

Middle Class Players in the NFL: Policies and Impacts
NFLPA 2024 Analytics Case Competition

Max Rotblut, Nathan Wang, Lucas Cheng
Sports Analytics Club at the University of Wisconsin - Madison

Compensation Tiers:

We defined the middle-class using quantiles of the data. They are defined as follows:

Lower Class	Lower Middle Class	Upper Middle Class	Upper Class	The One Percent
0-50%	50%-75%	75%-90%	90%-99%	99%-100%

We have also added 3 classes outside of the middle class for more comprehensive classification. They include: the Lower Class, the Upper Class, and the One Percent

Breakdown of the Tiers:

The following number of players fits into each tier over the last 10 years.

Year	Lower Class	Lower Middle Class	Upper Middle Class	Upper Class	The One Percent
2015	825	412	248	148	17
2016	835	413	255	150	17
2017	832	416	250	148	19
2018	827	415	248	149	17
2019	831	415	250	150	17
2020	845	423	253	153	17
2021	851	426	255	153	18
2022	841	420	252	151	18
2023	832	416	250	150	17
2024	884	441	266	159	18

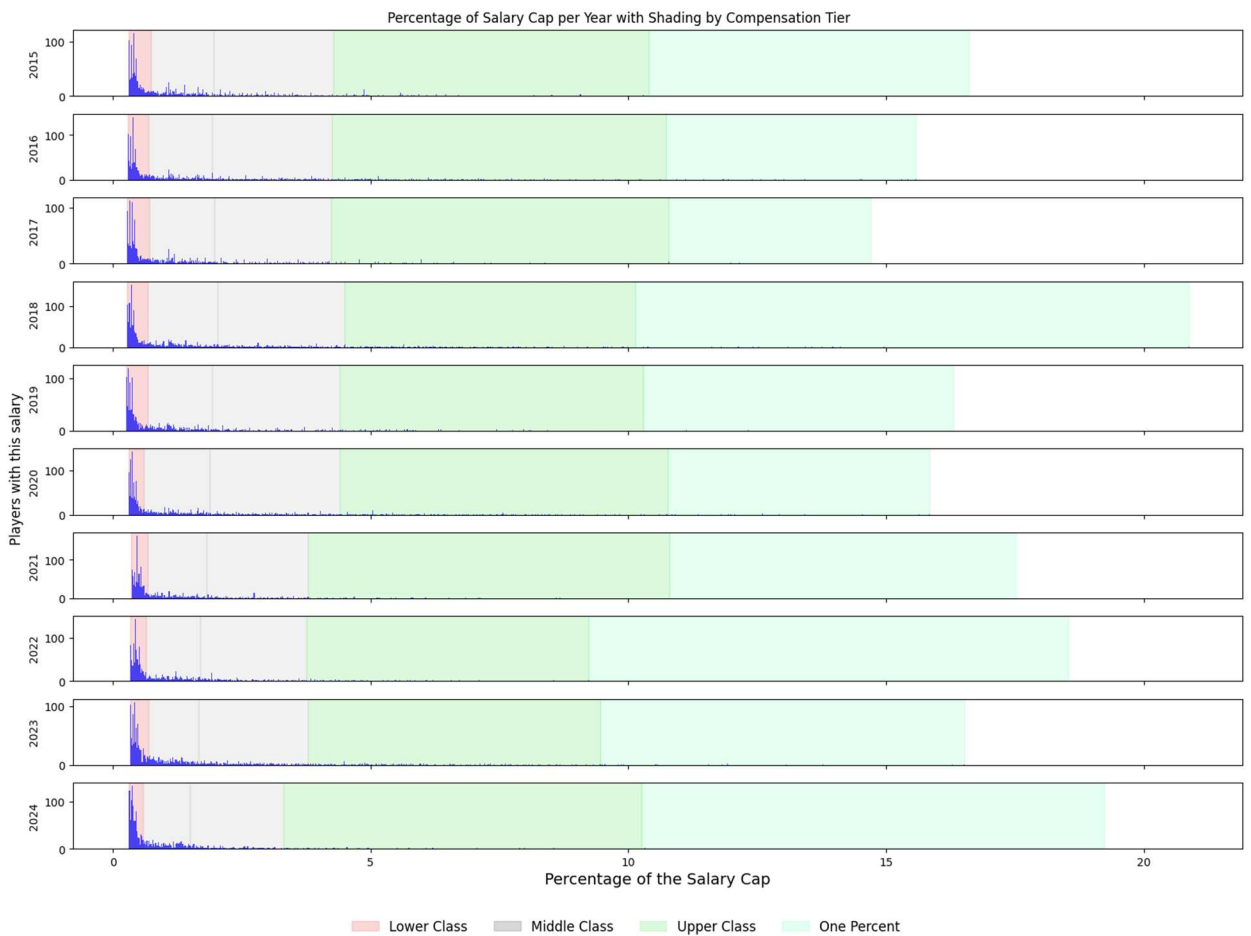
The following is the minimum salary per year for each of the compensation tiers.

