The Role of Broadcasting in National Collegiate Athletic Association Sports

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Follow the Money.

All the President's Men, 1976

Introduction

When the 1984 Supreme Court decided[2] *NCAA v. Board of Regents of the University of Oklahoma,* specifying that the National Collegiate Athletic Association's (NCAA) restrictive television plan violated Section 1 of the Sherman Act, Apple had just introduced the first mass-market personal computer, the Macintosh, and the ubiquitous 'mouse.' Though development and prototypes had existed for a few decades, in 1984 the Internet had not yet surfaced. Electronic Arts (EA), a company that would figure front and center in the Ed O'Bannon court case[3], began producing video games in 1990.[4] 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 20th century.[5]

In 1984 the Big Ten conference actually had 10 members. With the addition of Penn State in 1990 and subsequently Nebraska, Maryland, and Rutgers, it grew to 14. For now. Its

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[2] 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.

[3] *O'Bannon v. NCAA*, filed in 2009; ruling in 2014.

[4] PowerPoint slide-based presentation, used ubiquitously nowadays in meetings, lectures and public programs, was also launched by Microsoft in 1990.

[5] 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. And the "interactive" aspect has added another dimension and revenue source.

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 thirty-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.[6] And with the advent of widescreen displays and high-definition television[7], cable TV and satellite TV, the Internet, smartphones, social media sites, streaming capabilities and these new platforms, technological advances that were unforeseen on June 27, 1984, have changed broadcast and home-entertainment viewing choices forever, and arguably upset the balance of in-venue v. at-home options and preferences for fans and families.[8]

Currently broadcast rights revenues for just one of the major December bowl games exceed the amount 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

[6] In terms of the NCAA itself, in 2011-12, 81 percent of its revenue came from television and marketing rights fees, the approximate percentage breakdown 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 three years and $49.9 million.

[7] 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 21st-century invention.

[8] This stadium-v.-in-home viewing quandary is not limited to college sports. For the NFL television revenue is the revenue dog not tail, but with regard to the latter, the immense size of the facility and remote viewing nature for many fans, weather concerns, and pre- and post-game congestion is tipping the scales in favor of staying home to watch the games, which would affect the "electricity" in the stadium as well as concession and other revenues, a consideration not lost on the NFL: "Television Revenue is Killing the NFL Stadium Experience," hht://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 right at home without the hassles of travel, a set schedule, and uncomfortable seats.

$1 billion per year for just 11 games played over three weeks, 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 three 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 U.S. population increased by 43 percent from 1955 to 1985 during the life of the NCAA's "television plan," and another 35 percent from 1985 to 2015, growing from 166 million to 320 million over those 60 years.[9] 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.[10] These students form a base of devoted fans of college sports both while they are enrolled and after they leave campus and become alumni. In addition, continued migrations in this country may convert many fans into national-market viewers.[11]

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 grown by a third, rising from $89,941 in 1984 to $117,000 in 2015.[12] It is families in the top quintile of the income distribution that are both most likely to have graduated from a four-year college that fields big-

[9] U.S. Census Bureau, Population Division, Population Estimates, U.S. and World Population Clock, http://www.census.gov/popclock/?eml=gd&intcmp=home_pop&utm_medium=email&utm_source=govdelivery.
[10] U.S. Department of Education, *Digest of Education Statistics,* 2015, Table 303.10.
[11] 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 U.S. one hundred years ago, only New York, Philadelphia, and Chicago remain on that list today; the other seven are in California, Arizona and Texas.
[12] U.S. Department of Commerce, Bureau of the Census, *Historical Income Tables*, Table H-1

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 and other portable devices, coupled with the huge decrease in transportation and communications costs, have added mobile consumers to demand.

In this paper we describe and analyze the impacts of these elements, as well as other factors, on intercollegiate athletics and its revenue streams. We examine the growth and importance of broadcasting revenues in college sports, including adaptations to capture rents. We also discuss conflicts among NCAA cartel members, possible public goods market failures and winner-take-all considerations in the market.

