# Full disclosure of tender evaluation models: Background and application in Portuguese public procurement

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## ARTICLE INFO

## ABSTRACT

Public procurement rules in the European Union require that public contracting authorities must publish all tender evaluation criteria and its weights in advance. In order to define sound weights, the authors argue that the scoring rules for all evaluation criteria must be defined beforehand. Furthermore, the authors further argue that those scoring rules should also be published, in order to provide much more relevant and meaningful information for tenderers when preparing their tenders. Based on these evidences, the Portuguese Public Contracts Code compels public contracting authorities in Portugal to publish the comprehensive tender evaluation model in advance. This paper presents the Code, outlines the feasibility of establishing such a model in advance, addresses detailed instructions on how to go about in developing and applying it, and submits that existing European provisions on public procurement could yet go further in ensuring effective transparency, competition and best value for money tenders.

## 1. The european directive on public procurement

The award of public contracts in European Union (EU) member states is subject to the respect of the principles of the Treaty establishing the EU, in particular to the principles of freedom of movement of goods, establishment, and to provide services as well as the principles deriving therefrom, such as equal treatment, non-discrimination, mutual recognition, proportionality, and transparency.

For the purpose of upholding these principles, the European Parliament and the Council have defined, through Directive 2004/18/EC (European Union, 2004), the provisions to be followed by public contracting authorities (CAs) for the award of public contracts above certain threshold amounts.

The text of the Directive is based on Court of Justice case-law (WGPP, 2007), in particular case-law on award criteria, which clarifies the possibilities for the CAs to meet the needs of the public concerned, provided that such criteria are linked to the subject-matter of the contract, guarantee that tenders are assessed in conditions of effective competition, do not confer an unrestricted freedom of choice on the CA, are expressly mentioned and comply with the fundamental principles mentioned earlier.

On the one hand, "in order to guarantee equal treatment, the criteria for the award of the contract should enable tenders to be compared and assessed objectively"; on the other hand, "it is appropriate to lay down an obligation to ensure the necessary transparency to enable all tenderers to be reasonably informed of the criteria and arrangements which will be applied to identify the most economically advantageous tender. It is therefore the responsibility of CAs to indicate the criteria for the award of the contract and the relative weighting given to each of those criteria in sufficient time for tenderers to be aware of them when preparing their tenders" (idem). Therefore, article 53 stipulates that, should the award criterion be that of the most economically advantageous tender, "the CA shall specify in the contract notice or in the contract documents, the relative weighting which it gives to each of the criteria" (ibidem).

But do these two requirements effectively ensure by themselves that public procurement in EU member states is compliant with the fundamental principles mentioned earlier? In particular, do they ensure effective transparency and real openness to competition? Do they indeed prevent CAs from having (virtually) unrestricted freedom of choice? Or is the disclosure in advance of these requirements by themselves really objective or even relevant for tenderers when preparing their tenders?

The authors will try to answer these questions. For that purpose, this paper will present at first the most common weighting procedure used by CAs and show why it is wrong. Based on that, the following Sections 3 and 5 will demonstrate how to build a tender evaluation model, which is both methodologically accurate (in representing CA's values and

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preferences) and meaningful for tenderers when preparing their tenders.

Meanwhile, it will be presented in Section 4 how existing European provisions on public procurement could yet go further in ensuring effective transparency, competition and best value for money tenders, as showcased by the Portuguese Public Contracts Code which transposes into force the Directive while imposing further requirements on tender evaluation. Concluding remarks are summarised in Section 6.

## 2. The most common procedure for weighting evaluation criteria

It is almost intuitive to think that the weight of each evaluation criterion reflects its relative importance: if criterion A is more important than criterion B, then the weight of criterion A should be greater than the weight of criterion B.

But consider, for example, the case of an open procedure regarding reparation works on a bridge where, for the sake of simplicity, only two criteria were deemed relevant for tender evaluation, price (A) and time (B). When defining the weights for these criteria, the CA usually begins by picking the criterion which it considers the most important one, for instance, "price is more important than time". Based on these concepts of relative importance, the CA develops an idea of what the relative weights should be, that is, "the weight of price criterion should be greater than time".

But if the CA had to choose between a tender priced at €500 000 and a completion time of 12 months, and another one priced at €510 000 and a completion time of 8 months, which of these two tenders should it choose? The tender with a smaller price, because price is the criterion with the greater "weight" in this procedure?; or the one with shorter completion time (but greater price), since in this case it seems natural that the CA probably prefers to pay just an extra €10 000 (2% more) to have these works completed in just 8 months (instead of 12)?

