

The effectiveness of public investment in Italy

By Stefano Maiolo¹, 25 agosto 2020.

«Superare l'odierna netta separazione fra progettazione e valutazione, quasi la seconda fosse un corpo estraneo alla prima e non uno strumento per accelerarne la maturazione, fino all'accettazione o al rifiuto. (...) e accompagnare le scelte di intervento, quale che ne sia la natura (investimenti fissi, volti alla formazione di nuovo capitale fisso sociale, o altro), partecipando ai momenti e alle fasi cruciali del loro cammino. Partecipando al momento della loro ideazione, alle fasi – decisive – dell'affidamento delle scelte progettuali, senza abbandonare poi l'intervento una volta realizzato, per osservarne invece la capacità di perseguire quegli obiettivi per il quale è stato proposto, ideato, portato a termine. Quando la valutazione accompagna i progetti nel loro processo di maturazione, fase dopo fase, anche il rischio di ritrovarsi con progetti irrealizzabili, con opere incompiute, si riduce».

Carlo Azeglio Ciampi, "La valutazione in Italia e in Europa, situazione e prospettive". Intervento del Ministro del Tesoro alla Conferenza *Evaluation: Profession, Business or Politics?* Roma, ottobre 1998.

Abstract

The study presents a review of Public Investment Management (PIM) based on recent applications made in various countries by the World Bank; starting from this approach, in which eight "indispensable" characteristics are identified for the effective functioning of any PIM system, an assessment is carried out of the evaluation and implementation model of public investments in Italy.

Many countries, even in the face of major negative shocks to the economy, after a few years have recovered their growth path also thanks and to public investment and the rigorous evaluation of related projects. Italy instead presents many critical issues in the planning stages, programming and projecting of public investments, so much so that since the major economic crisis of 2007 it has lost more than 30% of the average annual value of the investments that were made in previous years, and consequently also the GDP has remained almost unchanged at pre-crisis levels. In the post-Covid phase this situation is even more worrying, observing the data of the current recession.

If on the one hand the EU is showing sensitivity towards the countries that have been most affected by the pandemic, so much so as to enhance the resources of the new 2021-2027 programming for Italy by over 200 billion euros through the Recovery Fund, on the other hand, it is necessary not to lose sight of the above critical issues. Through a first attempt at assessing the macro-activities and rules that have taken place in recent years in our country, some focuses are made on the evaluation and analysis of the effectiveness of public investments, following the reading order proposed in the World Bank PIM guidelines.

Keywords. Covid-19, Pandemic, Public Investment, Management, Recovery, Evaluation
JEL codes. E22, H43, H54.

¹ University of Rome "Tor Vergata" and Agenzia per la Coesione Territoriale.

The author thanks Professor Lucio Scandizzo for the useful comments received during the preparation of the paper. The paper represents the opinions of the author. It is not meant to represent the position or opinions of their job Institutions, nor the official position of any staff members. Any errors are the fault of the author.

1. The critical aspects of public investments in Italy

In Italy, for more than a decade, the entire public investment sector suffered an average-annual decline of about 4%. This problem is even more acute in the southern regions and for all investment in infrastructure.

The time of implementation of infrastructure investments is one of the critical variables, which often also leads to strong changes on the demand side, compared to procedures and allocations of resources that go in the opposite direction. The length of time for investment implementation in Italy is a clear indicator of the inefficiency of investment planning and management processes adopted by Public administrations.

On average, the time of implementation of an investment in Italy is 4.4 years (about 4 years and 5 months), but gradually increases as the economic value of the projects increases. The increase of time concerns the three procedural phases considered in a specific " Report on the timing of the implementation of public investments", prepared by the governmental Agency for territorial cohesion: from less than 3 years for projects of less than 100 thousand euros to as many as 15.7 years for large projects worth more than 100 million euros. In more detail, the planning design phase alone has an average durations ranging from 2 to 6 years, the awarding phase of the works varies between about 5 and 20 months, while the average implementation time varies between 5 months to almost 8 years.

The length of implementation time is attributable to a number of factors: the full and timely availability of financial resources, the overall quality of the designs and related implementation processes, the complexity of the project authorization licensing processes or project assignment custody procedures.

Another problem concerns interventions for which the work and the testing procedures are completed, but which do not go to full capacity. It is generally believed that the investment target has been achieved after the works have been completed. Unfortunately, however, the delicacy and complexity of the entry-in phase is underestimated, where various critical issues (weakness of management plans, administrative uncertainties, etc.) can lead to significant delays in the actual time of mise-en-service of an intervention, thus reducing the overall efficiency and effectiveness of the investment made.

This framework of factors affecting the timing of implementation and commissioning of the works is made more complex by the fact that the monitoring systems currently in place rarely allow a timely detection of the aforementioned critical issues. This makes it very difficult to react - let alone be proactive - to such occurrences through the definition and implementation of appropriate corrective actions.

