

Definition of early termination mechanisms regarding public concession contracts

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Abstract

This paper presents a review of the numerous methodologies used for early termination of concession contracts, as well as a global framework of their application in a simulation for a hypothetical concession. The early termination of contracts is not a desired situation on either part, but must be considered in its genesis, as the mechanisms for such termination must be defined a priori. It is imperative to assure the right tools so that, in such cases, the resolution can be as fair and equitable as possible. There are more possibilities than those approached in this document, and every one of them promotes specific tools to be used for a particular type of contract or execution.

A new methodology is proposed, based on the EBITDA values of the default case. This method pretends to assure a compensation sustained on the results report and considers the possibility of early termination on both parties. In the data analysis, various methods are put to test in a simulation and compared. Both the initial investment return and expected EBITDA for the project are considered as reference values to the public partner. That won't be always the case for the private partner.

The results show the importance to consider these questions from the early stages of contract negotiation. It is possible to observe a high dispersion of the compensation values, not only correlated to the methods used, but also to the contract details and the financial statements or previsions of which they depend.

Introduction

The Public Private Partnerships are one of the most discussed subjects nowadays, regarding the correct use of the public money. Much of the projects were not concluded without renegotiation and had extra costs associated, especially those that had an early termination. Portugal was one of the countries that had extended the use of this concept, without knowing its true comprehension and extension, as referred by the Portuguese Court of Auditors (Tribunal de Contas, 2008). It states, it was also missing a proper legal framework, that allowed the start of many of these projects without the know-how of its benefits and potentialities.

Knowing the difficulties that may rise during the development of these projects, both during the construction and the execution, it is easy to understand how many disputes could arise, especially when the contract has few or no proposals of solutions to those. This paper aims to arrange an analysis on the most used mechanisms for the last resource available, the early termination. It is also, a consideration, towards what is the actual cost for those terminations, and gives both partners the ability to determine if it makes more sense to extend or terminate the partnership, they have at hand.

State of the art

These partnerships represent an important tool to allow governments, to expand their infrastructures without substantial initial investment. Therefore, nowadays we have third world countries, or as The World Bank classifies them, the IDA countries, using this possibility to achieve the most needed infrastructures to allow them to grow. According to the annual report of The World Bank for 2019, the PPP investment surpassed the US\$8.5 billion of investment in IDA countries, with only 2010 e 2012 showing higher values (The Word Bank, 2020).

The PPP allows the government to trade the costs of construction, operation and maintenance that will be assumed by the private partner, in exchange of the profits that the project will make during the duration of the exploration contract. Although this looks like a perfect synergy, especially considering that normal government projects have higher costs then the ones expected, or budgeted, and some delays. But it is not all perfect. As authors suggested, we got into an un-reflected sign-in of these projects, where the lack of know-how, information and transparency allows them to contribute not as a strength, but as a lack of proper use to the public funds (Marques, 2017; Sarmento, 2013).

It is important to understand how trading the risk of execution, and allowing the private partner to deal with it, can be the best choice to execute a project. Of course, there are many types of risks, and they should be dealt with, according to the partner who is best suited to do so. The correct distribution of risks allows the project to run smoothy, and benefits both parties, allowing them to focus on what is essential. A better risk distribution is considered crucial towards its success and it allows the assurance to get Value for Money (VfM) for the public sector, compared to traditional contracting (Cruz & Marques, 2012).

Several authors considered this a must, as the proper agreement secures, not only the more frequent risks, but also, allows the contract to develop towards the execution of the project, especially to those problems, which are not so easy to foresee (HM Treasury, 2007; Marques, 2018a; Zhang & Xiong, 2015). This flexibility could improve the long-term contract relation these partnerships need and enable it to adapt to the situations they can be exposed to(Marques, 2018b).

During this debut of PPP projects, Europe saw the need to create a Department able to support its countries on the decisions regarding this matter. So, on 2008, the EPEC as European PPP Expertise Centre, was created as a part of the European Investment Bank, to advise and support the public sector across Europe. It has also released some guidelines to help countries out during renegotiations or early terminations, paper in which we will focus the recommendations regarding the early termination (Allen & Overy & EPEC, 2013).

