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Tools and methods for the planning of Public Works. A Regional Centre for Control Cost of Public Works

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Abstract

The squandering of financial resources invested for the construction of public works has become an increasingly important issue during the continuing economic crisis and the slow recovery in the construction sector. In recent years it has taken cognizance of this critical and unsustainable financial weight that results in considerable economic and social repercussions. In addition to the corruption that require repressive intervention, there are methodological shortcomings in estimated economics, found both in the sector regulations, and in university courses. The work in this area, shows that one of the main problems arises at the programming phase of the works, when the erroneous assessment of the investment costs is reflected throughout the realization of the same. This paper is a summary of how scientific research into economic estimates may provide tools and identify shared methodologies, effective for the control of expenditure in the public works sector from the outset of the planning stage.

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1. Analysis

The register of unfinished public works of the last two years prepared by the Ministry of Infrastructure and Transport, (Ministry of Infrastructure and Transport, 2014), shows that there are up to 692, with a financial burden

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on the public budget of about EUR 3.5 billion and it is estimated that their completion will weigh almost 1.3 billion euro.

The 2015 data shows a slight decrease at the national level, with 649 unfinished works for an amount of € 2.9 billion Euros. The regional breakdown however, sees Calabria as the most critical region, with 93 unfinished works, followed by Puglia with 81 and Sardinia with 67 uncompleted works, to mention only the worst three. The most virtuous regions are Trentino Alto Adige (0 unfinished works) and Valle d'Aosta (1).

The main cause, approximately 50% of total works, can be attributed to lack of funds with 31% of the total down to interruptions due to technical reasons and 28% due to bankruptcy. The Report of 2014 “The implementation time and expense of public works” (Report “I tempi di attuazione e di spesa delle opere pubbliche”, 2014) shows that among the factors that influence the timing of implementation of the works there is a lack of adequate planning, the availability of funding, delays in the release permissions, inadequate body actuator and disputes in the awarding and execution of phases of the work.

During the analysis attention was focussed on the programming phase and preliminary design associated to it, especially with regard to the economic aspects of quantities regarding the initial estimate of the investment costs. The reliability and depth of this step determines the allocation of financial resources for the realization of public works. But how do we estimate investment costs at an early stage?

The process is of great importance, especially in the Public-Private Partnership processes and below PPP (Dosi, 2002) (Mascarucci, 2011), where construction costs are consistent rate. Moreover, in the ex -ante phase, i.e. with a level of preliminary design definition, they define the convenience systems and types of partnership between public and private entities (project financing, grant or lease, etc.). The project financing (Vacca & Salustri, 2003), will exist only when the private promoter is encouraged on its investment through the operational phase. Its financial sustainability verification (Prizzon, 2001) is generally carried out through procedures of synthetic parametric estimation; therefore it is evident, how important the reliability of these estimates are and, at the same time, what are the difficulties likely in quantifying the amount of works at a preliminary design level (Calabrò & Della Spina, 2014).

From the regulatory point of view, Article 22 of Presidential Decree 201/2010, indicates that the summary estimate of public works in the preliminary design should be drawn up “by applying to the quantities processed by the Observatory features the standardised costs and prices in the absence of these, by applying parameters taken from made similar interventions or drawing up a bill of rough estimate”. Determining the standardised cost falls within the competence of the Observatory that “... determines annually standardised costs for the type of work in relation to specific geographical areas, making it the subject of a specific publication in the Official Gazette ...”¹. These costs are to be understood as a reference construction costs for public works.

The standard therefore allows different approaches to be used, leaving free more than the method to use. Among these there is also the use of a bill of quantities, an operation that has several critical issues in terms of proper methods, as only an executive project level allows the process of a bill of quantities. That is, when there is knowledge of construction types, their quantities, and so on. The use of this method may result in significant deviations between the estimated cost value and the real one.

Another approach used is to refer to parameters deduced from similar projects already put in place and completed in recent times. In these cases the critical issues to be considered are:

- The period of creation of the comparable, since the time variable influences the cost values;
- The difficulty in obtaining recent data;
- The references used may relate to the cost parameters relating to certain categories of works and which would make the total investment rate.

The application of standardized costs elaborated by the Observatory of Public Contracts, applied to the project descriptor parameter to be estimated (m2 or m3, student, car, etc.) Would allow in the planning stage or preliminary stage, estimate cost investment in a more expeditious and likely way. The Observatory has data on the interventions made in the national territory and must be transmitted by the contracting authorities. The surveys, by regional sections are transmitted to the central section and processed to determine the standardised cost parameters. Methodologically

¹ Article 7, paragraph 4, letter. b, Legislative Decree 12 April 2006, n. 163 - Code of public contracts for works, services and supplies.

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