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Infrastructure Systems

PUBLIC-PRIVATE PARTNERSHIP: EUROPEAN PRACTICES, AND ITALIAN APPLICATIONS IN THE ROAD INFRASTRUCTURE INDUSTRY

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Introduction

This research is aimed at analyzing the use and the criticalities of the modern forms of Public and Private Partnership in the delivery of public works in Italy, focusing in particular on the transportation sector.

Many different definitions of Public and Private Partnership (PPP) exist, since the concept is broad and can be interpreted and used in different ways according to the field of application.

To testify the lack of a specific definition of this term, we can look at the *Green Paper about Public-Private Partnership*, presented by the European Commission, which states that "the term public-private partnership (PPP) is not defined at Community level".[1]

A first broad definition that can be given in order to understand the concept is that a Public and Private Partnership (PPP) is a partnership between the public sector and the private sector for the purpose of delivering a project or a service traditionally provided by the public sector[2]. It is clear that, given a definition as the one just reported, the PPP includes a wide variety of different delivery methods according to the specific role of the private party in the delivery process. The main focus of this research will be the investigation of the more modern types of PPP, namely those characterized by the partial or total financing of the Private sector.

This topic is particularly interesting since the use of PPP for the delivery of public works has increased in the last few years and is going to increase also in future in Europe, due to the advantages of these delivery methods with respect to the traditional ones, entirely managed by the public sector.

In Italy, the situation is particularly tricky since the market of PPP is rapidly growing and many huge public works in the infrastructure sector are going to be financed by private contractors, but the recent experience of PPP in the country has shown that a large number of projects delivered by means PPP methods (up to 88%) failed or have been cancelled[3]. Moreover, an additional problem for the successful application of the PPP in Italy is that these delivery methods (at least the modern forms of them, namely those including private

1 European Community. Commission of the European Community. GREEN PAPER ON PUBLIC-PRIVATE PARTNERSHIPS AND COMMUNITY LAW ON PUBLIC CONTRACTS AND CONCESSIONS.
2 European PPP Expertise Center (EPEC). European PPP Report 2009.
3 European PPP Expertise Center (EPEC). European PPP Report 2009.

financing) have been applied only recently in the country. Indeed, the first law defining the Public and Private Partnership is very recent (2006)[4] and provides a classification of the different types of PPP, including as a category the project financing, which actually is a financing technique that can be used in the PPP delivery methods and not a type of PPP. Therefore, it is evident that there is still confusion about the understanding of the PPP in Italy, and this is one of the elements that have not allowed a full development of this device in the country.

Therefore, it seems to be important to understand how the PPP delivery methods generally work and how they are implemented in Italy, in order to realize the reasons why so many problems have been experienced and what could be done to better implement them in the future years. This topic is particularly relevant since, in July 2008, Italy's CIPE ministerial committee for economic programming approved proposals for infrastructure projects valued € 46.3 billion, such as the Messina Straits Bridge (6.1 billion) and the Milan-Genoa (5.6 billion), Milan-Verona (5.6 billion) and Verona-Padova (3.3 billion) high speed train projects, which are expected to be mainly funded (60-70%) from the private sector.[5] Therefore, immediate improvements to the PPP delivery systems have to be performed in order to avoid enormous economic losses in such a serious economic period.

In order to make this analysis, I will first consider the European regulations and guidelines to the PPP delivery methods, which give a picture of the current available PPP systems that are implemented in Europe. In the first chapter of the thesis, I will present the broad picture about PPP provided by the European Community, where all the delivery methods where a private party plays a role (even if it is marginal) are considered as PPP. This wide classification could seem useless, since the aim of the thesis is to discuss about that typologies of PPP where the private party plays a major role (because these are the most used nowadays). Anyway, this generic framework is a necessary step in order to give a clear picture of the majority of the delivery methods currently available and facilitate the comprehension of the topic when the analysis will focus on the Italian situation. Later in the chapter, another document written by the European Community will be presented, the *Green Paper on Public-Private Partnerships*

[4] Legislative Decree n. 163, April 12th 2006 "Codice dei contratti pubblici relative a lavori servizi e furniture"

[5] European PPP Expertise Center (EPEC). *European PPP Report 2009*.

and Community Law on Public Contracts and Concessions (April 2004), where a more specific classification of the modern PPP delivery methods is provided, helping to understand more in detail how the modern PPP delivery methods work in Europe.

In the second chapter, the PPP and in particular the project financing in Italy will be treated, beginning with the analysis of the data which show how the Public-Private Partnership market has increased in the past few years, in particular in the infrastructure sector. Afterwards, the data regarding the failures of PPPs for small and medium scale projects will be presented and commented, with a particular interest for the reasons behind these numerous failures. The next step will consist in the analysis of the Italian modern laws in matter of project finance, that is the most interesting and current kind of PPP in Italy. All the important regulations about this topic will be presented, analyzed and criticized, in order to understand which are the responsibilities of the Italian law to the problems of the project finance market.

In the third chapter, illustrative case studies will be deeply analyzed in order to point out the most significant problems characterizing projects delivered with project financing. In particular, two schematic frameworks containing the common problems of project financing in Italy will be built up. The first one regards small and middle scale projects and will be used to analyze a project regarding the construction of a new soccer stadium in Mantova, that was abandoned after the award of the contract. The second framework is about large scale projects, and will be the device to discuss about three large infrastructure projects, namely the "Cispadana", "Cremona-Mantova" and "Pedemontana Veneta" highways. By analyzing three different highway projects, it will be possible to gain a deep understanding of the issues related to the project financing in the infrastructure sector, which is the main aim of the thesis.

Finally, conclusions will be drawn about the main problems regarding the project financing in Italy, and proposals to improve the current practices will be presented.

1 General framework of the PPP: the European situation

In this chapter, the current situation of the Public-Private Partnership in Europe will be discussed, since it is impossible to properly analyze a complex topic as the PPP in a country belonging to the European Community, without considering the European regulations and guidelines about the specific topic.

1.1 Services to promote the PPP diffusion in Europe

In the recent years, a marked increase in cooperation between the public and private sectors for the realization of infrastructures for a wide range of economic activities have been experienced in all Europe.[6] These Public-Private Partnerships (PPPs) were driven both by the limited economic resources available to the public administrations to cover the high initial investments required for the realization of new infrastructures, but also by efforts to increase the quality and efficiency of public services.

