Original Article

Monopoly in the Purchase of Television Rights and Competitive Balance in Peruvian Football: The Case of Alianza Universidad de Huánuco

Monopolio en la compra de derechos televisivos y equilibrio competitivo del fútbol peruano: caso Alianza Universidad de Huánuco

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ABSTRACT

Objective. To analyze the monopoly in the purchase of television rights and the competitive balance of the peruvian football, Alianza Universidad de Huanuco case. **Methods.** The study was of quantitative approach, of explanatory scope and longitudinal design, for the inferential analysis, a statistical formula was applied with the objective of finding the standard deviation of the points obtained by the teams that participated in the championships of 2019, 2020, and 2021, the Herfindahl-Hirschman Index (HHI), and the ratios between the teams that receive the most and those that receive the least from television rights were analyzed. **Results.** The standard deviation was greater than 1, which indicates that there is no competitive balance in the Liga 1 championship of Peru in the years studied. Regarding the ratios between the team that receives the most (Alianza Lima) and the one that receives the least (Alianza Universidad de Huánuco), these were greater than 2, which indicates that there is no competitive balance. On the other hand, the results of the HHI show that the concentration of points in the analyzed years has decreased: from a normalized value of 849.27 in 2019, to 543.85 in 2020, and 528.14 in 2021. **Conclusions.** The monopolistic management of the Consorcio Fútbol del Perú did not carry out an equitable distribution of television revenue, nor was there competitive balance in the Liga 1 championship of Peru and between the teams that receive the most and the least.

RESUMEN

Objetivo. Analizar el monopolio en la compra de derechos televisivos y el equilibrio competitivo del fútbol peruano, caso Alianza Universidad de Huánuco. **Métodos.** El estudio fue de enfoque cuantitativo, de alcance explicativo y de diseño longitudinal, Para el análisis inferencial fue aplicada una fórmula estadística con el objetivo de encontrar la desviación estándar de los puntos logrados por los equipos que participaron en los campeonatos del 2019, 2020 y 2021, el índice de Herfindahl-Hirschman (HHI), y fueron analizados las ratios entre los equipos que más reciben y los que menos reciben por derechos televisivos. **Resultados.** La desviación estándar fue mayor a 1, lo cual indica que no existe equilibrio competitivo en el campeonato Liga 1 del Perú en los años estudiados. Respecto a las ratios entre el equipo que más recibe (Alianza Lima) y menos recibe (Alianza Universidad de Huánuco) fueron mayores a 2, lo que indica que no existe equilibrio competitivo. Por otra parte, los resultados del HHI muestran que la concentración de puntos en los años analizados ha disminuido: de un valor normalizado de 849,27 en 2019, a 543,85 en 2020 y 528,14 en 2021. **Conclusiones.** El manejo monopólico del Consorcio Fútbol del Perú no realizaba una distribución equitativa de los ingresos televisivos, como también no existió equilibrio competitivo en el campeonato Liga 1 del Perú y entre los equipos que más reciben y menos reciben.

INTRODUCTION

The Social, Sports, and Cultural Club (CSDC) Alianza Universidad de Huánuco, founded in 1939 after the merger of the clubs Miguel Grau and Jorge Chávez, has had a remarkable trajectory in Peruvian football. Its rise to professional football in 1991 marked a milestone, and in 2004, upon changing its name, it established an alliance with the University of Huánuco, which allowed it to stand out in regional and national tournaments. However, its participation in the Professional Second Division from 2012 to 2016 and its subsequent return to the Copa Perú in 2017 reflect the economic challenges it faces, and between 2019 and 2021, the Consorcio Fútbol del Perú assigned significantly higher amounts to the "big" clubs, such as Alianza Lima and Universitario de Deportes, while teams like Alianza Universidad de Huánuco received a much smaller sum. This disparity, along with the inadequate scheduling of matches, condemned the less favored clubs to poor participation and premature loss of category.

Now, the importance of television rights in the football economy is increasingly notable, being the key source of income today, both for clubs and leagues. Additionally, television broadcasting increases visibility, attracts sponsors, and raises the value of teams for multinational corporations (Gómez, 2017). Likewise, Montes and Sala (2020) postulate that competitive balance implies that all clubs have the same possibilities of success, which is reflected in the equitable struggle for victories and defeats.

