FINANCIAL-ECONOMIC ENVIRONMENT FOR THE ROYAL SPANISH ATHLETICS FEDERATION AFTER COVID19

ENTORNO ECONÓMICO-FINANCIERO PARA LA REAL FEDERACIÓN ESPAÑOLA DE ATLETISMO TRAS EL COVID19

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ABSTRACT

The purpose of this paper is to show a forecast of the economic-financial environment for the Royal Spanish Athletics Federation (RFEA) after COVID19 based on the Austrian Economics approach. To do so, we achieve several economic-financial scenarios using a forecast of RFEA revenue with the AAA version of the Exponential Triple Smoothing (ETS) algorithm and interpret the results based on the Austrian Economics approach with information on the Spanish economic situation and the budget of the National Sports Council (CSD) as the main source of funding. The results show that, although national federations, such as the RFEA, have sufficient equity to absorb the negative results and responsible behavior is not rewarded in these public or semi-public bodies, the RFEA should try to adapt its expenditures to the new level of expected revenue to avoid major financial problems in the future. The result of the work can serve as a starting point for a reflection on the future of the RFEA and any other Sports Federation.

KEYWORDS

Sport national federations, COVID19, austerity measures, economic-financial analysis, public funding.

RESUMEN

El propósito de este trabajo es mostrar una previsión del entorno económico-financiero para la Real Federación Española de Atletismo (RFEA) después del COVID19 basados en el enfoque de la Economía Austriaca. Para ello, llegamos a distintos escenarios utilizando una previsión de los ingresos de la RFEA con la versión AAA del algoritmo Exponential Triple Smoothing (ETS) e interpretamos los resultados basándonos en el enfoque de la Economía Austriaca con información sobre la situación económica española y el presupuesto del Consejo Superior de Deportes (CSD) como principal fuente de financiación. Los resultados muestran que, aunque las federaciones nacionales, como la RFEA, tengan un patrimonio neto suficiente para absorber los resultados negativos y el comportamiento responsable no se premia en esos organismos públicos o semipúblicos, la RFEA debería intentar adaptar sus gastos al nuevo nivel de ingresos previstos para evitar problemas financieros mayores en el futuro. El resultado del trabajo puede servir como punto de partida para una reflexión sobre el futuro de la RFEA y de cualquier otra Federación Deportiva.

PALABRAS CLAVE

Federaciones deportivas nacionales, COVID19, medidas de austeridad, análisis económico-financiero, financiación pública.

INTRODUCTION

The aim of this paper is to study the possible economic-financial environment of the Royal Spanish Athletics Federation (RFEA) after COVID19 by means of a forecast of its revenue, so that we can identify the existence of a context of change. To achieve this objective, based on the Austrian Economics approach, we contextualise the socio-political-economic situation and define the problem to be addressed on the basis of the Spanish economic situation, the budget of the National Sports Council (CSD), and the economic relationship it maintains with the sports federations.

The analysis includes the budgets of the Spanish economy and those of the CSD, given that of the approximately 9.5 million euros that the RFEA earned in 2020, almost 60% is due to subsidies from the CSD, around 20% to federation licences, and around 6% to advertising and sponsorship (1). Furthermore, the subsidies from the CSD depend on its budget, and being a public body financed by the National Budget (PGE), it is directly dependent on it. In the context proposal for the RFEA, a previous period of fifteen years is selected so that the forecasts incorporate a situation of economic crisis such as that of 2008, given that its economic effects were similar to those that we can suffer for the COVID19 since the governments have used the same financial tool: excess liquidity through indebtedness.

The result of this work, in addition to providing a forecast of a revenue figure for the RFEA for the years 2021 and 2022, based on data from the previous 15 years, can serve as a starting point for a reflection on the future of the RFEA and other national sports federations in a situation of financial crisis or restriction of funds. Although the national federations could have sufficient equity to absorb the negative results and responsible behaviour is not rewarded in these public or semi-public bodies, the RFEA should try to adapt its expenditure to the new level of expected revenue.

