

# ***Moneyball Theory in Professional Sports: An Analysis of the Football Industry and Market Failure***

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**Abstract:** Nowadays, the transfer price of athletes in the sports market is getting higher and higher. Moneyball is a theory that allows professional sports teams to spend a small amount of money but bring a huge boost. Moneyball applies the economic theory of market failure, mainly using two market failures, Information Failure and Monopsony. This article will analyze two professional sports teams that use Moneyball and market failure in football and baseball and describe the advantages and disadvantages of Moneyball and the future use of Moneyball. This paper finds that Moneyball can help many teams buy cost-effective players in today's sports player market. Moneyball can also help teams refine their recruiting analysts, and there are cases where Moneyball can be used in football. To buy the most suitable players with the guarantee that the team will not break the rules. Moneyball needs more teams to apply to determine this theory in the football world.

**Keywords:** Moneyball Theory, Market Failure, Football, Liverpool.

## **1. Introduction**

Sports fans all over the world are not only excited about the leagues but also about the transfer window. Professional athletes need to move to more competitive or influential teams to improve their abilities and commercial value. However, acquiring competent players can be costly, which includes transfer fees and various incentive clauses. Unfortunately, not all players bought for a hefty price have shown their worth. Some are in a slump, some can't adapt to new teams, and some have suffered career-ending injuries.

For example, the current football transfer fee is very high, with many players' transfer fees of more than 100 million euros. For many fans, they feel that these players do not deserve the price. Although a few high-investment deals have brought improvements to the team, there are always some losses. Chelsea Football Club, for example, is spending huge sums in the 2023-2024 summer transfer window. But their 140-million-euro acquisition of Belgian midfielder Roméo Lavia failed to help Chelsea stabilize their turbulent midfield. He missed the season early due to injury. Although this is his first season since his transfer, it still raises an important question for the fans and the club: Whether the more a team spends, the better the team performs [1].

Chelsea's recent transfer moves are just part of a decade of bad deals. When it comes to the economics of football transfer operations, many managers may consider only marginal cost and marginal benefit. Marginal cost refers to the cost caused by the purchase of one more player, while

marginal benefit refers to the team's results and other benefits caused by the purchase of this player. But a lot of teams overlook a sunk cost. The transfer fee is not refundable after the player arrives at the new club, and the cost is fixed, just like the purchase of kitchen utensils for opening a restaurant. However, if a player comes to a new team with a high transfer fee, the marginal return is not positive or even negative. The coach and the team will not let him play. So Moneyball, the cheap purchase of efficient players, entered the game [2].

This paper mainly analyzes how Moneyball theory improves the football club. Moneyball's success in other areas extends to the field of football. The analysis uses the benefits Moneyball brings to Liverpool Football Club to confirm that this theory is feasible in the football world. The importance of the moneyball theory lies in the fact that transfer fees in football and the signing fees of young and promising players are becoming more and more expensive. Many leagues have entered the stage of Money football. Gold-dollar football will lead to high salaries for players, bring more and more burden to the club, and there will be more capital intervention so that sports are no longer pure [3]. After all, football is not only rich teams, there are many small teams that rely on selling players every year to make a profit. Moneyball can make the cost performance of player signing more favorable to the development of some small and medium-sized teams.

## 2. Significance of Moneyball Theory

In 2003, Michael Lewis, an American author, published a book called Moneyball, which is a non-fiction sports book. The book illustrates how Billy Beane, the general manager of the Oakland Athletics, changed the traditional model of baseball management and player recruitment by utilizing statistical analysis and data-driven approaches.

The title "Moneyball" refers to making cost-effective decisions by utilizing statistics and analysis. Billy Beane and his team used economic and statistical principles to focus on the player data and performance metrics that were typically ignored to build a competitive team on a limited budget [4].

This book's success has attracted a lot of attention, not only in sports but also in business and other fields. The Moneyball concept is seen as a way of thinking that emphasizes the importance of data-driven decision-making and innovation, which has applications in many industries. As a result, "Moneyball" has become a representative management philosophy and methodology that is widely used in business, sports, government, and other organizations [5].

In this article, Moneyball will be combined with market failure. Market failures include externalities, public goods, Imperfect Information, Market Power, Income and Wealth Inequality. In the field of sports, mainly in the field of football which this article focuses on, market failure mainly uses the information asymmetry part. In the sports transfer market, the amount of money spent to sign a player is a subjective matter. The price tag for an athlete is not limited to the release bonus on the contract. To judge an athlete's value must be combined with his performance and age. Older players can usually be signed for a small amount of money.

It is a long process to fully understand a player, and often the analyst will start with the player's recent performance, then the player's habits and previous injuries, and finally talk to the player's agent to ensure that both sides are in the best interest.

Therefore, it is very important to master the information, and this is where the information asymmetry is reflected. Because athletes have only one choice, and that is to play for the club. Of course, clubs can only sign contracts with one player at a time. A player cannot represent two clubs at the same time. This is a buyer's market. Of course, players can compete for both club and national teams [6].