Portuguese case

Portugal has, at this moment, several public private partnerships contracts, highway and railway, health and even security. Besides these partnerships, it also has some local contracts signed by city council, and parish council. But for those the redundance is greater, and more co-related to its location. They are made without government approval, as they have their own budgets to attend and so, they are

not the best example to analyse. Portugal has its own specialized technical unite for PPP, denominated UTAP, it is considered somewhat a regulator entity, as they nowadays regularly check the concessions contracts and results and help the government on its administration.

The contracts under UTAP monitorization are only those considered by the central government, such as, 21 highway concessions, 7 of them sub concessions, 3 railways concessions, 1 of them sub concession. 4 health contracts, including for each the management of health care teams and equipment, plus the health care building. And lastly, a security contract, to provide access to a digital network of emergency and security (UTAP, 2020).

With some exceptions, the contracts are similar overall, with the most notorious variations happening depending on the type of the contract. Generally, these contracts, regarding Public Default, determine the transition of its financial loans to the government and a compensation, to be determined according to the law. As for a Private Default situation, there is some contrast between the mandatory, or not, obligation to compensate the government accordingly, to be determined by the law, and a full agreement on the loss of the contract guarantee. A Force majeure situation is associated with an exoneration of the private partner to its obligation regarding the contract, and normally assures its right to ask for restoration of the financial balance.

Proposal mechanism

This paper aimed to comprehend both parties on the contract, so it looked towards the expected values and the existing proposals, expecting to achieve a better and proper solution to the problem at hand. It should be acknowledged, that there is no perfect solution and so, although the mechanism presented on this paper is not perfect, it tries to achieve the balance between the acceptable and the desirable. So, it will be focused on the NPV EBITDA value, as it is considered the earnings that the private partner is looking for in the project. And will be affected by a ratio, that takes into consideration the previous results demonstrated by the private partner regarding its execution financial statement, also based on the EBITDA for the previous execution, as show on equation (1).

$$\text{Compensation} = \left(\sum_{t=T_t+1}^{T_F} \frac{EBITDA_t^E}{(1+r)^t} \right) \times \frac{\sum_{t=0}^{T_t} EBITDA_t^R}{\sum_{t=0}^{T_t} EBITDA_t^E} \quad (1)$$

Regarding the equation, $EBITDA_t^E$ it is the expected value of EBITDA as detailed on the base case of the project, and $EBITDA_t^R$ the registered value, as part of the financial statement. The r states the ratio of actualization, regarding the desirable NPV application to the compensation. This proposal also aims to urge the excellency of the private partner to execute the project, as it benefits their past results demonstration in case of termination. Nevertheless, having in mind the two primary default situations, it is proposed that the ratio between the registered and expected EBITDA, should be determined as equal or higher than 1, in a Public Default, or between 0 and 1, in a Private Default situation.

Discussion

Consider that, the greatest advantage to the public partner is the possibility to achieve better execution results with the lower investment risk possible, and as for the private partner, although the investment cost is higher, there is an effort to avoid budget discrepancies or construction delays, in order to fully achieve the expected, pay out for the project. Which means, it is in their best interest to maximize their results. So much so, that the value that the public partner is prepared to pay for these advantages, can be defined through the previewed project EBITDA.

This paper tries to analyse a high number of proposals and mechanisms for compensation in early termination of contracts. It is easy to consider those values as excessive or insufficient, looking from either partner position. But it is not as easy, to compare and evaluate such distinct proposals, that could change on the slight detail, throughout contractualisation or execution. Regarding the models of investment amortization, their importance is highly underrated, as they can greatly influence the outcome value of the compensations. As an example, looking into Song et al (2016) proposal, in which a simple alternation on how to consider the initial investment, as cash flow or construction investment, produce a variation of millions of euros. That said, this consideration of investment, as construction investment, allows the equilibrium point to be entirely dependent on the differential between revenues and costs, situation that according to the simulations for the study case, occurs, almost every single time, at the first year of execution.