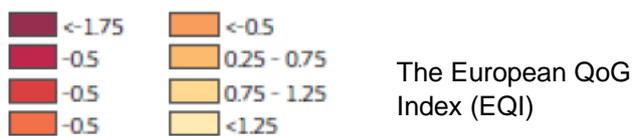
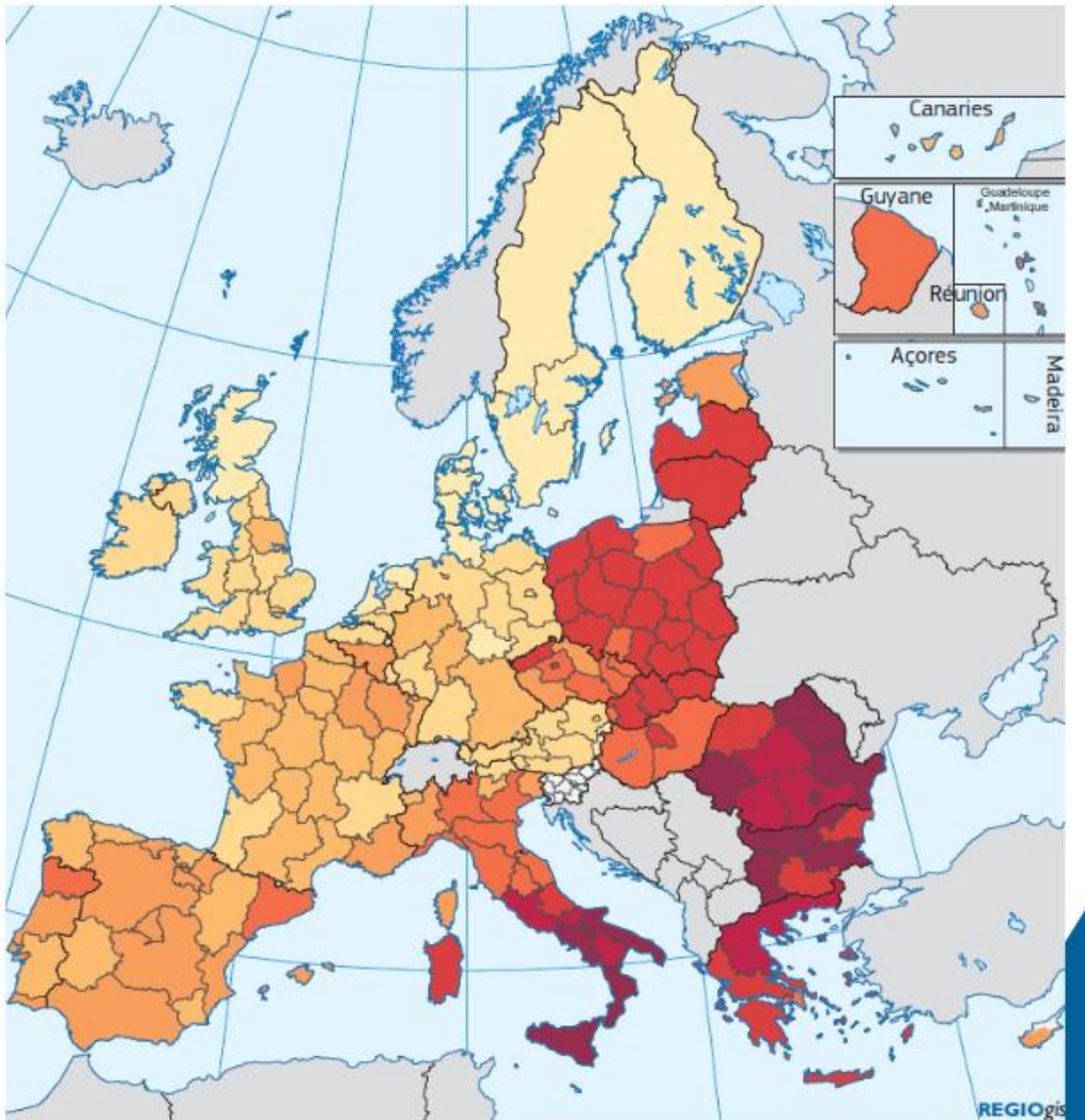
Surveys conducted over the last decade by Bank of Italy have shown that the various phases of construction have differing impacts. The length of 'transition' periods, that is, the time between the end of one procedural phase and the start of the next (for example, the planning and awarding of contracts) or between sub-phases (for example, preliminary, final and executive planning), has a considerable impact on project timelines. These times, which are at least in part absorbed by administrative activities and inefficiencies, account for on average around 54 per cent of a project's total duration (rising to 60 per cent if one considers only the planning phase).

Over the last few years average completion times have risen. The increase has related solely to the tendering and execution phases, while the length of the planning phase has remained fairly stable. But there are wide regional variations: it is estimated that the length of time required in Sicily, Molise and Basilicata to complete the same project is more than 30 per cent higher than that required in Lombardy and Emilia Romagna. This means that, in order to address the scarcity of resources or the limitations of the applicable legislation, it is essential to identify and spread best practices.

It is enough to think that the entire volume of economic resources so far allocated in the Italian state budget for the part of capital expenditure amounts to over 250 billion euros. Because of a strong inertia caused by the procedures and the quality of the governments (see Figure 1), however, these resources continue to remain in their respective budget chapters, in spite of increasing strong socio-economic and environmental needs in the national economic system (quality of services, employment, environmental and urban redevelopment). On the other hand, if they were well spent, the same resources would fuel the implementation of gross fixed capital, and contribute to a solid reversal of the negative structural trend in Italy.

Given the current public finance conditions and the low efficiency of public administration, it would be necessary to define a credible strategy capable of implementing the levels of effectiveness and efficiency of Public investment. The strategy should aim to promote the capacity building of Public Administrations, promoting also accountability and transparency of public action.

Figure 1 – OECD empirical evidence indicate that investment and growth outcomes are correlated to the quality of government at the sub-national level.



Fonte: Effective Public Investment across levels of government Sub-national Capacities in a Multi-level Governance Context. https://ec.europa.eu/economy_finance/events/2017/20170124-ecfin-workshop/documents/presentation_dupre_en.pdf

2. The major public investment measures and the reasons for the infrastructural gap

There is a common perception that large investment projects are not only difficult to achieve, but often unsuccessful, not generating the expected benefits, compared to the costs actually incurred. On the other hand, this category of interventions belongs to the case that unites the characteristics of the interventions described in the introduction, since in considering the volumes of investment in public works, resources are concentrated in this portion of the largest works.

While large projects fail or their impact is reduced compared to expectations in terms of positive externalities in the territory and in the economy in general, it is also interesting to investigate the ways in which these effects are generated. It is important to investigate the series of related causes, always bearing in mind that, at least in principle, there seems to be no reason why all useful projects with clear and achievable objectives, regardless of their size, cannot be a fundamental vehicle of socio-economic development in the territory where they are located.

However, it is important to remember that economic theory predicts that different economies of scale, positive and negative, can be associated with the size of economic activities. In cases where the benefits (costs) tend to decrease (increase) with the increase in the size of the economic activities put in place (decreasing returns to scale), we must expect lower average results in larger projects than in smaller ones. Conversely, if there are positive economies of scale, such as for example in large communication network projects, the opposite can be expected.

Literature agrees that there is a paradox common to large investment projects:

- Realized costs rise of 50 percent to 100 percent, and in some cases they are more than twice the costs initially estimated.
- Demand side forecasts are overestimated by 20 percent to 70 percent compared to actual user usage.
- The environmental impact following the implementation of the intervention is significantly different from that expected, it is also the result of an inadequate performance audit service that is often feasible only with considerable difficulties.
- The models of inter-territorial cooperation, both on a local, inter-regional and international basis, do not allow the optimal use of the productive capacity provided by the project, thus ending up by reducing its effectiveness.
- The scenarios hypothesized before the realization of a large project tend to change over time, especially when the time lag between the design phase and commissioning is considerable.

Tabish and Jha (2011), through a survey with factor analysis, identified 36 project variables to define four possible success factors for large public works projects in India: sensitivity and respect for rules and regulations; ex ante planning of the project and clear definition of the objectives; effective public debate between project participants; efficient monitoring and control system also entrusted to the outside.

A similar study (Ika, Diallo and Thuillier, 2012) was conducted on a set of major projects through another survey, related to the success of projects carried out by the World Bank, with particular reference to the relationship between the critical factors of success and failure of the project. The

analysis shows five factors (monitoring, coordination, planning, training and institutional environment) positively correlated to the success of the project.

