

Real-World Assets Tokenization in Sports Industry: Valuation, Opportunities, and Challenges

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Abstract. Driven by media rights, international fans and diversified revenue sources, the global sports industry is running in a major financial transformation. This article explores the potential of tokenization of real-world assets (RWA) supported by blockchain technology to completely transform sports financing and valuation. Although RWA tokenization has advantages such as enhancing liquidity, reducing transaction costs, improving transparency and global accessibility, it also faces key challenges such as regulatory uncertainty, legal enforceability and interoperability issues. Traditional valuation methods, which based on revenue, market and assets. Despite they are still widespread, but they have limitations in dealing with intangible assets and cross-border transactions. This study concludes with RWA tokenization with its transformative potential, integrating RWA tokenization into the sports industry requires further research, a standardized framework, and regulatory coordination to achieve widespread adoption.

Keywords: Real Word Assets (RWA), Sports Industry Financing, Blockchain Technology, Stablecoin Tokenization, Sports Industry Valuation

1. Introduction

Driven by factors such as media rights, a global fan base and diversified revenue channels, the financial structure of the global sports industry has undergone significant changes. The introduction of blockchain technology, especially the tokenization of stablecoins and real-world assets (RWA), has brought revolutionary changes to the financing models and asset management of the sports industry. Research illustrates that the tokenization of RWA may bring new financing channels to the sports industry, especially by lowering investment thresholds, increasing liquidity and attracting international capital [1]. However, this emerging model still faces multiple challenges such as inconsistent regulation, technical feasibility and market acceptance. This article provides a valuable theoretical analysis for understanding the application of blockchain technology in the sports industry and offers an important reference framework for future practitioners.

Professional valuation sports model is a complex process with extremely completed methodologies, traditional financial methods employed to fit the unique characteristics of the sports industry. These methods include income approach, market approach, and asset-based approach [2-4]. According to these methods, the sport industry includes a variety of valuation issues such as no unitive standard valuation method and model to price relevant sales like players and copyrights, and

intangible assets have not been considered as well [5,6]. Real World Assets (RWA) are tangible physical assets, as opposed to financial or digital asset [7]. As of June 2025, the global value of RWA, excluding stablecoins is approximately \$25.5 billion, and it is expected to grow to \$16.1 trillion by 2030, accounting for 10% of global GDP (23%) [6]. This rapid growth highlights the potential of RWA tokenization to transform traditional finance and create new investment opportunities. These assets typically have intrinsic value. RWA are useful in the production or consumption of goods and services, and it could be owned or traded in markets [1,8,9]. Functions of RWA own unique asset such as “Enhanced Transparency and Immutability”, “Reduced Costs and Faster Settlement” and “Global Accessibility”, that could bridge a new financial environment for not only major participators, but all participator all in the blockchain, innovate faster liquidity, reduced financial costs and revolutionize previous foggy trust for all participants [10-15].

However, RWA still has the following defects that make it impossible to revolutionize the sports finance industry. Regulatory uncertainty occurs RWA needs to be legally regulated by the international financial system, otherwise uncertainty associate no jurisdictions framework to make RWA land on general financial sport system [16,17]. Legal enforceability refers to all parts based on blockchain must make sure that all structures are in line with regulations [17,18]. In addition, interoperability is also essential as well. Different blockchain networks and traditional financial systems would need to communicate and interact seamlessly, this is essential for a truly integrated tokenized ecosystem [19]. Lack of interoperability can create silos and limit the potential of tokenization. Different tokenization platforms or blockchains cannot interact, assets would remain trapped within their own ecosystems. This prevents users and institutions from moving tokens seamlessly across networks and lower trade efficiency.

2. Literature review

RWA has already involved in the trading of the sports industry. Tokenization of Real-world-assets (RWA) have four main benefits for the sports industry, including lower barriers, more flexible funding, attracting more foreign investments and greater transparency [20]. Lower barriers refers that all fans can invest in teams, making it no longer just an opportunity for big investors. More flexible funding refers that tokens could be bought and sold at any time after tokenization, leading to faster money flow. Attracting more foreign let global investors can participate easily, helping sports becoming more international. Greater transparency leads blockchain makes profits and distributions clearer, increasing trust between investors [20].