AUSTERITY IN PUBLIC FINANCE FROM AN AUSTRIAN ECONOMICS APPROACH

The approach of the Austrian school of economics is based on the processes of social interaction, beyond economic choice or decisions. From this school, researchers focus on the figure of the individual and suggest that this decision-maker, in addition to assigning means to ends, constantly seeks new means and ends and, in this process, learning takes place that serves to discover and create the future. The information used by decision-makers is subjective, practical, dispersed and difficult to articulate (2). Furthermore, it is considered important to analyse macro and microeconomic aspects in an interrelated way in order to understand the complexity inherent to decision-making. From this perspective, just as other economists have studied the 2008 crisis (3, 4), it is possible to analyse the economic situation after the COVID19 (5).

The year 2020 experienced another crisis, in this case a health crisis, but which, as a crisis, has had, has and will have its economic impact. This economic impact is having cross-cutting consequences throughout society and the length and breadth of the world.

All crises have their economic effects, and all of them start after a period in which the economy seems to be doing very well. Thus, some scholars thought that after the 2008 crisis, shoes effects remain latent, it would take a little longer to suffer another crisis of this dimension, although it was intuited that technological advances would lead to a high increase in unemployment (4).

Specialised press indicated, only a decade later, that the next crisis was very close (6, 7, 8) because there had been a very long period of economic expansion with very low rates since the beginning of that crisis, and so that the Dow Jones continued to grow to record highs, until the arrival of the coronavirus, at which point it suffered, but which it quickly overcame to reach record highs again as the months went by (9). In this period, in Spain, the IBEX35 has not

rebounded and is almost halfway to the all-time high of almost 16,000 points just before the outbreak of the 2008 crisis.

The actual crisis, consequence of the pandemic, although the origin is different from that of economic crises, has generated similar consequences (10), largely because all the crises in which governments have intervened have been approached in the same way: by introducing liquidity from central banks and private investors and managing the new monetary mass introduced into the economy (11).

One stream of literature points out that the Keynesian model (12) was operational and helped to pull the economy out of the Great Depression (13), and has been applied until today, the effect of which we have already seen has been to increase the public debt of countries without a real substantial improvement in their economies (3).

This model is based on the fact that the core of the problem of crises is that there is not enough aggregate demand, so the proposed solution is for governments to stimulate it through public spending, as we have said above, using monetary (and also fiscal) policy, deciding, moreover, where this liquidity goes. As the money in circulation has increased, and the goods and services in the economies are practically the same, the price of these increases (each one needs more monetary units to be acquired), and as workers' wages are an additional price, they demand that wages grow, and the virtuous circle of inflation, and even superinflation, which is a further tax on savings, has been created (14).

As a consequence of the above, inflation, in the long run, harms investment, impoverishes society and then generates unemployment or lowers real wages (15, 16, 17), and not precisely because of a technological factor as we said before, turning inflation into a double-edged sword against the capitalist model, as Keynes himself acknowledged to Lenin a century ago (18).

Thus, in the months following the COVID19, indebtedness has increased significantly, and Spain's debt has increased by around 20%, with the consequent problem of the burden that this entails because it has to be repaid or lose some of its credibility to seek more debt and that investors demand a higher interest rate to mitigate the risk that countries will not repay the principal of the debt or part of it.

However, in general, in the case of developed countries, and in particular Spain, it was getting into debt to pay for current spending, hence the existence of its deficit at the end of the last few years (19), which we can consider structural.

In fact, interest rates on the public debt were low because the European Central Bank (ECB) was introducing liquidity into European economies (20), specifically into the Spanish economy. The 5-year bonds were at negative rates, but only 10 years ago they were at 6.99% (21).

