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The Role of Broadcasting in National Collegiate Athletic Association Sports

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Abstract This essay describes important technological changes with regard to broadcasting and the growth of new revenue streams that those changes have created over the last 30 years and their influence on how, when, where and even for whom college sports are played. We discuss college sports broadcasting history, including the advent of cable television and new media technologies, complementary industries such as sponsorships and apparel, and public goods and winner-take-all market considerations as they relate to broadcasting. We examine the impact of these changes on the National Collegiate Athletic Association and its members as they adjust to, and compete for this new money that is on the table. Finally, we speculate about how all of this might play out by 2030.

Keywords Broadcasting · Technological change · National Collegiate Athletic Association

Follow the Money.

All the President's Men, 1976.

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1 Introduction

When the 1984 Supreme Court decided[1] *NCAA v. Board of Regents of the University of Oklahoma*, 468 US 85, which specified that the National Collegiate Athletic Association's (NCAA) restrictive television plan violated Section 2 of the Sherman Act, Apple had just introduced the first mass-market personal computer, the Macintosh, and the ubiquitous 'mouse.' Though prototypes had existed for a few decades, in 1984 the Internet had not yet surfaced.

Electronic Arts (EA), a company that would figure prominently in the Ed O'Bannon court case,[2] began producing video games in 1990.[3] And now-familiar social media sites, links and streaming services—Pandora (2000), Facebook (2004), Flickr (2004), YouTube (2005), Reddit (2005), Twitter (2006), Tumblir (2007), Spotify (2008), Hashtag (2009), Instagram (2010), Snapchat (2011), Vine (2012), and Yik Yak (2012)—were only dream material in Harvard dorms and Silicon Valley cafeterias in the late twentieth century.[4]

In 1984 the Big Ten conference actually had 10 members. With the addition of the Pennsylvania State University (Penn State) in 1990 and subsequently Nebraska, Maryland, and Rutgers, it grew to 14. For now. Its competitive peer conferences have expanded as well, and split into divisions to create faux conference-championship games that allow for expanded schedules, and greater ticket and broadcast rights revenue.

Concomitantly, broadcasting's share of big-time college sports revenues has mushroomed over this 30-year period, and individual athletic conferences and institutions have created or contracted separate television packages with various broadcast networks, where most of the football broadcast rights revenues appear.[5] With the advent of widescreen displays and high-definition television,[6] cable and satellite TV, the Internet, smartphones, social media sites, and streaming capabilities, technological advances that were unforeseen on June 27, 1984, have changed broadcast and home-entertainment viewing choices forever, and arguably have

[1] The case was originally filed in 1981 by attorneys for the universities of Georgia and Oklahoma. The 7–2 decision was reached on June 27, 1984.

[2] *O'Bannon v. NCAA*, 7 F.Supp 3d 955 (2014), which was filed in 2009; see also the appeals court decision, *O'Bannon v. NCAA*, 802 F.3d 1049 (2015).

[3] PowerPoint slide-based presentations—which are used ubiquitously nowadays in meetings, lectures, and public programs—were also launched by Microsoft in 1990.

[4] While not all of these products, platforms, or services allow for alternative viewing or streaming of live content, they do allow users—fans in the case of college and professional sports—to engage with each other on a much wider scale than was possible before. The "interactive" aspect has added another dimension and revenue source.

[5] In terms of the NCAA itself, in 2011–2012, 81% of its revenue came from television and marketing rights fees; this is the approximate percentage for the last decade. The bulk of the most recent money is from its 14-year, \$10.8 billion contract with CBS/Turner to broadcast "March Madness": the men's basketball tournament. By contrast, the 1982 CBS agreement was for 3 years and \$49.9 million.

[6] Large flat-screen televisions and LCD and LED technologies were developed in 1964 at the University of Illinois; but owing to cost and other technological considerations, for practical purposes they are a twenty-first century invention.

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upset the balance of in-venue versus at-home options and preferences for fans and families.[7]

In this essay we describe and discuss these important technological changes with regard to broadcasting and the growth of new revenue streams they have created over the last 30 years that have influenced how, when, where and even for whom college sports are played. We review broadcast history, including the introduction of cable television and new media technologies, complementary industries such as sponsorships and apparel, and public goods and winner-take-all market considerations as they relate to broadcasting. We examine the growth and importance of broadcasting revenues in college sports and the impact on the NCAA and its members. Finally, in the context of twentieth century changes after 1984 and twenty-first century innovations to date—which are roughly two 16-year intervals—we consider how all of this may play out by 2030.

In college athletics, some things are more or less certain: one way or another, the athletes eventually will have a greater voice in decision-making and will receive a larger share of the economic pie, though the precise paths and conflict resolutions in a rapidly changing environment are difficult to know.[8] The long-standing equilibrium in major professional sports leagues was disrupted by unionization and player free-agency in the 1970s and 1980s; then came the tremendous growth in revenues: from television and the money that could be extracted from a team's playing facility (usually a publicly-financed venue) in the form of advertising, premium seating, and public construction subsidies.