According to the European Commission, the main roles of the private sector in the PPP schemes are the provision of additional capital, alternative management and implementation skill, added value to the consumers, better identification of needs and optimal use of resources, with respect to the public administration

However, while PPPs can provide significant advantages, it must be remembered that these schemes are also complex to design, implement and manage. For this reason, the European Commission provides different services and tools in order to improve the knowledge about PPP delivery methods. In particular, Guidelines describing the different categories of PPP delivery methods have been published in 2003 and a specific task force, called European PPP Expertise Centre (EPEC) has been instituted in 2008.

The Guidelines have to be seen as a guide, provided by the European Commission, "to the identification and development of key issues affecting the development of successful PPP schemes."[7] Their aim is not to represent a detailed guide to the design and implementation of a project but to deepen the knowledge about the critical issues affecting the successful

[6] European Commission. Direction Générale De La Politique Régionale. *GUIDELINES FOR SUCCESSFUL PUBLIC-PRIVATE PARTNERSHIPS*.
[7] European Commission. Direction Générale De La Politique Régionale. *GUIDELINES FOR SUCCESSFUL PUBLIC-PRIVATE PARTNERSHIPS*. By Direction Générale De La Politique Régionale.

integration of the different forms of projects funding, such as public grants, private funds, loans and European Commission financing.

As for the EPEC, this task force is the result of the cooperation between the EIB, European Union Member and Candidate States, and the European Commission, which is designed to strengthen the organizational capacity of the public sector to engage in Public Private Partnership (PPP) transactions. The European PPP Expertise Centre (EPEC) was launched by the European Investment Bank (EIB) and European Commission on 16 September 2008. EPEC allows PPP taskforces of the different EU Member to share experiences and best practice about PPP schemes.

In addition to the information devices about PPP just presented, the European Community provides also financial support to the projects involving the use of Public-Private Partnership, testifying the concrete interest in the development of this kind of delivery methods.

Indeed, since 1990, the EIB has progressively broadened both the scope and the geographic extension of its activity of PPP lending. Today, the Bank is the main funder of PPP projects in Europe, with a total investment in the range of €25 billion to finance 120 projects.[8] As a result of the economic crisis of 2008, governments have increasingly looked to International Financial Institutions (IFIs) to finance their strategic projects. In this context, the EIB has played an important role as lender for a number of PPPs. Some important projects financed in 2009 are the M25 and M80 motorways and Manchester Waste (UK), the Grouped Fire Stations (Greece), Liefkenshoek Rail Link (Belgium) and the A5 Autobahn (Germany).[9] Despite the challenges of the economic crisis of 2009, the response at European level has been a renewed interest in PPPs. This is not only because infrastructure investment will play a key role in delivering renewed growth, but because budgetary and fiscal constraints will limit the ability of governments to fund infrastructure investments directly. In this context, the European Commission's Communication on PPP identifies PPPs as a key device to face the crisis and boost the current economic situation. In particular, the principal objectives of the Commission are the clarification of the regulatory framework for PPP, the identification of

[8] European PPP Expertise Center (EPEC). *European PPP Report 2009*. Rep. DLA Piper, May 2010. Web. Oct. 2010.
[9] European PPP Expertise Center (EPEC). *European PPP Report 2009*. Rep. DLA Piper, May 2010. Web. Oct. 2010.

the obstacles to the development of PPPs and the research of the solutions to solve these issues.

1.2 European regulations

As already stated in the introduction of the thesis, the European commission does not give a definition of Public-Private Partnership in any official document. Therefore, there is not a specific regulation or law related to the PPP at European level.

Nevertheless, in the last decade the European Commission has provided some documents related to the topic of PPP, in order to promote and regulate the diffusion of this kind of delivery methods.

The first document where the concept of public-private partnership appears is the *Commission Interpretative Communication on Concessions under Community Law (2000/C 121/020)*. This communication, which dealt with the concessions' delivery method, stated the intention of the Commission to deal with the forms of partnership used to call upon private sector financing. At that stage, the Commission decided not to consider the forms of partnership whose characteristics were different from those of a concession.

In 2004, the European Parliament published two directives, the *DIRECTIVE 2004/17/EC about the procurement procedures of entities operating in the water, energy, transport and postal services sectors* and the *DIRECTIVE 2004/18/EC regarding the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts,* which regulate the procurement procedures at European level and still represent the current regulations of this subject. These two documents do not provide specific regulations about Public-Private Partnership but define the rules which coordinate the procedures for the award of public contracts in every procurement process. Therefore, these regulations have to be applied also to the PPP delivery methods and so affect the use of these delivery systems in all the European Country although many specific aspects and issues are left to the discretion of the single countries. Despite the fact that the analysis of some parts of these directives could be useful for the analysis of the PPP delivery methods, these considerations will be omitted at this stage of the thesis. The reason is that the main focus of the thesis is about PPP and, in particular, project financing. Therefore, the most interesting

laws to analyze are the Italian regulations concerning PPP and, in particular, the project financing. This will be done in the next chapter.

Still in 2004, other relevant documentations about PPP delivery methods have been published by the European Commission. These are the already mentioned *Guidelines for successful Public-Private Partnership* and *Green Paper on Public-Private Partnerships and Community Law on Public Contracts and Concessions*.

The Guidelines provide a wide classification of the PPP delivery methods that considers as PPP also delivery methods where the private contribution is marginal, as well as methods where the control of the asset definitely shifts to the private party, transforming the public property in a private one. Therefore, this classification is very broad and does not represent what is generally agreed to be a Public-Private Partnership today. Nevertheless, it can be useful to better understand the wide range of possible delivery methods that can be applied in the procurement process of public works.

On the other hand, the *Green Paper on Public-Private Partnerships and Community Law on Public Contracts and Concessions* analyzes the PPP delivery methods in a more modern and specific way and therefore can help to really understand the dynamics characterizing these systems. Both these documents will be analyzed in the following paragraphs of the chapter.

Another important document provided by the European Community in 2004 is the *New Decision of Eurostat on Deficit and Debt Treatment of Public-Private Partnerships*.[10] This document specifies the way in which assets have to be accounted in the balance sheet of the Government of a European country. In particular, Eurostat recommends that the assets involved in a public-private partnership should be classified as non-government assets, and therefore recorded off balance sheet for government, if both of the following conditions are met, namely:

- the private partner bears the construction risk;
- the private partner bears at least one of either availability or demand risk.