Moreover, professional football in Peru has experienced drastic transformations within the framework of its economic structure, particularly in the transfer of costs of television broadcasting of matches. Since the rights were centralized in the hands of the Consorcio Fútbol del Perú, it was no longer competitive and, in addition to creating a monopolistic environment, it also damaged the performance and sustainability of clubs like Alianza Universidad de Huánuco. Therefore, it is worth mentioning that competitive balance in football is crucial, and national leagues, such as the Premier League, introduce the system of tournament collection through collective television rights, to maximize sales and give all teams an acceptable share (Mahía Rey, 2017).

It is important to understand how a monopoly in the purchase of television rights affects football competitiveness. An examination of the Peruvian championships of 2019, 2020, and 2021 intends to provide objective evidence that helps football managers make decisions to create a fairer environment. According to the exposed problem, the objective of this study was to analyze the impact of the monopoly in the purchase of television rights and its influence on the competitive balance of Peruvian football, taking the case of the Social, Sports, and Cultural Club Alianza Universidad de Huánuco. Through this, it sought to create an academic contribution that allows offering practical suggestions to increase sustainability and competition in Peruvian football.

METHODS

Type and area of study

The research was developed under a quantitative approach. In this sense, according to Hernández-Sampieri and Mendoza (2018), this approach focuses on the collection and analysis of numerical data to identify patterns, relationships, and trends. Likewise, it was based on a longitudinal design due to the need to analyze how the dynamics of the monopoly in the acquisition of television rights influenced competitiveness over a period of time. For Fuentes-Doria et al. (2020), the design implies the collection of data over time, which is vital to understand complex phenomena.

On the other hand, it had an explanatory scope, since it was not only intended to describe how the monopoly in the acquisition of television rights consolidates in the territory, but also to discuss what the causes and consequences of this practice are on competitive balance in the country. In this sense, according to Vara Horna (2015), explanatory scope refers to the possibility that a study provides to explain the causes, relationships, or mechanisms that generate these phenomena, in a clear and detailed manner.

Population and sample

The study population consisted of the 18 professional clubs in the first division of the Peruvian football league in the years 2019, 2020, and 2021. These clubs were selected based on continuous activity and access to important data about their performance and television broadcasting rights. A purposive sample was employed, which included 10 clubs, specially selected for variability in terms of sports achievements and financial capacity. In this regard, Arias et al. (2022) state that non-probabilistic purposive sampling is the selection method that allows the researcher to choose participants for specific and subjective reasons.

Variables and data collection instruments

The main variable was competitive balance in the Peruvian Liga 1, which was represented by the standard deviation of the points obtained by the clubs in the 2019, 2020, and 2021 championships. For this, a data collection instrument based on accumulated standings tables and the clubs' television rights revenues was used, following the methodology proposed by Hernández Sampieri et al. (2014) for statistical analysis. This instrument allowed the calculation of the mean and dispersion of points, providing a clear structure to evaluate the impact of the monopoly on the competitiveness of professional football in Peru.

Techniques and procedures for data collection

For data analysis, statistical techniques were applied, such as the mean and measures of dispersion, using the following statistical formula, extracted from Mahía Rey (2017), to find the standard deviation of points achieved by the different teams that participated in the professional championships of 2019, 2020, and 2021, determining the competitive balance of these championships, which is ideal when the standard deviation is 0. However, when the standard deviation assumes values greater than 1, competitive balance affects the performance of the teams participating in the championship.

Statistical formula:

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{N}(PT . PCT.i - \overline{PT . PCT.})^2}{N - 1}}$$

On the other hand, the ratio between the teams regarding their revenues from television rights, to determine which receives the most and which receives the least, was determined by the revenues of Club Alianza Lima and the Social, Sports, and Cultural Club (CSDC) Alianza Universidad de Huánuco, according to the proposal made by the Consorcio Fútbol del Perú to the teams promoted in 2019 to Liga 1.

RESULTS

The results were greater than 1, which confirms the hypothesis that there was no competitive balance, that is, values greater than 1 reflect a lack of competitive balance. The data also reveal that the standard deviation was 1.83 in 2019; 1.95 in 2020; and 1.85 in 2021, indicating significant variability in team performance over these years.

The standard deviation above 1 in all the years analyzed suggests a notable absence of competitive balance in Liga 1, which implies that some clubs, such as Club Alianza Lima, managed to accumulate a considerable number of points, while others, such as CSDC Alianza Universidad de Huánuco, faced greater difficulties competing on equal terms. This phenomenon can be attributed to the concentration of resources and television rights in certain clubs, which has generated a gap in competitiveness.