Finally, we speculate, using two sixteen-year markers – 1984-2000 and 2001-2016 – on how all of this may play out by 2030. Some things are more or less "for sure": one way or another, college athletes 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 .[13] The long-standing equilibrium in major professional sports leagues was jolted by unionization and player free-agency in the 1970s and 1980s; then came the tremendous growth in revenues – television and the money that could be extracted from a team's playing facility – usually a publicly-financed venue – in the way of advertising, premium seating, and public construction subsidies. The equilibrium in college athletics was jolted by the conjunction of the *Board of Regents v. the NCAA* decision and the explosion in potential

[13] 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 such shot across the bow. The attempt to unionize by Northwestern football players was another. Institutions and the NCAA have moved toward guaranteed multi-year grants-in-aid and modest increases in their value. For a fuller review of the history and current status, see Sanderson and Siegfried, 2015, pages 115-138. On a more micro or individual front, two likely 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.

television revenue streams that has put much more money on the table 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 the advent of streaming and portable devices it may not be able to dictate even for whom they are played.[14]

Broadcast History

College football games were broadcast on radio beginning in 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 (current 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 and therefore cause gate receipts to decline. But having just signed a $200,000 contract with ABC to broadcast its 1951 games, Penn refused to comply with the ban. The NCAA then threatened Penn with expulsion, which would be enforced by Penn's opponents refusing to play Penn. Confronting the loss of its entire football season and revenues, Penn retreated on its broadcast plans, which led to a Congressional threat to hold

[14] Though not a broadcasting issue per se, on the input side of the ledgers social media sites and complementary technologies have also changed and complicated the recruitment of college athletes.

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 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 only by the Supreme Court's 1984 ruling. The plan was an agreement among NCAA members to limit television broadcasts to one game per week (on Saturday afternoon), and it further restricted the maximum number of 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 1984 Supreme Court ruling). The value of television broadcasting rights for football rose rapidly over the decades after 1952, hitting $60 million annually by 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.

After the 1984 Court ruling that NCAA members could not continue collectively to sell college football television rights, a duopoly emerged, with the Big-10 and Pac-10 joining forces to sell their rights collectively in competition against a consortium of the Southeastern Conference (SEC), Big-8 (which developed into today's Big-12), and Atlantic Coast Conference (plus Notre Dame and Penn State) cooperating to sell a College Football Association (CFA) package. The duopoly survived for six 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 its games 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 matching 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, taking 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 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 fees declined to less than a third the level of what they were under the cartel agreement (Siegfried and Burba, 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 were forced to watch 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, leaving 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 immediately began to televise some major college football games. ESPN-2 arrived in 1993, with many other ESPNs since. The consequence of the new 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, causing the demise of the College Football Association (CFA) and the fragile equilibrium of the largest post-1984 consortium selling college football games. With the further expansion of ESPN, the number of buyers seeking live football content continued to place upward pressure on rights fees for a relatively fixed supply of games. The number of sellers of game content and networks vying for contracts with them has varied over the past thirty years (see Table 1).

On the basketball side of the ledger, 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 the 14-year contract between CBS and Turner with the NCAA. Those entities renewed the arrangement for 2017 through 2032 at an annual rate of $1.1 billion – with a b.[15]

Table 1: The Supply of and Demand for Intercollegiate Sports Broadcasts

Period	# of Suppliers	Names	# of Demanders	Network Names
1952-1983	1	NCAA	3	ABC, CBS, NBC

[15] Complementary contracts include a new Fox deal with the Big Ten Conference to televise 25 football games and 50 basketball games over the next six years (2018-2024), for a price of $250 million a year.

1984-1989	2	Big Ten, CFA	4	ABC, CBS, NBC, ESPN
1990-1995	4	Big Ten, Pac-10, CFA, ND	4	ABC, CBS, NBC, ESPN
1996-2017	6	Big Ten Pac-12 SEC, ACC, Big 12, ND	15+	ABC, CBS, NBC, ESPN, Fox, ESPN2, ESPNU, FoxSp, TNT, TBS, BNT, Pac-12, SEC, ACC, Longhorn, American Sports

The first college basketball championship was organized by the New York Basketball Writers Association. Called the National Invitation Tournament (NIT), it was staged in New York City in 1938. The following year the NCAA initiated a competing tournament featuring the winners of eight conference championships. 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 to players hoping for a professional career. Eventually the NCAA expanded its tournament field and invited 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 not invited to March Madness.