[10] European Communinity. Eurostat. New Decision of Eurostat on Deficit and Debt Treatment of Public-private Partnerships.

If the construction risk is borne by government, or if the private partner bears only the construction risk and no other risks, the assets are classified as government assets.

This has important consequences for government finances, both for the deficit and the debt. Obviously, being able to classify a project as "off balance sheet"' is an important factor in the choice of PPP as a procurement model for particular projects. Therefore this regulation is very relevant for all the European countries.

After 2004, the European Commission has published documents regarding the benefits and the criticalities of the PPP in Europe, in relation to the regulations and documents just presented.

In these publications, such as the *Commission issues guidance on setting up Institutionalised Public-Private Partnerships* and *Public-Private Partnerships – Options to ensure effective competition*, institutional and legislative problems for the application of PPP delivery methods are treated, but no modifications to the regulations presented are made.

In conclusion, during the last decade, the European Community has provided indications about the use of PPP in the procurement process of public works but has also left empty interpretative spaces to the European countries to regulate these delivery methods according to the their willingness and to the particular context of each country.

1.3 Classification of PPP delivery methods: European Guidelines

The *Guidelines* are a document published in 2004 by the European Commission "without the aim of providing a detailed guide to project design, appraisal and implementation but rather to focus on a number of critical issues influencing the successful integration of public grants, private funds, IFI loans (such as the EIB or EBRD) and European Commission financing." [11]

The document refers to a number of well-known and documented analytical techniques where the objective is not to promote a standard methodology, but rather in an attempt to highlight areas in which particular care and analysis needs to be observed.

[11] European Commission. Direction Générale De La Politique Régionale. *GUIDELINES FOR SUCCESSFUL PUBLIC-PRIVATE PARTNERSHIPS*.

The section of the *Guidelines* of most interest in this analysis is about the different PPP structures, where four broad categories of PPP schemes are presented, each with an increasing level of private sector involvement. It is worth to notice that even if PPP represents an efficient alternative to deliver public projects, the public-private partnerships still represents a new concept which must be improved and regulated. Indeed, the debate on the PPP categories definition is a signal of the continuing evolution of both PPP approaches and regulations in the different States of the European Commission. Therefore, PPPs must be carefully matched to the features of every individual project. In order to guarantee benefits from PPP, strengths and weaknesses of each involved party must be identified. In particular, the role of the public sector, that is the service provider in the traditional delivery methods, must be clearly defined.

In the next pages, the classification provided by the *Guidelines* of the PPP structures will be discussed although the European Commission itself highlighted that the PPP process is extremely dynamic. Indeed, it is hard to identify the best PPP structure because each strategy is strictly related to the considered project. This is the reason why the Commission does not provide any recommendation.

According to the *Guidelines,* the overall objective of PPPs is to structure the relationship between the parties (public and private), so that each risk involved is assumed by the party which is capable to manage it more efficiently. Generally, under PPP arrangements, the contractors become long term providers of services rather than simply upfront asset builders; furthermore, the responsibilities upon the key elements of the project (design, build, operations, maintenance, and financing) are combined. Consequently, the federal and local governments' agencies are forced to define appropriate regulations, service planning, and performances. The result is that the public mission is delivered through the private sector.

If properly designed, PPPs can generate substantial benefits for consumers and taxpayers as well as for governments. Anyway, the potential benefits are strongly linked to the type of project (service that must be provided) and the terms of the contract governing the PPP. It is worth to mention that public entities have a critical role to play in the management and regulation of PPP during their design, construction and operation. Indeed, PPPs also require effective contract monitoring procedures to ensure that contractual obligations continue to be met in terms of both quality and timing throughout the whole agreement.

As for the proposed classification, the European Commission highlights that the nomenclature used to describe the PPPs agreements is not standardized. Several terms are often used interchangeably (e.g. turnkey and build-operate-transfer) and single terms are used loosely and can be applied to situations that are fundamentally different. For instance, build-operate-transfer (BOT) can be used to describe both procurements that involve private financing and those that do not. Thus, the Commission has tried to clarify the terms and concepts related to the PPP, in order to improve the understanding of the functioning of these processes at European level.

1.3.1 PPP structures

As previously stated, the Community Law does not provide a specific definition for the PPP.

Nevertheless, the Commission's Interpretative Communication on Concessions suggests that the main criteria for distinguishing concessions from other types of PPPs is the extent of risk transferred to private party. This criterion allows also relating each type of PPP to the relevant legislation and methods for selecting private parties. While the choice of PPP structures is limitless in terms of financial and legal forms, according to the Commission all PPPs must be defined in relation to the rules governing the choice of private partners and the selection and application of public procurement procedures.

In the following paragraphs, the classification provided by the European Commission, according to the degree of participation of the private partner to the delivery of the public project, will be presented, emphasizing the different peculiarities of each delivery method.