In conclusion, the results obtained suggest the implementation of more equitable resource redistribution policies in Liga 1 to improve the supposed fairness and competitiveness in Peruvian professional football (see Table 1).

The data reflect a clear correlation between the amount of income received by the clubs and the points accumulated in the standings table.

Table 1
Standard deviation of points accumulated by clubs in Liga 1, years 2019-2020-2022

Year	Standard Deviation
2019	1.83
2020	1.95
2021	1.85

Clubs that received higher income, such as Club Alianza Lima, showed significantly superior performance, accumulating a higher number of points compared to those that received less, such as CSDC Alianza Universidad de Huánuco. This trend is evidenced in the income ratios, which indicate that Club Alianza Lima received approximately 7.48 times more in 2019; 6.62 times more in 2020; and 7.45 times more in 2021, compared to CSDC Alianza Universidad de Huánuco.

The standard deviation of the points accumulated by the clubs, which remained above 1 in all the years analyzed, reinforces the idea that inequality in the distribution of income from television rights negatively impacts the competitive balance of Liga 1. This suggests that clubs with fewer resources face significant challenges to compete on equal terms, which can lead to a decrease in the quality of the sporting spectacle and a lower attraction for fans.

Likewise, it was observed that the importance of a more equitable distribution of income from television rights in Liga 1 stands out. The implementation of policies that seek to balance resources among clubs could contribute to improving competitiveness and the sustainability of professional football in Peru (see Table 2).

Table 2
Ratio of the relationship between income from television rights and club performance in Liga 1, years 2019-2020-2021

Year	Standard Deviation
2019	7.48 of ratio
2020	6.62 of ratio
2021	7.45 of ratio

The results of the analysis indicate that the distribution structure of television broadcasting rights in Liga 1 for the 2019 season led to an unbalanced competitive environment. The failure of equity in the levels of economic resource distribution not only affects the capacity of less favored clubs to compete on equal terms, but also influences the quality of the spectacle and fan interest.

Without significant contributions from this concept, CSDC Alianza Universidad de Huánuco was clearly

Table 3

Analysis of competitive balance among teams participating in Liga 1, 2019

Liga 1 - 2019									
Pos.	Team	PJ	PG	PE	PP	GF	GC	DG	Points
1st	Binacional	17	12	0	5	44	23	+21	36
2nd	Sporting Cristal	17	9	5	3	28	13	+15	32
3rd	César Vallejo	17	9	2	6	25	21	+4	29
4th	Deportivo municipal	17	7	7	3	27	20	+7	27
5th	Alianza Lima	17	7	5	5	30	24	+6	26
6th	Real Garcilaso	17	7	5	5	19	15	+4	26
7th	Ayacucho Fútbol Club	17	7	4	6	26	23	+3	25
8th	Universidad Técnica de Cajamarca	17	6	7	4	26	24	+2	25
9th	Cantolao	17	6	7	4	18	17	+1	25
10th	Sport Huancayo	17	6	6	5	22	23	-1	24
11th	Melgar	17	6	5	6	26	25	+1	23
12th	Universitario	17	6	5	6	25	27	-2	23

Note. Pos: position in the table; PJ: games played; PG: games won; PE: games drawn; PP: games lost; GF: goals for; GC: goals against; DG: goal difference.

at a disadvantage compared to its competitors and thus appeared in a lower position in the table. This situation highlights the need to review income allocation policies in search of a balance that allows enhancing competition and fan attraction. In summary, the analysis of competitive balance in Liga 1 of 2019 highlights the negative influence of resource concentration on sporting performance and establishes important implications for the management and regulation of professional football in Peru (see Tables 3 and 4).