The Book Value approach, Figure 1, presents a compensation entirely dependent on the initial investment and its amortizations, so it is a well-known value, due to its reference on every annual report. Although this method has no consideration regarding the performance of the private partner, and so does not include any compensation for the expected profit to the project.

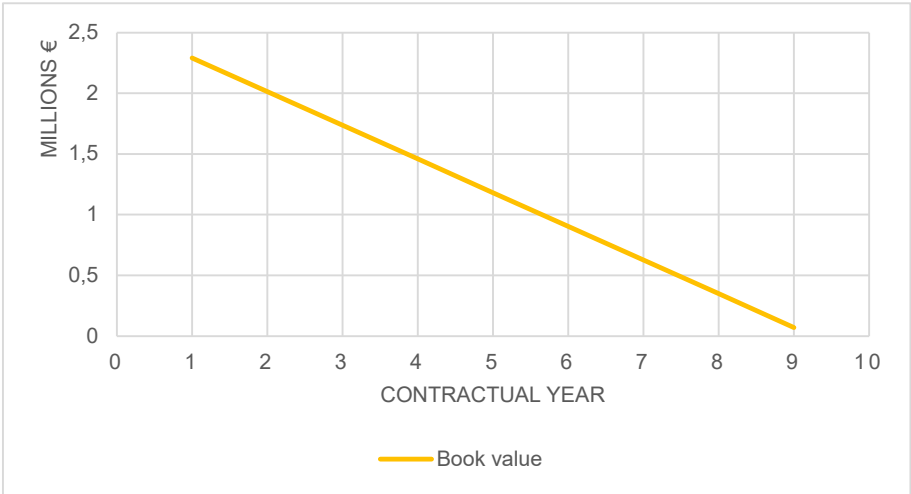


Figure 1 - Book value

Alternatively, the Market Value approach, Figure 2, with a convergency on the value of compensation in its late years, presents as a good solution for projects with an extended duration already completed. It is a method, that assumes the sale of the project as it is, on the date of termination. Because of its dependency on the NPV of future cash flows, it can change greatly depending on how is

forecasted the cash flow map for the project. With some slight variations Xiong et al. (2016), Figure 3, based their proposal on this method, switching the cash flows to the EBITDA values each year. Song et al. (2018), Figure 4, focused their analysis on the net cash flows, similar to what the EPEC guide suggested.