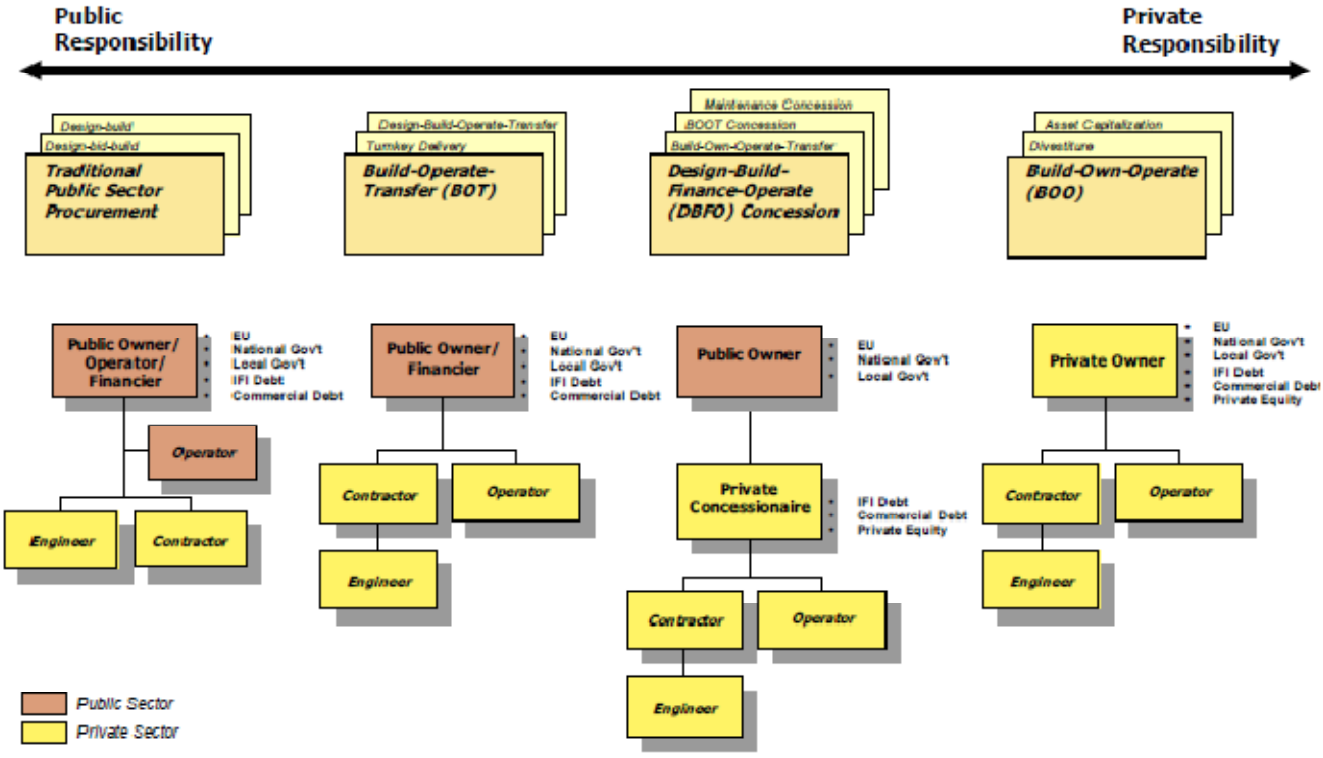


Figure 1: General scheme of public and Private Partnership.[12]

In the figure above, the classification of the PPP procurement processes according to the share of responsibilities between the public and the private parties is reported. Now, the different categories will be analyzed in order to better understand the PPP options according to the Guidelines.

1.3.1.1 Private participation options with traditional public sector procurement

In the majority of the European countries, the traditional procurement process is characterized by the public party undertaking the whole process. The public administrations usually develop master plans prioritizing needs and then arrange the financing, design, and construction of each individual projects, including the operation and maintenance phases. The responsibilities of the private firms are only the design or the construction of the facility and this two phases are awarded separately by means of competitive tenders.

[12] European Commission. Direction Générale De La Politique Régionale. *GUIDELINES FOR SUCCESSFUL PUBLIC-PRIVATE PARTNERSHIPS* .

However, there are many ways in which a greater private sector participation can be introduced (see Figure 2). In particular, the Guidelines provide three different approaches to this end.

All of them present opportunities for the private sector to participate in varying degrees to the maintenance, operation and management of infrastructure improvements. Anyway, in all the cases, the ownership of assets remains to the public administration and the private sector is responsible for well-defined tasks only, adopting limited responsibility.

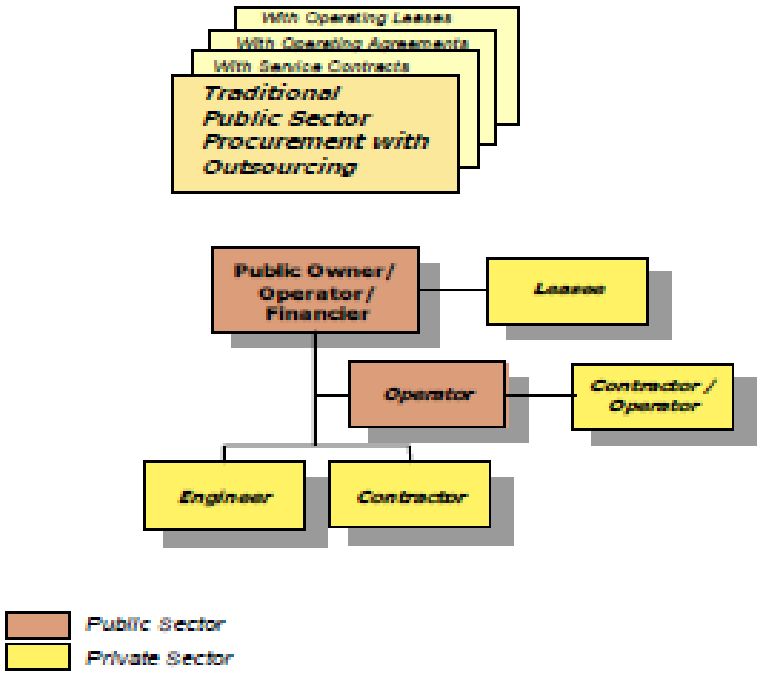


Figure 2: Private participation options with traditional public sector procurement framework.[13]

1.3.1.1.1 Service contracts

These contracts are characterized by the transfer of the responsibility of providing one or more services to the community, from the public to the private sector. It represents the more limited type of PPP since the extent to which the private party is involved in the project is restricted, involving the procurement, operation or maintenance of the asset.

[13] European Commission. Direction Générale De La Politique Régionale. *GUIDELINES FOR SUCCESSFUL PUBLIC-PRIVATE PARTNERSHIPS* .

Examples of the tasks delivered to the private party can include toll collection, installation, maintenance and reading of meters in the water sector or waste collection. Service contracts are generally awarded on a competitive basis and extend for short periods of time, no more than a few years. Public agencies are allowed to take advantage from the technical expertise belonging to the private sector. However, these contracts are characterized by a very limited degree of risk transferred to the private entity, resulting only in partial advantages with respect to a traditional delivery system.

1.3.1.1.2 Operation and management contracts

With these contracts, operation and management of an asset becomes a responsibility of the private firm. These agreements transfer involve both service and management aspects and they are often useful in order to encourage enhanced efficiencies and technological sophistication.

Management contracts usually are short-term ones; however, they might be extended for longer periods than service agreements. Contractors can be paid either on fixed fee basis or on incentive basis (depending on the agreement). In the second case, the contractors usually receive premiums for meeting specified service levels or performance targets enforced by the public.

Management contracts may be used in order to transfer responsibilities for a specific plant, facility or service provided by an infrastructure owner. They may have a more broad reaching scope involving the management of a series of facilities.