Table 4

Analysis of Competitive Balance and Teams Participating in Liga 1, 2019

Liga 1 - 2019				
Teams	Points Obtained	Maximum Points	Proportion of Points Won	Overall Mean
Sporting Cristal	65	99	0.656565657	0.443883277
B Nacional	61	99	0.616161616	0.443883277
Alianza Lima	58	99	0.585858586	0.443883277
Universitario	53	99	0.535353535	0.443883277
Sport Huancayo	50	99	0.505050505	0.443883277
Real Garcilaso	47	99	0.474747475	0.443883277
Ayacucho Fútbol Club	46	99	0.464646465	0.443883277
Melgar	44	99	0.444444444	0.443883277
César Vallejo	44	99	0.444444444	0.443883277
Carlos A. Manucci	43	99	0.434343434	0.443883277
Cantolao	41	99	0.414141414	0.443883277
Universidad de Huánuco	41	99	0.414141414	0.443883277
Universidad Técnica de Cajamarca	39	99	0.393939394	0.443883277
San Martín	37	99	0.373737374	0.443883277
Municipal	34	99	0.343434343	0.443883277
Sport Boys	34	99	0.343434343	0.443883277
Unión Comercio	33	99	0.333333333	0.443883277
Piratas	21	99	0.212121212	0.443883277
Total			7.989898989	0.443883277

Statistical formula for obtaining the standard deviation:

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{N} \square (PT.PCT._i - \underline{PT.PCT.})^2}{N-1}}$$

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{18} \square (PT.PCT._i - \underline{PT.PCT.})^2}{N-1}} \cdot 7.546015713$$

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{18} \square (PT.PCT._i - \underline{PT.PCT.})^2}{N-1}} \cdot 56.94235314$$

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{18} \square (PT.PCT._i - \underline{PT.PCT.})^2}{N-1}} \cdot 3.349550184$$

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{18} \square (PT.PCT._i - \underline{PT.PCT.})^2}{N-1}} \cdot 1.830177637$$

$$\sigma PT.1 = 1.830177637$$

The standard deviation (σPT.1 = 1,83) indicates that there is considerable variability in the points obtained by the teams in Liga 1 during the year 2019. In an ideal context, where all teams are competing with the same possibilities, the standard deviation should be close to zero. On the other hand, the value of 1.83 demonstrates that there is a notable inequality in performance, which means that some teams are significantly above or below the overall average points.

This level of standard deviation indicates the concentration of points in larger clubs with greater finances and resources to attract talent, which translates into superior performance. On the other hand, teams with fewer resources struggle to compete and, therefore, their score is lower, resulting in a lower proportion of points obtained. Furthermore, the high standard deviation also raises questions about the sustainability of the championship. An uneven competitive environment can also lead to a drastic reduction in fan interest, affecting ticket revenues and sponsorship agreements. This perpetuates a cycle of inequality, where large clubs continue to succeed, while small clubs cannot endure.

Moreover, the Herfindahl-Hirschman Index (HHI) is one of the most commonly used techniques to assess market concentration, which is also often used to measure balance in sports. According to Espinoza (2023), this index is a quantitative measure of market concentration in an economy, calculated by summing the squares of the market shares of all competitors. The magnitude of the HHI allows capturing competitive concentration in a market where goods or services are offered, and within which oligopolies or monopolies may indeed exist.

Being an appropriate measure applied to the analysis of sports performance, the HHI is calculated to determine the proportion of points awarded to each team in a league relative to the total points available. Consequently, the ideal value of the index, in which teams play under perfectly balanced conditions, should be close to zero. A high index, on the contrary, will indicate a large concentration of points in only a few teams.

The formula for its calculation is as follows:

$$HHI = \sum_{i=1}^{n} \square \left(\frac{Pi}{Pt}\right)^2$$

Where:

- Pi = points accumulated by the team during the season.

- Pt = total points obtained by all teams in Liga 1.

- n = total number of teams in Liga 1.

Using as a reference the points accumulated by 12 teams in Liga 1 during the 2019 season, the total points were: P_T = 321.

$$HHI = \left(\frac{36}{321}\right)^2 + \left(\frac{32}{321}\right)^2 + ... + \left(\frac{23}{321}\right)^2 = 0.0849$$

The result obtained (0.0849) was normalized by multiplying it by 10,000 to adjust to international scales, resulting in:

$$HHI_{normalized} = 849.27$$

This result denotes a moderate level of concentration regarding sporting performance in Liga 1, and also indicates that some teams are accumulating a considerable proportion of the total points, thus contributing to competitive inequality. In particular, teams with more resources, such as Deportivo Binacional and Sporting Cristal, dominate the competition, while other

clubs, with lower income from television broadcasting rights, struggle to remain competitive.

