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The Game Theory of the NBA Collective Bargaining Agreement

The National Basketball Association's Collective Bargaining Agreement (CBA) is a contract between the National Basketball Players' Association (NBPA) and the NBA owners that governs the economic relationship between the players and the league. Although the CBA covers a wide variety of issues, it has three major aspects that dominate the negotiations: the percentage of league income reserved for the players, the luxury tax system, and the maximum contract system. The negotiations over the percentage of league income reserved for the players have a standard player-versus-owner dynamic. However, although CBA negotiations are ostensibly between the owners and players, in reality negotiations over the luxury tax system and the maximum contract system primarily take place internally among owners and players, respectively. Rather than a struggle between players and owners, CBA negotiations largely boil down to disputes between small-market teams and large-market teams and between high-profile players and roleplayers.

The only major aspect of the CBA for which the NBPA and ownership both have strong and differing incentives is the determination of what percentage of the league's basketball related income (BRI) is reserved for the players. During this process, the owners and players divide the billions of dollars that flow through the NBA. Both parties in this phase of negotiation have massive economic incentives to maximize their share of the league's BRI, because even a difference of one or two percentage points in favor of one side could net them tens of millions of

dollars. It is no surprise, then, that negotiations have broken down multiple times in league history over this issue: lockouts occurred in 1998 and 2011 when players and ownership could not compromise, stopping play until a deal was reached (it is true that both lockouts were over a variety of issues, but one of the primary causes for both was disagreement about what percentage of BRI would be reserved for players).[1]

In contrast to negotiations over BRI, adversity between players and owners is less of a factor in negotiations over the luxury tax system. Instead, two factions of team owners have economic and competitive incentives that lead to conflict over the luxury tax system: large-market teams want a looser tax because they can afford to spend more money and outcompete their opponents while small-market teams want a harsher tax in order to stay competitive with richer teams.[2] The luxury tax is a method put in place by the CBA to limit team expenditures on player salaries by placing a surcharge on teams that exceed a threshold of money spent on player salaries. In the 2011 CBA, the luxury tax is defined by the table[3] below:

(1) A team tax trigger (the "Tax Level") is set each season before free agent signings begin at 53.51% of projected BRI. The tax in each season applies to any team with a payroll that exceeds the Tax Level. For the 2014-15 season, the Tax Level is $76.829 million.

(2) Prior to the 2013-14 season, any team with a Team Salary over the Tax Level would pay a $1 tax for each $1 by which it exceeded the Tax Level. Effective with the 2013-14 season, the tax rates for teams with Team Salary above the Tax Level are as follows:

Incremental Team Salary Above Tax Level	Tax Rate for Increment
$0 – 4.99M	$1.50-for-$1
$5M – 9.99M	$1.75-for-$1
$10M – 14.99M	$2.50-for-$1
$15M – 19.99M	$3.25-for-$1

Tax rates increase by $0.50 for each additional $5 million increment above the Tax Level (e.g., for Team Salary $20 million to $24.99 million above the Tax Level, the tax rate is $3.75-for-$1 for that increment).

Tax rates for teams that are taxpayers in at least 4 out of any 5 seasons (starting in 2011-12) increase by $1.00 at each increment (e.g., for Team Salary $5 million to $9.99 million above the Tax Level, the tax rate for a repeat taxpayer is $2.75-for-$1 instead of $1.75-for-$1).

While this system is not a hard cap, because teams can theoretically spend an infinite amount on player salaries, it is nonetheless effective at equalizing team expenditures because the luxury tax gets prohibitively high as salary payments rise. This equalization is essential to the survival of small-market teams, because without some form of salary cap they would not be able to afford to field equally talented rosters as teams from larger, wealthier markets. On the other hand, large-market team dislike any form of salary cap because it limits their ability to gain a competitive advantage by outspending smaller teams. This friction between small-market and large-market teams is a major sticking point in CBA negotiations, and even contributed to the 2011 lockout because dissension among ownership led to delays.[4]

The luxury tax structure, however, is of little interest to players, for two reasons. First, players are already guaranteed a predetermined portion of BRI through the negotiations discussed above, and luxury tax spending doesn't affect what percentage the players receive due to an escrow system that withholds money from or gives money to players in the event that league payroll does not match up with the agreed-upon amount of BRI dedicated to players. Second, a study by Andrew Zimbalist concluded that the existence of a cap has little to no effect on the players' total share of the revenue across sports leagues, so players' have no economic incentive to care about cap negotiations.[5]

However, the players do have *some* incentives on either side of the issue: the salary cap is better for the league (due to its aforementioned effects on competitive balance) and therefore better for the players, because as BRI rises so do their paychecks. Conversely, the luxury tax limits player mobility because owners are more limited in who they can or cannot sign, which is a disadvantage for players looking to switch teams in free agency.[6] Nonetheless, these incentives

are minor enough compared to the owners' stakes in the negotiations, and so the role of players in setting the salary cap is limited compared to that of the owners.