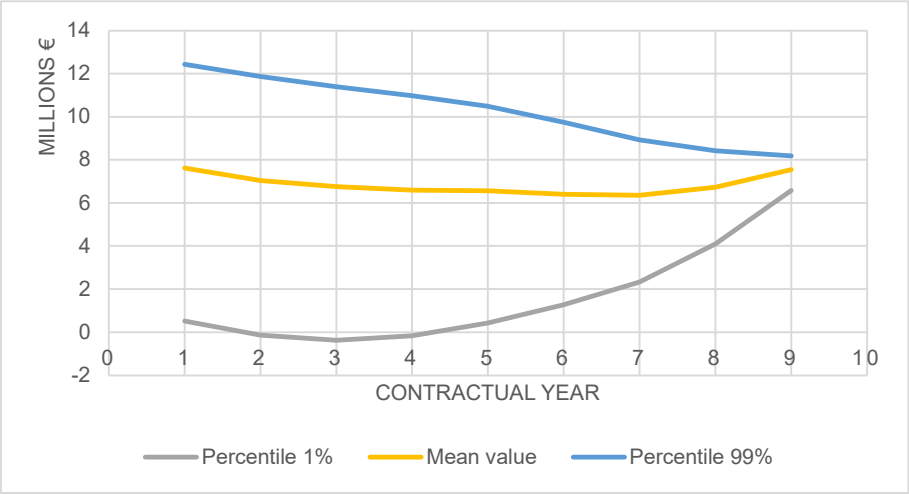


Figure 2 - Market value

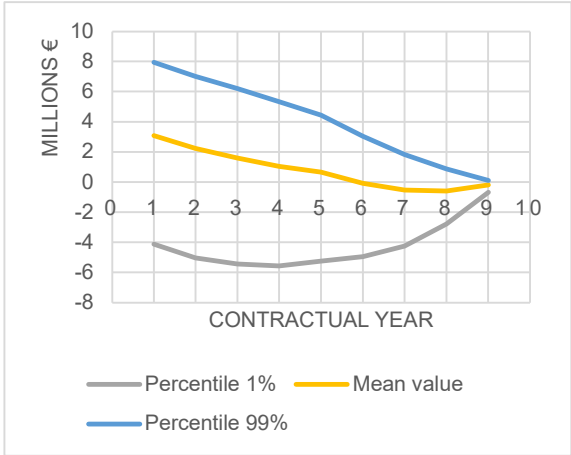


Figure 3 - Xiong et al. (2016)

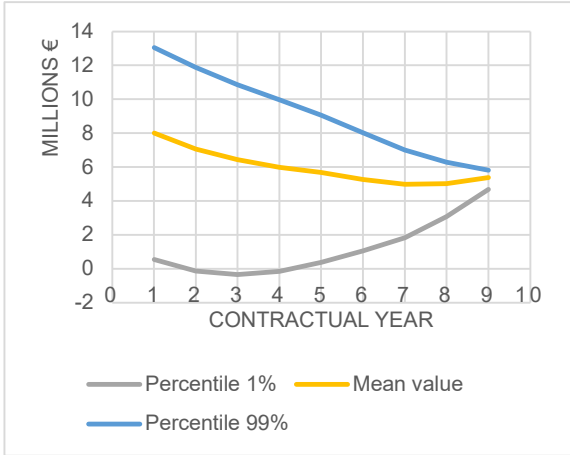


Figure 4 - Song et al. (2018)

The compensation values recommended by these proposals are indeed higher than the initial investment, or even the sum of the predicted EBITDA for the project. And they can be considered to apply on both defaults. Yet, they are somewhat dependent of how viable the market is to the projects in question, although it is possible to estimate these values as it was done in this work.

The EPEC Lenders proposal, Figure 5, focused on the payment of the debt and interests to be paid until the end of the contract. Not considering any amount to the private partner, which could lead to difficulties on the approval of this compensation.

Regarding the Equity investors the EPEC guide, suggests approaching the compensation looking into the expected IRR (Internal Rate of Return) for the investors. It proposes a compensation related to the original IRR calculated on the base case scenario, Figure 6, or the future IRR having into account the results of execution, Figure 7.