On the other hand, Liga 1 in the 2020 season was marked by the suspension of competition due to the pandemic and the change in the tournament format. Despite these factors, it can be observed that experienced teams, such as Alianza Lima and Universitario de Deportes, still maintained high scoring rates. For instance, Universitario de Deportes obtained 56 points, which is equivalent to 70% of all 80 possible points. However, the season also showed a change in the performance of some teams, with clubs that traditionally were not in the top positions, such as Sport Huancayo

and Cienciano, achieving more favorable competitive results. This suggests that the pandemic may have leveled, to some extent, the playing field, allowing teams with fewer resources and less history in the league to have the opportunity to excel.

The overall mean of points obtained by teams in Liga 1 was approximately 38 points; thus, it can be inferred that, on average in Liga 1, teams did not reach the same performance as in the previous season. This may be due to logistical difficulties or economic problems faced by clubs because of the pandemic, in addition to the new format, which reduced administrative mobility (see Tables 5 and 6).

Table 5
Analysis of competitive balance among teams participating in Liga 1, 2020

Liga 1 - 2020								
Teams	PJ	PG	PE	PP	GF	GC	DG	Pts
Universitario	19	13	4	2	38	18	+20	42
Sport Huancayo	19	10	5	4	23	15	+8	35
Sporting Cristal	19	9	6	4	38	23	+15	33
César Vallejo	19	8	9	2	25	16	+9	33
Carlos A. Mannucci	19	7	8	4	28	22	+6	29
Universidad Técnica de Cajamarca	19	7	8	4	24	20	+4	29
Alianza Universidad	19	8	5	6	21	17	+4	29
FBC Melgar	19	7	7	5	23	20	+3	28
Ayacucho FC	19	7	6	6	28	21	+7	27
Cienciano	19	8	3	8	27	23	+4	27
Binacional	19	6	5	8	24	29	-5	23
Alianza Lima	19	5	7	7	19	20	-1	22
Cantolao	19	6	4	9	21	33	-12	22
Deportivo Municipal	19	4	9	6	20	24	-4	21
Cusco FC	19	5	6	8	26	31	-5	21
San Martí	19	5	6	8	20	27	-7	21
Sport Boys	19	5	5	9	24	33	-9	19
Carlos Stein	19	4	6	9	18	28	-10	17
Atlético Grau	19	3	8	8	17	27	-10	17
Deportivo Llacuabamba	19	2	5	12	25	42	-17	11

Note. Pos: position in the table; PJ: games played; PG: games won; PE: games drawn; PP: games lost; GF: goals for; GC: goals against; DG: goal difference.

Table 6
Analysis of Competitive Balance and Teams Participating in League 1, 2020

Liga 1 - 2020				
Teams	Points Obtained	Maximum Points	Proportion of Points Won	Overall Mean
Sporting Cristal	56	84	0.666666667	0.499338624
Universitario	53	84	0.630952381	0.499338624
César Vallejo	51	84	0.607142857	0.499338624
Ayacucho FC	47	84	0.55952381	0.499338624
Carlos A. Manucci	45	84	0.535714286	0.499338624
Sport Huancayo	44	84	0.523809524	0.499338624
Universidad Técnica de Cajamarca	43	84	0.511904762	0.499338624
FBC Melgar	41	84	0.488095238	0.499338624
Cienciano	41	84	0.488095238	0.499338624
Alianza UDH	37	84	0.44047619	0.499338624
San Martín	37	84	0.44047619	0.499338624
Cusco FC	36	84	0.428571429	0.499338624
Binacional	31	84	0.428571429	0.499338624
Sport Boys	30	84	0.369047619	0.499338624
Municipal	28	84	0.357142857	0.499338624
Cantolao	27	84	0.333333333	0.443883277
Carlos Stein	33	84	0.321428571	0.499338624
Alianza Lima	26	84	0.3095238	0.499338624
Atlético Grau	26	84	0.3095238	0.499338624
Llacuabamba	20	84	0.238095238	0.499338624

Statistical formula for obtaining the standard deviation:

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{N} \square (PT.PCT._i - \underline{PT.PCT.})^2}{N-1}}$$

$$T.1 = \frac{\Sigma_{i=1}^{18} \square (PT.PT._i)}{\square} \ . \ 8.988095238$$

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{18} \square (PT.PCT._i - \underline{PT.PCT.})^2}{\square}} \ . \ 8.538690476$$

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{18} \square (PT.PCT._i - \underline{PT.PCT.})^2}{\square}} \ . \ 72.90923505$$

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{18} \square (PT.PCT._i - \underline{PT.PCT.})^2}{N-1}} \ . \ 3.83732816$$

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{18} \square (PT.PCT._i - \underline{PT.PCT.})^2}{N-1}} \ . \ 1.958909942$$

$$\sigma PT.1 = 1.958909942$$

The value of SPT.1, which is 1.9589, is the standard deviation of the points obtained by theteams in Liga 1, 2020 season. This value is important for the competitive balance it represents in Liga 1. A standard deviation of 1.9589 means that there is considerable variability in team performance, or equivalently, that some clubs are significantly above or below the overall average points.