The equilibrium in college athletics was jolted by the conjunction of the 1984 *Board of Regents* decision and the explosion in potential television revenue streams that has made much more money available and disrupted existing NCAA arrangements. The NCAA can to a large extent control how many football games are played, but not when they are played nor the broadcast arrangements, and with

[7] This stadium-versus-in-home viewing quandary is not limited to college sports. For the National Football League (NFL) television revenue is the revenue dog, not the tail; with regard to stadium attendees, the immense size of the facility and remote viewing nature for many fans, weather concerns, and pre- and post-game congestion are tipping the scales in favor of staying home to watch the games, which affects the "electricity" in the stadium as well as concession and other revenues; this is a consideration that is not lost on the NFL: "Television Revenue is Killing the NFL Stadium Experience," http://www.sporttechie.com/2014/12/01/trending. The advent of compact discs and improvement in sound quality in home equipment has made it more difficult for symphony orchestras to sell full-season tickets; music lovers can have an acceptable substitute at home without the hassles of travel, a set schedule, and uncomfortable seats. Ever since the first radio broadcast of a sporting event, one question on the table has been whether these two options—listening to, or now watching, the game at home versus live in the stands–are substitutes or complements. That is, does broadcasting a game increase or reduce attendance; the evidence thus far appears to favor the former.

[8] Over the last several years, in the federal courts and the court of public opinion, college athletes have made inroads in terms of redress. The *O'Bannon* decision was one shot across the bow. The attempt to unionize by Northwestern University football players was another. Institutions and the NCAA have moved toward guaranteed multi-year grants-in-aid (full scholarships) and modest increases in their value. For a fuller review of the history and current status, see Sanderson and Siegfried (2015, pp. 115–138). On a more micro front, two 2017 first-round draft picks—Leonard Fournette at LSU and Christian McCaffrey at Stanford—opted not to play in their teams' lesser bowl games to avoid the risk of an injury that could affect significantly their long-term income streams. Such expressions of the modicum of leverage that star college athletes possess may pose another constraint on the NCAA cartel's power.

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the advent of streaming and portable devices it may not be able to dictate even for whom they are played.[9]

2 The Magnitudes

Currently broadcast rights revenues for just one of the major December bowl games exceed the amount that was paid for the entire college football season in 1984. Under the new playoff format in college football, which began in 2015, ESPN has a 12-year, $7.3 billion contract to televise seven games a year: four major December bowl games, plus the three-game series to select a national champion each January. The financial pressure to expand the playoffs to eight teams, and therefore a seven-game series, is obvious. A renegotiated contract would easily top $1 billion per year for just 11 games played over 3 weeks; this would be new money that would accrue to the NCAA for subsequent distribution (though not to the players, some of whom would have their work commitment extended by 3 weeks without pay).

College athletics, as well as its professional counterparts, has also been financially rewarded by the explosion of parallel-track complements: signage, including naming rights, in stadiums and arenas as well as the mass appeal of logo shoes and other apparel sponsorships.

Some of the increase in demand for college sports—both live attendance and television viewing—arises from the increase in potential fans. The US population increased by 43% from 1955 to 1985 during the life of the NCAA's initial "television plan," and another 35% from 1985 to 2015; over those 60 years, the US population grew from 166 million to 320 million.[10] Arguably more important for college sports demand has been the rapid rise in the number of enrolled college students, rising from 2.3 million in 1947 to 12.2 million in 1984 and 20.3 million in 2015.[11] These students form a base of devoted fans of college sports while they are enrolled and also after they leave campus and become alumni. In addition, continued migrations in this country may convert many fans into national-market viewers.[12]

While real (2015 dollars) median household income has increased only modestly since 1984 (it was $48,700 in 1984, and $56,500 in 2015), the real median household income of families at the 80th percentile in the income distribution has

[9] Though not a broadcasting issue *per se*, on the input side of the ledger social media sites and complementary technologies have complicated the recruitment of college athletes. NCAA-imposed limits on recruitment materials that can be given to prospective players, contacts between institutional representatives and those athletes, and simply information that is readily available to all parties, are all much harder to monitor, control, and enforce in a high-tech, social-media environment.

[10] U.S. Census Bureau, Population Division, Population Estimates, US and World Population Clock, http://www.census.gov/popclock/?eml=gd&intcmp=home_pop&utm_medium=email&utm_source=govdelivery.

[11] US Department of Education, *Digest of Education Statistics,* 2015, Table 303.10.

[12] The geographical relocations may have transformed regional affinities into national ones as the country continues to move west and south and to urban areas. Of the top 10 cities, by population, in the US 100 years ago, only New York, Philadelphia, and Chicago remain on that list today; the other seven today are in California, Arizona, and Texas.

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grown by a third: from $89,941 in 1984 to $117,000 in 2015.[13] It is families in the top quintile of the income distribution that are both most likely to have graduated from a 4-year college that fields big-time competitive intercollegiate sports teams and have the means to afford seat licenses, travel costs, and tickets to live games or premium cable packages that broadcast the games on television, and thus drive the demand for college sports. In addition, the advent of on-the-go technologies such as cell phones, tablets, and other portable devices, coupled with the huge decrease in transportation and communications costs, have added mobile consumers to demand.

3 Broadcast History

College football games have been broadcast on radio since 1921. NBC's broadcast of the 1927 Rose Bowl game was the first nationwide radio transmission, just months before Lindbergh's crossing of the Atlantic and Babe Ruth's memorable 60 home-run season.

The first television broadcast of a college football game occurred in 1939—between Fordham University and Waynesburg College—but the only receivers were in a Philadelphia television laboratory. By 1940 the number of receivers in Philadelphia had grown to 700, and so the University of Pennsylvania (Penn) decided to broadcast all of its home football games. These became sufficiently popular that by 1950 ABC was paying Penn $150,000 (1950 dollars; $1.4 million in 2017 dollars) for the broadcast rights.