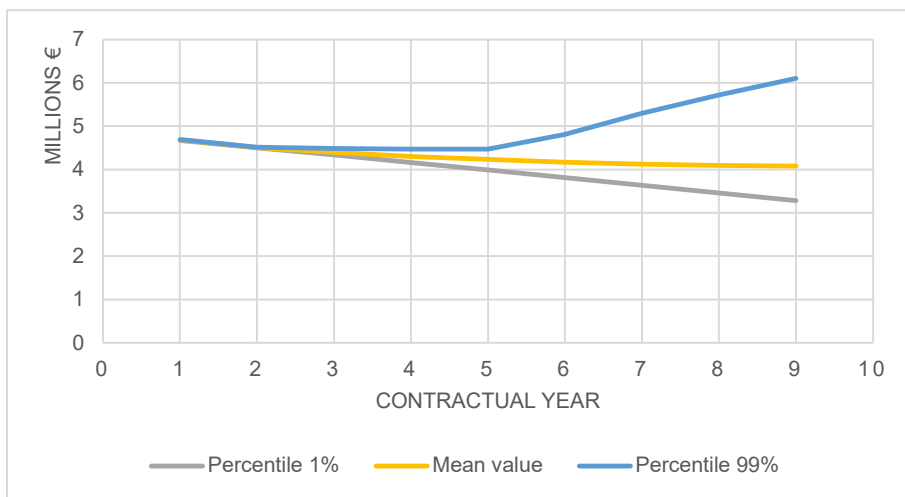


Figure 5 - EPEC Lenders

These proposals focused merely on the expected earnings for the investors, and do not take into account the loans made by the lenders, which can present some difficulties to aggregate the acceptance of all parties. Nevertheless, considering the Portuguese contracts, and its loans transition to the government, this compensation could be an actual higher value, somewhat like the final proposal from EPEC to this category, using the market value to determine the final compensation.

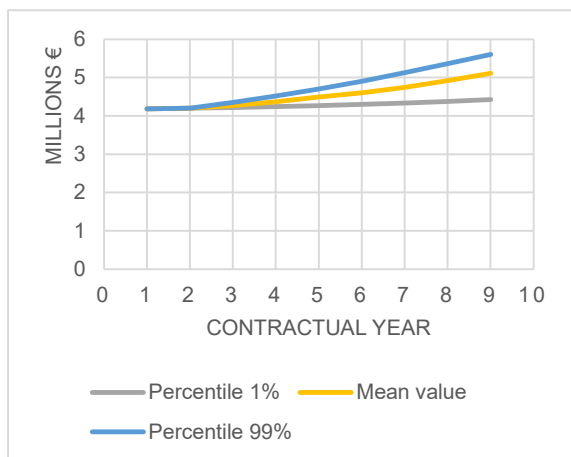


Figure 6 - EPEC Original return

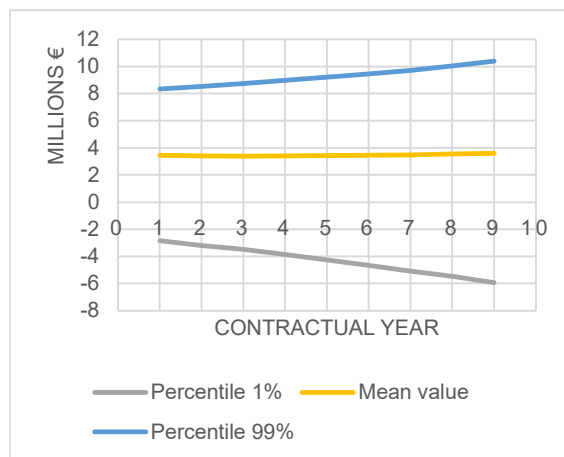


Figure 7 - EPEC Future return

The Debt base EPEC proposal, Figure 8, focuses only on the payback, considered partial in this paper (75%), of the loans the private partner needed to start the project. Bear in mind, this is a Private Default compensation, and even though the public partner would be paying for these loans, that value is considered near of what could be expected, comparing to initial investment or even the future EBITDA previsions. And so, it could be said that the government would achieve VfM for the termination.

The last recommendation from the EPEC guidelines involves Force majeure events. The compensation, Figure 9, should assure the loans, and even partially compensate the private partner from possible profit losses. This situation is known to be widely discussed without a win for either party, as both will suffer losses from it, and none has the possibility to avoid it. But should the government

assume some loan, that he had no part in its discussion terms, even into this situation? There is no right answer to the question, and the compensation, will surely be topic of discussion for both.

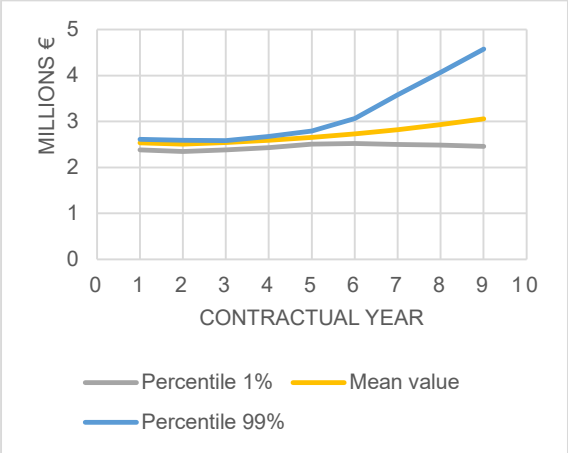


Figure 8 - EPEC Debt (75%)