Thus, the struggle over the luxury tax is not a simple player-versus-owner dynamic but instead an internal battle between small-market and large-market teams. In recent years, it seems the small-market teams have been winning out, likely due to increasing in number (owners make decisions by simple majority, so an increasing number of small teams would increase their power). During negotiations for the 1999 CBA, when the luxury tax was relatively relaxed, only 15 of 29 teams were below the NBA mean valuation; conversely, during negotiations for the 2011 CBA, when the luxury tax became quite harsh, 20 of 30 teams were below the NBA mean valuation.[7] Of course, small teams would prefer a "hard" cap, where teams are only allowed to spend a certain amount of money no matter what, so the luxury tax is a compromise solution that placates large-market teams. Nonetheless, the harshness of the luxury tax is still a vehicle for small-market teams to pursue their interests: as the league's balance of power has shifted toward small-market teams, the luxury tax has become more harsh.

The negotiations over maximum player salaries are the opposite of those over the luxury tax: different groups of players have strong incentives to raise or lower maximum salaries as a percentage of the salary cap, while owners have little reason to support one side or the other. The maximum salary is exactly what it sounds like: it is the absolute most that any player can get paid by a team. The maximum salary is defined as a percentage of the salary cap and varies based on years of service according to the criteria below[8]:

(1) For any player who has completed fewer than seven (7) years of service, the greater of (x) 25% of the Salary Cap* in effect in the first season of the contract, renegotiation, or extension, or (y) 105% of the player's salary for the prior season.

(2) For any player who has completed at least seven but fewer than 10 years of service, the greater of (x) 30% of the Salary Cap* in effect in the first season of the contract, renegotiation, or extension, or (y) 105% of the player's salary for the prior season.

(3) For any player who has completed 10 or more years of service, the greater of (x) 35% of the Salary Cap* in effect in the first season of the contract, renegotiation, or extension, or (y) 105% of the player's salary for the prior season.

Most players in the NBA fall into one of three categories of players: superstars (i.e. the best player on a given team), complementary players (i.e. the second and third best players on any given team), and rookies, old veterans, and roleplayers (i.e. low level players filling out spaces four through fifteen on the depth chart). Each of these approach maximum salary negotiations differently, bringing with them various incentives and tactics.

Superstars have a very clear reason to support raising the maximum player salary: every dollar higher that the maximum salary is raised is another dollar in their paycheck, because they will always command a maximum salary. In fact, a superstar would prefer no maximum salary at all, so as to have no check on their earning power.[9] In an open market, a player like Lebron James would be worth well more than 35% of the cap (Michael Jordan, Lebron's best historical comparison, earned a stunning 123% of the cap in his final year due to the Larry Bird Exception, which let teams re-sign players above the cap), and so the maximum salary is a huge blow to his earning potential.[10]

Low-level players have little influence on the maximum salary negotiation process for two reasons. First, new players have little standing in the union itself. During the 2011 CBA negotiations, the NBPA committee had an average of 9.56 years of experience while the NBA as

a whole had an average of 4.79 years of experience.[11] New players, even good new players who may one day command a maximum salary, are not represented during the negotiation process, so their incentives and motivations do not have the same influence on the maximum salary determination as the other two categories of players. Second, low-paid players have no reason to care about the maximum salary: their salary will be determined by the minimum-salary level, the mid-level exception, and by the veteran and rookie contract scales--all complicated aspects of the CBA but all unrelated to maximum salary negotiations. Finally, low-level players (especially inexperienced players) are unwilling to negotiate very aggressively, because they cannot afford to risk a lockout or strike (and thereby missed paychecks), so their voices are not heard as clearly as more secure, wealthier players.[12]

The final faction in maximum salary negotiations is the mid-level players--the second and third men on a roster. These players have a strong incentive to argue for more restrictive maximum salaries. A 2015 study found that the introduction of maximum salaries significantly raised the salaries of these players, because they were receiving the money that would usually go to the star player on a team.[13] This study concluded that without the option to outbid other teams for star players, teams resorted to outbidding other teams for these complementary players instead, thereby raising their salary significantly.[14] Although this paper examined the introduction of the maximum salary rather than negotiations about its level, it stands to reason that the same logic holds: every dollar not going to star players is reserved for these supporting players, and so they have a good reason to push for lower maximum salaries. These players are also those with the most influence within the NBPA, because they are both experienced enough to have a role within the organization while numerous enough to win out over the group of star

players. During the 1999 lockout, the efforts of these players led to the introduction of a maximum salary.[15]