The 1950s were a period of rapid change in sports broadcasting. In 1951 the NCAA voted to prohibit televised broadcasts of college football games on the grounds that television viewing might reduce live attendance, causing gate receipts to decline. But having just signed a $200,000 ($1.9 million in 2017 dollars) contract with ABC to broadcast its 1951 games, Penn refused to comply with the ban. The NCAA threatened Penn with expulsion, to be enforced by Penn's opponents refusing to play Penn. Confronting the loss of its entire football season revenues, Penn retreated on its broadcast plans, which led to a Congressional threat to hold antitrust hearings into the collective boycott of Penn by the NCAA. A compromise was reached, in which the NCAA allowed Penn to broadcast a limited number of its games for which tickets were sold out.

To control the emerging chaos in television broadcasting, in 1952 the NCAA introduced its "Television Plan" that was eventually interrupted 32 years later by the Supreme Court's 1984 *Board of Regents* ruling. The plan was an agreement among NCAA members to limit television broadcasts to one game per week (on Saturday afternoon), and further restrict the maximum appearances by a single team to two per year. The NCAA negotiated the contract and divided the rights revenue among its members (in a manner that eventually led the universities of Georgia and Oklahoma to press the lawsuit that resulted in the *Board of Regents* Supreme Court ruling). The value of television broadcasting rights for football rose rapidly over the decades after 1952, hitting $60 million ($140 million in 2017 dollars) annually by

[13] US Department of Commerce, Bureau of the Census, *Historical Income Tables*, Table H-1.

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1983 (the last year of NCAA control). The NCAA used some of the broadcast rights revenue to fund its operations, thereby covering its members' dues. The remainder was distributed to the teams that appeared in the broadcasts.

After the 1984 Court ruling that NCAA members could not collectively sell college football television rights, a duopoly emerged: the Big 10 and Pac-10 joined forces to sell their rights collectively, in competition against a consortium of the Southeastern Conference (SEC), the Big-8 (which developed into today's Big-12), and Atlantic Coast Conference (plus Notre Dame and Penn State) that cooperated to sell a College Football Association (CFA) package. The duopoly survived for 6 years, and then a "triopoly" continued for another five, eventually succumbing to internal strife among CFA members about how to distribute revenues. The CFA dissolved in 1995 when the SEC withdrew from the CFA package in order to strike out on its own via a contract with CBS. The Big Ten and Pac-10 had separated in 1990 for similar reasons.

Since 1997 individual conferences have negotiated their own college football television contracts, restoring a semblance of competition in the sale of college football broadcast rights, with each conference retaining some market power due to the geographical parochialism of college football fans who match the general locations of the conferences. After the turn of the century, however, several of the conferences and even some individual teams (e.g., Notre Dame, Texas) formed their own broadcast networks, which took several of the conferences out of the market competition.

At the beginning, the agreement to sell college football broadcasting rights collectively like a monopoly, and to limit broadcasts to one national college football game per week, created an intense artificial scarcity of broadcast games. Consequently, bids for those rights escalated rapidly. After the Supreme Court invalidated the NCAA broadcast rights cartel, the number of televised games increased dramatically, and per-game rights fees fell to less than a third of the level that they had been previously (Siegfried and Burba 2004, p. 807). But the fees soon rebounded, as the development and expansion of post-1984 technologies to tape and replay television programs excluding commercials increased the relative value of advertising on shows that viewers preferred to watch live—breaking news and sporting events—and during which they found it difficult to avoid watching the commercials.

In addition, in 1995 the new Fox network (formed in 1986) entered sports broadcasting by outbidding CBS for the rights to the National Football League's (NFL) National Conference games, which left CBS without any live football content. Prior to 1984, there was only one seller of college football and three buyers; with the advent of Fox, then other commercial channels and then cable outlets, coupled with the 1984 court decision, many more potential buyers of game content emerged, accompanied by a modest increase in the number of potential sellers, as conferences took over the marketing of their members' games.

ESPN first carried early rounds of the NCAA men's basketball tournament in 1980, when the trademarked name "March Madness" was coined. After the 1984 Court decision upended the NCAA's national television contract with ABC, ESPN

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immediately began to televise some major college football games. ESPN-2 arrived in 1993, with many other ESPNs since.

The consequence of the Fox entry into sports broadcasting was a CBS offer to the Southeastern Conference for its inventory of games that was too good to be refused, which precipitated the demise of the CFA and of the fragile equilibrium of the largest post-1984 consortium selling college football game content. With the further expansion of ESPN, the number of buyers that sought live football content continued to place upward pressure on rights fees for a relatively fixed supply of games. The number of sellers of premier game content and networks vying for contracts with them has varied over the past 30 years. Table 1 shows the chronological evolution of the number and identities of the broadcasters on the demand side, and the cartel subdivisions on the supply side for power conference football games.