This level of standard deviation, when it is greater than 1, indicates an unbalanced competition in Liga 1. As noted, under ideal conditions, when all teams would compete at the same level in terms of equal conditions, the standard deviation would be close to 0. Therefore, the obtained figure suggests that, despite efforts to promote competitiveness, disparities in resources, infrastructure, and management among clubs continue to affect overall performance.

Similarly, applying the HHI considered the total points accumulated by the 20 teams in Liga 1, obtaining a result of $P_T = 704$.

$$HHI = \left(\frac{54}{704}\right)^2 + \left(\frac{53}{704}\right)^2 + ... + \left(\frac{19}{704}\right)^2 = 0.0544$$

The result obtained (0.0544) was normalized by multiplying it by 10,000 to adjust to international scales, resulting in:

$$HHI_{normalized} = 543.85$$

The value of 543.85 thus shows an improvement in competitive balance compared to 2019. Lower concentration means that points were distributed among the teams, reducing the dominance of a few clubs. This result may be influenced by external factors, such as the atypical conditions of the pandemic, as well as greater equality in access to resources.

Meanwhile, in the 2021 season, a significant difference in team performance could be observed, as some teams had exceptional performance while others struggled to remain competitive. In particular, the team at the top of the standings was Club Alianza Lima, which achieved 61 points, equivalent to 76.25% of the 80 available points. This performance not only highlights the club's ability to adapt to tournament conditions but also reflects effective management and a solid game strategy.

On the other hand, teams such as Universitario de Deportes and Sporting Cristal also achieved high positions in the standings, with 56 and 54 points, respectively. This may suggest that, despite all difficulties, the oldest and most prestigious clubs in the championship continue to maintain a high level of performance. This contributes to the perception of a closely contested competition for the title. The overall mean of points won by clubs during Liga 1 in 2021 was approximately 39 points. Overall, this indicates a slight recovery compared to the previous season, which could be interpreted as a sign of adaptation and recovery by clubs to the playing conditions imposed by the pandemic (see Tables 7 and 8).

Table 7
Analysis of competitive balance among teams participating in Liga 1, 2021

Liga - 2021									
Teams	PJ	PG	PE	PP	GF	GC	DG	Pts	Notes
Sporting Cristal	26	18	4	4	57	29	+28	58	Final of the Group Stage of the 2022 Copa Libertadores
Alianza Lima	26	16	8	2	39	17	+22	56	
Universitario	26	13	8	5	43	30	+13	45	Second Group Stage of the 2022 Copa Libertadores
César Vallejo	26	11	9	6	31	20	+11	42	First Group Stage of the 2022 Copa Libertadores
FBC Melgar	26	11	7	8	45	27	+18	40	
Cienciano	26	10	10	6	41	32	+9	39	
Sport Boys	26	10	8	8	36	34	+2	37	
Ayacucho Fc	26	9	10	7	37	36	+1	37	
Carlos A. Manucci	26	10	6	10	40	40	0	36	
Universidad Técnica de Cajamarca	26	9	6	11	28	33	-5	33	
Sport Huancayo	26	6	12	8	26	30	-4	30	
Municipal	26	9	10	7	37	36	+1	37	
Cantolao	26	7	6	13	28	37	-9	27	
Alianza Atlético	26	7	4	15	31	46	-15	25	
Binacional	26	7	4	15	32	50	-18	25	
San Martín	26	7	5	14	18	3	-21	25	
Cusco FC	26	5	9	12	42	49	-7	23	Liga 2 -2022
Alianza Universidad	26	6	6	14	25	45	-20	23	

Note. Pos: position in the table; PJ: games played; PG: games won; PE: games drawn; PP: games lost; GF: goals for; GC: goals against; DG: goal difference.