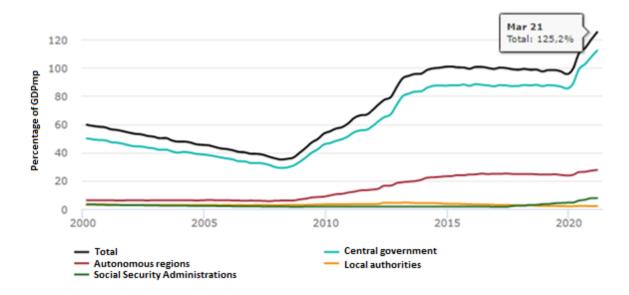


Figure 1. Debt according to the excessive deficit protocol of the Central Government as a percentage of Gross Domestic Product at market prices (GDPmp) (Source: Banco de España)

But the ECB changed its policy allowing inflation to rise, and in order to control the monetary quantity again it will have to make rates more expensive (14). Therefore, the payment of the debt through its refinancing will be more complicated, but it will have to be done because, as said, current spending has been covered with debt. In Spain, in March 2021 we had 125.2% of Gross Domestic Product (GDP) at market prices (22) - Figure 1 - that means, a debt of almost 30,000 euros per Spanish citizen (23), practically three times more than before the 2008 crisis.

THE REDUCTION OF PUBLIC FUNDING AND THE PERFORMANCE OF SPORTS FEDERATIONS

The economic situation of a country has an impact on the organisations that receive public funding. In elite sport systems, federations are central actors that manage and run different sport disciplines at the national level (24).

Previous research on sport federations shows that a reduction in public funding has effects on federations' decisions to maintain their revenue, mainly by cutting costs and seeking additional sources of funding (25), or that such government austerity measures have detrimental effects on the reputation of

federations, result in the inability to have plans for future activities or recruitment (26), or prevent sport federations from engaging in corporate social responsibility activities (27). Therefore, sport federations must cope with possible governmental austerity measures to define their strategy such as the inclusion of management instruments (28).

Several empirical analyses consider the strategies that federations pursue to increase their revenue when faced with decreases in public funding. Clausen, Bayle, Giauque, Ruoranen, Lang, Schlesinger and Nagel (29) report on marketing strategies such as specialisation and social media engagement, and their findings include observation of business-like behaviours by international federations. De Carlos et al. (24) advise federations to include efficiency-based management strategies when governments apply restricted financial measures. Zeimers et al. (27) recommend financial autonomy with respect to financial resources coming from government funding to avoid financial constraints. In their analysis of the Australian Triathlon, Pedras, Taylor and Frawley (30) report on a strategy of outsourcing the delivery of the event in the face of reduced public funding after the 2000 Olympic Games. In conclusion, it seems that it is necessary for federations to explicitly propose a strategy that defends them from economic crises and the measures taken by national governments.

STUDY METHODOLOGY

The selection of the analysis methodology has taken into account the general objective of the work, which is that the RFEA can anticipate a context of change after COVID19 and the two associated questions about what the future of the RFEA will be like and why the RFEA may reach a certain future situation. With this objective associated with the questions "how?" and "why?", two non-exclusive methodological strategies have been used, the analysis of a case and the analysis of archives, as it enriches the analysis and can provide more nuances in the explanations.

In this paper, all three perspectives have been addressed: descriptive, explanatory and exploratory. Specifically, we explore the relationships between the different variables with which the Spanish economy can be analysed, the relationships between these variables and the revenue of the CSD, as well as the relationships between the previous variables and the different sources of revenue of the RFEA. Finally, the aim is to explain the future situation of the RFEA, for which forecast analyses will be carried out based on past data of the Spanish economy, the CSD and the RFEA.

Context of the research

A single case study approach is adopted to better understand the effects of the general economy and the CSD on the RFEA (31). In this paper, the research questions link the Spanish economy with the CSD and RFEA budget without first proposing a specific intensity in the relationship between variables, but then the data are interpreted and a series of recommendations for RFEA are offered, with RFEA revenue with its different dimensions as the unit of analysis. The measurement of the variables is done through archival data, and the criterion for interpretation of the results is based on various secondary sources of information that provide additional and complementary data.