With respect to basketball, in 1984 CBS paid (in 2017 dollars) $14 million to the NCAA (and its members) for broadcast rights to the March Madness tournament. By 2016 the annual transfer had risen to about $800 million, based on a 14-year contract between CBS and Turner with the NCAA. The contract was renewed for 2017 through 2032 at an annual rate of $1.1 billion![14]

The first college basketball championship, the National Invitation Tournament (NIT), was organized by the New York Basketball Writers Association. It was staged in New York City in 1938. The following year the NCAA initiated a competing tournament that featured eight conference championship winners. For many years thereafter the NIT and NCAA competed for teams for their tournaments, with the NIT dominating in the years preceding national television coverage because of the lure of New York City exposure to players who hoped for a professional career. Eventually the NCAA expanded its tournament field, inviting teams other than conference champions. It also prohibited any team that was invited to the NCAA tournament from participating in the NIT under threat of sanctions, which precipitated a lawsuit filed by the NIT against the NCAA for a collective boycott. The impending trial in 2005 led the NCAA to buy the NIT and subsequently run it as a tournament for teams that are not invited to March Madness.

Currently, there are five athletic "power conferences"—ACC, Big 12, Pac-12, Big Ten, and SEC—that each bring in more than $250 million a year from their three biggest revenue sources: football bowl games, distribution from the NCAA basketball tournament, and conference TV deals. The SEC leads that pack, collecting over $500 million, or an average of $37 million per school, annually. The growth rates in these streams would make any Wall Street firm green with envy.[15]

[14] Complementary contracts include a new Fox deal with the Big Ten Conference to televise 25 football games and 50 basketball games over the period 2018–2024, for a price of $250 million a year.

[15] In 2013, college football revenue exceeded $3.4 billion. While this falls short of revenues in Major League Baseball ($8 billion) and the NFL ($6 billion), it is inching closer to the NBA ($5 billion) and NHL ($3.7 billion). Ten years earlier the comparison figure for college football was $1.6 billion. http://www.businessinsider.com/, December 17, 2014.

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Table 1 The supply of and demand for intercollegiate sports broadcasts. *Source*: Authors' tabulations from websites and other media accounts

Period	# of suppliers	Names	# of demanders	Networks
1952–1983	1	NCAA	3	ABC, CBS, NBC
1984–1989	2	Big Ten	4	ABC, CBS, NBC
		CFA		ESPN
1990–1995	4	Big Ten	4	ABC, CBS, NBC
		Pac-10		ESPN
		CFA, ND		
1996–2017	6	Big Ten	15+	ABC, CBS, NBC
		Pac-12		ESPN, Fox, ESPN2
		SEC, ACC		ESPNU, FoxSp, TNT
		Big 12, ND		TBS, BNT, Pac-12
				SEC, ACC, Longhorn
				American sports

4 Public Goods and Winner-Take-All Markets

With 60,000 people in the seats in Tuscaloosa, Alabama, on a Saturday afternoon in the fall of 1983, the Mississippi-Alabama football game—which was not selected as ABC's game-of-the-week—was essentially a private good because anyone who did not buy a ticket could not watch it. But soon after 1984, and surely by 2017, that game took on public goods characteristics as millions of fans across the nation tune in on commercial, cable, or satellite TV—or even their tablets and cell phones to watch today's (or tonight's) contest, including many who did not pay for entry to the game. Moreover, during the game in virtually real time they can interact via social media sites with countless other fans across the nation.

Some aspects—wearing one's logo apparel to, and clutching one's admission ticket in, Bryant–Denny Stadium—remain largely private; but for the NCAA and Universities of Alabama and Mississippi, this widespread exposure and television contracts are now the dog that wags the revenues flows. Given some institutional and conference-wide contracts, part—but not all—of the public good, including cable and network packages, can be converted to a private good once more, as some non-payers are excluded by more advanced technologies and blocking services. But broadcasting college sporting events continues to exhibit the other characteristic that creates a public good—very low marginal costs—such that the efficient price level is practically zero, threatening revenues for and production of a service that creates a large welfare surplus.

Fortunately a system other than direct pricing has emerged to finance these public goods—advertising—that does not require a role for government, and does not leave the suppliers with a best behavioral option to act like a monopolist. The risk, however, is that consumers who dislike advertising will discover ways to thwart the messages, even on live broadcasts, and destroy the method that is being used to

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overcome the public good market failure at a price close to the efficient level (namely, zero).

In one sense this would be unfortunate if it went so far as to destroy all revenues from broadcasting and made the whole enterprise unprofitable. But in another sense, so long as advertising revenues persisted sufficiently so that the broadcasts continued, it would increase the consumers' share of welfare in the competition among consumers, the NCAA, networks, cable distributors, conferences, and individual institutions to secure the largest possible share of the rents.

Individual conferences have expanded to squeeze in another (conference championship) game, increasing the supply of games when the marginal revenue exceeds the modest marginal cost; the latter is largely driven by not having to pay the players (unlike in the NFL or NBA). But the real impetus for expansion is twofold: first, expand the conference's market area into new territory, as the Big Ten did with the addition of four universities, extending both its western edge (Nebraska) and tapping into east-coast markets (Penn State, Rutgers, and Maryland); and then, in an era of more broadcast buyers, expand the number of televised games: more from spreading out the contests across the 24/7 spectrum than increasing the total number of games.

These improvements in television broadcasting allow the perceived best performers in many fields to capture ever greater shares of industry revenues and to relegate the "also-rans" to battle for the modest leftovers (Rosen 1981). "Winner-take-all markets" (or "winner-take-most") are changing the distribution of the benefits from college sports, as the five power conferences squeeze out their weaker foes. The Bowl Championship Series (BCS) arrangement was an attempt to deprive "non-power" cartel members of a large share of revenues. The current Football Bowl Subdivision (FBS) playoffs continue that effort, as does power conference expansion, conference television networks, and even individual university contracts.