Nonetheless, responsibility for investment decisions remains with the public authority. Operation and management contracts often are particularly appropriate in sectors undergoing transition from public ownership where existing regulatory and legal frameworks may not allow greater private participation. They can be helpful in generating trust between the public and private sectors in markets that have little experience with Public-Private Partnerships. They also provide a mean for private companies to be partially involved in potentially risky markets with limited risk exposure and, in general, are also used to improve the quality of service.

1.3.1.1.3 Leasing

As for the lease, this delivery method works as follows: private firms pay a certain amount of money to the public entity and are in charge of operation and maintenance of an asset, receiving in exchange the revenues produced by the asset[14]. Under a lease delivery system the contractor has to bear the commercial risk of the project since its profits depends directly on its capacity to obtain high revenues and have low costs. On the other hand, in case of the necessity of capital improvements, their costs usually have be paid by the public administration public sector owner except for particular cases, such as some improvements undertaken by the contractor in order to the quality of the service and therefore obtaining higher revenues.

It is important to notice that with these kinds of agreements, that are usually five to fifteen years long, the public administration is responsible for planning and financing of the project. Therefore, these contracts, that are those where the private sector has more responsibilities among the traditional public sector procurements result to be still conservative with respect to the more modern forms of PPP, where the private entity has a greater involvement, in particular from a financial point of view.

1.3.1.2 Integrated project procurement

In the delivery systems just presented limited responsibilities normally assumed by the public sector are passed to private companies. However, since the extent of the duties transferred by the public to the private entities is still limited also the advantages provided by the choice of a PPP as delivery method are restricted.

For this reason, in case a public administration wants to transfer more responsibilities to the contractor, such as design, construction and operation, it can choose to make use of integrated delivery methods, such as the build-operate-transfer (BOT) system, also known as *turnkey* procurement, or *design-build-operate-transfer* model. The next diagram shows how this delivery method is structured.

[14] European Commission. Direction Générale De La Politique Régionale. GUIDELINES FOR SUCCESSFUL PUBLIC-PRIVATE PARTNERSHIPS .

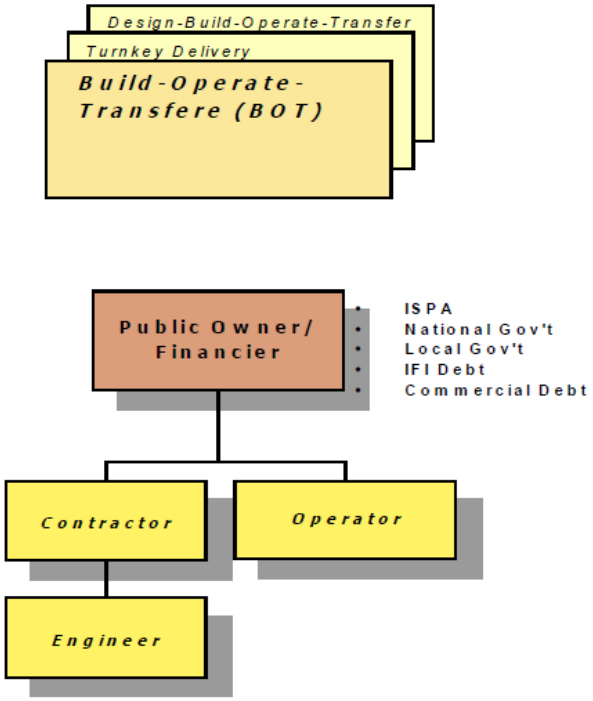


Figure 3: General scheme of BOT systems.[15]

The peculiarity of the BOT delivery system is that all the different phases of the project, namely design, construction, operation and maintenance are undertaken by the contractor, while the owner remains in charge of the financing. Thanks to the fact that a single entity is in charge of all the parts of the project, both public administration and private partner ca have significant advantages. I fact, the public party transfers construction, operation and maintenance risks to the private sector, while maintaining the property of the asset. As a result, it can take advantage of the better capacity of the private firm to understand the life cycle cost, due to its experience in the open market competition and in its greater flexibility. This is also guaranteed by the fact that the contractor has to make a unique offer (and therefore a unique price) which includes all the aspects of the project. As a consequence, operation and maintenance costs are part of the tender and so the public administration has a clear idea of the global cost of the project, considering the whole period in which the asset is managed by the private firm. At the same time, the private sector can take advantage of tax benefits due to the fact that the public party keeps the property of the asset. In addition the

[15] European Commission. Direction Générale De La Politique Régionale. *GUIDELINES FOR SUCCESSFUL PUBLIC-PRIVATE PARTNERSHIPS* .

quality of the design can take avantage of the experience of the private firm and, since design and construction are linked each other, there are relevant advantages in the implementation of the technologies and construction techniques to be used. This is due to the fact that the design team perfectly knows the available technologies for the contractor since they belong to the same group. For the same reason, collaboration and cooperation can be highly improved with respect to a traditional delivery method.

On the other end, it is very important that the public administration is able to manage this kind of contract. In fact, if proper specifications are not provided before the award of the contract, there is the risk that the project will be performed according to the willingness of the contractor, which often has different interests with respect to the public sector. The reason is that the public entity has a limited control over the project once it has started, since all the phases are managed by the private firm. For this reason, in case the administration has not experience about this kind of contracts, it could be useful to hire consultants in order to have a careful evaluation of the conditions and specifications to be included in the contract.

1.3.1.3 Procurements with high involvement of the private sector

As just explained, the BOT delivery method allows a greater flexibility with respect to the traditional procurement systems, thanks to the greater involvement of the contractor on several phases of the project. However, also this delivery system (as the traditional ones) is characterized by public financing. For this reason, in particular after the economic crisis and the consequent increase of public deficits in all the European countries, public administrations have tried to award contracts characterized by private financing. Among these delivery systems, the most used is surely the Design-Build-Finance-Operate model, that is similar to the BOT system, but shifts the responsibility of financing from the private to the public party. The possibility of building public assets, such as large scale important infrastructures, without financial risks makes these kind of contract very attractive for the public administration. Obviously, in order for this procurement process to be interesting also for the private sector, it is necessary that projects awarded by means of DBFO have an intrinsic capacity of producing revenues. Therefore, while toll roads are a kind of asset suitable for the implementation of this delivery method, schools or cemeteries do not fit this procurement system since they do not produce enough cash flows to justify a private investment.

Along with the DBFO, there are also other delivery methods whereby the financing of the project is responsibility of the private. These systems are called divestitures and are characterized by a greater involvement of the private firm, which can become co-owner or even owner of the asset, resulting in the privatization of the facility. These systems can be attractive for the public administration which can sell a costly facility to the private sector. However, it is important for the public party to carefully evaluate if the selling of the asset can result in higher prices for the users of a public facility. If this is the case, a delivery system which allows the administration maintaining the ownership of the asset is preferable.