We ensured quality based on the tests recommended in the literature (31): construct validity, internal validity, external validity and reliability. Regarding construct validity, high-level indicators have been selected to evaluate the Spanish economy, the items and programmes of the National Budget have been selected to identify the CSD's revenue, and the different sources of revenue of the RFEA that appear in its budgets have been selected. Internal validity is ensured through the construction of explanations, i.e. using narratives that allow us to justify the causal links between the variables, specifically between the dimensions of the Spanish economy, the CSD and RFEA budgets, all based on theoretical arguments that can be consulted in the following sections of the paper. Likewise, to ensure internal validity, simple time series analyses are performed, using time series over a time horizon selected to fit the purpose of the analysis. With regard to external validity, since this paper uses a single case, the results are not replicated, which would be one of the possible lines of future research. Finally, reliability, based on this work, can be assessed on the basis of the possibility of replicating the same analysis carried out for any other Spanish Federation using the same methodology, given that the entire process followed to obtain the information and carry out the analyses is explained in detail.

Source and data collection

In the data collection process, we followed the three principles that guarantee data quality (31). Firstly, numerous sources of information have been used to cross-check the same information. The economic-financial data of the RFEA for the last 15 years to 2020, the year of COVID19 and the audit reports of each financial year, the CSD database and the Spanish economic data are available. Secondly, a proprietary database has been created with data from the Spanish Ministry of Economy, the CSD and the RFEA. Thirdly, a chain of evidence has been followed, i.e. a sequence of consistent stages and analyses

has been followed throughout the study to allow its replicability, as explained below, the future forecast of the RFEA's revenue is made from the above data.

Indicators and measures

The RFEA's revenue is used to develop future forecasts of the economicfinancial environment and disaggregated sources of revenue to interpret the possible evolution of the factors that affect a favourable or unfavourable value for the RFEA. To do this, we use information from the Spanish economy and the CSD, and interpret it using the Austrian Economics approach. To evaluate the Spanish economy, we use GDP, revenue and costs, deficit, and the following ratios: revenue/GDP, costs/GDP, deficit/GDP. To evaluate the CSD, we use its budget, investments, loans and subsidies to federations.

Data analysis

We use as a technique a forecast that estimates future values using existing data of defined duration and the AAA version of the Triple Exponential Smoothing algorithm (Holt-Winters multiplicative method) - trend and seasonality are taken into account - with a 95% confidence interval (32). The predicted value is a continuation of the historical values for the specified target date, which should be the continuation of the timeline.

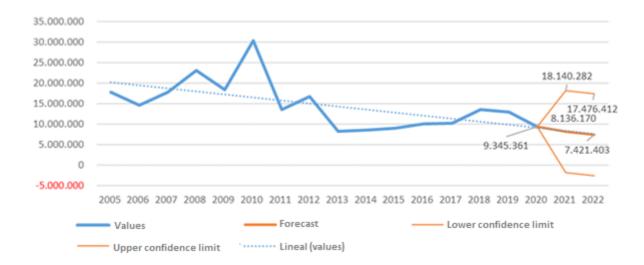
This method is recommended for forecasting close periods when the time series does not have a clear pattern, as is the case for RFEA data. Triple exponential smoothing allows handling time series data containing a seasonal component. This method is based on three smoothing equations: stationary, trend and seasonal component.

RESULTS

The RFEA's revenue forecast

To forecast the RFEA's revenue for the years 2021 and 2022, we will first use the AAA version of the Triple Exponential Smoothing algorithm (Holt-Winters multiplicative method).

As can be seen in the estimates (Figure 2), the results continue on a declining path, with a revenue of less than 7.5 million euros in 2022 in the most likely scenario, and with a negative revenue forecast in the worst-case scenario.



This is because we have considered within the data series the turn of the Figure 2.

Forecast of the RFEA's revenue (in euros) (Source: Prepared by the authors)century of the Spanish economy, and the time it took the government to realise that the Keynesian policies applied in the 2008 crisis not only did not help, but aggravated the situation of the Spanish economy, something that is also very likely to happen after COVID19.