In the essay 'Hidden Monopsony Rents in Winner-take-all Markets — Sport and Economic Contribution of Spanish Soccer Players' on 27 December 2006, by Pedro Garcia-del-Barrio, people can read the following text: Calgem realizes that in a winner-take-all market situation, he can bid

relatively less for Ronaldo compared with FC Barcelona in order to maximize the 'superstar' profits. In winner-take-all markets such as professional sports leagues, a small number of high performers tend to dominate most of the rewards, leading to huge disparities in income. In this context, Garcia del Barrio argues, monopoly power - where a single buyer has substantial control over the market - plays a crucial role [7].

### 3. Case Analysis

Liverpool, the English Premier League football team owned by the same owner as the Boston Red Sox, the previous successful baseball team using Moneyball, is of course the most typical example of Moneyball's use in football.

Damian Comolli's first transfer window saw Roy Hodgson depart to be replaced by Kenny Dalglish, but with the Moneyball approach still in its infancy, Liverpool was left in a deadline-day drama when Luis Suarez arrived, Fernando Torres departed, and Andy Carroll signed for a British record fee. For a staggering £35 million.

That figure hung over the player and his club for the next year and a half, but the summer of 2011 highlighted what Fenway, Comolli, Dalglish and Liverpool were trying to do.

Carroll's statistics show that most of his goals are scored with crosses into the box, so a study of Sabres metrology will attempt to guide Liverpool's search for players who can provide that service for him.

Charlie Adam was one of Blackpool's most accurate dead-ball passers during their relegation season in the Premier League. Aston Villa's Stuart Downing was one of the club's most prolific passers last season. Young Sunderland midfielder Jordan Henderson continues to be quite impressive on the chance creation table.

One thing Moneyball cannot prepare Fenway Sports Group Holdings(FSG) for, though, is that the price of English footballers often rises, with around £44m spent on the trio, while relatively low wages are used as arguments in favour of signings.

It didn't work out. Adam found something amiss when he performed beyond the level he was used to, while Downing and Henderson struggled to find confidence in their first season on the international stage - something they later found under Brendan Rodgers.

After a very difficult few years after 2010, Liverpool recovered some of their strength under manager Brendan Rodgers in 2012, with the best result being a second-place finish in the 13/14 season. In 2014 FSG signed Felipe Coutinho, an attacking midfielder who had fallen out of favour at Inter Milan, who was confirmed to join Liverpool in January 2013 for £8.5m. He developed from an ordinary young player into the best attacking midfielder of his time. He scored 41 goals in 154 appearances. In January 2018, he moved to La Liga side Barcelona for a transfer fee of 160 million euros. This huge transfer fee set the stage for Liverpool's subsequent revival. Sign a talented player at a cheap price and transfer it out at a very high price [8].

Klopp hired Edwards as part of his recruitment team after taking over at Liverpool in 2015. "Moneyball" did work, even if it took time. Roberto Firmino was a "transfer committee" signing during the Brendan Rodgers era, but he did well and became a Liverpool legend under Jurgen Klopp. When the analytics team found that in the games Firmino played, he created the highest number of clear scoring chances for his teammates in the league. Klopp brought in Egyptian winger Mohamed Salah in 2017 after failing to get a start in the Premier League. Salah was priced at £36.9 million at the time and the Italian club were desperate to complete the deal as they needed funds to comply with Union of European Football Associations (UEFA)'s Financial Fair Play requirements. This kind of signing of once underdog players is the essence of Moneyball. This is a win-win deal for both parties. With the arrival of Salah, Klopp's three-striker system was finally perfected. Roberto Firmino, Sadio Mane and Mohamed Salah broke many records in the new season and helped Liverpool reach the

Champions League final. The pace of Salah and Mane was the main reason for the recruitment analysis team led by Edwards to find players suitable for Klopp's High Press style of play. Their pace combined with Firmino's ability to create chances led to one Champions League title, one Premier League title, one European Super Cup, one World Club Cup, one League Cup and one FA Cup from 2017 to 2022. The total value of the three strikers cost only 124.2 million euros.

Liverpool's main transfer objective at the time was to pick players from relegated clubs. Relegated clubs usually sign a relegation release clause with their players. But the players at these relegated clubs often don't have the quality to stay in the top flight, which is something that scouts and recruiting teams need to find out. Georginio Wijnaldum started the trend. He was seen as a major acquisition at €29m, but Liverpool certainly secured the value of the deal. The Dutchman became a key part of Klopp's midfield over the next few years. And then there's Andy Robertson, who is the cheapest of the bunch. Few wanted to pay attention to the young left-back, who had just become part of the back four, scoring a league-high 80 goals, but Liverpool saw his potential and snapped him up for €9 million. The following year, Swiss international Xherdan Shaqiri moved from relegated Stoke City to Liverpool, who triggered the player's €15 million relegation release. All of these players were key members of Liverpool's 2019 Champions League winning team as well as the 2020 Premier League title. Shaqiri has proved his ability in the early years of his career, and to get such a skilled and versatile player, Liverpool's transfer fee can be said to be very good value. Signing players from relegated clubs, avoiding direct competition and doing more for less, fits perfectly with FSG's Moneyball strategy [9].

