analysis with team and year fixed effects, we estimate relationships between transfer portal activity and traditional high school recruiting outcomes, controlling for winning percentage, head coach changes, and other relevant factors.

Key Findings. Top-tier programs are increasingly substituting three-star high school recruits for transfer portal additions. Figure 4 presents core regression results examining how transfer portal activity relates to recruiting outcomes. The key insight emerges in the "Three Star" column: net quantity of transfer additions is significantly negatively associated with number of three-star high school recruits (-0.139 , $p < 0.01$). For programs adding more transfers on net, they acquire fewer three-star high school players.

Critically, this pattern is driven by quantity, not quality. We do not find evidence that programs bringing in lower-quality transfers compensate by recruiting better high school talent. Rather, the substitution operates along roster spots: when elite programs add more transfers, they dedicate fewer roster spots to three-star high school recruits.

Why three-star recruits specifically? This makes strategic sense for elite programs. Five-star and four-star high school recruits remain highly valued—they represent top incoming talent with high upside. But three-star recruits, while talented, typically require development time. Transfer portal athletes arrive with college experience and often require less development. For programs competing for championships, the portal offers a way to acquire proven, experienced talent rather than investing development time in mid-tier high school recruits.

Predictor	Recruiting Outcomes								
	All Stars	Five Star	Four Star	Three Star	Four and Five	Recruit Score	Points	Relative Quality	Realtive Quantity
Model Framework 1: Transfer Quality									
Net Transfer Quality	-0.143***	0.003	-0.008	-0.139***	-0.005	0.038***	-0.535**	0.009***	-0.000***
	(0.003)	(0.494)	(0.616)	(0.007)	(0.786)	(0.001)	(0.010)	(0.003)	(0.002)
Net Average Transfer Quality	-0.408	-0.007	-0.042	-0.359	-0.049	-0.781***	-0.992	-0.145***	0.000
	(0.579)	(0.942)	(0.893)	(0.648)	(0.876)	(0.000)	(0.739)	(0.002)	(0.937)
Model Framework 2: Transfer Quantity									
Number of Transfers In	-0.162***	0.002	-0.003	-0.160***	-0.001	0.019	-0.534***	0.006*	-0.000***
	(0.000)	(0.668)	(0.812)	(0.001)	(0.933)	(0.115)	(0.007)	(0.064)	(0.003)
Number of Transfers Out	0.066	-0.004	0.014	0.056	0.010	-0.019*	0.399	-0.004	0.000**
	(0.142)	(0.442)	(0.438)	(0.198)	(0.622)	(0.063)	(0.104)	(0.176)	(0.045)
<i>Model specifications:</i> ^a Model Framework 1 includes both Net Transfer Quality and Net Average Transfer Quality in the same model ^b Model Framework 2 includes both Number of Transfers In and Number of Transfers Out in the same model <i>Significance levels:</i> * * p < 0.10 † ** p < 0.05 ‡ *** p < 0.01 Notes: Coefficients shown with significance stars. P-values in parentheses. All models include team fixed effects, controls for winning percentage (Pct), year fixed effects, and head coach change indicator. Standard errors clustered at team level.									

Figure 4. Regression results of the impact transfer portal activity has on recruitment outcomes.³

Additional analysis reveals this substitution is driven by transfer additions rather than departures. Programs are not using high school recruiting to replenish roster spots lost to the portal; rather, they proactively choose to fill what would have been three-star recruit spots with transfers instead. Recruiting cycle timing helps explain this—high school recruiting classes are largely finalized before transfer portal windows open.

The Emerging Talent Pipeline. These findings point to an emerging talent development pipeline in college football. Mid-tier and lower-tier programs continue to recruit three-star high school players, develop them over one or two seasons, and then may see developed talent transfer to elite programs seeking experienced contributors. Summary measures in our data show a decline in three-star high school prospects going to elite programs. Elite programs can selectively target proven talent from the portal rather than taking development risks on three-star high school recruits. This has implications for competitive balance and talent distribution across college football.

Implications for Athletics Administrators.

- **Elite programs should strategically leverage the transfer portal.** For programs competing at the highest level, the portal offers opportunities to acquire experienced

³ “Net Transfer Quality” after controlling for “Net Average Transfer Quality” is effectively a measure of transfer quantity. “Net Transfer Quality” takes the sum of ratings for all transfer portal additions (positive) and subtractions (negatives). “Net Average Transfer Quality” is the difference between the average of the incoming player transfer ratings and the average of the outgoing player transfer ratings.



talent that can contribute immediately. Evidence suggests top programs are already substituting three-star high school recruits who require more development time for portal additions.

- **Mid-tier and low-tier programs face retention challenges.** Programs outside the elite tier must recognize they may be developing talent that subsequently transfers. This creates tension between investing in player development and accepting that improved players may leave. Successful mid-tier programs will need strategies for both player retention and continuous talent replenishment.
- **Roster construction strategies must evolve.** The substitution pattern suggests roster management now involves actively balancing high school recruits and transfer additions. Programs must consider not just talent acquisition but also age and experience distribution. This point requires further research to illustrate the impact of the transfer portal on school roster age composition.

Conclusions and Recommendations

These two studies address fundamental questions about resource allocation in contemporary college athletics. Together, they suggest a complex landscape where traditional assumptions about investment, performance, and revenue may not hold across all sports, and where new mechanisms for talent distribution are reshaping competitive dynamics.

From Study 1, we learn that short-term revenue returns to winning are minimal across most college sports. This does not diminish the importance of competitive success—institutional goals extend beyond direct revenue generation—but investment decisions should not be premised primarily on immediate financial ROI. Men's basketball appears to be the exception, showing clearer evidence of revenue sensitivity to performance.

From Study 2, we learn that the transfer portal has created distinct strategic opportunities and challenges. Elite programs are leveraging the portal to acquire experienced talent in place of three-star high school recruits, while mid-tier programs increasingly serve as development grounds for athletes who may subsequently transfer.

For athletics administrators, these findings offer actionable insights: resource allocation decisions should be informed by institutional goals beyond direct revenue generation; transfer portal strategy should be integrated into broader recruiting and roster management planning; programs should carefully consider the balance between high school recruiting and transfer portal additions based on their competitive tier; and long-term planning should account for evolving dynamics of athlete mobility and talent distribution.

Limitations and Future Research

Study 1 Limitations. Our revenue analysis includes only public institutions; private schools and public schools in states that protect universities from FOIA requests are not represented. Additionally, our marginal revenue product models require further refinement to address endogeneity concerns and time series trends. Future research should explore lag effects, as



winning in one season may influence subsequent years' revenues in ways our same-season analysis does not capture. Results may also underestimate long-run returns if women's sports experience significant revenue growth, necessitating reexamination of these estimates.

Study 2 Limitations. The transfer portal has not yet reached "steady state"—rules continue to evolve annually, making it difficult to assess long-term equilibrium effects. Our analysis is based on player movements and star ratings; we do not yet have comprehensive roster composition or performance outcome data to fully assess the competitive impact of transfer portal strategies. Future research should examine on-field performance outcomes and competitive balance implications as the portal matures.

Acknowledgements

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