Year	Lower Class	Lower Middle Class	Upper Middle Class	Upper Class	One Percent	Maximum Salary
2015	\$435,000	\$1,067,190	\$2,811,458	\$6,130,000	\$14,884,060	\$23,800,000
2016	\$450,000	\$1,074,097	\$3,000,000	\$6,601,875	\$16,655,000	\$24,200,000
2017	\$465,000	\$1,161,687	\$3,283,333	\$7,072,117	\$18,000,000	\$24,550,000
2018	\$480,000	\$1,200,000	\$3,593,751	\$7,976,562	\$17,951,100	\$37,000,000
2019	\$495,000	\$1,279,898	\$3,625,000	\$8,292,500	\$19,361,500	\$30,700,000
2020	\$610,000	\$1,190,742	\$3,723,334	\$8,712,500	\$21,349,999	\$31,409,000
2021	\$660,000	\$1,220,000	\$3,302,941	\$6,899,900	\$19,699,387	\$32,000,000
2022	\$705,000	\$1,351,257	\$3,512,244	\$7,818,900	\$19,200,000	\$38,600,000
2023	\$750,000	\$1,540,000	\$3,721,319	\$8,497,511	\$21,273,166	\$37,133,824
2024	\$795,000	\$1,500,238	\$3,800,000	\$8,463,250	\$26,195,266	\$49,118,177

These are the percentages of the salary cap that correspond to the dollar amounts above.