Project control and management are obviously decisive factors in the success of the project in an operational perspective, but the authors believe that attention to the initial phases is even greater and more important: a clear vision of the objectives and a strong political will; a structure responsible for the formulation of independent and stable design over time; a charismatic project manager with high professional skills; a solid financial approach from the initial phase of the project and based on a realistic business model; appropriate procedures for legal consents with possible audit options; a broad and completely representative stakeholder of the various positions, with an open communication management model; a rigorous process of managing any changes and project reviews.

If the factors mentioned above lead to the success of a major project, Pinto and Kharbanda (1996) identify twelve factors that, on the contrary, can lead to failure: ignoring the context of the project and its characteristics, including the behavior of the interested parties; push a new technology to market too quickly; not planning the "possible among the possible problems", for example through the analysis "and if ..."; when problems occur, focus on the most visible problem ignoring everything else especially when you are in fact more trouble; not encourage projects based on new ideas because of their uncertainty, with the risk that inertia could kill innovation; not carry out ex ante feasibility studies; not to admit that a project is a failure, continuing to push the project even if factors such as functionality, bad management or incorrect calculation affect the project itself; do not conduct post-failure reviews, losing the opportunity to learn and understand the main reasons for the failure; allow bureaucracy and internal governance to be more important than project success; not worrying about the existence of project trade-offs; let the political influence modify the decision-making process; a non-charismatic and unqualified project manager was chosen.

As mentioned, each major project deals with the characteristic of singularity if considered in its unity, or on the contrary of plurality in cases where it is a specific sectoral plan of interventions that can be considered with the definition of a large project (especially if one thinks of the projects that can make up the redevelopment of the integrated water system, an extraordinary maintenance plan for the roads, and so on). In light of this it is difficult to make a list of the general success and failure factors that can be applied to each major project.

It therefore becomes essential to understand the specific aspects to which one or more factors characterize the scenario in order to enhance the awareness of the complexity that will have to be faced in order to give greater probability of success to the implementation of major projects.

The following table (Table 1) reports a reasoned survey on the analysis of risk and success factors to which various authors have identified the main causes.

Table 1: Analysis of risk and success factors for major projects

success factors	risk factors
<ul style="list-style-type: none"> • Awareness; sensitivity and respect for rules and regulations; planning and planning ex ante and clarity of objectives; stakeholder participation in all decision-making levels; external monitoring and control system (Tabish, Jha, 2011). • Monitoring; coordination; design; capacity and institutional depth (Ika, Diallo, Thuillier, 2012). • Clear mission; support to top management; systematic preparation of programs and plans. Constant comparison with the customer; personnel Management; efficient technical assistance. Adequate communication plan (Pinto, Mantel, 1990). • Clear and achievable project objectives; presence of technological innovation; proactive involvement of local communities; need for a shared program (Turner, Anbari, Bredillet, 2013). • Project outline; clear operational objective; support to senior management; financial support; market dynamics analysis; skilled labor and organizational skills; clear identification of the project's profitability; information and communication channels; project review (Cleland i King, 1983). 	<ul style="list-style-type: none"> • Absence of post-failure reviews; overlap between bureaucracy and internal corporate activities and project success; little attention to the trade-offs that can be generated by the project; political influence on decision-making processes; choice of a non-charismatic and / or poorly qualified project manager (Kharbanda, Pinto 1996). • Absence of the public debat; untrained personnel; lack of technical and operational roles; (Pinto, Mantel, 1990). • Izio Prejudice to optimism; strategic misrepresentation; inefficiency and lack of debate among stakeholders (Flyvbjerg, 2011). • Inability to program, plan and design according to a logic of interdependence; superficiality in the ex-ante economic evaluation (Loiero, Maiolo, 2017). • Costs and delays in delivery of the works, absence or incorrect formulation of the cost-benefit analysis; overestimation of the ex-ante demand, absence of long-term planning (European Court of Auditors, 2018).

Source: our elaboration on various surveys

2.1 The role of evaluation and cost-benefit analysis in conditions of uncertainty

The cost-benefit analysis is a rather complex methodology of economic evaluation of the projects, but necessary for an efficient public investment policy. Regardless of the outcome of the individual applications, the focus on the need for in depth quantitative assessments is a positive element of the ongoing analysis on large-very large projects subject to the current and controversial debates. This is the case, for example, of the TAV Turin-Lyon and of “ Terzo Valico di Giovi”. It can contribute to a more extensive use of the best international project management practices, unfortunately still not sufficiently widespread in our country.

The cost-benefit analysis is based on the idea that projects can be evaluated as generating cash equivalents, expressing the benefits and costs in terms of a monetary account unit (e. g, the reserves of the Central Bank), and from the point of view of the creation (or destruction) of value caused by the project, and of the effects on the audience of the possible positive and negative beneficiaries. It

is also necessary to take into account the fact that the estimates are affected by measurement errors and that the future is uncertain. National and international manuals (including an excellent European guide) and various academic texts are available online, see for example the book “Assessing Uncertainty, the Cost Benefit Analysis of the 21st Century”, by Pennisi and Scandizzo (2003), where the uncertainty conditions and the need to assess risks and opportunities created by the project are taken into particular account. However, the conclusions of any analysis depend on the hypotheses made, the available data and the interpretation of the results. It is up to policy makers to make decisions taking into account the indications of the analyzes. In order to provide policy makers with adequate information, the problem of cost-benefit analysis must also be defined according to the moment in which the assessment takes place. For a new work of high dimensions, which inspired part of this work, one of the tools widely used in literature (Perali, Scandizzo 2018; Scandizzo, Maiolo 2005a) is that of the “method of effects”, where through a model of general economic equilibrium the impact generated by the project on the main macroeconomic variables is estimated: GDP, consumption, employment, net production following inter-exchanges between the actors and economic sectors directly and indirectly involved.

For the works in progress, but also for those from scratch, the evaluation should be approached using the so-called real options technique (Scandizzo, Maiolo 2005b), and evaluating the so-called exit option if the project itself is to be questioned from a very clear overcoming of the overall costs on future benefits. In other words, for those who have undertaken the project, during construction, the option, or rather the option, but not the obligation, to suspend, cancel or modify the project at any time during its implementation. Evaluating these options (called real options in analogy, but also to distinguish them from financial ones), according to the so-called extended net present value method, allows to take into account the costs associated with definitive or temporary abandonment or redesigning , in addition to cost savings and lower benefits, which would be realized by canceling, suspending or redesigning the project. If one or more of these real options has a positive value, the evaluator may recommend that the work be suspended, canceled or modified, depending on which option has the highest value. Since the evaluation of real options takes place taking into account the opportunities and risks associated with the project, the conditions of dynamic uncertainty of the intervention (ie the future evolution of the boundary economic conditions), receive the necessary attention, which is not sufficiently present in an analysis carried out with the traditional method.

3. The diagnostic framework for a correct economic evaluation and analysis of the effectiveness of public investments

This paper discusses the possibility for the central government to implement an IT dashboard in which the typical processes of a Public Investment Management (PIM) ² are engineered, from which they are developed and improved from time to time tools for planning, programming and planning of public investments.