1.3.1.3.1 Design-build-operate-finance

The Design-Build-Operate-Finance is the most used procurement system among those involving private financing since it allows the public administration transferring all the responsibilities and therefore risks of the project (design, construction, operation, maintenance and financing) to the private firm while maintaining the ownership of the asset. The public entity has still to oversee the project during the various phases in order to check if it is following the requirements stated in the contract. Since, unlike the BOT, in the DBFO the private sector has to finance the project, the public administration does not look for the lowest bidder, but for the firm best able to limit its degree of financial commitment and, at the same time, the fees to be paid by the users, while designing a high quality facility. In this way, an asset of public utility can be built without the necessity of investing public money. However, it is important to notice that many times the financing is not completely borne by the private firm. In fact, the administration often contributes indirectly or even directly to the funding of the project in order to make the investment more attractive for the contractor. This is the reason why the level of involvement of the national or local authority is one of the most relevant factors for the award of a contract.

Although the DBFO is an attractive delivery method for the public sector for the reasons just mentioned, it is also very complicated to be managed due to the different aspects to be taken into account for the award of the contract. Indeed, the public administration must carefully evaluate the risk associated to each proposal due to the great free hand allowed by this kind of contract to the private firm. It is important to understand the objectives of the contractor, the way in which it will try to fulfill them and its capacity to successfully perform its work,

before the award of the contract. The administration must also be able to find the best financing compromise in order to persuade the contractor to undertake the project but also to prevent it from an excessive increase of prices. The degree of financial commitment of the public has to be carefully decided by means of the help of experts that should assists the administration for the award of the tender.

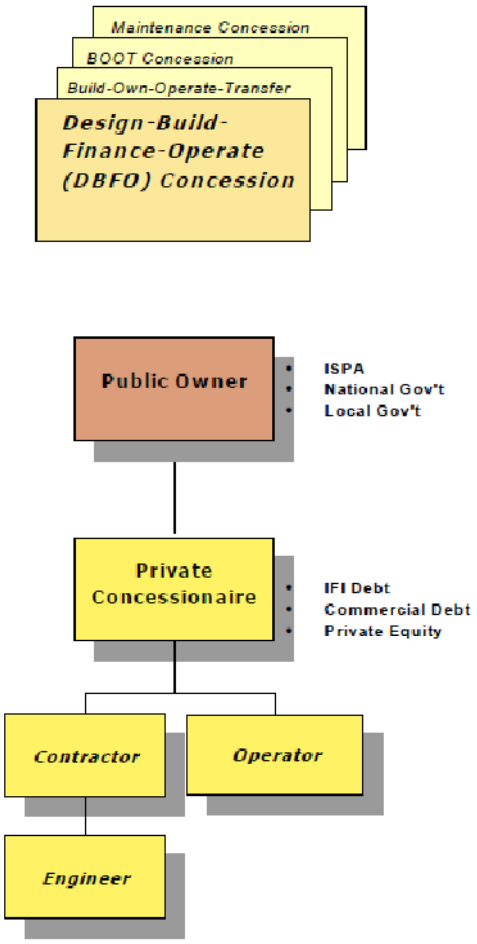


Figure 4: General scheme of DBFO concession system.[16]

1.3.1.3.2 Private divestiture

With this delivery strategy, also the ownership of the asset, that was the last aspect remaining under public control with the DBFO procurement process, shifts (partially or entirely) from the public to the private entity. Therefore, the private divestiture is a privatization of a public

[16] European Commission. Direction Générale De La Politique Régionale. GUIDELINES FOR SUCCESSFUL PUBLIC-PRIVATE PARTNERSHIPS .

asset and, as such, it represents an extreme form of Public-Private-Partnership. Design, construction, operation, maintenance, financing and operation are managed by the private with a consequent loss of control on the facility by the public party. For this reason, the Govern must try to obtain guarantees that the private firm, once obtained the ownership of the asset, will not increase excessively the fees for the users and will provide a useful service for the citizens.

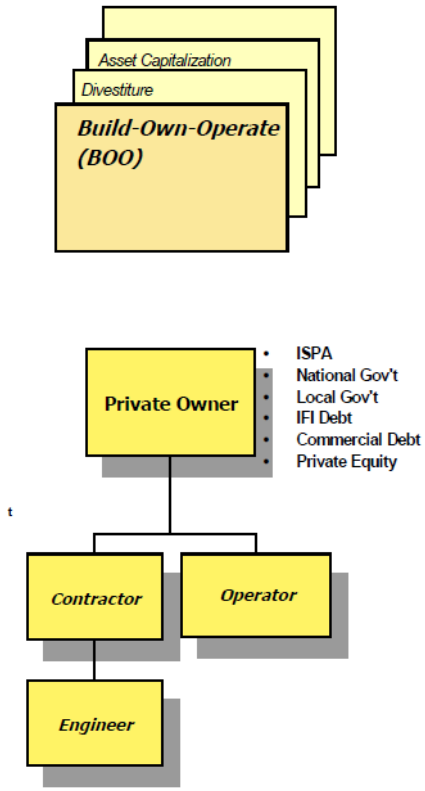


Figure 5: General scheme of divestiture system.[17]

1.3.1.3.2.1 Complete private divestiture

The most extreme form of divestiture is the complete divestiture, which consist in the selling of a public asset to a private firm. This solution can be useful when a facility is not fundamental for the public use and causes losses for the public administration. In this case, the selling of the asset to a private entity may result in an improvement of a service at no cost for the govern with resulting benefits for all the parties involved (including the citizens). On the

[17] European Commission. Direction Générale De La Politique Régionale. GUIDELINES FOR SUCCESSFUL PUBLIC-PRIVATE PARTNERSHIPS.

other hand, if a facility is very important for the users, it can be hazardous to undertake a complete private divestiture since prices can be raised, making a public good inaccessible for certain people. Therefore, it is necessary to be careful about the choice of selling the entire ownership of a public facilities since the permanent ownership of a strategic asset by a private may result in disadvantages for the community.

