

World Football Derivatives and Fan Economy Development: A Research Analysis and China's Pathway

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Abstract. The football industry has evolved from a simple athletic competition into a vast global commercial system, where derivative product development and fan economy operations are becoming core engines for club revenue growth. This paper adopts a comparative research perspective to systematically review the evolutionary trend of the world football derivatives market—shifting from "event merchandise" to "lifestyle products"—analyzes the bubble cycle of fan tokens from capital frenzy to value regression, and reveals the risk of player card markets shifting from a collectible culture to a speculative tool. Based on this analysis and the current state of China's football industry, the paper examines three structural challenges: weak intellectual property protection, underdeveloped IP operation capabilities, and insufficient data application. The study finds that adopting international best practices to build an integrated "cultural identity—IP licensing—precision operation" development model—by strengthening defensive IP layouts, deepening cross-border integration and innovation, and establishing a unified industry licensing platform—is the critical pathway for China's football derivative market to break through bottlenecks and achieve high-quality development.

Keywords: Football derivatives, Fan economy, IP licensing, Intellectual property protection, Comparative study

1. Introduction

Football has evolved over a century from sport to global industry. The Union of European Football Associations (UEFA)'s report shows European football revenue hit €26.8 billion, but 73.5% came from just five top leagues, while 34 smaller nations generated only €1.2 billion total [1]. This imbalance reflects the "Matthew effect" and highlights how commercial capabilities dictate club sustainability. Commercial revenue now leads broadcasting income for many elite clubs: Manchester United earned £227 million commercially in 2023, driven largely by licensing and memberships, marking a shift toward fan-powered monetization [2]. In contrast, although China's Overall Plan for the Reform and Development of Chinese Football has been in place for nearly a decade, the size of China's football industry remains about RMB 150–200 billion, with derivatives accounting for less than 10%. Learning from international experience to address the development challenges of China's domestic football derivative market is both an important academic topic and an urgent practical need. This paper provides a systematic analysis from three perspectives: the latest trends in the

world football derivatives market, the current state of China's football industry, problem diagnosis, and policy recommendations, aiming to offer theoretical and practical guidance for promoting high-quality development of China's football derivatives and fan economy.

2. World football derivatives and fan economy: structural shift and cyclical evolution

2.1. From "event merchandise" to "lifestyle products": cultural elevation

The international football derivatives market is shifting from matchday gear—jerseys, scarves—to lifestyle products with fashion and cultural appeal. This trend was particularly evident ahead of the 2026 FIFA World Cup in the US, Canada, and Mexico [2]. Design reflects the change: at the 2022 Qatar World Cup, brands such as Nike, Adidas, and Puma revived 1990s pinstripe silhouettes, reimagining collar and cuff details with modern tailoring, turning jerseys into everyday wear [3]. Social media (#bootsonlysummer trend on TikTok) and high profile moments (e.g., singer Rosalía wearing football boots at the Met Gala) further cemented their fashion status. Club-brand collabs reinforce this: Paris Saint-Germain (PSG)'s partnership with Dior exemplifies "de-footballization"—reshaping the club as a fashion icon and attracting non-fan consumers [3].

Retail placement confirms the shift: European retailers now stock football apparel in everyday menswear sections, not sports sections, signaling year-round, normalized consumption over event-driven cycles.

2.2. Fan tokens: cyclical lessons from capital frenzy to value regression

Between 2020 and 2022, European clubs—including Juventus, AC Milan, Inter Milan, and PSG—launched fan tokens amid promises of "fan governance," "direct connection," and "democratized support" [4]. The Argentine national team's Messi-endorsed token attracted over 120,000 users with tiered perks: voting on playlists (basic), training access (mid), and player meetings (top) [5]. But since 2022, most tokens have lost over 90% of their peak value; market capitalization and trading volume collapsed [4]. The crash exposed structural flaws.

"Governance" was largely symbolic, limited to stadium playlists, armband colors, or locker room slogans, never touching real club decisions. Although Argentina introduced "holding time weighting" to curb whale dominance, tokens have generally lacked sustainable value support [5]. The European Securities and Markets Authority and the European Banking Authority have clearly stated that most existing projects cannot meet the minimum requirements of the MiCA regulation, and many marginal projects will be weeded out by regulatory screening [4].