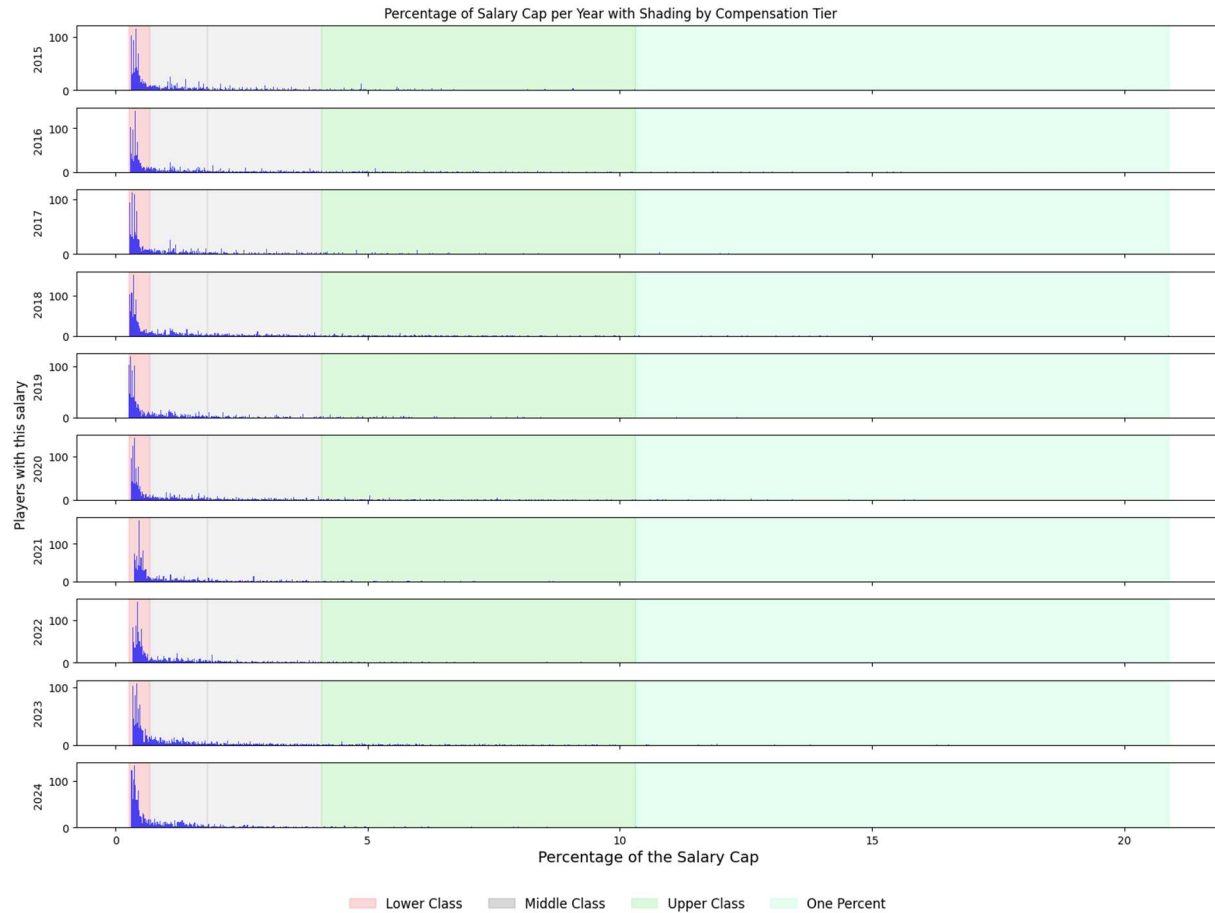
Year	Lower Class	Lower Middle Class	Upper Middle Class	Upper Class	One Percent	Maximum Salary
2015	0.30%	0.74%	1.96%	4.28%	10.39%	16.61%
2016	0.29%	0.69%	1.93%	4.25%	10.73%	15.59%
2017	0.28%	0.70%	1.97%	4.23%	10.78%	14.70%
2018	0.27%	0.68%	2.03%	4.50%	10.13%	20.88%
2019	0.26%	0.68%	1.93%	4.41%	10.29%	16.31%
2020	0.31%	0.60%	1.88%	4.40%	10.77%	15.85%
2021	0.36%	0.67%	1.81%	3.78%	10.79%	17.53%
2022	0.34%	0.65%	1.69%	3.76%	9.22%	18.54%
2023	0.33%	0.69%	1.66%	3.78%	9.46%	16.52%
2024	0.31%	0.59%	1.49%	3.31%	10.26%	19.23%

The following graph is a histogram that shows the distribution of player salaries, beginning from 2015 to 2024, using player salaries at the percentage of salary cap, specific to each year:



We then standardized the compensation tiers with the data from the previous 10 years to have standard definition for the compensation tiers.

Below is the same graph with the standardized compensation tiers.