The number of college bowl games, after increasing from nine to 42 over the last three decades, and thus providing post-season play for more than 60% of the 128 FBS programs, may start to decrease with the increasing focus on the new football playoffs—which are likely to increase from a four-team to an eight-team tournament in the near future, thus further marginalizing other bowl games.[16]

Winner-take-all markets in college athletics will invariably lead, as with any cartel, to in-fighting, reactions, and adjustments. Where the new financial equilibrium in this rapidly changing environment will end up is anyone's guess. But history points toward an increase in the Gini ratios in favor of the currently entrenched elite programs.

[16] There is some speculation that with the advent of formal playoffs to determine a national collegiate champion, some of the lesser bowls, which require explicit and implicit subsidies from the institutions whose teams are playing in them, and which draw poorly, could be on the chopping block.

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5 Cable Television and New Media Technologies

Cable television emerged in the mid-twentieth century in rural areas that did not receive over-the-air broadcast signals. Live cable programming was widespread by the 1980s, and sports played a central role. Major League Baseball (MLB) and the National Basketball Association (NBA) were the first to make extensive use of cable. The NFL was the last major professional league sport to turn to cable, at about the same time that college football and basketball started moving to cable networks.[17]

ESPN (formerly Entertainment and Sports Programming Network) started airing the men's intercollegiate basketball tournament in 1980, about a decade after the widespread distribution of cable television. In 1995 ESPN SportsZone streamed a live radio broadcast of a Major League Baseball (MLB) game to its subscribers, the same year that Seattle-based RealNetworks televised an American League playoff game live over the Internet.

In addition to regular commercial channel broadcasts and cable packages, in recent years individual athletic conferences, and even individual teams, have contracted—some on their own and some in collaboration with existing networks—to televise college sports. The Big Ten Network (BTN), Pac-12 Network, and SEC Network are examples of the former; the Longhorn Network and Notre Dame's contract with NBC are examples of the latter. The Fox network now rivals the three legacy commercial channels—CBS, NBC, and ABC—and competes for broadcast rights for virtually all premier sporting events, including the Super Bowl. The three legacy networks have also partnered with cable networks such as Turner Broadcasting System (TBS or just Turner, a division of Time Warner) and ESPN (ABC Sports, a Walt Disney company) to televise contests.

In college football and men's basketball, the final games to crown champions are now broadcast exclusively on cable, which almost forces cable distributors to carry the cable networks that bid successfully for those rights, at prices that are largely dictated by the networks. Taking important college sporting events away from over-the-air television poses some risks, as viewership has declined in recent years as these post-season football and basketball championships have migrated exclusively to cable.[18] But the relevant metric for the NCAA and intercollegiate athletics programs today is revenue generated rather than college football and basketball fans accommodated.

Cable networks value the exclusive rights to broadcast games for which there is huge and relatively inelastic demand; the networks anticipate fans' willingness to pay distributors for cable service to access the games. In the event that the fans'

[17] Satellite television technologies developed alongside cable, but early systems were not popular, due to their expense and the large dish systems that were required. At present, the two main subscription-based satellite television firms are DirecTV and the Dish Network.

[18] The men's basketball championship game on April 4, 2016, attracted 17.8 million viewers across the cable networks that carried it; the year before, when the game was on CBS network television, the viewing audience estimate was 28.3 million. CBS had televised the championship game since 1982. In 2016 the Final Four matchups, carried on TBS, attracted fewer viewers than the previous year. See Perlberg (2016).

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cable provider does not carry the cable networks that own rights to those games, the networks anticipate that the cable providers will be virtually forced to add those networks to their menu, at a presumably substantial price increase to the cable providers. Cable providers, in turn, will likely pass much, if not all or more, of the increased price of content on to households.

As noted above, live broadcasts of intercollegiate sporting events command the highest advertising rates on television because viewers cannot record the games and fast-forward though commercials. If they were to do so they would no longer be viewing the games live, for which there is apparently an almost insatiable demand. Consequently, live sports programming is among the most valuable content that is available to broadcasters. Thirty-seconds of advertising time during the 2015 NCAA Men's Division I basketball tournament championship game cost $1.55 million. The highest prime-time show—"The Big Bang Theory"—charged $290,000 for 30 seconds that year. Saturday night college football attracted rates of $104,000 on ABC and $84,000 on Fox, while the highest Saturday night non-football show (Dateline Mysteries) commanded only $44,000 for a 30-second advertisement. Sunday, Thursday, and Monday night NFL football had 30-second rates of $637,000, $462,000, and $388,000, respectively, in 2015, while "The Voice", "American Idol", "Chicago Fire", "60 Minutes", "Madam Secretary", and "Celebrity Apprentice" commanded $234,000, $151,000, $142,000, $113,000, $89,000, and $80,000, respectively (Steinberg 2015).

Another effect of broadcasting has been the length of the games. The typical televised college football game has expanded by about 2 minutes a game for a number of years. (Televised college football games are longer than those that aren't televised.) Rule changes, replay challenges, and other factors contribute to this lengthening; but so also does the opportunity to extend times-out and other stoppages of play for a paid commercial.