If we take those early years of the series out of the forecast - to some extent distorted given the real economic boom in the early part of the period, and the apparent boom in the latter part of those years - and use the series since 2011 for the forecast (Figure 3), we observe that the situation is already substantially different since we no longer see negative revenue in the worst case because the trend is no longer so negative (only slightly negative).

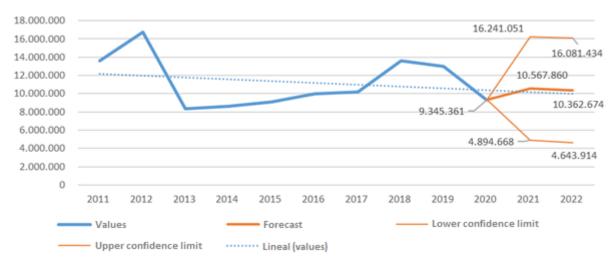


Figure 3. Revenue forecast since 2011 (in euros) (Source: Prepared by the authors)

Although the forecast improves, it is not as optimistic as if the years 2011 and 2012 were removed from the forecast, because it is in these two years when the restructuring of the RFEA's debt took place with the CSD's adjustment plan. This adjustment plan subsequently gave way, from 2013 onwards, to a scenario of stability and a change in trend when the total assets and liabilities were adjusted due to the cancellation of the equity as a result of having had a negative working capital in previous years, which, in turn, led to a substantial improvement in the RFEA's accounts, although not with such extraordinary results as in the years 2005 to 2011.

However, the RFEA has already accumulated a significant equity (more than 2.5 million euros), which represents more than half of its assets, something that allows to face the COVID19 crisis and to assume certain errors. In any case, it is considered that the years 2011 and 2012 cannot be eliminated from the forecast because there would be no close recollection of what a crisis entailed..

The economic-financial environment forecasts using the more relevant income components for the RFEA

Based on the previous forecast analysis, three scenarios are proposed considering the components of the RFEA's revenue, specifically, subsidies from CSD, the Olympic Sports Association (ADO) programme, other subsidies and own resources. In Tables 1 and 2, we incorporate the three scenarios for the years 2021 and 2022, with the values of each of the RFEA's revenue components, the sum of these, the estimated value of the forecast since 2011, and the difference between the latter two.

The difference in the forecast, for the best-case scenario is very large compared to the other two estimates for either of the two years, but those incorporated the boom years prior to 2013 and distort the forecast. Therefore, although the best-case scenario estimate with data since 2011 is also large, it is somewhat more realistic.

Also, both the most likely and worst-case scenarios for the next two years are more benign towards the future when using the estimate since 2011, but this is because they do not incorporate the additional information on the country situation and the CSD.

Table 1. Forecast of the RFEA's revenue in 2021 (in thousands of euros) (Source: Prepared by the authors)

2021 (forecast)	Most likely scenario	Worst-case scenario	Best-case scenario
CSD subsides	4.500	1.800	7.300
ADO programme	0	0	0
Other subsidies	350	0	6.000
Own resources	4.000	2.300	7.800
Total add (A)	8.850	4.100	21.100
Forecasted total from 2011 (B)	10.570	4.900	16.200
Difference (A-B)	-1.720	-800	4.900

Table 2. Forecast of the RFEA's revenue in 2022 (in thousands of euros) (Source: Prepared by the authors)

2022 (forecast)	Most likely scenario	Worst-case scenario	Best-case scenario
CSD subsides	4.400	1.700	7.200
ADO programme	0	0	0
Other subsidies	150	0	6.000
Own resources	3.900	2.200	7.600
Total add (A)	8.450	3.900	20.800
Forecasted total from 2011 (B)	10.360	4.650	16.100
Difference (A-B)	-1.910	-750	4.700