² “Strengthening Public Investment Management. Reviewing the role of external actors”, disponibile su: <https://www.odi.org/sites/odi.org.uk/files/resource-documents/11794.pdf>

In the following section, after the list of the eight characteristics of the PIM, the main features of the dashboard are presented and for each of them the analysis and an assessment applicable to the Italian case are proposed.

In the PIM proposed by the World Bank, eight essential characteristics are identified so that a valid model for the implementation of public investments is promoted in a stable and robust manner over time. The eight characteristics are as follows:

- Investment guidance, project development and preliminary screening
- Formal project appraisal and ex-ante evaluation
- Independent review of appraisal
- Project selection and budgeting
- Project implementation
- Project adjustment and project review
- Facility operation
- Ex post project evaluation

3.1 Investment guidance, project development and preliminary screening

The government and central administrations should provide systematically updated strategic guides for public investment for both projects and programs, on a sectoral basis.

Each change of government must induce the administrations to improve the previous model to make it more effective on the basis of suitable preliminary and monitoring activities, rather than pursuing the formulation of many plans³.

This characteristic presupposes a first level of screening based on the needs that a large non-marginal project and / or a public investment program should ensure that it is consistent with the priorities established in the Government program.

3.2 Formal project appraisal and ex-ante evaluation

After the screening of the first phase carried out on projects and capital expenditure programs, based on consistency with the strategic priorities, a more rigorous evaluation is requested, through the application of cost-benefit or cost-effectiveness analysis.

The decision whether to approve a project or not must be based on a formal and transparent procedure defined in the guidelines previously shared and approved at sectoral level between the central administrations and the government.

3.3 Independent review of appraisal

³ For a representation extended to the Member States of the European Union of the empirical evidence of the correlation between public investment and government growth and quality at sub-national level, created by the OECD, from which the criticality of the Italy model emerges, see : “Effective Public Investment across levels of government Sub-national Capacities in a Multi-level Governance Context”, https://ec.europa.eu/economy_finance/events/2017/20170124-ecfin-workshop/documents/presentation_dupre_en.pdf.

The evaluation of a project and a public investment program are necessary in order to verify the presence of an optimism bias, a typical situation that emerges with the political enthusiasm (underestimated costs and / or overrated benefits).

There should be a formal review process, which can be undertaken, depending on the governmental apparatus, by the Ministry of Economy and Finance or by an agency specializing in design, or by a university or public research institute.

The dissemination of CGE models should be developed on a geographical-territorial basis, whose econometric modeling is based on the Social accounting matrices, specifically disaggregated by sector and territory. These tools are able to estimate the level of economy and profitability ex-ante of a large program and / or project, also financed with public resources.

3.4 Project selection and budgeting

This is the phase in which the projects are included in the Budget of the Public Administration which promoted and sponsored them and at the same time public funds are allocated to the projects.

The fiscal and economic framework and the annual budget should determine the overall allocation for public investment throughout their life cycle and the budget should adjust to provide future funding for both managing and maintaining the new assets created by the selected projects.

The Ministry of Infrastructure and Transport identifies the lists of priority works each year in the annexes to the DEF, but in the absence of the DPP, this list has never entered into force, keeping a long list of strategic works alive on a temporary basis (approximately 800 interventions, including some programs, largely not funded), which tends to increase over time.

3.5 Project implementation

Once the projects and the relative cost estimates have been selected, the utmost commitment is needed to ensure that the times and costs foreseen for their realization are respected.

While over time very accurate cost estimation techniques have developed (not only the budgeting techniques but think of the techniques provided in the building information model - BIM) especially in the ex-ante evaluation phase (where it is clearly carried out well), the Administration responsible for the implementation of the project should also take all other measures to implement the projects efficiently and prevent overloads in the duration and costs for completion.

These control criteria should include:

- in the ordinary operation of the dashboard, a project cost management system capable of covering budget needs for the entire construction phase;
- in the presence of projects and / or programs dictated by extraordinary and / or emergency events, the adoption of separate accounting forms for contracts or phases and annual tracking;
- an efficient procurement system;
- sectoral guidelines,
- ability to manage and monitor the implementation of the project.

3.6 Project adjustment and project review

Public administrations should have a continuous review process during the implementation and management of a project, to monitor the progress and address the problems of any deviations of the strategic variables. A project review process must be part of the ordinary management process, where executive agencies present progress reports.

This should include restructuring mechanisms of a program and / or even defining paths in the event of a serious escalation of costs or time delays such that for the stage where the project is located it is no longer advantageous.

3.7 Facility operation

Once a project is completed, there should be a process to ensure that the facility is ready for operation and that services can be delivered. Asset registers should be maintained and asset values recorded and updated.

In this phase, one could think of an early warning system model, if the Administration that will have control over the management of the public investments has not fulfilled the budget allocation of the resources necessary for the management and maintenance of the project within the terms provided.

3.8 Ex post project evaluation

To complete the diagnostic framework, there should be a review of all the projects carried out for a specific program. The review should be able to establish whether the project was completed within the initially budget foreseen (cost-effectiveness) and in the specified time interval (efficiency), and if the outputs were delivered as specified (effectiveness). For a representative sample of projects, there should also be a greater depth evaluation that compares the costs and benefits of the project with those expected in the design phase. These assessments allow for important forms of learning and feedback can allow you to derive improvements in investment management over time.

- The logical framework of the three "E" proposed by the European Court of Auditors.

The analysis of the three "E" (Effectiveness, Efficiency and Economy of public investments) was proposed by the European Court of Auditors, which has prepared a specific manual⁴.

Based on the principle of effectiveness, the specific objectives set must be achieved and the expected results must be achieved. Based on the principle of efficiency, the best relationship between the means used and the results achieved must be sought⁵. Based on the principle of

⁴ European Court of Auditors – Performance Audit Manual, 2017

https://www.eca.europa.eu/Lists/ECADocuments/PERF_AUDIT_MANUAL/PERF_AUDIT_MANUAL_IT.PDF

⁵ For an examination of the times for the realization of public works in Italy, see: "Il rapporto sui tempi di attuazione delle opere pubbliche", 2018 edition, Agency for Territorial Cohesion https://www.agenziacoesione.gov.it/dossier_tematici/i-tempi-delle-opere-pubbliche/.

economy, the resources used in the realization of a project must be made available in good time, in the appropriate quantity and quality and at the best price.

4. Public Investment Management in Italy

4.1 Planning and Programming

For the purpose of the present paper, the most important characteristic of the Italian model is the process of expansion and decentralization that project planning and evaluation has been undergoing since the 80's. In particular, in a direct application of EU guidelines, Italy used the option given by Art.3 of the EC Regulation 1083/2006; including European Territorial Cooperation within the Italian National Strategic Reference Framework. Therefore:

'All national aspects concerning the strategic guidance and the implementation of the programmes in which Italy participates are dealt within the National Strategic Reference Framework, which was formally adopted, in Italy, by a decision of the CIPE (Interministerial Committee for Economic Planning), and in the acts implementing the NSRF'⁶.