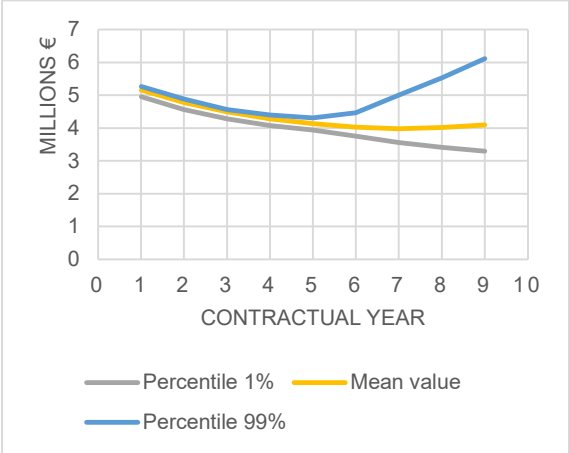


Figure 9 - EPEC Force majeure

Reflecting an odd situation at the time, with lack of liquidity in the private sector, Sarmento & Reis (2013), Figure 10, proposed the government should buy the equity capitals, and so assume the concession as its own. Allowing them to decide which contracts should continue or be stopped, according to its need or ability to invest. This proposal, as the authors recognize, could be easily declined by the private partners, but with liquidity problems, some partners would trade the possibility of future profit, for the recuperation of the investment made. Facing a possible new crash of economy, this proposal might come in handy to some governments and private partners.

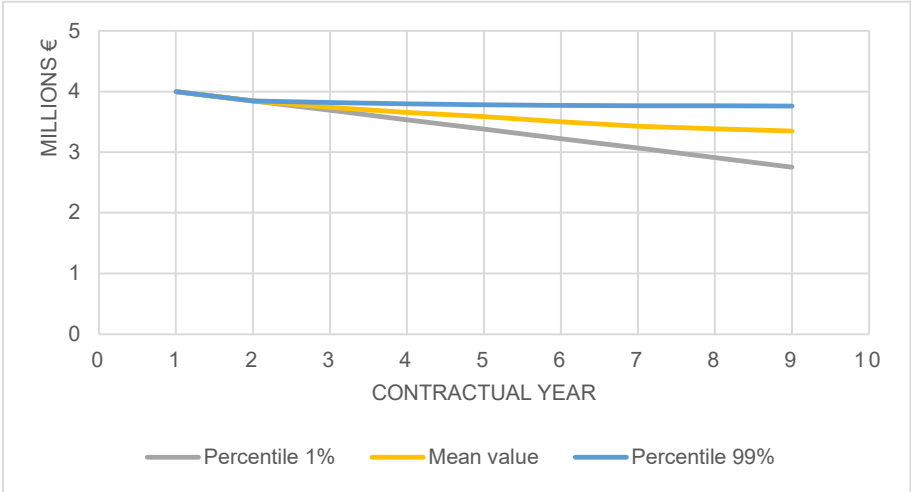


Figure 10 - Sarmento & Reis (2013)

Xiong & Zhang (2014), Figure 11, presented two possibilities to consider when in an early termination situation. In their first proposal, which could be identified as Private Default, the overall compensation should focus on the difference between the revenues and the actual cost. If the value of revenue is already higher than the costs, the compensation should look only to the difference between actual cost and forecasted cost.

Their second proposal, that could be associated with a Public Default situation, focuses on the future cash flows expected for the project. Although, in a similar way to the market value analyses, this proposal states the value of compensation equals to the difference between the expected revenues and expected cost. Even if, a higher value at real cost is achieved at termination, the private partner should not be harmed in their compensation, as it has denied their ability to improve the results until normal termination. This proposal focuses only on the last year of execution, and without two separated simulations, the result would be only one value. Additionally, proposed in this paper, is an extra compensation, provided by the Book Value method, to assure the ability to recover not only the initial investment, but some of the forecast profit.