Thus, the lesson for Chinese football is clear: blockchain can innovate fan interaction, but it cannot replace genuine community belonging and cultural identity. Any "technology empowerment" that is detached from club culture will ultimately be disproven by the market.

2.3. Player card market: collectible culture vs. speculative bubbles

Player card—among football's oldest derivatives—derive value from collectible culture. Global markets feature mature brands (e.g., Panini, Topps) and grading systems; official cards for the Champions League and Premier League retain value tied to player performance and major events. High-value auctions underscore this cultural logic: Maradona's "Hand of God" jersey sold for £7.1 million; signed cards easily exceed £10,000 [3].

However, in China, card trading has veered toward financialization and even quasi-gambling. Some livestreaming platforms sell cards in randomized "pack-opening" formats, using scarce card probabilities and reward mechanisms to encourage high-frequency spending. Some cases have been judicially identified as illegal gambling activities [6]. This phenomenon demonstrates that when a collectible culture is not yet fully mature and speculative psychology enters first, player cards can easily become mere commodities or even gambling items [6]. The fundamental solution lies in cultivating a healthy sports collectible culture while strengthening legal regulation. The sports card sector urgently needs targeted regulations, transparent grading and appraisal systems, standardized pack-opening procedures, and consumer protection measures.

3. China's football derivatives and fan economy: current state overview

3.1. Industry scale and policy environment

According to the China Football Industry Development Report (2023–2024), the size of China's football-related industry is approximately RMB 150–200 billion, with major segments including professional leagues, youth training, stadium operations, and derivatives. The share of football derivatives and the fan economy has been increasing year by year, but remains significantly below the level of mature European and American markets (where derivatives account for 20%–30% of club revenue), currently at less than 10% [7].

At the policy level, the Overall Plan for the Reform and Development of Chinese Football (2015) aimed to improve the industrial chain and encourage private capital to enter football derivatives, stadium operations, sports tourism, and related fields. Subsequently, the "14th Five-Year Plan" for sports emphasized the development of new sports consumption scenarios, with football cultural IP development as a priority. In 2021, the Chinese Football Association partnered with Fosun Sports to exclusively develop licensed products for the Chinese national teams [2].

3.2. Derivatives market product structure

The current Chinese football derivatives market exhibits a tripartite structure: "traditional dominance, emerging sprouts, cross-border exploration."

In terms of licensed merchandise, traditional items such as jerseys, scarves, and mascots remain dominant, but design innovation is lacking. After switching partners in 2024, the official online store of Zhejiang FC expanded its product range from 40 to over 80 items, including stress balls, plush toys, and themed stationery, with member repurchase rates exceeding 80% [8]. This shows that local clubs are gradually improving their product development capabilities. In digital derivatives, NFTs, digital collectibles, and virtual player cards are emerging. The Chinese Super League (CSL) has partnered with platforms to release "Star Moment" NFTs. However, the international fan token bubble collapse warns domestic practitioners that digital derivatives must be rooted in genuine fan benefits, not pure speculative tools. In cross-brand collaborations, efforts such as Beijing Guoan's co-branded apparel with Kuaishou and Shandong Taishan's cultural and tourism products have been launched. In February 2026, Chongqing Tonglianglong Football Club entered a strategic partnership with Dreamer Music Group to initiate a "football + music" dual-core development model, collaborating with artist Ren Zhe's team to develop derivatives covering apparel, merchandise, and cultural products, deeply integrating football, dragon culture, hip-hop trends, and Chongqing's local characteristics. This case represents an active exploration of cross-border innovation by a local club.

3.3. Fan consumption behavior profile

Based on survey data, Chinese football fans can be divided into three tiers: core fans (10%–15%) spend over RMB 2,000 annually, preferring jerseys, matchday travel, and membership services; casual fans (60%) focus spending on tickets, live streaming subscriptions, and fast-moving consumer goods (FMCG) co-branded products; marginal audiences engage with football culture through short-video platforms and other content channels.

In 2023, total attendance at CSL matches exceeded 4 million, with average stadium occupancy rising to 24,000, driving a 30% month-on-month increase in merchandise sales. Short-video platform football content averaged over 500 million daily views, enabling monetization through livestream e-commerce and paid courses. The proportion of female audiences rose to 35%, driving demand for cross-border collaborations in beauty and fashion [8].