The regionalization of public investment, pursued both through constitutional reforms and EU regulations, has been carried out in Italy with mixed results. Regional governments have been challenged by the requirements of project planning, the rigorous process of design and evaluation within the EU system and the supplementary provisions of the national system, as specified in the law 144/1999, the law 443/2001 (the so called Objective Law) and the various revisions of the so called Merloni Law, i.e. the law on the procedures to be followed in the planning and implementation of public works.

Among other innovative provisions, Law 144/1999 had attempted to set up the foundation of the project cycle by formally defining the feasibility study (FS) as the centrepiece of the process of project design and ex ante evaluation. Thus, not only the law recognized FS as the starting point of project selection and analysis in the public sector, but tried also to encourage its application by providing a series of incentives to the administrations that engaged in project planning by investing in proper FS operations. The network of evaluation units followed up on these original provisions by issuing a manual that aimed to give guidance to the various evaluation units as well as to the professionals in the field, on how to approach, according with a standardized and rigorous methodology, the main problems encountered in the FS. In particular, the manual looked at the problems of project design and economic and financial analysis, offering basic theory and practical advice.

In spite of these initiatives, the attempt to systematically enact the project cycle within the public sector has met only with partial success for several reasons. For one thing, the law did not provide sufficient resources to finance the feasibility stage of the project cycle, but only weak incentives to the administrations that chose to follow that route. As a consequence, FS were often inadequate, as the professionals charged with them- typically architects or engineers with no training in cost

For a comparison and a survey on the implementation times of public works in Europe, see: "Procedure e tempi di esecuzione delle grandi opere nei paesi industrializzati", STUDIO OICE - Analisi comparata delle procedure più efficaci per la realizzazione delle opere pubbliche in Francia, Germania, Gran Bretagna e Spagna, (a cura di), Claudio Rangone, 2017.

⁶ <http://www.dps.tesoro.it/qsn/qsn.asp>

benefit analysis- were not adequately paid nor did they have sufficient incentives to study and absorb the methodology. Second, the definition of feasibility study provided by the law was not sufficiently detailed to be interpreted correctly without the framework of an appropriate theory of project evaluation. As a consequence, many feasibility studies produced under the umbrella of the Structural Funds were either broad attempts of regional planning (“plans without projects”) or very restrictive project designs (“projects without plans”). Mostly missing were instead the characterizing FS features, allowing the evaluation of the best technical alternatives and the economic and financial appraisal of the solution proposed. Third, while Law 144 requested the feasibility study to be made, the Law for Public Works (the “Merloni” law) requested a preliminary project to be completed in order to start the project process. This twofold requirement has been variously interpreted, but has ultimately had the consequence of complicating the early analysis of the project, for which not only rough economic and financial information, but also specific designs and dimensioning data are deemed necessary. Rather than accelerating the disbursement of money committed to project financing, therefore, the most recent years have witnessed the accumulation of further delays. This has been due to the complexity of the feasibility study, the combination with some form of preliminary project design and the chronic under-financing of the early stages of the project cycle, now dramatized by the new documentation required.

4.1.1 The new regulatory framework for planning and evaluating public investments in Italy

The Legislative Decree 228/2011 was created to implement article 30, paragraph 9, letters a), b), c) and d) of the law of 31 December 2009, n. 196, regarding the evaluation of investments relating to public works, with the aim of promoting in the Public Administrations the good practice of planning and economic evaluation of public investments in the wake of legislation that has been partially partially implemented starting from law n. 144/1999.

This provision requires the central administrations to prepare the “Documento di Pianificazione Pluriennale (DPP)” (*Multi-year Planning Document*), containing the three-year investment program for public works and public utility, to be organized according to the indications contained in the following Prime Ministerial Decree of 3 August 2012. Preparatory to the drafting of the DPP is the preparation, by the Administrations involved, of sectoral Guidelines concerning the quantification of needs and the ex ante and ex post evaluation of the financed interventions. The Ministries are required to draft the DPP by October 31 of each year and send it to CIPE; by December 31 of each subsequent year they must prepare a report on the state of implementation of the DPP itself.

The Prime Ministerial Decree of 3 August 2012 contains various elements that make it possible to facilitate the process of drafting the DPP through the drafting and processing, at the expense of each Ministry, of the Guidelines for drafting the Document. Il Prime Minister's Decree of 3 August 2012 "model-type Planning Multi-year Document" underlines how: *"The resources indicated in the document are to be understood as the set of financial resources (of internal, community or private origin) destined to capital expenditure for the realization of public works by:*

- *of the Ministry concerned;*
- *of other subjects, to whom the resources - initially in the estimates of the Ministry itself - are transferred (eg contracting authorities, contracting stations, public law bodies, public companies, in-house companies, concessionaires, etc.). "*

In order to facilitate the preparation of the DPP, a Vademecum was elaborated containing details and operative indications for the drafting both of these guidelines, and of the DPP.

The Vademecum, available online, was sent to all the Ministries required to carry out the evaluation activities. The Vademecum has the following salient features:

- is structured by promoting the coherence and completeness of the basic legislative apparatus constituted by the Legislative Decree of December 29, 2011, no. 228 and the DPCM 3 August 2012;
- it is proposed to transmit to the Administrations indications that facilitate the drawing up of concise, complete documents that facilitate analysis and guarantee internal consistency;
- it focuses on the tools and procedures for drafting the guidelines for the subsequent drafting of the DPP of public works and public utilities, divided into five main sections:
 - i. the. Framework of the Ministry's spending sectors;
 - ii. Ex ante evaluation of infrastructure and service needs;
 - iii. Ex ante evaluation of individual works;
 - iv. Criteria and procedures for the selection of works;
 - v. Criteria and procedures for the ex post evaluation of the public projects.

After the vademecum, an addendum was prepared, and it also intends to provide some indications on the integration of principles and procedures for the evaluation of public and public utility works registered in the Ministries' estimates, in which some issues related to the possible different origin of public resources used to finance a work, taking into account the role played by capitals and private partnership, as well as proposals for possible activities to be included in the guidelines and planning documents.