So after all what exactly is the meaning of the relative importance between price and time as stated initially by the CA? It means nothing at all, as it is impossible for the CA to determine, in a clear and objective manner, the relative weights of the criteria without taking into account the level of performance offered by each tender on each criterion, that is, the rules by which tenders will be technically analysed and scored on each criterion (see Section 3).

Returning to the previous example, the CA usually goes on quantifying weights for the criteria directly based on its conception of "how much" more important should price be vis-à-vis time. For instance, if the CA considers that "price is about three times more important than time", then the weights to be assigned to price and time criteria should be, respectively, 75% and 25%.

This weighting procedure follows a rationale which to most people would at first glance seem logical and commonsensical. Probably for that reason, and based on author's experience, this weighting procedure is likely to be the most common one; however, unfortunately, it is also the most common mistake in public procurement procedures. As a matter of fact, definition of weights in a way such as described in this example is completely arbitrary and inconsistent with the real preferences of the CA. See also Tavares et al. (2008), Boer et al. (2006), and Keeney (2002) for other common mistakes in public procurement and weighting procedures.

## 3. The tender evaluation model

Determining which tender is the most economically advantageous involves the use of an aggregation method like the weighted sum. This method is implicitly referred to in European case-law on public procurement and is certainly the most used by far (Pictet and Bollinger, 2003). Thus, a tender evaluation model may be represented by the following mathematical expression:

$$V(p) = k_A v_A(p_A) + k_B v_B(p_B) + \ldots + k_i v_i(p_i) \tag{1}$$

where $V(p)$ is the overall score of each tender $p$; $k_i$ is the weight of each evaluation criterion $i$ ($i = A, B, \ldots$); $v_i(p_i)$ is the partial score of each tender $p$ on criterion $i$; and $p_i$ is the level of performance of each tender $p$ on the performance measure defined for criterion $i$.

Naturally, CAs should award the contract to the tender with the highest overall score $V(p)$, as determined by expression (1).

Let us now consider the standpoint of a tenderer willing to submit a tender in the procurement procedure mentioned in Section 2. If he chooses to use his own resources solely, his best tender ($p1$) will have a price of €400 000 and a completion time of 12 months. Alternatively, should he employ subcontractors for part of the works, his best tender ($p2$) would instead have a price of €450 000 and a completion time of 9 months. In this situation, which of these alternative tenders should the tenderer submit?

Since the price criterion has a higher weight (75%) than the time criterion (25%), should this tenderer submit the $p1$ tender? Would the CA be willing to pay an extra €50 000 in exchange for a completion time which is 3 months shorter? It is impossible to know. In other words, the disclosure in advance of just the evaluation criteria and its relative weights does not inform the tenderers in an objective or even relevant manner.

Suppose now that the CA defines the following functions for scoring each tender on price criterion: $v_A(p_A) = 200 - 0.4p_A$ (with $p_A$ measured in thousands of euros), and on time criterion: $v_B(p_B) = 300 - 25p_B$ (with $p_B$ measured in months). Replacing these functions in expression (1), and considering the weights assigned to each criterion within this procurement procedure (75% and 25%, respectively) would result in

$$V(p) = 75\%(200 - 0.4p_A) + 25\%(300 - 25p_B) \tag{2}$$

Using this particular tender evaluation model, the $p1$ tender would have an overall score of 30.00 points and the $p2$ tender would have an overall score of 33.75 points. Therefore, this tenderer should submit the $p2$ tender, that is, the one with the higher price (despite the 75% weight of the price criterion), since it is the one that the CA considers the most economically advantageous.

Notice that the CA might choose to define any other functions for scoring each tender on price and time criteria. For instance, it might define the following alternative function for the time criterion: $v_B(p_B) = 180 - 10p_B$. In this case, it is straightforward to see that the $p1$ tender would now be the most economically advantageous one for the CA and therefore the tenderer should decide to submit $p1$ instead.

In short, whenever the CA publishes the tender evaluation model, i.e., an expression such as (2), the tenderer is able to construct and submit a tender which offers the best value for money considering the CA's "values" and preferences on a given contract.

This exercise clearly shows that the provision, imposed by Directive 2004/18/EC, to publish the weights of all criteria in the contract documents, does not in fact prevent, by itself, CAs from having (virtually) unrestricted freedom of choice, nor does it provide potential tenderers with objective or relevant information on how they may best tailor their tenders to the CA's "values" and preferences.

If, on the other hand, the CA does publish the exact way by which it will evaluate each tender according to each criterion (that is, the way it will transform the tenders' features and performance levels into partial scores on each elementary