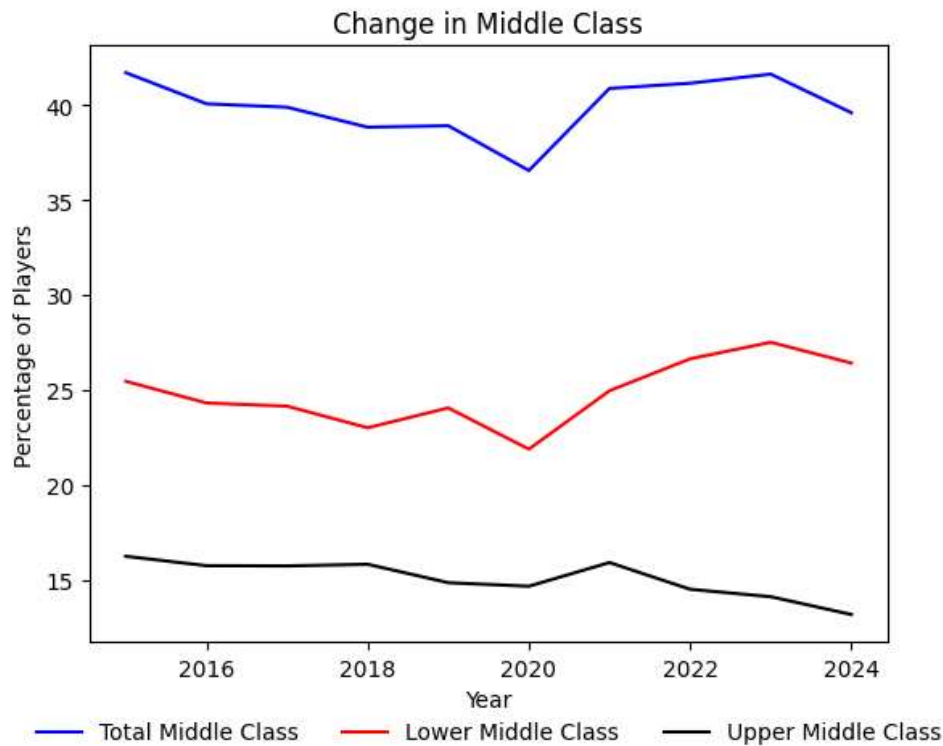
These are the number of players in each tier:

Year	Lower Class	Lower Middle Class	Upper Middle Class	Total Middle Class	Upper Class	One Percent
2015	788	420	268	688	156	18
2016	825	406	263	669	158	18
2017	819	402	262	664	163	19
2018	826	381	262	643	170	17
2019	827	400	247	647	172	17
2020	884	370	248	618	167	22
2021	852	425	271	696	137	18
2022	845	448	244	692	133	12
2023	822	458	235	693	139	11
2024	937	467	233	700	113	18

These are the percentage of players that fit into each tier:

Year	Lower Class	Lower Middle Class	Upper Middle Class	Total Middle Class	Upper Class	One Percent
2015	47.76%	25.45%	16.24%	41.70%	9.45%	1.09%
2016	49.40%	24.31%	15.75%	40.06%	9.46%	1.08%
2017	49.19%	24.14%	15.74%	39.88%	9.79%	1.14%
2018	49.88%	23.01%	15.82%	38.83%	10.27%	1.03%
2019	49.73%	24.05%	14.85%	38.91%	10.34%	1.02%
2020	52.28%	21.88%	14.67%	36.55%	9.88%	1.30%
2021	50.03%	24.96%	15.91%	40.87%	8.04%	1.06%
2022	50.24%	26.63%	14.51%	41.14%	7.91%	0.71%
2023	49.37%	27.51%	14.11%	41.62%	8.35%	0.66%
2024	53.00%	26.41%	13.18%	39.59%	6.39%	1.02%

The following shows the change of the total size of the middle class over the years 2015-2024, and separated by the upper and lower middle class:



Below are the relative percentage changes in tier size year over year:

Year	Lower Class	Lower Middle Class	Upper Middle Class	Total Middle Class	Upper Class	One Percent
2015	---	---	---	---	---	---
2016	7.349%	-3.975%	-6.627%	-4.875%	-23.441%	54.103%
2017	-1.729%	3.276%	-2.705%	1.167%	5.578%	-7.397%
2018	0.417%	6.728%	-8.839%	0.667%	-1.708%	-32.501%
2019	-4.299%	14.055%	8.504%	11.828%	-18.542%	-18.758%
2020	5.122%	-9.032%	-1.258%	-6.064%	-4.515%	27.269%
2021	-0.300%	4.545%	-6.122%	0.199%	0.751%	-0.421%
2022	1.403%	-4.709%	0.543%	-2.636%	4.861%	-10.040%
2023	-0.429%	-0.688%	-0.081%	-0.449%	3.474%	5.873%
2024	3.442%	-4.491%	-3.041%	-3.926%	0.069%	-1.198%

These are the relative percentage changes in tier size for each year compared to 2015:

Year	Lower Class	Lower Middle Class	Upper Middle Class	Total Middle Class	Upper Class	One Percent
2015	---	---	---	---	---	---
2016	3.442%	-4.491%	-3.041%	-3.926%	0.069%	-1.198%
2017	2.998%	-5.148%	-3.120%	-4.358%	3.546%	4.605%
2018	4.443%	-9.614%	-2.593%	-6.879%	8.580%	-5.898%
2019	4.129%	-5.506%	-8.556%	-6.694%	9.395%	-6.294%
2020	9.463%	-14.041%	-9.706%	-12.352%	4.456%	19.259%
2021	4.757%	-1.959%	-2.028%	-1.986%	-14.913%	-3.112%
2022	5.193%	4.637%	-10.687%	-1.332%	-16.366%	-34.602%
2023	3.375%	8.065%	-13.103%	-0.181%	-11.700%	-39.439%
2024	10.972%	3.769%	-18.862%	-5.046%	-32.399%	-6.674%

These are the percentages of the salary cap and their corresponding average dollar amounts, using the salary caps from 2015-2024, of the lower bounds of each tier:

	Lower Class	Lower Middle Class	Upper Middle Class	Upper Class	One Percent
Cap %	0.26%	0.67	1.81	4.08	10.30
Salary	\$494,013	\$1,273,033	\$3,439,090	\$7,752,204	\$19,570,515

We conclude that:

- The lower-middle class begins at \$1.27 million and extends to \$3.44 million.
- The upper-middle class begins at \$3.44 million and extends to \$7.75 million.

Explaining the Definition of the Middle Class:

The current middle-class definition is \$2 million – \$13 million. With our revised approach, we suggest a new middle class that is separated into 2 tiers: lower middle and upper middle.

Again:

Lower-middle class: \$1.27 million - \$3.44 million.

Upper-middle class: \$3.44 million - \$7.75 million.

We reached this conclusion by first pruning the data of player salaries from those that played less than a normal season. We then used a percentage-based approach to the distribution of player salaries as well as player salaries as a proportion of the NFL salary cap.

We believe this salary bracket better reflects the middle class of the NFL than the current bracket of \$2 million - \$13 million for a couple of reasons:

- The wealth disparity between someone making \$2 million and \$13 million is too high. Take for instance 2 players. Player A makes the top of the middle class, \$13 million, whereas player B makes \$2 million. Player A makes over 6 times the salary of player B and can thus afford a vastly different lifestyle. It does not make sense for both players to be included in the same salary bracket when they are offset by \$9 million.
- The 2 classes, lower and middle, allow for better and more specific differentiation. Based on our previous example, a player making \$1.27 million and a player making \$3.44 million will have different lifestyles, but not to the extent that \$2 million to \$13 million would make. Likewise, with \$3.44 million to \$7.75 million, the same reasoning applies.
- The 2 classes allow for a more targeted approach. Certain policies can be made to better target the lower portion of the middle class to move them into the upper middle class, or policies can be made to move lower-level players into the middle class. Ultimately, it will be easier for the NFLPA to make policies that target a narrower, more consistent lifestyle range due to the lower variance of our proposed range.

The Middle Class was Contracting and is Now Expanding:

The middle class was contracting from 2015-2019. However, after the 2020 CBA revisions, the middle class began expanding again. The data also shows that while the total middle class is growing overall, the lower middle class is growing while the upper middle class is shrinking.