The main factors that hinder the Administrations, which emerged following meetings aimed at collecting feedback for the implementation of the provisions of the legislation in force can be summarized as follows:

- 1) the employees do not seem to have the specialist skills necessary to draw up the *Guidelines*, let alone the DPP;
- 2) there emerges a clear need for internal training aimed at encouraging the performance of the activities envisaged by Legislative Decree no. 228/11;
- 3) in the cases in which it is present, the Evaluation Committee does not have the necessary professional skills to support the Administrations on a technical-specialist level;
- 4) a further shortcoming consists in the absence of structured internal circulation procedures of information flows aimed at allowing the verification of the various evaluation passages of the capital expenditure in the entire life cycle of the program / plan / project;
- 5) the Administrations appear to be characterized by an insufficient determination to intensify the pace of adjustment of procedures and internal structures to the new evaluation framework - an acceleration that would be more and more necessary due to the serious delays accumulated with respect to the deadlines, even if they are ordinary, prefigured by the Legislator.
- 6) the regulatory framework prefigured by Legislative Decree no. 228 presents a clear weakness in terms of *enforcement* of the "sanctions" which it also contemplates, given that

the "threat" of not funding the CIPE candidate initiatives in the absence of the completion of the required evaluation procedure has so far never been implemented, despite the apparent prescriptiveness of the provision contained in Article 5, paragraph 3 of the Decree⁷.

To date, the only Italian Ministry that has published the Guidelines is the Ministry of Infrastructure and Transport, which in December 2016 included the document also stamped by the Court of Auditors on its website. In fact, not even this Administration has ever established a DPP on the basis of the same guidelines adopted.

4.2 Project Evaluation

Project evaluation as a systematic government activity was started in Italy with an article in the 1980 financial bill, which established both a special fund for public investment and a central evaluation unit (called "Nucleus of Evaluation of Public Investment"). The Nucleus, which was staffed by experienced professionals recruited from the World Bank and other important technical centers, was given broad responsibilities both to establish methodologies and to carry out evaluation appraisals on projects of the special fund (denominated Fund for Investment and Employment). The fund itself was a total novelty for Italy, since its endowment, roughly 15% of the government capital budget, was supposed to be competitively assigned to proponents from Ministries and Regions on the basis of the validity and quality of project proposals. This innovation slowly took hold on the Italian bureaucracy and procedures, even though its main impact was on the evaluation rather than the other phases of the project cycle. In 1999, however, a considerable improvement in the project management system was achieved through the approval of law 144/99. This law designed the main steps of the project cycle, formally defined the feasibility study as a critical document to proceed to appraisal and provided for the constitution of an evaluation unit in all major ministries and in all regional governments. The law also established a national network of evaluation units (Rete Nuclei di Valutazione e Verifica degli Investimenti Pubblici (RNVV)), with its own financing endowment, to manage a centralized project information system, support interaction and facilitate communication among different ministries and units. The RNVV also has the task to unify the requirements for feasibility studies and to offer criteria and procedures for project planning and evaluation. Both the central unit for evaluation and the ministerial and regional units have played a key role in improving project management and fostering the culture of evaluation throughout the Italian bureaucracy, making perhaps Italy one of the leading countries in Europe for best practices in evaluation appraisal based on rigorous and consistent economic methodologies. In addition to the use of the logical framework and the constant practice of cost benefit analysis, during the past four years, furthermore, a special research program led by the Ministry of Economic Development has contributed to start a systematic use of social accounting matrices (SAM) for the evaluation of macro-investment programs and strategic projects.

4.3 Appraisal

Project appraisal and approval in Italy varies according with the financing laws. Typically, when financing is provided by the government, either through a competitive fund, or by some other form

⁷ D.Lgs. 228/2011, article 5, paragraph 3: *"Le opere non incluse nel Documento o nelle relazioni annuali non possono essere ammesse al finanziamento, fatto salvo quanto previsto dall'articolo 153, commi 19, 19-bis e 20, del decreto legislativo 12 aprile 2006, n. 163, e successive modificazioni."* The exception relates to public or public utility works offered to administrations by economic operators, to be carried out in concession or financial lease not present in the three-year planning, or in the planning tools approved by the contracting authority on the basis of current legislation.

of public evidence procedure, the corresponding law provides for a detailed procedure to follow, with clearly established parameters to guide the decision-making throughout the approval chain. As observed in the analysis of public investment in EU, although the National Strategic Framework sets out the sector priorities and the related guidelines for project appraisal and approval (and among these practices, CBA is a chief requirement), most projects (mainly major ones, including infrastructure) go through a phase of public hearings before an inspector and are thereafter subject to approval from several levels of local government.

While appraisal techniques tend to follow international best practices, and EU standards play a paramount role in ensuring that these reflect adequate quality and reliability, the use of cost benefit analysis is not as widespread as it could be expected. In part, this depends on the fact that for many programs the EU requirements focus on the logical framework and on impact evaluation rather than on cost benefits methodologies. In part, it is the consequence of the persistent lack of familiarity of project professionals, such as architects and engineers, with economic and financial assessments.

4.4 Monitoring

According to the description above, financial allocation is managed and controlled through a process that at the same time focuses on performance and consensus building. A further challenge, “risk management” is also regulated through careful guidance by DoF, which is responsible for the establishment guidelines in Project Monitoring and, supervising of all sponsoring agencies. These are required to “put in place, as part of the overall Planning and Programming of the central government method, suitable strategies to minimize risk through project management organization, review procedures, or information flows.” The strategies are assessed by NSRF during the evaluation procedure to ensure that risk management is being incorporated according to the guidelines established.

4.5 Performance Evaluation & Monitoring

In spite of the great progress made by Italy on the evaluation front, project management still leaves much to be desired, since the progress made for project design and appraisal is not matched by comparable advances in the field of performance evaluation, monitoring and ex post analysis. Even though one of the RNVV tasks had been identified by law to be to set up and manage a national monitoring system, it has proven extremely difficult to come up with an efficient data base for public projects, as results have been hindered by lack of money and expertise and widespread reluctance on the part of project managers to adhere to consistent protocols. The dilation of implementation times caused by overlapping national and European regulations have aggravated the problem of a project cycle essentially uncontrolled except for the feasibility-appraisal stage.

4.6 Procurement System

As part of the evolving legislative framework on public investment, a recent law (50/2016), in compliance with the EU Directives 23, 24 and 25/2014/EC, has created the Italian Public Procurement Authority (PPA). The law gives the PPA general oversight and control tasks over public procurement procedures to assure timeliness, correctness and transparency in public administrations proceedings as well as the value for money of PP management. The authority’s main task is to monitor the possible damages derived from incorrect or illicit use of PP and the infringements against rules and to point out areas where efficiency and effectiveness need to be

improved. The PPA has the power to require that the contracting authorities as well as private companies provide data and information about procurement in progress, design and public procurement awards.

5. The link between the design and implementation of public investments

A healthy and virtuous behavior to maintain during the main phases of the planning and implementation of an intervention, based on the identification of the main categories of factors that characterize its success, should concern: competence, development and management of stakeholders. These are the factors that have the highest influence of positively affecting the success of an intervention.