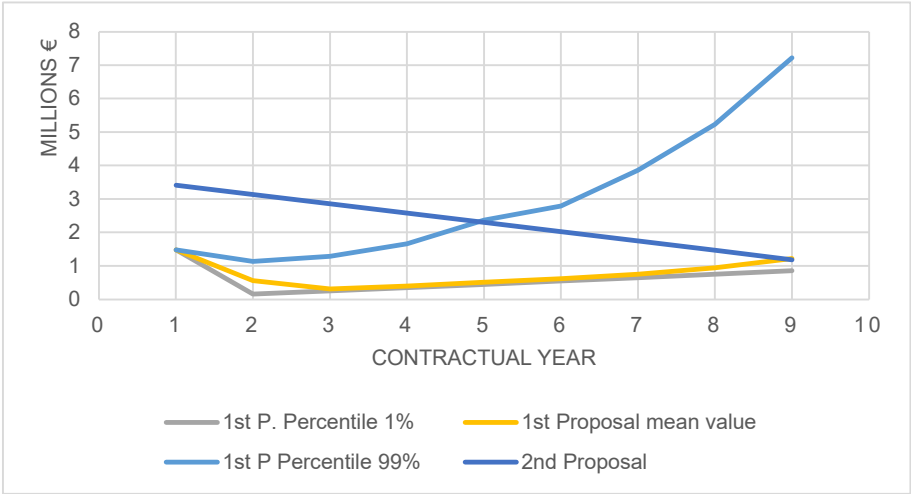


Figure 11 - Xiong & Zhang (2014)

The Song et al. (2016), Figure 12, proposed method, considers the break-even point, as the point where the accumulated revenues exceeds the construction investment plus the operation and maintenance accumulated costs. So as stated before, the simple change of where the initial investment should be inputted, totally shifts the compensation value. From a medium rough 6 million euros, considering the initial investment as construction investment, to 8 to 10 million euros, considering it as cash flows. These compensation values are on the same category as the market values, so the discussion regarding these is similar, and so does not need to be mentioned again.

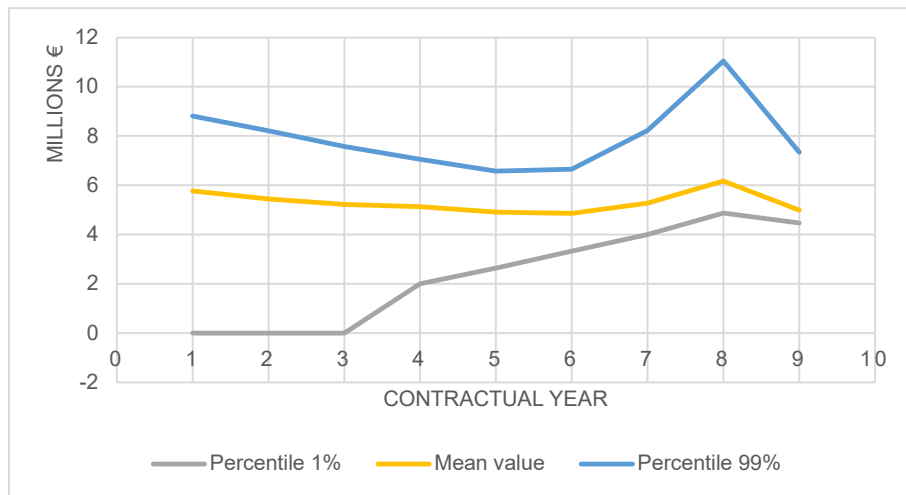


Figure 12 - Song et al. (2016)

As for the mechanism proposed by this paper, it focuses on the EBITDA value and the possibility to account for the private partner performance through the executed project. The EBITDA represents somewhat the value the government is available to pay, or not receive, in order to achieve an execution of a project without delays or overbudgets. Considering this possibility, plus the fact that the EBITDA is also what will provide the profit to the private partner, the proposal here presented looks at these values as the most equitable manner to present a method that will be more likely to be accepted and gather greater agreement.