In the three decades that followed the landmark 1984 Supreme Court *Board of Regents* decision, broadcast revenues have grown rapidly as the number of sports broadcast networks that seek live-game content has increased faster than the supply of elite college athletic competition packages. To capture the increasingly attractive rents, the NCAA and its member institutions have expanded the lengths of their football and men's basketball seasons by about 25%, grown the number of teams in conferences that possess regional market power, added conference championship games and the number of teams that compete in the 'March Madness' tournament, and moved from the Bowl Championship Series (BCS) conclusion to the season to a formal bowl-plus-playoff arrangement in football. They have also shifted games from traditional weekend contests to virtually any-time-any-place scheduling to expand their slices of this much larger broadcast pie (Carroll and Humphreys 2016).

The 2016 football and men's basketball seasons are cases in point: the 2016 college football season "kicked off" on Friday, August 26, with the University of Hawaii playing the University of California-Berkeley in Sydney, Australia. Sixteen games were on the schedule for Thursday, September 1. On Friday, September 2, 11 more college games were played. Thus before the nominally official start to the season on Saturday, September 3, there were 56 teams that had already taken the

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field. Two more games were played on Sunday, September 4, and one more on Monday, September 5.

The 2016 season concluded with the traditional Army–Navy game on Saturday, December 10. Except for Week 14, there were regularly scheduled games every Thursday and Friday night, five Wednesday nights, and four Tuesdays (including Election Day, November 8, for those whose tastes tend toward football instead of politics).[19] And, of course, there were multiple games every Saturday. The 2016–2017 bowl and playoff schedule started on Saturday, December 17, 2016, and concluded with the national championship game on Monday evening, January 9, 2017. In that 24-day span a total of 42 games were played. All were televised.

Fifty years earlier—the 1966 season—there were only nine bowl games. It was the first year that telecasts were in color. Consistent with the then-relevant NCAA contract with ABC, only eight national games and five regional games were televised during the season. Most football teams played 10 or 11 games. Twenty-five years ago—1991—most teams played 11 or 12 games, and there were a total of 18 bowl games. Today these teams play 12–14 games, with 42 post-season bowls.

In men's basketball, top-ranked teams play 7 days or nights a week, not the traditional Wednesday or Thursday, and Saturday nights. In major conferences the games are televised nationally. The number of teams in the men's basketball tournament has remained between 60 and 70 for the last 30 years, though all games are televised now, and the "Final Four" tournament has moved from being played in a college or NBA arena to a domed football stadium: the 2017 game was played on April 3 in University of Phoenix stadium, home of the NFL's Arizona Cardinals, before 76,168 fans. Future sites include NFL stadiums in Minneapolis, Indianapolis, and Atlanta. The 2014 finals drew almost 80,000 fans to AT&T Stadium in Arlington, Texas, home of the Dallas Cowboys; many of the spectators sported binoculars.[20]

In these two revenue sports, we have witnessed both expanded schedules—from the traditional 10-game football season (plus for a few teams a December bowl game), and 25-game regular-season schedule in basketball—and more prime-time television hours in terms of days of the week and time of day. The expanded schedules in college as opposed to their professional league counterparts are

[19] While exempt from the 1961 Sports Broadcasting Act, the NCAA and its members long eschewed playing many games on Friday nights so as not to interfere with high school football attendance. The popularity of Friday night high school football was exemplified by Buzz Bissinger's *Friday Night Lights* book and subsequent popular television series of the same name featuring a fictional Texas town and high school football program. That is clearly no longer the case.

[20] In "the good old days" the Final Four was held on a college campus, in a regular basketball arena. Then it shifted to NBA-type arenas, such as Madison Square Garden; these venues held 20,000 fans in what was foremost a basketball arena. 1996 was the last time that the Final Four was held in a facility that was the regular home of a college basketball team. Since the lion's share of the revenues from those games comes from television, one wonders why the NCAA would consciously produce an inferior product for the in-venue fans and players just to scoop up another few million dollars. But college athletics is not one to leave money on the table.

The NBA finals are on a basketball court; the NHL finals are on someone's "home ice." The Super Bowl isn't at anyone's home field, except by accident. NCAA Division I bowl games are in football stadiums, as is the final playoff game. The World Series is played in a baseball park. Only in men's college basketball is the final game played in a different sport's venue.

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attributable to the low marginal cost of an extra game in the former because players are not compensated commensurately. Adding to the capacity of the stadium or arena allows for a few more paying fans to contribute to revenues, but the real constraint to boosting revenue substantially remains the number of games played each season.

By moving games in terms of days of the week and time of day (or night), teams not only decrease their head-to-head overlaps with each other, but they also tap further into the broadcast market.[21] The division of revenues between actual attendance, even with expanded schedules and larger facilities, including in-venue revenue streams (signage, naming rights) and broadcasting constitutes an order-of-magnitude shift in the twenty-first century.

In Major League Baseball, the World Series is carried on over-the-air channels, although intermediate playoff rounds have moved to cable. Monday Night (NFL) Football shifted to cable in 2005, and some Thursday night NFL contests are now carried exclusively on cable. In college athletics, the "final four" FBS championship football games and "March Madness," are exclusively on cable; overall, nearly 70% of March Madness games are on cable.