1.3.1.3.2.2 Partial private divestiture

In case the public authority wants to undertake a divestiture without losing all the control on it, a solution can be the use of a partial divestiture, whereby, private and public party share the ownership of a former completely public asset. A public divestiture is in a certain way similar to a BOT procurement process, except for the partial ownership of the facility by the private which give to it a higher level of control on the project. The degree to which the private firm owns the asset can be different depending on the specific contracts. This flexibility allows finding the solution that best fit the necessities of a specific project. However, as in the case of complete divestiture, if the facility is very important for the community, the contract should be set such that the public party has the greater share of ownership in order to protect the interests of the community.

1.4 Classification of PPP delivery methods: the "Green Paper"

The *Green Paper on Public-Private Partnerships and Community Law on Public Contracts and Concessions* was published in the same year of the Guidelines as a response to the persisting concerns of many representatives of the State Members about the use of the PPP. Indeed, they argued that the Community rules regarding the rights and duties of both public administrations and private entities in the award of PPP contracts were characterized by lack of clearness and homogeneity among the different Member States. Due to this situation, This situation created a degree of uncertainty among the different stakeholders, representing an obstacle to the successful development of PPPs.

Indeed, despite the Guidelines provided a general picture of the possible PPP delivery methods to be used in Europe, they represent more a theoretical framework than an actual device to understand the functioning of the different PPP systems. Moreover, since specific

European regulations about PPPs missed, there was confusion about how to develop the procurement processes in case of concessions and other form of PPPs.

In this context, the *Green Paper* was written in order to better specify the possible kinds of PPP contracts available for the public administrations in the European Community, underlining the rules to follow and the requirements to satisfy at Community level. In fact, based on the type of PPP chosen by the public entity awarding the contract, different procedures have to be followed.[18]

Going in detail into the analysis of the PPP classification provided by the *Green Book*, we can notice a distinction between two different categories of Private-Public Partnership, differing each other for the relation between public and private party determined by the contract. These models are respectively the purely contractual PPPs, where the relation between the private and the public entity is contractual only and institutionalized PPPs, characterized by the creation of a new entity for the award of the public works contract.

The European law provides the regulations to be followed to award contracts depending on the kind of PPP delivery method used (contractual or institutional). Therefore, this classification represents an important scheme to be taken into account when analyzing a project which makes use of Private-Public Partnership.

1.4.1 Purely contractual PPPs

This typology of PPP includes all the contracts where one or more phases of the project (design, construction, operation, maintenance, financing) are shifted from the public to the private sector. Therefore it includes for example leasing and Build-Operate-Transfer models, that have been already described in the previous chapter. All these methods are called contractual since public and private entities are linked each other only by a contract whereby responsibilities and therefore risks, connected with project, are allocated between the parties.

According to the *Green Book*, there are two main models belonging to this category:

[18] European Community. Commission of the European Community. *GREEN PAPER ON PUBLIC-PRIVATE PARTNERSHIPS AND COMMUNITY LAW ON PUBLIC CONTRACTS AND CONCESSIONS*. By Commission of the European Community. Brussels, 2004. *Eur-lex.europa.eu*. Apr. 2004.

- The concessive model (it is the DBFO procurement process), whereby the private sector design, build, operate, maintain and finance the project, obtaining revenues directly from the cash flows provided by the facility, whereas the public administration maintains the ownership and the responsibility for the oversight of the whole process. It is important to notice that, unlike the classification of the *European Guidelines*, in the *Green Paper* the focus is on the kind of relation between private entity, public administration and consumer, rather than on the degree of transfer of the project related responsibilities from the public to the private sector. Therefore, the peculiarity of the concessive model is that it is a contractual PPP (public and private sectors remain separated entities) whereby the contractor substitutes the public administration in providing a public service and relies upon the revenues generated by he service provided.[19] For this reason, this model is used for projects having an intrinsic ability to generate revenues such as toll highways or bridges.

- Models characterized by the fact that the facility is not able to generate enough revenues for the private firm. As a consequence, the contractor, which is still a different entity with respect to the public administration, is in charge of design, construction, operation and maintenance of the asset, as in the case of the concessive model, but it is directly paid by the public administration for service offered to the community. The most typical example of these second typology of contractual PPPs is the Private Finance Initiative (PFI), that is the most used kind of PPP in the United Kingdom. According to this system, the contractor receives regular payments in exchange of the funding, design, construction, operation and maintenance of a facility such as a school or cemetery, that does not guarantee a sufficient amount of revenues from the operation of the service. As it will be shown in a following paragraph, due to the diffusion of the PFI, the PPP in the United Kingdom is widely used not only for the delivery of infrastructure projects (that are suitable to be delivered with a concessive model) but also for all the other kinds of public projects, as school or sport facilities.

[19] European Community. Commission of the European Community. GREEN PAPER ON PUBLIC-PRIVATE PARTNERSHIPS AND COMMUNITY LAW ON PUBLIC CONTRACTS AND CONCESSIONS. By Commission of the European Community. Brussels, 2004. Eur-lex.europa.eu. Apr. 2004.

In case of purely contractual PPP, the types of applicable public works contracts are those reported in the Community Directives. In particular, the public contracting authority may make use of traditional procedures to choose the private partner, such as the open procedure (where any interested service provider may submit an offer in response to the publication of the contract notice) and the restricted procedure (two stages procedure where in the first stage any interested service provider may submit a request to participate in response to the publication of the contract notice, in the second stage the contracting authority invites the submission of tenders from selected candidates).

Another possibility introduced by the Directive 2004/18/EC, is the so called *competitive dialogue*. This option has been allowed in order to improve the award of complex projects, where the evaluation of either the costs, the technical requirements, the objective of the project or the risk allocation between the parties are difficult to be understood by the public administration. The competitive dialogue may allow improving the understanding of the project by the public administration since it involves the opening of a discussion between the administration itself and the different proposers. This dialogue is aimed at clarify the objectives of the public administration and the financial and technical solutions proposed by each private firm. Depending on the number of aspects to be clarified, this procedure can be more or less long and complicated and can regard all the proposers or also some of them. At the end of the dialogue, the tender is awarded to the best contractor, according to the criterion of the most economical advantageous proposal, based on the parameters set before the opening of the competitive dialogue. This kind of procedure can be very helpful for the public sector, since it provides the administration with the possibility of really understand all the characteristics of a project. However, it is important that this procedure is undertaken with the greatest possible transparency, in order to guarantee a fair competitions among the offerors, that is necessary for the procurement of a high quality project.