The operational case of Zhejiang FC offers a useful reference. The club launched a core membership system with an annual fee of RMB 168, offering members a 10% discount on merchandise and exclusive gifts. In the 2024 season, some fans spent up to RMB 5,000 annually on merchandise, with the flagship store's best single-day sales exceeding RMB 1 million. A staff member noted, "Fans prefer cultural and creative products that reflect the team's spirit of the season; jerseys printed with 'Braving the Tide' or 'Zhejiang Power' sell better than basic ones" [8].

3.4. Unlocking the IP value of grassroots tournaments

The popularity of "Su Chao" (Jiangsu Provincial City Football League) and "Cun Chao" (Village Super League) has revealed the significant commercial potential of grassroots football IP. In the 2025 season, "Su Chao" is expected to generate more than RMB 300 million in comprehensive economic benefits, adding over RMB 20 million on average to each participating city. For the Suzhou vs. Yangzhou match held at Kunshan Olympic Sports Center, 45,000 tickets attracted 1.44 million applicants [9].

"Cun Chao" has taken a lead in intellectual property protection, registering 200 trademarks for team logos, team names, and other elements, and registering copyrights for 74 artistic works such as the "Cun Chao Yangshe Village Team Logo," building a relatively complete IP defense system [9]. By contrast, "Su Chao" initially faced challenges due to insufficient IP protection—elements such as team logos and names had not been trademarked, and player cartoon characters derived from the tournament had not been copyright-registered, leading to a proliferation of third-party merchants with no standardized management [10].

The "Su Chao" case shows that protecting and developing grassroots tournament IP must proceed in tandem. As Jiang Han, a senior researcher at the Pangoal Institution, noted: "A mature tournament inevitably generates peripheral derivatives. Early authorization and IP protection are very necessary and also a core need for expanding new consumption scenarios" [10].

4. Problem analysis: structural challenges in China's football derivatives market

4.1. Incomplete IP protection

Weak IP protection is the primary bottleneck restricting healthy market development. Three interrelated issues stand out:

First, lagging trademark registration. The "Su Chao" tournament logo and its 13 teams logos were unregistered before the league became popular—while "Su Chao League" had already been

registered in 2016 by Suzhou Suchao Sports Development Co., Ltd. [11]. Similarly, a recent application to register "Huai'an Team Logo Graphic + Text 'Langlima'" was flagged as opportunistic squatting [10]. Second, chaotic licensing systems. Unauthorized third-party sellers freely use tournament names and logos online. E-commerce searches for "Su Chao" return unofficial merchandise, such as "Call Me Brother Nan" canvas bags, "Game First, Friendship Fourteenth" fridge magnets, and "No Match-Fixing, Only Rivalry" backpacks. One unlicensed jersey priced at RMB 109 has sold over 7,000 units [10]. Third, high enforcement costs. Effective IP protection requires multi-agency coordination, but the rapid response mechanism remains underdeveloped. As Beijing Guantao Law Firm partner Li notes: "'Su Chao' is a registered trademark; unauthorized small workshops commit trademark infringement and unfair competition, and their products often violate the *Product Quality Law and Consumer Protection Law*" [10].

4.2. Weak club IP operation capabilities

Unlike European and U.S. clubs, where IP operation is a core strategic function, most Chinese clubs lack both IP awareness and development capabilities.

From an asset perspective, few systematically catalog trademarks, copyrights, or design patents—or implement tiered licensing. Guizhou's "Cun Chao," by contrast, turned cultural influence into commercial control" via proactive registration and copyright protection, a benchmark most professional clubs have not yet to reach [10].

From product development, derivatives remain highly generic, lacking regional identity or cultural resonance. While Chongqing Tonglianglong's collaboration with Dreamer Music aimed to "bring football IP into public life in a younger, trendier way," such innovation remains isolated, not industry standard [11].

From licensing management, tiered models and fan-community integration are underused. Global best practice calls for standardized processes across registration, licensing, and value assessment, supported by cross-functional teams (sports, legal, and commercial) [9]. Chinese clubs lag significantly here.

4.3. Limited data use and fan insights

In the digital economy, user behavior data underpins precision operations, yet most Chinese football clubs fall short.