In these cases, Liverpool, as a team with modest transfer spending, has played a title challenge in the English Premier League. The Money ball strategy can be said to have been very successfully integrated into Liverpool. All of Liverpool's signings have been for relatively low prices, but they have gradually increased their value under Klopp's tactics to between €50 million and €100 million. And they are generally underpaid. In general, Moneyball cannot sign undrafted players directly in the football field, but they can look for potential players from the lower leagues and overseas leagues who are not being used.

## 4. Advantages and Disadvantages of Moneyball Theory

### 4.1. Advantages

The advantages of Moneyball theory are mainly reflected in the establishment of mature data analysis groups and avoiding direct competition in the transfer market. Direct competition in the transfer market often leads to the purchase of players at a premium. High transfer fees put pressure not only on clubs' finances but also on players. If the player does not match the performance of the transfer fee, the fans and the media will put public pressure on the player and the club, which will not help the player and the club. If you use Moneyball theory to analyze the data, look for players who are not famous but have a lot of quality or potential. First, part of the transfer will be reduced, and there is no need to fight for the initiative by raising the price. Secondly, for the media and fans, watching their favorite young players or players with potential or experienced players come to the new team through a low transfer fee, and play far more than their own performance, helps to improve the team's support, influence and attractiveness, and will bring higher commercial value and media attention. The establishment of a mature data analysis team can improve the analytical ability of the club and provide more job opportunities for staff. A team's performance analyst can study transfer target data to compensate for his team's shortcomings. The huge data can obviously analyze the failures of the team. For example, the team's recent goals conceded mainly come from the two wide defensive problems, so scouts can be targeted to examine the candidates for full-back and wingers. As more and more analysts join the team, the quality of players and transfer information will become more and more

transparent. This approach can not only make use of the asymmetry of information but also effectively avoid the loss caused by the loss of information.

#### 4.2. Disadvantages

The main draw of Moneyball is that there is so much uncertainty and randomness in sports. There may be a gap between players because of their adaptability, such as the tactical understanding of the new team, the mastery of the language, and the influence of the media. Sports are often associated with injuries, because of injury factors and the player's habits, the transfer effect of players may not reach expectations. For example, in 2019, the legendary Belgian winger Eden Hazard could not integrate into the team because of injuries, age, and living habits. Hazard's performances in the Premier League and for his country during his time at Chelsea until 2019 would have earned him a Ballon d'Or nomination. Real Madrid desperately needs an influential player in the forward position following the departure of Cristiano Ronaldo in 2018. It is possible that Real Madrid's recruitment staff did not anticipate these uncertainties, leading to the signing of Hazard becoming a typical failure in the football transfer market in recent years.

injury is one of the uncertainties of sport, another is the pressure of being a football star. Nowadays, the media and news are very convenient, you can see them on the Internet and mobile phones at any time, for a high-priced player, reporters and fans will pay great attention to his performance, which will bring a lot of pressure. If you don't perform well or make a major mistake. There will always be a lot of criticism. According to research, The results indicate potential complexities in the relationship between social evaluation, cortisol response, and athletic performance. The pressure of the media can also cause players to slump, and even a highly effective player who has been transferred for a low price can be criticized and abused on social media if his form slumps. Media pressure is part of the game, and the randomness on and off the field is what makes football enjoyable for spectators [10]

#### 5. Future Expectation

As for Moneyball's use in professional sports, many teams are eager to introduce the system. The main reason is that spending less money leads to better performance for the team. Before the pandemic, football transfer window teams were spending more and more money. The number of transfers above 100 million euros is increasing. In response to this situation, UEFA's current action is to restrict teams that break the rules from making transfers in the transfer window. The FA and other national leagues' main punishment is the deduction of league points. For the future transfer market, if the team violates the financial regulations to bring in players, or the future club violates the financial regulations leading to bankruptcy or profit from it. The punishment that could be imposed by the league's governing body or the European Football Association is likely to be a ban from continental competition, relegation from the top League or, at worst, a takeover investigation. The team under takeover cannot be involved in any player transfers [11].

#### 6. Conclusion

Moneyball theory represents a new shift in the use of professional sports, revolutionizing the traditional approach to player recruitment. It uses market failure in information asymmetry and buyer monopoly. The feasibility of Moneyball in football was demonstrated through the famous example of the success of Liverpool Football Club. Money Ball has proven to be an effective way to identify underrated talent and maximize team performance and performance within a limited transfer budget. Using data and statistical analysis, teams can avoid direct competition with other clubs for players with high transfer fees, reduce the risk of high transfer fees, and have a certain competitiveness in the league. A mature data analysis group provides team managers and coaches with clear decision-



making and planning. Although Moneyball has many advantages, sports are highly uncertain and random, coupled with uncertainties such as the adaptability of players and pressure from the media.

This article simply uses the moneyball concept to make an argument about Moneyball-related market failures and the success of football examples. moneyball's analysis of player transfers has not been thoroughly analyzed with a large amount of data and charts. It just illustrates the benefits of moneyball, allowing some less wealthy teams to compete in leagues where money has become unfair.

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