The performances of an intervention are not per se only related to the project itself. The project also concerns the stakeholders (stakeholders) and the society in which it is implemented. The nature of the organization as well as stakeholder satisfaction must be taken into consideration. The interested parties represent all the actors that the project managers and the clients cannot ignore while planning, planning and implementing a project, otherwise defined as all the individuals or groups that have one or more specific interests in the project or are interested by the result .

On the other hand, to ensure that the project leads on the one hand to the expected result, and on the other hand is managed well, the skills involved must be addressed. As more institutional representatives adopt sound project-oriented approaches and consequently increases their needs by those responsible for them, there is a growing interest in the competence of project managers as well as in the standards attached to development and evaluation.

The competence originates in the Latin word "competentia" which means "authorized to judge" and "has the right to speak". Competent project managers are important for orchestrating all activities related to the project. Spencer and Spencer (1993) have argued how competence has intrinsic underlying characteristics: "competence is a fairly deep and lasting part of a person's personality, causes or predicts behavior and performance of an initiative".

Which teaching from the international experience mentioned can be drawn for Italy? What is the situation recorded in the formulation and management of large investment projects in the national territory and what will be the programs and plans that will allow us to exploit the best success factors for the investments planned in the future?

For the present and the future, even before being able to define the objects, we can consider the resources allocated in the various budgets, which allow us to quantify the resources allocated for public investments for the period 2019-2033 at about 250 billion euros of expenditure. To these must be added about 100 billion euros of public investee companies, a third of which could be spent in the five-year period 2019-2024. Another 210 billion euros will come from the Recovery Fund, financed by the European Union to combat the emergency caused by Covid 19.

As is known, it is not sufficient to program the resources for public investments, but it is necessary to pursue a valid approach so that they are spent and destined to valid interventions to support and consolidate the economic development of the territories. To this end it is necessary to involve the public structures that in various capacities have the competences already foreseen and specifically

set up by the State, as well as to identify the areas that can be object of opportune strengthening. An adequate coordination activity may include:

- a) The attributions and roles of the existing structures (Agency for territorial cohesion, Design structure at the State Property Agency, various in-house technical assistance and central purchasing companies, central and regional Evaluation Units, mission Structures).
- b) The respective attributions to the Ministries of direction and supervision.
- c) Start of a technical table to create a system between the centers mentioned above, also taking into account other resources (personnel and organization) that the Public Administration has for the evaluation, verification and implementation of public investments.
- d) Identification of possible areas of activity (subject / competence matrix).
- e) Structuring of a matrix of intervention priorities (subjects / objects / priorities).
- f) Identification of coordination and collaboration tools between the structures (by area of competence / subject / object of the interventions).
- g) Structuring of reference tools (manuals, procedures, guidelines), so as to facilitate the start-up of specific activities.

6. Conclusion

As outlined by Scandizzo and Napodano (2010), *“Italy appears an international example of foresight and best practices in managing the project cycle and, at the same time, of certain chronic ills affecting public projects that are difficult to cure without a massive and integrated effort of institutional modernization. On the positive side, the Italian public administration shows a concentration of knowledge and expertise in the realm of economic and financial evaluation, with several high level professionals combining engineering and legal skills with economic capabilities. This is a guarantee for project quality and for the integrity of project planning, design and selection. These favorable conditions reflect the Italian tradition of excellence in the performance of individual projects, but, at the same time, they do not seem to be sufficient to ensure adequate project planning and management throughout the policy and the project cycle”*.

On the one hand, in fact, the overall budget process, in spite of its recent reforms, is still an essentially formal exercise, where accountability is sought more on the correctness of the procedures than on the quality of the results. Moreover, the vesting of responsibilities of cost centers on single officers and the multiple controls to which they are subject have made the whole process increasingly inflexible and cumbersome, while the ultimate power of the Treasurer General to ration funds in order to respect the so called Maastricht parameters (and specially the deficit-GNP ratio) has voided in many cases any attempt at liquidity planning for programs and projects. As a consequence, budgeting for government expenditure has become largely a tentative exercise, performed on various fronts, with many unknowns and widespread uncertainties and without any real linkage with specific programs and projects.

On the other hand, on the project front, the considerable progress made in imposing a discipline of evaluation based on feasibility studies and cost benefit analysis, has not been matched by comparable advances on performance evaluation, monitoring and controls along the course of project implementation and through the whole course of its operational life. The reasons for this

state of affairs are several and are worth mentioning because they can serve as warning tales for other countries, that face similar problems and take similar courses of action.

First, the emphasis given to evaluation in Italy precedes the expansion of EU programs based on structural funds. As a consequence, methodologies such as the logical framework and impact evaluation, which are privileged by the EU for the management of its projects, have received lower attention as compared with CB methods and generally the ex ante evaluation approach typical of the World Bank and the UN organizations. Second, the evaluation problem has been traditionally conceived as a technique to improve resource allocation, and only recently the focus has been shifted to the improvement of project performance and the control of quality in the deliverance of public goods. Third, throughout the course of Italian history, auditing practices have been monopolized by the national Court of Accounts and, within the private sector, by professional accountants. As a consequence, auditing methodologies are based on formal controls of consistency and correctness of the spending and accounting procedures, with only sporadic attempts to look at performance, mostly on the base of disbursement and /or bottom line results. Fourth, expenditure at all level of government and lay-outs for individual projects are increasingly disconnected, due to the fact that they follow different systems of accounting, with the flow of expenditure at the government level being regulated by a cash flow constraint applied discretionally to individual allocations. Finally, the concentration of human resources in the field of project evaluation is not matched by a comparable allocation of money, discretionary funds and organizational power. In fact, apart for a few islands of excellence, many of the evaluation units appear to be under-funded, underutilized and increasingly emarginated from the mainstream of the public administration. (Scandizzo and Napodano, 2010).

The proposal for a dashboard to implement part or the whole process of public investment stems from the evidence that in Italy a radical change of course is needed to counter the already weak economic system, which has been further weakened by the pandemic emergency caused by the Covid19.

The new resources that can be allocated in our territories by the European authorities therefore confer on our country this double responsibility, which must be tackled by giving a basis to a system that should never be called into question, but only that can be improved over time.

The work takes the Public Investment Management approach, suggested and applied successfully in many countries by the World Bank, and with it are suggested some assessment focuses of the current architecture that revolves around a model characterized by leopard spots, but which is substantially inadequate, with regard to the effective expenditure of public investments in Italy, both from a regulatory, evaluation and implementation point of view.

President Reagan, with an Executive Order, ordered government agencies and all executive departments in 1981 to perform cost-benefit analysis before issuing any type of regulation and / or approving an intervention. of spending. This approach was not denied by the Presidents who followed him. In 1992, the Clinton Administration's Office of Management and Budget (OMB) issued a circular on the methodology to be used for cost / benefit analysis also for all federal programs that had not been included in the previous circular. All the subsequent Presidents in Office and the Congress, namely the two major American parties, agree with the approach that public programs and regulations should be undertaken on the basis of the so-called principle "evidence based policy".