Besides the ratio tweaks made, it was thought, to be a better choice, to lock the compensation values to equal or greater than zero for Public Default and allow it to go below zero in case of Private Default. Here could lay one of the weak points to this proposal, as according to the assumptions on the base case, the cumulated value of EBITDA will be achieved on the first six years of the contract. Consequently, there is no place for compensation after that period, which could lead to governments trying to terminate without having to compensate the private partner. Regarding this problem, it is our conviction that a cash flow map, concerning a proper EBITDA distribution, could solve this question, and transfers to the last years of contract, part of the profit to be expected by the private partner. What could be a win-win situation, as not only assures a compensation in case of early termination, but also promotes a more accurate execution of the project with the delay of the fully expected earnings.

On Figure 13, it is possible to observe a comparative analysis between the mean value for both defaults of this proposal, with the mean general value for Private and Public Default. First, the values considered for Private Default obtained a higher mean value than expected, because it takes into consideration the market value for that default, according to EPEC's suggestion. It is interesting that our proposal reflected a halfway through the other two mean values on the start of the contract, but instead of stabilizing its value, it decreases, as the private partner is collecting the expected earnings, which is not possible to observe on the other two proposals.

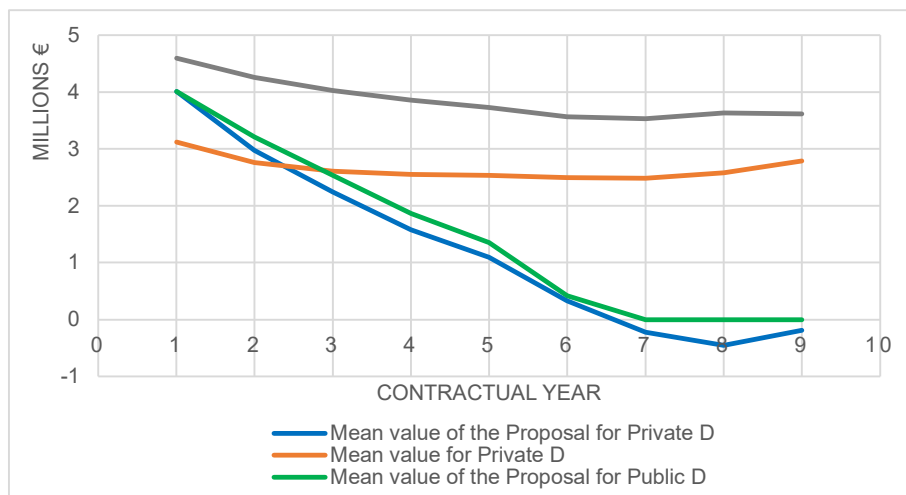


Figure 13 - Comparative of the presented proposal regarding mean values

However, does it not make more sense to expect a decrease of this compensations throughout the duration of the contract, even expecting it to reach a lower or null value? Certainly, as already observed here, there will be many arguments to dissuade that expectation, one of the most important and correct being the usage of NPV for the future cash flows. Nevertheless, almost always, we will see those final payments of loans and pay-outs included in the cash flow maps, and so, producing that peak at those final years.

Conclusion

In summary, it is important to understand that each one of the proposals here presented, has their own advantages and disadvantages. Every value analysed in this paper could be easily justified by one of the partners, but that does not mean it is the correct, just and fair value due to compensate. It is our hope that this paper can contribute to the right discussion, knowing there is not one perfect proposal, and that it is necessary to stimulate the awareness and discussion of this matter, from the genesis of this partnerships.

All things considered, it is our belief, that a proposal that considers the project best interests will ultimately assure the best interests of both parties. As both will aim to make sure the project will succeed. And successful projects lead to the success of both partners.

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