Jumping to the present, 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. And the growth rates in these streams would make any Wall Street firm green with envy.[16]

Public Goods and Winner-Take-All Markets

With 50,000 people in the seats in Tuscaloosa on a Saturday afternoon in the fall of 1980, the Georgia-Alabama football game, not selected as ABC's game-of-the-week, was essentially a private good because anyone who did not buy a ticket was denied entry. But not long 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 to see the game. And 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 Georgia, 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

[16] 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.

a public good – very low marginal costs – such that the efficient price level is practically zero, threatening revenues for and production of a product 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 being used to 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 consumer's share of welfare in the competition among consumers, the NCAA, networks, cable distributors, regional affinities, and individual institutions to secure the largest possible share of the rents.

Conferences expand to squeeze in another (conference championship) game, increasing the supply of games gradually when the marginal revenue exceeds the modest marginal cost, the latter largely driven by not having to pay the players (unlike in the NFL or NBA). But the real impetus is two-fold, and intertwined: first, expand the conference's market into new territory, as the Big Ten did with the addition of three 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 these contests across the 24/7 spectrum than increases in the total number of games).

These persistent technological changes now allow the perceived best performers in many fields to capture greater and greater shares of industry revenues, relegating 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. In the case of college athletics, can the five power conferences squeeze out their weaker foes? The BCS arrangement was an attempt to deprive non-"power" cartel members of a large share of revenues. The FBS playoffs continue that effort, as does power conference expansion, conference television networks, and even individual school contracts. The number of college bowl games, after increasing from 9 to 42 over the last three decades, and thus providing post-season play for more than 60 percent of FBS programs, may start to decrease with the increasing focus on the new football playoffs – which are likely to increase from a 4-team to an 8-team tournament in the near future, thus marginalizing other bowl games.[17]

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 the early money and history, are siding with increasing the Gini ratios in favor of the currently entrenched elite programs.

Cable Television and New Media Technologies

Cable television emerged in the mid-20th 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 actually the last major

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

professional league sport to turn to cable, at about the same time as college football and basketball started moving to cable networks.[18]

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. And 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, almost forcing cable distributors to carry the networks that bid successfully for those rights, at prices largely dictated by the networks. Taking important college sporting events off of over-the-air television poses some risks, as viewership has declined in recent years as these post-season football and basketball championships have moved exclusively

[18] Satellite television technologies developed alongside cable, but early system 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.

to cable.[19] But the relevant metric for the NCAA and intercollegiate athletics programs today is revenue generated rather than college football and basketball fans accommodated, and cable networks value the exclusive rights to broadcast games for which there is huge and relatively inelastic demand, betting on fans' willingness to pay distributors for cable service to access the games and, in the event their cable provider does not carry the cable networks that own rights to those games, betting 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 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 thirty 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

[19] The men's basketball championship game on April 4, 2016, attracted 17.8 million viewers across the cable networks carrying 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. Perlberg, 2016.

commanded $234,000, $151,000, $142,000, $113,000, $89,000, and $80,000, respectively. (Steinberg, 2015).

In the three decades following the landmark 1984 Supreme Court decision over property rights, broadcast revenues have grown exponentially as the number of sports broadcast networks seeking live-game content increased faster than the supply of elite college athletic competition packages available. 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 percent, grown the number of teams in conferences that provide regional market power, added conference championship games and the number of teams competing in the 'March Madness' tournament, and moved from the 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, usually a night reserved for high school football, 11 more games were played. Thus before the nominally official start to the season on Saturday, September 3, 56 teams had already taken the field. Two more games were played on Sunday, September 4, and one more on Monday, September 5. The 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).[20] And, obviously, multiple games every Saturday. The 2016-17 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 telecasts were in color. Per 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 to 14 games, with 42 post-season bowls.

In men's basketball, top-ranked teams play their games seven 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 thirty years, though all of the 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 games will be played in University of Phoenix stadium, home of the Arizona Cardinals; 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 whom sported binoculars.[21]

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

[21] In "the good old days" the Final Four was held on a college campus, in a regular basketball arena. Then there was a shift to NBA type arenas, like Madison Square Garden, venues that held 20,000 fans in what was first and foremost a basketball (and hockey) arena. 1996 was the last time the Final Four was held in a facility that was the regular home of a DI basketball team.

On the one hand, given that 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.