Table 8

Analysis of Competitive Balance and Teams Participating in Liga, 2021

Liga 1 - 2021				
Teams	**Points Obtained**	**Maximum Points**	**Proportion of Points Won**	**Overall Mean**
Sporting Cristal	58	78	0.743589744	0.45014245
Alianza Lima	56	78	0.717948718	0.45014245
Universitario	46	78	0.320512821	0.45014245
César Vallejo	42	78	0.58974359	0.45014245
Melgar	40	78	0.538461538	0.45014245
Cienciano	37	78	0.512820513	0.45014245
Sport Boys	39	78	0.5	0.45014245
Ayacucho	37	78	0.474358974	0.45014245
Carlos A. Manucci	37	78	0.474358974	0.45014245
Universidad Técnica de Cajamarca	36	78	0.461538462	0.45014245
Sport Huancayo	33	78	0.423076923	0.45014245
Municipal	30	78	0.384615385	0.45014245
Cantolao	30	78	0.384615385	0.45014245
Alianza Atlético	27	78	0.346153846	0.45014245
Municipal	25	78	0.320512821	0.45014245
Binacional	25	78	0.320512821	0.45014245
San Martín	25	78	0.320512821	0.45014245
Cusco FC	23	78	0.294871795	0.45014245
Alianza UDH	23	78	0.294871795	0.45014245

Statistical formula for obtaining the standard deviation:

$$.1 = \sqrt{\frac{\Sigma_{i=1}^{N}\square\,(PT.PCT._{i} - \underline{PT.PCT.})^2}{N\text{ - }1}}$$

$$T.1 = \frac{\Sigma_{i=1}^{18}\square\,(PT.PT._{i})}{\square}.8.02564103.0.45014245$$

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{18}\square\,(PT.PCT._{i} - \underline{PT.PCT.})^2}{\square}}.7.652421652$$

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{18}\square\,(PT.PCT._{i} - \underline{PT.PCT.})^2}{\square}}.58.55955715$$

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{18}\square\,(PT.PCT._{i} - \underline{PT.PCT.})^2}{N\text{ - }1}}.3.444679832$$

$$\sigma PT.1 = \sqrt{\frac{\Sigma_{i=1}^{18}\square\,(PT.PCT._{i} - \underline{PT.PCT.})^2}{N\text{ - }1}}.1.855984869$$

$$\sigma PT.1 = 1.855984869$$

The standard deviation calculated for the 2021 season, SPT.1 = 1.855984869, is a critical indicator that can be used to evaluate competition among teams in Liga 1. Specifically, a value above 1 implies a high variability in achievements. In statistical terms, a standard deviation greater than 1 suggests that there are significant differences in clubs' capacities to earn points. This also indicates inequalities in resources, infrastructure, and management capabilities. The standard deviation of 1.855984869 means that, although some teams have improved their performance and have been able to compete more effectively, there are still inequalities in Liga 1 that prevent it from being balanced. This is important because professional football requires a level of competitive equity to continue developing. Liga 1 faces a structural problem related to the leading teams, such as Alianza Lima, and those struggling to avoid relegation. Liga 1 and the Peruvian Football Federation (FPF, 2018) need to implement policies to achieve a more equitable distribution of resources and opportunities.

Similarly, applying the HHI considered the points accumulated by 20 teams in Liga 1, obtaining the result of P_T = 564.

$$HHI = \left(\frac{40}{564}\right)^2 + \left(\frac{39}{564}\right)^2 + ... + \left(\frac{18}{564}\right)^2 = 0.0528$$

Similarly, the result obtained, 0.0528, was normalized by multiplying it by 10,000 to adjust to international scales, resulting in:

$$HHI_{normalized} = 528.14$$

An HHI of 528.14 indicates that there is a lower concentration in the distribution of points compared to previous years (849.27 in 2019 and 543.85 in 2020). This indicates that there was a more equitable distribution of points among the teams in 2021. The decrease in HHI reveals that the dominance of a few clubs was lower, which, in turn, suggests that competition was more intense and homogeneous in terms of team performance.

Considering that the ideal balance is an HHI close to 0, the evolution of the indices from 2019 to 2021 establishes a positive trend in the distribution of sporting performance.

DISCUSSION

This research reveals a clear alignment with the study by Mahía Rey (2017), who states that by cooperating in pairs of club-channels during television broadcasting auctions, business benefits are maximized. The findings produced in Peru's Liga 1 suggest that the economic disparity between clubs has been sustained due to an unequal sales model, which has prevented the maintenance of lifelong capacity. Unequal sales have been a characteristic of the transactions implemented by Peruvian clubs, who face greater challenges than their Spanish counterparts. As a result, unequal sales of television rights have made less successful clubs more dependent on cable television money.