But serious cable-cutting options are not just on the horizon, they are here.[22] The extent to which this matters—to professional sports leagues and/or individual franchises, to the NCAA as a unit and/or individual collegiate programs and conferences—will turn on who can legally or effectively capture the viewers and dollars. There will undoubtedly be winners but also losers—network television or possibly even cable companies—from these technological advances and shifts in consumers' viewing options. If universities get the rights fees from streamers who have cut their cable, for example, they may be indifferent as to the method of distribution, or even counted among the winners. But if viewers can obtain streamed game content without paying for it, the entire revenue stream may decline precipitously.[23]

Amazon.com, founded in 1994, is the world's largest e-commerce retailer. In late 2016 it began talking with the major North American professional sports leagues about a proposal to establish a premium-sports package to carry their contests live.[24] Such a streaming service would pose a threat to traditional commercial television and cable outlets; Facebook is another likely serious competitor, and the social media firm Twitter provided the first successful live-streaming of a Thursday Night

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[21] For the 2017 season, Brigham Young University (BYU) took advantage of an NCAA rule that allows it not to count a game in Hawaii against the 12-game regular-season limit; thus it had a 13-game schedule. In addition to "March Madness", here is an example of "December Madness" to capture revenues: The University of Utah (a public institution) played a basketball game against Stephen F. Austin (a public university that is in the Bible belt) on Christmas Day 2016, which was also a Sunday. The game was played in Hawaii. And it began, local time, at 7:30 a.m.

[22] One basic tenet of economics—tradeoffs—has surfaced with the advent of cable: smaller viewing audiences versus higher fees. See footnote 18. In addition to the raw totals, there are likely demographic differences between audiences that watch over-the-air television broadcasts, those who subscribe to cable packages, and those who would prefer just to stream the games.

[23] It was reported by digital platform security company Irdeto that about three million people illegally watched the August 26, 2017, Mayweather versus McGregor fight on 239 illegal streams.

[24] *The Wall Street Journal,* November 22, 2016, page A1.

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NFL game in 2016, and it signed a deal to live-stream 10 NFL Thursday games.[25] Amazon.com and the NFL reached a 1-year deal to stream 10 Thursday night games in 2017.[26] For $20 a month, Sling TV, the on-line streaming service, then offered subscribers the opportunity to "watch live TV anytime, anywhere."[27] These technological developments could cut over-the-air and cable networks and cable distributors (and their revenue shares) out of the live college sports delivery process.

Other frontier social media options include Snapchat, the photo-sharing and instant-messaging app, that offers the traditional television avid football fan complementary snapshots, commentary, videos, and live stories during commercials; Snapchat's CEO even bragged in 2015 that "more people are watching college football on Snapchat than are watching on television." One new element, which is captured by the tagline advertisement of one satellite television service (DirecTV)—"Don't just watch TV, …", is interactive viewing: being able to communicate in real time with other fans during the game, which formerly was something that was possible only for those in the stadium or sports bar or with family or friends at home, but is now extended to on-the-go viewers from virtually anywhere. Nowadays walking down the street, sunning at the beach, 30,000 feet in the air, or being in the back row of an economics lecture hall would not preclude one from taking in live sports action. "Smart glasses" ("augmented reality", or "AR", is the formal terminology) is the current technology frontier; this hands-free viewing option is already used to increase productivity in manufacturing and warehousing firms, and would represent the ultimate in on-the-go viewing for the avid sports fan or political junkie.

If a feed can deliver a live NFL contest to an iPad or iPhone, watching that game on a smart watch can't be far behind—nor can live-streaming college football and basketball games. The proverbial "800-pound gorilla" that could unravel cable's dominant position may be the digital streaming player Roku. These and other technological advances might destroy the existing cash-cow broadcast market, and a new one—or ones (plural)—could well emerge.[28] At the very least, cutting out

[25] In 2015 Twitter acquired start-up Periscope, the video streaming app. In addition, Facebook recently signed a deal with MLS and Spanish-language broadcaster Univision to stream at least 22 regular-season soccer games. *The Wall Street Journal,* March 10, 2017.

[26] *The Wall Street Journal,* April 5, 2017, page B2.

[27] While Amazon.com is implicitly associated with driving brick-and-mortar stores from the marketplace and creating abandoned malls across the country, some evidence suggests that it is the "big box" outlets such as Sam's Club and Costco more than "etailers" that are responsible for the declines in traditional establishments. But Amazon.com is not immune from technological change and shifts in consumer demand either: ebook sales, such as via Kindle or Nook, now constitute the majority of book sales for Amazon. The same holds for academic publishers of leading economics texts that now rely on electronic versions of their texts and ancillary "bells and whistles" such as on-line homework apps such as Aplia or Mind Tap for survival.

[28] Arguably now coming full circle from the *O'Bannon* case that turned on the use of likenesses in video games, in January 2017 the Big Ten Network began televising an e-sports tournament. E-sports may be the "new new thing" as professional franchise owners, broadcasters, and video game developers compete for entertainment dollars and live programming. The Pac-12 is also exploring e-sports, as are a number of individual universities. Another interactive complement is the expansion of the video game industry from niche markets to mainstream. This industry now has annual revenues of about $25 billion, with sports games' comprising about 13% of that total.

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current middlemen who are earning above competitive market returns could (but may not) reduce the prices that are paid by the final consumers.