In these two revenue sports, we have witnessed both expanded schedules – from the traditional 10-game season plus for a few a December bowl game in football or an extra 10 games plus an expanded tournament in basketball – and occupying 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 is 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 colleges to get more revenue from paying customers, but for the most part it's still a six-game home football schedule that constrains the revenue stream. In contrast, by moving the games in terms of days of the week and time of day (or night), these broadcasting constraints are lessened and teams are not only not going head to head with each other as much, they are tapping further into the broadcast market.[22] The division of revenues between actual attendance, even with expanded schedules and larger facilities, v. capturing in-venue streams (signage, naming rights) v. broadcasting revenues and related products constitutes an order-of-magnitude shift in the 21st century.

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

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 court, except by accident . The 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 non-basketball venue.

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

Madness games are on cable. But serious cable-cutting options are not just on the horizon, they are here.[23] 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 these 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, for example, they may be indifferent, or even counted among the winners.

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 and other sports over 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 NFL game in 2016, and it has inked a deal to live-stream 10 NFL Thursday games.[25] For $20 a month, Sling TV, the on-line streaming service, offers subscribers the opportunity to "watch live TV anytime, anywhere."[26] These developments could cut over-the-air and cable networks and cable distributors (and their revenue shares) out of the live college sports delivery process.

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[23]One basic tenet of economics – tradeoffs – has surfaced with the advent of cable, mainly lower viewing audiences v. higher fees. See footnote 19. In addition to the raw totals, there are likely demographic differences between audiences that watch regular television broadcast, those who subscribe to cable packages, and those who would prefer just to stream the games.

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

[25] In 2015 Twitter acquired start-up Periscope, the video streaming app.

[26] While amazon.com is implicitly associated or credited with driving traditional brick-and-mortar stores from the marketplace and creating abandoned malls across the country, some evidence suggests that it is the major "big box" outlets such as Sam's Club and Costco more than "etailers" that are more 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 like Aplia or Mind Tap for survival.

Other frontier social media options include Snapchat, the 2011 photo-sharing and instant-messaging app, that offers the traditional television football junkie 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, captured by the tagline advertisement of one satellite television services (DirecTV) – "Don't just watch TV, . . ." – is interactive viewing, being able to communicate in real time with other fans during the game, formerly something only possible for those in the stadium or sports bar or with family or friends at home, but 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 a 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.[27] At the very least,

[27] 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 percent of that total.

cutting out current middlemen who are earning above competitive market returns could reduce prices paid by the final consumers.

One final aspect of the stadium-v.-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. And the marginal costs of tickets 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 20th century live attendance was arguably more attractive to many fans, but in a high-tech 21st-century world, perhaps not so much. And the NCAA – and NFL and NBA – will follow the money.

Sponsorships and College Athletics

Sports marketing and sponsorships date from the late 19th century, including commercial ties to soft drinks, apparel, and tobacco products and alcohol[28]. 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, something more accessible to television viewers than to the average fan in the stands.

[28] 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 college football playoffs in 2015.

Apparel became the largest category of sponsorships by far, with Nike, Under Armour and Adidas as the leading three 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, 2015).

Nike currently has logo, footwear, equipment and apparel sponsorship agreements with 79 of the 128 FBS (Football Bowl Subdivision) teams; Adidas sponsors 30, Under Amour has 15, and Russell Athletics, 4.[29] The University of Michigan is the leading Nike program, with an annual payout in excess of $10 million. Notre Dame is number 2; UCLA, Texas A&M, and Kansas round out the top 5. In 2016, Under Armour, the relative new kid on the endorsement block, signed a 15-year, $280 million agreement 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.)[30] At the professional level in many sports, these marketing machines also have arrangements with individual athletes, something that is not allowed in the college ranks.

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

Summary and Conclusions

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[29] https://businessideofsports.com/2015 and http://www.businessinsider.com/biggest-ncaa-athletic-apparel-contracts.
[30] *The Wall Street Journal,* October 27, 2016, B8.

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 of 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 grist for serious public policy debate.

In indirect ways, college athletics has been affected, generally more positively than negatively, by societal movements over the last fifty 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 the tremendous technological changes in complementary industries, namely 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 athletic programs and their athletes.

For the last three decades, the NCAA and its members have gotten fat from, television, by far more than any other factor. In this paper we 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 associated rent 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 steaming capabilities, may multiply the opportunities for leaky buckets and cheating. Will technology allow some viewers to get access to games without paying intermediaries – perhaps the ultimate "death star"? 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 possibility is that we have seen decreases in college football attendance for six straight years, with the 2016 total 7 percent lower than the peak 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? Tune in to live 24/7 breaking news coverage to find out.

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