Similarly, the findings suggest results consistent with the conclusions of Murillo (2020), who suggests that in football, league competitiveness is not only based on the strength of the teams but on their ability to provide playing opportunities to all. In Peruvian football, this study suggests that the concentration of television revenue harms equity and weaker clubs, drastically reducing their chances of competing on equal terms. Unlike the European leagues used by Murillo in his analysis, Liga 1 offers a climate of equal predictability of results that is exacerbated by economic aspects; unless the structuring of television rights changes with a clear equity policy toward all teams.

Furthermore, the results show similarities and differences with respect to the research by Gílmas (2019), who found a notable dependence on television rights revenue in the Spanish League, whose income from this concept reached 61% of the total for clubs.

However, Peru's Liga 1 presents greater dependence, with more than 50% of its revenue from television rights, which worsens the already existing inequality in the competitive field. As there is no centralized sales model in the Andean country, a disadvantage arises for smaller clubs. With Liga 1 showing support for less favored clubs, the centralized model has given them the opportunity to receive a better percentage of income.

Therefore, this study shows a pattern of inequality that reflects the study by Montes and Sala (2020). For the authors, the Spanish First Division football league also shows significant inequality. Among the arguments presented to explain this, the most interesting is an increase in imbalance in the 2009-10 season. Thus, our results support the dependence on broadcasting rights by Peruvian clubs, since it represents more than 50% of the income of all clubs. Likewise, TV rights are the main factor in defining the success of this sport and harm competition, as this economic dependence limits the ability of smaller clubs to compete, resulting in predictable outcomes and a decrease in fan interest.

Finally, the results of this study support the statements of Leandro Flores and Inga Guimaray (2019), who conclude that Peruvian football as a business has limitations, including informality linked to lack of professionalization. Moreover, the comparison with European football highlights the untapped economic potential of institutional and professionalized football in Peru, in the short and long term. The theoretical and practical implications suggest that changing the way income is generated and ensuring equitable sports competition tends toward a European model with more income for clubs and more intense competition. Although this study is not without limitations, since data on the internal management of most clubs is not available, further research would be appropriate.

CONCLUSIONS

After conducting these tests, it can be concluded that the monopoly exercised by the Consorcio Fútbol del Perú, both in production and television, has led to a weakening of the competitive balance in Liga 1 football. Likewise, the HHI calculation applied to the distribution of television income shows that there is excessive concentration in the distribution of points (849.27 in 2019, 543.85 in 2020, and 528.14 in 2021) that exceeds the thresholds established by international regulatory bodies that consider a market as uncompetitive. Consequently, it is confirmed that the current income concentration structure has contributed significantly to the loss of competitiveness in Liga 1, indicating the need to examine the allocation of television resources and implement policies aimed at restoring balance among clubs to recover competitiveness in the tournament.

The findings of the study show that Peruvian clubs obtain more than 50% of their income from television rights, which exacerbates the already existing inequality

in the competitive field. Consequently, this inequality not only undermines animation and competitive fairness among clubs but also restricts growth and development opportunities for weaker clubs. In conclusion, the research highlights the urgent need to implement policies that promote a distribution of income from television rights, which would not only help less fortunate clubs but also ensure the viability of football in the country. Matches would be more attractive for fans, and sponsorships would improve considerably.

Recommendations

It is recommended to establish a new system for allocating television broadcasting revenue in Peruvian professional football, with special emphasis on promoting equity and competitive sustainability. Likewise, the participation of an independent regulatory body is suggested to supervise broadcasting rights contracts, ensuring fair and clear terms. The goal is to reduce the existing oligopolistic structure and restore the competitive balance of Liga 1, cultivating a more favorable, attractive, and volatile landscape that fosters the comprehensive advancement of Peruvian football. Also, create a redistribution system that separates a percentage of television rights revenue and provides it to the club with the lowest income.

On the other hand, a fair competition environment would be encouraged, allowing smaller clubs to invest in infrastructure, talent development, and management, which in turn would enable them to compete at a higher level and, therefore, attract more spectators over time. Likewise, implement specific policies aimed at supporting smaller clubs to achieve sustainability and competitiveness.

Similarly, linking with universities and private companies could help incentivize the emergence of talent and empower management, which would guarantee balance for the growth of Peruvian football and promote active participation of fans and sponsors in club management.

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