Over the past few years, the sports industry has already developed several valuation methods and models to assess players or trade in extend downstream industry. Most 3 general valuation methods include income approach, market approach, and asset-based approach. The valuation in most popular method is revenue multiples, belongs to market approach [21,22]. The income approach refers to the value of sports entities by estimating their future earnings or cash flows using the discounted cash flow (DCF) model. This DCF method forecasts revenues from various sources, such as media rights, merchandise, player transfers, and ticket sales, and then discounts them to present value [3]. Its advantages lie in its logical rigor, clear structure, and wide application in other capital-intensive industries, where its value theoretically lies in its ability to capture the potential value of future income. However, its limitations are significant. The cash flow of the sports industry tends to be unstable, influenced by uncertain factors such as match results, player performance, and sponsorship contracts, which greatly reduces the accuracy of predictions. Furthermore, the risk adjustment process lacks a unified standard, as stakeholders including investors, clubs, and regulatory bodies have differing views on the risks associated with future revenues, complicating the

achievement of consistent valuation results [3]. Market approach assesses the value of sports entities by comparing them by similar assets that have recently been sold or publicly traded based on the “guideline transaction” method [4]. The advantage of this method is that it is intuitive, easy to operate, and conforms to the decision-making logic of real investors. However, its flaw lies in the unique characteristics of sports club transactions, such as regional influence, fan loyalty and historical cultural value, which make simple comparable methods unable to fully reflect the differences. This case dependence may lead to a lack of universality in the valuation results and may also cause misguidance due to a small number of high-priced transactions [4]. Asset-based approach considers the fair market value of the team's tangible and intangible assets. This method theoretically can cover the asset scope comprehensively, but its limitations are evident in practice. Especially when evaluating players, this key 'human capital', the traditional accounting framework struggles to incorporate factors such as player ability, contract duration, or market potential into fair value. Moreover, the value of brands and fan communities is difficult to quantify, leading to a lower frequency of use of the asset-based approach in the sports field [4].

Despite the rich valuation frameworks provided by existing literature, several gaps remain. Lack of cross-method integration research that current studies often focus on single methods and lack hybrid models that can integrate the advantages of income, market, and asset approaches. Insufficient valuation of intangible assets illustrates by the quantification methods for player value and fan engagement remain subjective or speculative, lacking systematic models [4,6]. Absence of research on the impact of emerging technologies such as blockchain and RWA tokenization on valuation systems [1,7,8]. The potential for tokenization to enhance transparency and liquidity has not been fully explored [1,7]. To solve the above problems, the concept of RWA has been proposed in the economic industry as a new valuation method for participators to value not only sport relevant sales, but other financial industry's sales as well. Real-World Asset (RWA) tokenization refers to the process of converting physical or intangible assets into digital tokens on the blockchain [1,8]. By using blockchain technology, this innovative approach would be used to connect traditional finance with decentralized finance (DeFi) [7,8]. It could create new opportunities for investment, improving liquidity, and revolutionize asset management [1,7]. The process involves creating tokens on a distributed ledger which represent real-world assets, allowing them to be traded and managed by digital ecosystems [1,7]. Therefore, this study will attempt to fill these gaps by exploring whether RWA tokenization can serve as a complementary or alternative mechanism in the valuation system of the sports industry, providing new theoretical and practical pathways to address the challenges of intangible asset pricing and enhance transparency and liquidity [1,7,8].

3. Challenges and opportunities of RWA in sports

As a new valuation model for financial participators, RWA brings three major benefit to revolutionize previous valuation models, including ‘Enhanced Transparency and Immutability’, ‘Reduced Costs and Faster Settlement’ and ‘Global Accessibility’. These advantages make RWA own less time cost by resulting to higher efficiency to all participators. However, RWA will associate with disadvantage such as regulatory uncertainty, legal enforceability and interoperability. These disadvantages can enhance extent of difficulty for RWA to land in global finance. Otherwise, it would create shortage that more participators would work in traditional method and refuse to trade in RWA.