The OICE research, cited in the previous note number 6, conducted in the four major EU countries, found that the factors that, in the realization of public works, determine greater or lesser adherence to the costs and the expected times are multiple and different in the different countries, referring to historical, cultural, social and economic aspects which cannot be quantified in percentage terms but can only be identified as general trends.

However, three factors can be indicated on this research as main and common to the countries considered:

- the attention - also legislative - to the planning phase of the interventions and / or the rationalization of the expenditure: think of the various German laws of "Acceleration and Simplification of the interventions of national interest" and the English principle of the "best value for money", based on Ten-year national programs (health and school) implemented with centralization of the user, framework agreements, standardization of the project and contracts;
- the accuracy of the preparation of the technical documents preceding the call for tenders, as demonstrated by the "Replanteo de la obra" (check of the activities), Spanish validation of the technical documents, the administrative authorizations and the project or the articulated French public tradition of "maîtrise d'oeuvre";
- the completeness and precision of the project and related technical documents as well as the control of execution, which is reflected in the English specialization, articulated in the figures of the architect, the design assistant and the quantity surveyor and the traditional German precision of the projects drawn up according to "Din Normen".

In a nutshell, however, the "Italian vices" that slow down the planning, programming, design and implementation of public investments, can be identified in the following three points:

- Fragmentation of programming, plans and interventions which are managed in turn with greater difficulties.
- Inability to make optimum use of the skills of the Public administration for the use of resources, poor skills and design skills, cumbersome procedures.
- Spoil system that slows down / destabilizes / blocks programs for years, puts competences and resources at risk, leads to a proliferation of new plans, often without clear responsibility and institutional competence.

Bibliography

Agency for Territorial Cohesion, (2018), “Il rapporto sui tempi di attuazione delle opere pubbliche”, 2018 edition, Rome. https://www.agenziacoesione.gov.it/dossier_tematici/i-tempi-delle-opere-pubbliche/ .

Carlo Azeglio Ciampi, “La valutazione in Italia e in Europa, situazione e prospettive”. Intervento del Ministro del Tesoro alla Conferenza *Evaluation: Profession, Business or Politics?* Roma, ottobre 1998.

Cleland I. D., King W.R., (1983), *Systems Analysis and Project Management*, McGraw-Hill.

Dorothee Allain-Dupré, (2017), “Effective Public Investment across levels of government Sub-national Capacities in a Multi-level Governance Context”, European Commission Seminar on *Fiscal Policy and Public Investment for Re-launching Potential Growth*, 24 January 2017, Bruxelles. https://ec.europa.eu/economy_finance/events/2017/20170124-ecfin-workshop/documents/presentation_dupre_en.pdf

European Court of Auditors, (2017), “Performance Audit Manual”, https://www.eca.europa.eu/Lists/ECADocuments/PERF_AUDIT_MANUAL/PERF_AUDIT_MANUAL_IT.PDF

Flyvbjerg, B., Bruzelius, N. and Rothengatter, W. (2003) *Megaprojects and Risks: An Anatomy of Ambition*. Cambridge: Cambridge University Press.

Flyvbjerg B., (2011) *Over budget, over time, over and over again: Managing major projects*. The Oxford handbook of project management, Oxford University Press, Oxford.

IMF, (2015), *Making Public Investment More Efficient*, International Monetary Fund Washington, D.C.

Ika A., Diallo A., Thuillier D. (2012), “Critical success factors for World Bank projects: An empirical investigation”, *International Journal of Project Management*, n. 30 (1), pagg. 105-116.

Loiero R., Maiolo S., (2018), *Programs and Projects Impact Assessment. Is Italy able to correctly assess infrastructure and investment projects, optimise expenses and duly meet the citizens’ needs? Experiences and expectations*. July 2017 – update February 2018, UVI - UFFICIO VALUTAZIONE IMPATTO (IMPACT ASSESSMENT OFFICE), Senate of the Italian Republic, Rome. <https://www.senato.it/4746?dossier=2155>

Maiolo S., Scandizzo P.L., (2020), “Italy's reorganization of public investment appraisal: findings and perspectives for large projects and cohesion policy”, *Bollettino della Società Geografica Italiana*, serie 14, 2 Special Issue: 159-170, 2019.

ODI, (2017), “Strengthening Public Investment Management. Reviewing the role of external actors”, Report, London. <https://www.odi.org/sites/odi.org.uk/files/resource-documents/11794.pdf>

OICE (2017), “Procedure e tempi di esecuzione delle grandi opere nei paesi industrializzati”, STUDIO OICE - Analisi comparata delle procedure più efficaci per la realizzazione delle opere pubbliche in Francia, Germania, Gran Bretagna e Spagna, (by), Claudio Rangone, Rome.

Pennisi G., Maiolo S., (2016), *La Buona Spesa. Dalle opere pubbliche alla spending review. Guida operativa*, (page 47), Edizioni Impresa Lavoro, Rome.

Perali F., Scandizzo P.L., (2018), *The New Generation of Computable General Equilibrium Models. Modeling the Economy*. Eds, Roma

Pinto J.K, Kharbanda O.P, (1996), "How to fail in project management (without really trying)", in *Business Horizons* 39(4):45-53, February 1996.

Pinto, J., Mantel, S. (1990) "The Cause of Project Failure. IEEE Transactions", in *Engineering Management*, n. 37, 269-276.

Politecnico di Milano e Ministero delle Infrastrutture e dei Trasporti (2011), "Studio comparato sui metodi internazionali di valutazione preventiva delle opere pubbliche dal punto di vista della fattibilità tecnico-economica", *Rapporto interno*, Roma.

Scandizzo, P.L., and Napodano, M. (2010), *Public Investment Management: Linking Global Trends to National Experiences*, VDM Verlag, USA and UK, 2010.

Scandizzo P.L., Maiolo S., (2005a) "La valutazione economica nell'analisi costi benefici: una stima dei prezzi ombra attraverso le tavole Input-Output", su *Rassegna Italiana di Valutazione*, n. 32/2005, sezione monografica, *Le nuove frontiere dell'analisi costi benefici*, a cura di G. Pennisi.

Scandizzo P.L., Maiolo S., (2005b) "Analisi finanziaria degli investimenti in contesti di incertezza: un caso studio applicato al project financing", *Economia e Diritto del Terziario*, 1/2005.

Spencer L., Spencer M., (1993), *Competence at work: Models for superior performance*, John Wiley & Sons, N.Y., 1993

Tabish S., Jha K., (2011) "Identification and evaluation of success factors for public construction projects", *Construction Management and Economics*, n. 29 (8), pagg. 809-823.

Turner R., Anbari F., Bredillet C., (2013), "Perspectives on research in project management: the nine schools", in *Glob Bus Perspect*, 1 (2013) 3-28.