First, they lack proprietary data platforms. Fan activity is scattered across ticketing platforms, e-commerce channels, and social media, making it difficult for clubs to form complete user profiles and implement targeted promotions and personalized services. Second, fan value extraction remains shallow. Membership programs are basic; point redemption lacks appeal, and community operations lack sustained content output. Compared to Zhejiang FC's "member repurchase rate exceeding 80%", most clubs have low fan engagement and single monetization channels [8].

As Professor Liang observes: "Many in China still view sports primarily through competition, underestimating its social and cultural dimensions." This mindset leads clubs to treat fans as "spectators" not "users," neglecting deep behavioral analysis and value extraction.

5. Comparative insights from international experience

5.1. Product development: from homogenization to localization

The evolution of the international football derivatives market shows that the core of product development lies in deeply integrating football culture with local characteristics and fashion trends. Arsenal collaborated with a London jeweler to create jewelry containing carbon elements from the pitch, transforming stadium memories into wearable luxury items. Paris Saint-Germain's partnership with Dior reshaped the football club into a fashion symbol [2, 3].

The implication for Chinese clubs is that escaping homogenized competition lies in "localized innovation." The "Su Chao" exploration in Jiangsu is noteworthy: Changzhou introduced a "ticket + fried rice with preserved vegetable" package; Nantong decorated spectator stands with blue calico; Yangzhou showcased intangible cultural heritage crafts such as lacquerware and paper-cutting during halftime, allowing audiences to learn about local heritage and city characteristics through match activities [9]. This model of integrating local culture into the football experience provides rich material for derivative product development.

5.2. IP licensing: from chaotic to tiered operation

Leading international clubs have developed mature tiered licensing systems. Fanatics, for instance, holds licensing partnerships with the Premier League, MLS, and several European competitions, adopting differentiated licensing strategies for different product categories and channels. Walmart has partnered with La Liga to become a presenting partner of El Clásico, deeply binding retail channels with top-tier event IP [2].

Experts in Jiangsu's IP protection field suggest learning from the IP strategy of the film *Ne Zha: The Demon Child Reborn*, building a protection network covering trademarks, copyrights, and design patents, and using a tiered licensing model to develop the derivatives market [10]. Specifically, a multi-level licensing system could be established: exclusive licenses for core categories, non-exclusive licenses for mass categories, and co-development for innovative categories.

5.3. Community operations: from one-way communication to value co-creation

The core logic of community operations for European and American clubs is "value co-creation"—turning fans from passive consumers into active participants. While the fan token bubble burst warns that simple "voting rights" cannot sustain engagement, the "holding time weighting" mechanism in the Argentine fan token project still reflects careful thinking about benefit distribution [5].

Zhejiang FC's practice offers a local reference. The club built a fan community via a mini-program, offering services such as point redemption, exclusive content, and limited-edition merchandise, cultivating a group of "soul shareholders"—"wearing Zhejiang team clothes to go grocery shopping makes me feel like I'm representing my city." This sense of belonging, deeply binding personal identity to a city's image, is the true foundation of community operation.

5.4. Policy regulation: from passive response to active construction

International experience shows that the healthy development of the football derivatives market requires a sound regulatory framework. The EU's MiCA regulation's strict review of fan tokens represents a positive attempt to bring financial innovation into a regulatory orbit [4]. China has

already introduced regulations for blind boxes, and the sports card market urgently needs transparent grading and appraisal systems.

The China Youth Daily called for: "The player card market should follow the example of blind boxes, establish regulations as soon as possible, and set rules for card issuance, probability disclosure, and trading channels" [6]. At the same time, IP, culture and tourism, copyright, market regulation, court, and public security authorities need to work together to establish a rapid response mechanism combining "online monitoring + offline enforcement" [9].

6. Recommendations for the development of China's football derivatives and fan economy

6.1. Strengthening defensive IP layout

IP protection is the bedrock of football IP commercialization. Following Guizhou's "Cun Chao" model, tournaments and clubs must urgently register trademarks across all core brand elements, including tournament/team names, logos, mascots, slogans, and .copyright key assets like logos and promotional videos to build a robust IP asset library. For emerging leagues such as "Su Chao," timing is critical. As Lu (Deputy Director, Jiangsu IP Office) notes: "'Su Chao' has formed a 'one city, one team' structure and generated distinctive local symbols, but core elements lack full-category trademark and copyright protection " [10].