The RFEA's revenue has decreased substantially since the boom times, up to a third compared to 2010, and in 2020 it depended on CSD subsidies (almost 60%), own resources (about 35%), other subsidies (about 5%), and the ADO program (just over 2.5%), although the revenue structure has been consolidating. As of 2013, the debt ratio decreased following the restructuring of its debt in 2012, driving an extraordinary liquidity ratio, which allowed controlling the situation and progressively decreasing the total debt, in part, due to the devaluation of assets as a consequence of the previous negative net assets, which in turn were due to the negative results of the fiscal years between 2009 and 2013. From this moment on, revenue began to grow, until equity have reached practically 50% of total assets, something that has increased the return on assets of the RFEA as of 2013 above 5%, for the first time in its history.

The CSD subsidies have been estimated downward given that the increase in the CSD budget of more than 40%, as stated in the draft of the PGE of 2021, is not met. The 2021 PGE have experienced significant economic adjustments, regardless of the fact that Next Generation European funds have been obtained, since Spain's current spending that was there, and that committed

throughout this year by the Government, has been neutralized by these European funds given that the economy has not grown sufficiently (33, 34).

One might think that the revenue from the ADO programme has been under-forecasted, especially given that in 2020, for the Tokyo Olympics, they received funds but not from the sponsoring and collaborating companies (main financial backers) due to their economic problems. Those have not been considered given that they have been allocated on an extraordinary way, and it does not seem that something extraordinary can become ordinary. Moreover, we do not know whether the ADO programme resources are entirely finalist or whether the RFEA can manage them. Anyways, it seems that for the ADO programme to be viable, its ordinary funding coming from companies should have to change substantially.

Likewise, the estimate of the concept 'other subsidies' is cautious given that: a) these subsidies are usually linked to international competitions and there are none planned in the calendar, and b) they are usually made by local authorities and these after COVID19 do not have many resources and are even allocating their cash surpluses to social and economic reconstruction (35).

Finally, own resources do not show favourable values in the future estimate either, given that, on the one hand, they describe a trend that decreases from 60% in 2013 to 35% in 2020, and on the other hand, their sources of revenue (advertising and sponsorship, athlete licenses and club fees, competitions...) depend on the disposable income of families and companies. The latter will be negatively affected by the worsening of the economic situation in Spain, which in turn will lead to a reduction in government revenues. Since the State will be financed with debt (with the limits imposed by the ECB and the country's debt purchase capacity), and with tax increases on citizens and companies (increase in the tax burden), it will reduce GDP growth and, in turn, will again reduce the disposable income of families and companies (34) and, consequently, the capacity of the RFEA to obtain resources from them (33).

The revenue scenarios for the years 2021 and 2022 (Table 3), therefore, incorporate the sum of their components for the most likely and most unfavourable scenario, and that of the forecast since 2011 for the most favourable scenario. This is a conservative, even pessimistic bet, and is certainly not free of error, the one arrived at after a qualitative analysis of the data and the forecasting analyses carried out.

Table 3. Summary of RFEA revenue forecast for the years 2021 and 2022 (in thousands of euros) (Source: prepared by the authors).

Year	Most likely scenario	Worst-case scenario	Best-case scenario
2021	8.850	4.100	16.200
2022	8.450	3.900	16.100

DISCUSSION

Considering the most likely scenarios based on the forecast analysis, our estimate is that the RFEA's total revenues should fall below 9 million euros in 2021, and 8.5 million in 2022, a very significant contraction from the almost 13 million in 2019, returning to values of the period from 2013 to 2015.

However, at the date of publication of this paper, already with consolidated data for 2021 from the RFEA, we note that its revenues have been 11.9 million euros and in the 2022 budget it estimates that revenues will be 15.7 million euros. While our forecasts in the most likely scenario indicate that the RFEA would have a complicated future, the reality shows that its revenues are evolving towards what we consider to be a more favourable scenario. This situation may be due to the transfer of European Next Generation funds that the CSD has received in these two years to the federations, which allows its income to continue to grow. We make special emphasis to the fact that the CSD has in its 2021 and 2022 budgets an item of 60 and 90 million euros, respectively from European funds (part of these funds are granted on credit), taking into account that the total budget of the CSD in 2020 was 181 million euros.