3.1. Enhanced transparency and immutability

RWA based on blockchain technology provides a transparent and immutable mode for ownership and transactions as well [10,11]. This mode reduces the need for intermediaries and enhancing trust between participants in all financial region, not merely within sport industry [10]. For example, in cross-border trade, blockchain has been proven to reduce dependence on brokers and custodians; the global shipping industry alone suffers losses of about \$600 billion each year due to trade fraud, and decentralized ledgers are increasingly being seen as key tools for enhancing transparency and trust [23-25]. In addition, this mode can simplify processes and reduce the risk caused by fraud. The California Department of Motor Vehicles (DMV) has a real case where the department has tokenized ownership records of over 42 million vehicles on the blockchain, thereby enhancing transparency and effectively curbing loan fraud [26]. Realistic examples such as ‘Information Asymmetry’ refers intermediaries would keep some information concealed during the trading for both consumers and producers as a path to make profit [12]. In financial and real estate transactions, intermediaries often possess superior knowledge of buyer and seller conditions, allowing them to make opaque decisions and even withhold risk information, which in turn can cause financial losses for both sides [12]. Because that intermediary agencies can obtain all the information from both sides of buyers and sellers, summary all information would let intermediaries approach a maximize profit making. Intermediary agencies may make opaque decisions, conceal key risk information to make both buyers and sellers suffer financial losses by their unwise decisions. RWA would weaken function of intermediary agencies, enhance face to face extent for both buyers and sellers by less information gap as well [10,11]. Therefore, RWA not only enhances trust and efficiency but also provides practical solutions to the issues of fraud and information asymmetry present in traditional markets, offering promising potential applications in the sports industry and the broader financial ecosystem [12].

3.2. Reduced costs and faster settlement

Landing of RWA in financial region make automated processes by smart contracts and expel intermediaries. Although existing research indicates that RWA tokenization significantly reduces transaction costs and accelerates settlement times, there is a lack of specific data support [10,12,27]. For instance, the asset tokenization and the application of new technologies can reduce transaction costs by about 20%, while speeding up transaction speeds, reducing human intervention, and streamlining administrative procedures [28]. Intermediaries often need to conduct detailed review and approval processes for transactions, especially in the financial field. When the process comes to risk assessment, compliance checks, credit analysis, these all take times [14]. Therefore, excessive approvals may lead to more time costs. In traditional transactions, the completion of a deal typically takes several weeks, with buyers contacting intermediaries, finding sellers, negotiating terms, signing contracts, and completing delivery. For example, in the U.S. real estate market, the average closing process for a mortgaged home takes 30 to 60 days to complete, reflecting the delays caused by intermediaries and administrative procedures [29]. In contrast, the participation in RWA tokenization can significantly reduce the time lag, allowing buyers and sellers to interact directly and complete transactions quickly [10,13].

3.3. Global accessibility

Blockchain-based tokens can be traded 24-hours available in global market. It means the time lag between two different places would be eliminated, RWA would create new markets based on investors that traditional financial systems could not access in previous years [15]. For example, the opening and closing times of markets vary from country to country, the normal trading hours of the NYSE are from Monday to Friday, 9:30 AM to 4:00 PM (Eastern Time, USA), but the normal trading hours for the London Stock Exchange are Monday to Friday, from 8:00 AM to 4:30 PM (Greenwich Mean Time) [16]. Generally, investors or trading parties often would need to wait until other markets to open. It means both sellers and buyers cannot respond immediately to market changes due to time differences, would leading to delayed decision-making, especially in short-term trading, time difference may make both side impossible to respond quickly [16]. For example, on May 28, 2024, the U.S. will shorten the stock settlement cycle from T+2 to T+1. This change has impacted Asian investors, as they need to confirm trades before 9 PM Eastern Time, which is during the non-trading hours in Asian markets. For instance, investors in Singapore, Tokyo, or Seoul need to confirm trades before 9 AM local time, which could lead to trading during low liquidity periods, thereby increasing market volatility and trading costs [16]. However, despite RWA would be a new approach to substitute the three previously general valuation models, but RWA still had its own drawbacks like Regulatory Uncertainty, Legal Enforceability and interoperability.