Athlete name squatting also poses real risk. Liu (Jiangsu IP Protection Center) warns: "With rising 'Su Chao' player popularity, opportunistic trademark filings targeting celebrity names must be proactively blocked" [9]. As domestic leagues gain global visibility, overseas trademark registration should be incorporated into IP strategy.

6.2. Establishing a unified IP licensing platform

Chaos in licensing stems from fragmented oversight, not standardized rules or a central platform. The Chinese Football Association (CFA) should lead clubs in establishing a national "Football IP Licensing Alliance" to coordinate, standardize, and enforce licensing. Core functions include: developing unified licensing classification standards and model contract templates; establishing an IP material library providing standardized design elements to licensees; conducting licensee qualification reviews and licensed product filings; establishing an online infringement monitoring system to assist enforcement; and organizing licensing exhibitions to facilitate IP supply-demand matching.

The CFA's 2021 exclusive licensing partnership with Fosun Sports for national teams marks progress. Now, that model must scale to professional clubs, building an industry-wide licensing system.

6.3. Deepening cross-border integration and localized innovation

To break derivative homogenization, football IP must fuse with local culture, fashion, and digital tools. Localized innovation: clubs should develop regionally distinctive products. Jiangsu's "Su Chao" integrates intangible cultural heritage, e.g., turning Wuxi honey peaches and Changzhou dinosaurs into player cartoon characters, linking the league to local tourism and ensuring originality [9, 10]. Clubs can extend this to dialect-themed items, local intangible cultural heritage co-branded goods, and city landmark series.

Cross-border integration: Chongqing Tonglianglong's collaboration with Dreamer Music—blending football, dragon culture, hip-hop, and Chongqing identity into apparel and cultural products—offers a scalable "football + music" model for youth engagement [11].

Digital-physical integration: Proceed cautiously with digital derivatives. While fan tokens failed due to speculative design, metaverse match viewing, AR interactive merchandise, and digital collectibles still have potential—if rights are tangible, usable, and tied to real fan value—not speculation.

6.4. Building a data-driven fan operation system

Shift fans from "spectators" to "users" via precision operations:

First, build proprietary data platforms. Integrate ticketing, e-commerce, content, and community data to form complete user profiles. Zhejiang FC's mini-program-based community, achieving a member repurchase rate of over 80%, demonstrates feasibility [8]. Second, design tiered membership benefit systems. Adapt Argentina's three-tier fan token structure to Chinese habits: clubs should construct a benefit ladder from basic content and exclusive discounts to offline events and decision-making participation [5]. Core member benefits should be scarce and fulfilling, stimulating continued payment willingness.

Third, use AI for personalization. Analyze behavior to deliver targeted product and content recommendations. Fourth, cultivate a community co-creation culture. Integrate fans into product development and content production. As a Zhejiang FC fan put it: "Every time I shop at the store, I feel like I'm investing in the team" [8]. This sense of being a "soul shareholder" is the deepest driving force of the fan economy.

7. Conclusion

At its core, the football derivatives and fan economy is about transforming the emotional energy unleashed in stadiums into sustainable cultural consumption and commercial value. International experience shows that this transformation requires three stages: product upgrading from "event merchandise" to "lifestyle products," community evolution from "passive consumption" to "value co-creation," and industrial maturation from "rudimentary development" to "precision operation."

China's football derivatives market is in a critical transition period. On the one hand, the popularity of grassroots tournaments such as "Su Chao" and "Cun Chao," the explorations of clubs like Zhejiang FC, and cross-border cooperation attempts such as Chongqing Tonglianglong demonstrate the vibrant vitality of local innovation. On the other hand, structural challenges—lagging IP protection, weak IP operation capabilities, and insufficient data application—constrain the market's healthy development.

Addressing these challenges requires learning from international experience without blindly following it, and grounding efforts in local realities without being insular. Strengthening defensive IP layout, establishing a unified industry licensing platform, deepening cross-border integration and localized innovation, and building a data-driven fan operation system—systematic progress on these four fronts will help China's football derivatives market break through bottlenecks and achieve a leap from "rudimentary growth" to "intensive cultivation." The commercial value of football IP is ultimately rooted in the deep soil of football culture. Only when derivatives become vessels for fan emotions, carriers of city memories, and embellishments of daily life will China's football fan economy truly usher in its own golden age.

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