Most Effective 2020 CBA Policies Contributing to the Shift:

- *Higher league revenue sharing*
 - The 2020 CBAs updated revenue-sharing model, beginning in 2021, offers a higher percentage of league revenue to players. Teams now receive at least 48% of all league revenue, up from 47%, with potential for an even greater share depending on increases in TV contract revenues. For instance, if TV revenues rise by 60%, players' revenue share increases to 48.5%.
 - This expanded revenue sharing supports middle-class growth by providing higher and more consistent earnings for most NFL players. This raises the salary cap allowing teams to keep middle class players who are usually cut to save cap space. As such, it would be the best interest for an NFL team to strengthen the core of their team with the new revenue.
- *Salary cap growth*
 - Growth in the NFL salary cap allows teams to allocate more funds toward player salaries, benefiting the entire team of athletes. As the salary cap increases, mid-tier players gain the opportunity to negotiate higher salaries or longer-term contracts due to more money being available. This financial uplift for these players supports economic stability, enabling them to invest in homes, education, or other long-term goals that are hallmarks of middle-class life. Additionally, higher salaries for a wider pool of players help narrow income disparities within the league, fostering greater financial equity.
- *Expanded Seasons to 17 games*
 - The NFL season being expanded to 17 games increases the amount of money players with per game roster bonuses receive. Players that receive these bonuses tend to be veteran players in the middle class or those making even more. An increase in the number of games will affect those whose contracts are structured on performance driven incentive rather than larger base salaries as these are more financially safe for the team.

Suggested Policies to Further Support the Middle class:

1. Changing the Veteran Salary Benefit Four-Year Qualifying Contract

Changing the current VSB 4-year qualifying contract (Article 27 § 7) to set the Salary Cap count for a contract to the minimum salary of a player with three credited seasons, keeping the rest of the stipulations the same.

The Veteran Salary Benefit indirectly supports the middle class of NFL players in the following ways:

A. The higher salary cap reduces veteran cuts:

- When teams operate under a very strict salary cap, they often prioritize cutting mid-tier or veteran players in favor of younger, cheaper talent. This is because veteran players naturally require higher salaries based on their experience in the league.
- Indirect impact: a higher salary cap or savings from benefits like the veteran salary benefit gives teams more room to retain experienced players without exceeding their cap limits. This prevents teams from having to disproportionately cut middle class veterans in favor of rookie or minimum-salary players.

B. Teams are encouraged to utilize the veteran salary benefit

- Given the ability to sign 4+ year veterans at the price of a 3rd-year player, teams are financially incentivized to retain experienced players. Teams can strategically allocate these benefits to their most valuable veteran leaders.
- By providing a larger discount to the cap number, teams would be more incentivized to use it on more of a regular basis, further expanding the middle class.

C. Fewer Veteran Cuts lead to a stronger middle class

- Teams with more cap space or access to benefits like veteran salary benefits are less likely to release veteran players, which are mostly in the middle class with few being even higher.
- Team Stability: Teams with a mix of experienced veterans and younger talent are often more stable and competitive, which indirectly strengthens the value of mid-tier contracts

2. Luxury Tax

Introduce a luxury tax to the NFL, softening the current hard cap. The current salary cap would remain the same, however, above the salary cap is the luxury cap at 120% the salary cap. The luxury tax rate is 125% of the team's salary cap count above the salary cap. The tax would increase to 150% if the team went above the salary cap 2 of the last 4 seasons. The same penalties that are incurred now if a team goes above the salary cap would be in place if a team went above the luxury cap. The luxury tax would be calculated on the trade deadline.

Luxury Tax Fund Allocation

1. 50% for Charitable and Developmental Causes for NFL players

This would support current and former players through meaningful programs and initiatives, ensuring their financial/physical/mental well-being during and after their careers at the NFL. These developmental programs especially affect the lower and middle classes, who generally would benefit more from these programs financially.