One final aspect of the stadium-versus-somewhere-else decision for fans is their weighing the relative desirability of each viewing option. The in-venue experience has improved over the last 30 years, from better seating (and luxury-box options for the well-heeled) to Jumbotron scoreboards, non-stop complementary entertainment, and more upscale food and beverage choices. But over that same time period the attractiveness of the "somewhere else" alternatives to being at the game has exploded: better color and larger television receivers and sound systems, and being able to watch the game on a tablet, iPhone, or even smartwatch at home or on the go. The marginal cost of viewing is essentially zero with regard to these new options, and the time cost is cut in half by avoiding the drive time and traffic congestion. So in the twentieth century live attendance was arguably more attractive to many fans; but in a high-tech twenty-first century world, perhaps live attendance is not valued as much. And the NCAA—and NFL and NBA—will follow the money.[29]

6 Sponsorships and College Athletics

Sports marketing and sponsorships date from the late nineteenth century, including commercial ties to soft drinks, apparel, and tobacco products and alcohol.[30] But the growth came with the advent of television as a natural by-product. This new medium allowed for widespread "product placements" through which audiences could see what their favorite players and teams were wearing, which is more accessible to television viewers than to the average fan in the stands. Apparel became the largest category of sponsorships by far, with Nike, Under Armour and Adidas as the three leading competitors in this domain. Sports sponsorships was an $11 billion per year industry 20 years ago; today's figure is more than $30 billion (Morgan et al. 2005).

Nike currently has logo, footwear, equipment and apparel sponsorship agreements with 79 of the 128 FBS teams; Adidas sponsors 30; Under Amour has 15; and Russell Athletics has 4.[31] The University of Michigan is the leading Nike program, with annual revenues that are in excess of $10 million. Notre Dame is number two; UCLA, Texas A&M, and Kansas round out the top five. In 2016, Under Armour, the latest entrant in the endorsement area, signed a 15-year, $280 million agreement

[29] Sports league commissioners, who were stalwart opponents of gambling, in the face of softening television ratings have begun to warm up to the idea of legalized sports betting as a new revenue stream. The move of the NFL Raiders from Oakland to Las Vegas is an indication that the wall between sports and gambling is becoming porous. The NCAA is firmly opposed to legalized gambling—at least for now.

[30] Congress outlawed televised cigarette commercials in 1971, but then companies turned to venue and event sponsorships. One college football game, the Tobacco Bowl, was played until 1983. The NCAA allowed its broadcast partners to have sponsorship deals with beer companies, a trend that has continued. Dos Equis became an official sponsor of the college football playoffs in 2015.

[31] https://businessideofsports.com/2015 and http://www.businessinsider.com/biggest-ncaa-athletic-apparel-contracts.

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with UCLA. (In 2015, Nike signed an 11-year deal with the University of Michigan for $169 million; and 15-year deals with Texas—$250 million—and Ohio State—$252 million.)[32] At the professional level in many sports, these leading marketers also have arrangements with individual athletes; this is something that is not (yet) allowed in the college ranks.

7 Summary and Conclusions

Some might regard the NCAA and its member institutions as an octopus, wrapping its tentacles tightly around or fending off various enemies in its path—unionization or "free agency" and outright salaries for "student-athletes;" academic and behavioral scandals involving players, athletic departments, administrators and faculty members; the courts and Antitrust Division of the Justice Department—that threaten its revenue streams and perhaps even its very existence. How all of these factors and considerations will play out in the coming years is unknown.

In indirect ways, college athletics has been affected, generally more positively than negatively, by societal movements over the last 50 years: population growth, income growth, increasing college enrollments, and taste and preference migrations toward entertainment and sports. The last of these has been facilitated by the nudge of tax dollars toward building state-of-the-art facilities and tremendous technological changes: television and the truly staggering innovations of our age—computers, the Internet, cell phones and social media platforms and capabilities—and low-tech growth of high profile sports-apparel and media firms, as well as the popularity of professional sports leagues that provide both carrots and sticks for college sports programs and their athletes.

For the last three decades, the NCAA and its members have benefitted greatly from television—by far more than from any other factor. Here we have documented various related elements: the growth and importance of broadcast revenues in big-time college athletics; the attempt of the NCAA broadly defined to capture and assign the associated rents to maintain order within the cartel; how broadcasting entails inherent economic characteristics that could turn stability into chaos; and how continued technological advancements in communications may threaten the cartel's viability.

Could the NCAA and its heterogeneous membership thus die from the seemingly endless advances in broadcast technologies that have given them their largesse? The creation of new platforms, including streaming capabilities, multiply the opportunities for leaky buckets and cheating. Will technology allow some viewers to get access to games without paying intermediaries? At some point will market saturation overwhelm the there-are-only-twenty-four-hours-in-a-day constraint as college sports has to compete with all other labor and leisure choices and tradeoffs?

One manifestation of this last possibility is that we have seen decreases in college football attendance for six straight years, with the 2016 total 7% lower than the peak

[32] Germano, S. Mega Contracts with Colleges Start to Pinch Under Armour. *The Wall Street Journal,* October 27, 2016, B8.

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in 2008 (Solomon 2016), and the rate of increase in broadcast revenues is also falling. It may be that the advent of HDTV and other "free" alternatives to being in the stands—and paying for tickets, high-priced concessions and parking, not to mention the congestion costs and travel time commitment—have made viewing the game from the comfort of one's own family room an increasingly attractive option.

Finally, will legal challenges to the NCAA and its members reduce cartel power and divert more of the enormous rents to players or fans? Will Congressional intervention protect or blow up collective decision making in college athletics? In the old days, one could tune into the evening news to find out; now we can just check our Twitter notifications and Snapchat stories.

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