3.4. Regulatory uncertainty

A significant challenge in developing regional labor environments is the lack of clear and consistent regulatory frameworks across different jurisdictions [16,17,20]. Differing legal interpretations of tokenized assets, such as securities, commodities, or property, create legal ambiguity and hinder mainstream adoption [16]. Different attitudes by RWA tokenization vary from country to country [16]. Given an example, some countries like the US may label tokenized assets as securities, while others such as Japan may label them as commodities or property [17]. This different annotation in legal definitions leads to complexities in border transactions and market operations as well. At the same time, inconsistent legal rules may land in different regions, which makes the tokenized assets be complicated involve in legal system, result investors to face certain legal risks when participating [16,17].

3.5. Legal enforceability

Landing of RWA need to make sure that all digital ownership is legally recognized and enforced in the real world. This requires extremely strong digital framework to link and bridge on-chain tokens, off-chain assets and all associate potential legal ownership in a circle [17,18]. One of the primary challenges facing by tokenized assets is the lack of a unified regulatory framework in the globe market [17]. Different jurisdictions regulate tokenized assets in different path, and this inconsistency result in legal uncertainty for market participants, result in same law could not regulate tokenized transactions through different paths. In addition, tokenized assets bring some challenges related to ownership and enforcement, especially in cross-border or global trade. A major challenge is the concept of digital ownership, which fundamentally differs from traditional property ownership. Although blockchain provides an immutable record of token holding, this record may not automatically correspond to legal recognition under existing national laws, result in increasing the uncertainty of controversial cases [17,18]. This uncertainty lies in the disconnect between digital

ownership on the blockchain and the real legal system, as well as the ambiguity in the application of law in cross-border transactions and dispute resolution.

3.6. Interoperability

The ability to seamlessly communicate and interact with different blockchain networks and traditional financial systems is crucial for a truly integrated tokenization ecosystem [19]. Lack of interoperability limits the potential of tokenization. The non-interoperable RWA tokenization system means that tokenized assets can still be subject to price fluctuations, similar to cryptocurrencies. This volatility may make some investors worry about information risk that they still have to face hidden information from opposite participants. They are cautious about participating in the tokenized market, they would more prefer to use previous valuation model and trade in traditional method [19].

4. Conclusion

This research has explored two regions- the financing and valuation of sports entities and the emergence of real-world asset (RWA) tokenization and stablecoins. We have established that the valuation of sports teams is a multifaceted process, relying on three major traditional financial methodologies which are income approach, market approach, and asset-based approach. In addition, RWA tokenization and stablecoins represent a significant technological and financial innovation, even RWA may face considerable regulatory and legal challenges, the tokenization of RWA is expected to enhance liquidity and achieve and improve the transparency of various assets, and lower various kind of cost in financial regions. However, implement of RWA still be limited by the supervision and enforcement of laws as well as operational issues take part in the RWA, based on blockchain system.

Further research direction would focus on valuation of tokenized sports assets and new investment paradigms. Valuation of tokenized sports assets could focus on developing standards and more widely recognized methods and models to evaluate tokenized sports assets such as athletes and sports Copyrights. Future research can also focus on relevant legal studies and transaction framework to fix a more convenient and efficient transaction model and explore the differences from traditional industries. New investment paradigms of the tokenization in sports assets can democratize sports investment, allowing more individuals and even athletes to own shares in related industries like football or marathon club and earn profit. Other areas include better financial framework for this tokenized investment, as well as their impact on traditional sports ownership models.

In conclusion, blockchain technology, particularly RWA tokenization and stablecoins, has the potential to redefine investment and operational efficiency in the global sports industry. However, it still needs to be further implemented in traditional finance and determine whether it can intersect with the sports industry. Continue research into the corresponding implementation is crucial for the development of financial transactions in the sports industry.

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