- Financial literacy workshops
- Mental health resources
- Career development initiatives for players leaving the NFL, including resume-building, interview preparation, and networking events
- Scholarships/grants for education or certification
- Long-term healthcare benefits for current/retired players
- Contributions to charities like NFL Foundations and the Professional Athletes Foundation
- Supporting NFL Flag, and International Outreach

2. 50% allocated to NFL teams

The remaining 50% of the luxury tax funds would be distributed to teams below the salary cap to support a competitive balance. We have listed multiple distribution options to ensure fairness and targeted impact:

A. *Equal Distribution*

- Method: All teams under the salary cap receive an equal share of the funds
- Benefit: Simplest and fair method, ensuring all eligible teams gain from the system

B. *Weighted by Middle-Class Player Retention*

- Method: All teams under the salary cap receive a portion of the funds, however, the teams with a higher proportion of middle-class players receive a larger share of the funds. The proportion of middle-class players is calculated

by the amount of money spent on middle-class players over the total amount spent.

- Benefit: Encourages teams to invest in veteran/middle-class players, strengthening the middle class.

C. *Hybrid Approach*

- 50% of the remaining funds are evenly distributed (Part A: Equal Distribution)
- 50% of the remaining funds are allocated by middle-class player retention (Part B: Weighted by Middle-Class Player Retention)

If there are fewer than 25% of the teams below the salary cap, the funds are distributed among the bottom 25% of teams in terms of salary cap count. This is to avoid a small number of teams receiving a large amount of money that would unfairly affect future performance.

Benefits from a Luxury Tax System

A. Player benefits:

- *Improved career support*: rookies can receive guidance, and retired players gain resources for a successful transition to life after football
- *Programs for developmental causes*: created due to the luxury tax funds, they allow players to learn wealth management and address long-term health needs.

B. Team benefits:

- *Promotes competitive balance*: the distribution of luxury tax funds to the lower-revenue teams allows these teams to gain access to financial resources to compete for talent and develop rosters
- *Strengthen the middle class*: this policy encourages teams to invest in experienced players, bolstering the middle class.

C. For the NFL as a whole:

- *Positive public image*: highlighting charitable and developmental programs enhances the NFL's reputation as a league that cares about its players and the communities they live and play in.

3. Middle Class Salary Cap Credits

Teams would be rewarded for having a higher percentage of their roster be in the middle class. This would be calculated as a percentage of the salary cap number paid to the middle class before any other salary cap credits are applied (like the VSB). If a team spends 42% or more of their money on the middle class, then 2% of the middle-class salaries would not count towards the cap number. Giving 2% credits to the cap would

provide similar benefits to the Veteran Salary Benefit. We came to this threshold of 42% of a team being middle class because it is the 75% quantile of for all teams over the past 10 years. For example, if a team spends 10 million dollars on the middle class, only \$9,800,000 would be counted toward the salary cap number.

Benefits of Salary Cap Credits

- A. Increased demand for the middle class
 - Having benefits for retaining middle class players would allow and incentivize teams to have a larger presence of middle-class players on their roster, players who are usually cut first when cap space is needed.
- B. More competitive teams
 - When rosters contain more middle-class players there is less of an over-reliance on star players which allows teams to perform even during injuries.
- C. Extends careers
 - This policy would allow teams to keep veteran players and not pay them minimum wage while still saving room in the cap. This can extend the careers of players who may have been cut or offered less money to preserve cap space.

References

- NFLPA. (2020, March 5). NFL–NFLPA collective bargaining agreement 2020 [PDF]. Retrieved March 15, 2020, <https://nflpaweb.blob.core.windows.net/website/PDFs/CBA/March-15-2020-NFL-NFLPA-Collective-Bargaining-Agreement-Final-Executed-Copy.pdf>
- Overthecap.com. (n.d.). *Over The Cap*. Over the Cap. <https://overthecap.com/>
- Spotrac. (2019). *Spotrac.com*. Sports Contracts, Salaries, Caps, Bonuses, & Transactions. <https://www.spotrac.com/>