The RFEA has therefore not yet had to rethink its short-term strategy due to the injection of European funds. However, as De Carlos et al. (24) point out, federations would have to prepare themselves to be more efficient in their operation in the face of possible restrictions on their budget, given that once the European recovery funds are abolished they may have fewer resources to finance their activities. It does not seem that the federations have incentives to implement cost-cutting measures given that it is a semi-public body and the one that performs the best management is not rewarded. Therefore, the RFEA, and

the rest of the sports federations, will continue to do the same until some regulatory body, such as the CSD in this case, imposes an adjustment plan, which in turn will be imposed by a supranational body such as the European Union because debts incurred by the State have to be paid, as has been observed in other countries such as in Greece when a drastic reduction of funds was imposed on the federations between 2009 and 2014 (25).

Therefore, we believe that, although the RFEA has sufficient net equity to absorb the negative results of successive years, it would be necessary to raise with the CSD the dangers arising from the economic situation and the risks it entails for the RFEA, and to change its strategy to at least try to bring expenses in line with the new level of expected revenue to avoid major problems in the future. In this sense, it is previous analyses in other crises and other countries that warn of the importance for sport federations to design this type of strategies in the medium and long term (25) and of the positive effects of designing marketing strategies on their results (29).

The analyses show that there is an opportunity to overcome the negative effects of COVID19, if there is capacity and political interest to do so from any institution, whether public, semi-public such as sports federations, or private, and we have shown the RFEA's revenue forecasts so that it can anticipate in an environment of its responsibility. In this sense, the RFEA allocated in 2020 approximately half of its budget to its core, the high competition, and since 2013 it has a spending structure, and amounts, practically stable, with a slight increase in its budget from 2015 to 2018, which was truncated by the COVID19. In addition, until 2020, the RFEA's financial situation has improved substantially, reducing its debt to practically one-fifth of its 2010 value, which provides it with a significant margin.

In addition, the RFEA has a substantial amount of total equity that allows it to face the post-COVID19 era with guarantees, and even incorporate some changes in its strategy with enough margin to test different strategies. However,

the dependence of 60% of its resources on the CSD and its possible reduction leaves the RFEA in a situation of certain weakness in terms of total income. On the other hand, we believe that although CSD subsidies may decrease and own resources become the most relevant income of the RFEA, athletics is a great sport that would grow compared to other sports due to the adaptability of its athletes.

Finally, it should be noted that, as proposed by the Austrian School of Economics, limiting the capacity of organizations to carry out actions that allow them to overcome adverse contexts not only prevents decision-makers from putting their experience and learning into practice, but also entails the risk of generating less efficiency in their operation and endangering their survival (24). This is why trying to compensate for this restrictive mode of operation with an injection of funds when the situation is critical leads to maintaining structures incapable of generating sufficient income for their self-financing, and ultimately, increasing the problems of these structures (3).

CONSTRAINTS AND FUTURE PATHS

Firstly, a time horizon of 15 years has been taken into account to make the forecasts for the RFEA with all the data available when the study was carried out (end of 2021); in the future this horizon could be extended if the availability of information made it possible.

Secondly, it has not been possible to make a comparison with the actual revenue data for 2022, as has been done for 2021, since the RFEA does not yet have the consolidated data.

Likewise, other statistical inference techniques could be considered to make the forecasts and even prospective techniques could be used, taking into account the uncertainty associated with the future of the national federations.

On the other hand, this study focuses on one federation with the limitation that this means in terms of extrapolation of the results, although we believe that it is possible to take advantage of the methodology and results for other federations, and that an analysis of them could increase the robustness of the results obtained in this work.

Finally, this analysis has been carried out for a context such as COVID19, but it could be valid for other situations, such as a war, where states generate excess liquidity not linked to productivity.

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