Interestingly, the executive board of the NBPA is primarily star players, not these mid-level players (for example, the current president of the NBPA is Chris Paul, one of the best point guards in the league). However, pressure from within the union led to these star players bargaining against their own interest in negotiation over maximum salaries. The star players were forced by the collective power of the mid-level players to argue in favor of the median member of the players' union--these complementary players. The decision-making process of sports unions can be complicated, but the victory in this case of the complementary players seems to suggest the NBPA is influenced by the "median voter model."[16]

The median voter model is one way of analyzing the function of a union. It is in opposition to the monopolistic model, in which a union (in this case the NBPA) has the function of maximizing the profit from the sale of the labor supply--a supply that union has a monopoly over. The NBPA maintains this function during negotiations over BRI, when it tries to maximize the percentage of BRI reserved for the players. The median voter model, on the other hand, argues that the function of a union is to serve the interests of its "median voter," or the middle class. In this case, the union is not only a monopolistic seller of labor but also a representative for the interests of its member, which often leads to a greater focus on internal distribution of wealth among other changes (such as increased benefits, more job security, and better arbitration options). When the NBPA executive board includes lower salary caps in the CBA--or when they instituted them in the first place--the union representatives are taking their position as representatives of the median voter seriously.[17]

Owners, however, have few incentives to intervene in the maximum salary issue. Because a certain portion of BRI is already flowing to the players, the internal distribution of that money is of little concern to the owners (just as the setting of the salary cap is of little concern to players, because they are already guaranteed a portion of the pot). Furthermore, it is true that all owners, regardless of market-size, would certainly appreciate the ability to overpay top players in order to stop other teams from poaching them. That option, though, is already accounted for by the designated player extension, through which teams can re-sign superstar players to a contract that exceeds the maximum salary if they meet the requirements outlined below[18]:

> **(b)** The 30% Max Criteria are as follows: during the player's first four seasons, he was (i) named to the All-NBA first, second, or third team at least two times, (ii) voted an All-Star starter at least two times, or (iii) named NBA MVP at least once.

Owners, of course, do have incentives linked to the maximum salary. Teams with multiple stars can afford to pay them each maximum salaries, for example, whereas without a maximum salary they might be strained to pay both stars at market rate, hurting the team's finances in the process. On the other hand, teams without stars no longer have the option to overpay other teams' players and lure them away, because the player will get the same (or better) contract from their current team. These concerns, however, are minor compared to the very real economic ramifications the maximum salary has on both major and mid-level players, and thus owners have only a small role in determining the maximum salary.

Therefore, it is clear that the negotiations over the NBA Collective Bargaining Agreement are far from simple. Not only that, the sides involved are entirely different than what is often presented by sports media: the process is not only about player vs. owner, but is instead a complex landscape of incentives that are sometimes difficult to unravel. Nonetheless, writers

still often simplify the process (see Marc Stein's article on the new 2016 CBA, "NBA, Players' Union Reach Tentative Agreement on New 7-Year CBA," as an example[19]), likely due to the complicated nature of the negotiations. In fact, it must be acknowledged that even this paper's analysis is also somewhat of a simplification. While it is true that small-market vs. large-market and superstar vs. roleplayer are legitimate divides in the negotiation process, the CBA is an extremely complicated legal and business agreement with many aspects that cannot be wholly covered. Even so, it is safe to say that small-market teams will always oppose large-market teams, and that superstars will always oppose complementary players: when millions of dollars are at stake, people have a tendency to look out for their own best interest.

Citations

1. Sadler & Sanders, pg. 897
2. Sadler & Sanders, pg. 896
3. CBA 101, pp. 17-18
4. Sadler & Sanders, pg. 896
5. Zimbalist, pg. 25
6. Latimer, pg. 206
7. Sadler & Sanders, pg. 896
8. CBA 101, pp. 15-16
9. Hill & Groothuis, pg. 138
10. Manfred
11. Sadler & Sanders, pg. 897
12. Ibid
13. Hastings & Stephenson
14. Ibid
15. Hill & Groothuis, pg. 134
16. Ibid
17. Ibid
18. CBA 101, pp. 15-16
19. Stein

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