1.4.2 Istitutionalized PPPs

These kinds of PPPs are characterized by the creation of a new entity for the delivery of a public work in which public and private partners coexist. Therefore, the involvement of the private firm is not limited to the execution of certain parts of the project but a new legal entity is created characterized by the presence of both the public and private parties. In this way the

administration maintain a good control of the project while taking advantage of the experience brought by the direct involvement of the private firm in the new entity. However, in some cases the private sector can take control of the public entity, with a significant reduction of control over the project by the administration. Therefore the institutionalized PPPs can be divided in two categories:

- Partnerships where a new public-private entity is created for the realization of a project. In these kinds of PPPs, good collaboration and cooperation between the parties can be achieved. In particular, this system can be very effective since each party can manage the aspects of the project that are more suitable to its characteristics. These are respectively, the holding of the authority for the private sector thanks to its greater accountability and the direct management of the project by the private one, due to its usual greater financial and technical skills. However, companies that are jointly owned by private and public partners can be exposed to some relevant issues. In fact, in contractual PPPs a clear relation between the private and the public partners is established through a signed contract setting out rights and duties of the parties, financial conditions of the service and the duration of the arrangement. On the contrary, institutionalized PPPs are characterized by a sharing of duties that it is widely at the two parties discretion. Indeed, the statute of the company usually includes only some regulations about the way responsibilities are allocated, without the rigor of a traditional public works contract. Another disadvantage is that the coexistence of public and private parties can lead to delays in the initial phase about the definition of price levels, kind of service and investments. In fact, the two parties may have different visions and opinions, and finding a common strategy may require time.

- Partnership where the private sector takes control of an existing public entity. This kind of partnership is not specifically regulated by the European law. Nevertheless, a public authority decides to give to a third party a holding, conferring a definite influence in a public entity providing economic services normally falling within the responsibility the Government, the European Community principles of transparency and equality of treatment, have to be respected.

1.5 Use of PPP to deliver infrastructures projects in Europe

As already written, in the past years there has been a significant boost in the use of delivery methods characterized by the collaboration between public and private entities for the construction and the operation of infrastructures in all over the Europe. Some European Countries had a long tradition in this field, whereas others are taking advantage of the collaboration with the private partnership (in particular about the financing) to upgrade their infrastructures and reach the European standards.

1.5.1 Advantages of PPP to deliver infrastructure projects

There are several reasons why the Private-Public Partnership is growing in appeal to the European countries, in particular the new Members. Indeed, the cooperation with the private sector may offer the following advantages to the public authorities:

- Acceleration of infrastructure provision: the involvement of the private partner into the financing of the project can give more availability of capital for the realization of the project, allowing speeding up the infrastructure provision. Indeed, the private sector does not have spending caps or other constraints which characterize the public sector and so can finance the project, particularly in the first phases, allowing the public sector translating high initial costs into long term payments. This possibility provided by the use of the PPP is particularly important for the realization of infrastructures since they usually are very costly and therefore require huge initial investments.

- Faster implementation: due to the fact that a single contractor is responsible for many phases of the process, the project can be fast tracked. Moreover, when the revenues depend on the collected fees, a contractor is pushed to complete the construction and operate the facility as soon as possible.

- Reduced whole life costs: PPP projects requiring operational and maintenance service provision provide the private sector with strong incentives to minimize costs over the whole life of a project. Moreover, the private sector has in general a better ability with respect to the public party of minimizing the life-cycle costs since it is not subjected to political pressure to produce short term results between election and to limited resources,

as the public sector is. Indeed, these strong conditionings often lead the public authority to make investments on the basis of a low initial cost without considering the life-cycle value.

- Reduction of risk for the public authority: by involving the private party in one or more phases of the project the public authority shifts some risks to the private entity reducing the probability of incurring in economic losses.

- Better risk allocation: a core principle of any PPP is the allocation of risk to the party best able to manage it at least cost. The aim is to optimize rather than maximize risk transfer, to ensure that best value is achieved. A great advantage of PPPs is that private and public partners have different nature and therefore different skills. Thus, by allocating to the right party each particular risk, many delays and overruns can be avoided.

- Improved quality of service: international experience suggests that generally, facilities delivered by means of Public-Private Partnerships results to have higher quality with respect to the assets for which a traditional procurement is used. This is due to the greater financial and technological skills that usually characterize the private sector due to the experience and habit to open market competition. Moreover, the quality of the service can be increased by introducing performance incentives and penalties in the contract.

- Better incentives to perform: a proper allocation of the project risks incentivize the contractor to improve its management and performance on the project. Under most PPP projects, the full payment to the private party occurs only if it fulfills the standards prescribed in the contract.

- Generation of additional revenues: the private sector may be able to generate additional revenues from third parties. As a consequence the total cost of the project can be reduced with respect to a traditional procurement.

- Enhanced public management: by exposing public services to competition, PPPs enable the cost of public services to be benchmarked against market standards. In this way,

higher quality projects can be realized at economically advantageous conditions for the public administration.

1.5.2 PPP risks and criticalities

The most important aspect for the successful implementation of a Private-Public Partnership is the correct allocation of the risks between the public and the private party. If a good balance is not achieved, it will be impossible to take advantage of the potential benefits of the PPPs, just mentioned above. Conversely, the project will result in increased costs and delays and all the involved parties will be unable to realize their objectives, which are the delivery of a socially useful infrastructure for the public entity, and the economic profit for the private party.

Therefore, the allocation of each risk to the party that is best able to manage it, must be the core objective of a PPP. Several cases show the additional costs incurred when too much risk is transferred. They also demonstrate that each project is unique and therefore must be assessed separately.

In general, a public administration tends to transfer more risks to the private party as the financial size of the project increases. In particular, the common tendency is to shift the financing to the private firm in case of very costly projects, as the infrastructures ones. On the other hand, it must be taken into account that certain risks, such as the regulatory one, are better borne by the public sector. However, there is not a general rule to allocate risks: each case must be studied separately due to the uniqueness of each civil engineering project.

In general, a key for the successful transfer of risks for the public administration is the well understanding of the objectives it wishes to achieve and therefore the nature of the project. This means the ability of understanding the strengths and limitations of each party. Several cases demonstrate the results of not transferring enough risk and responsibility and, conversely, of transferring too much. In each case there is a decrease in the value of the project and an increase in cost.

Another important aspect to be considered in matter of risk is the need for political commitment and public support, in particularly for large projects. This is particularly important when PPPs rely on user charges and promises of increased service provision or

quality standards as justifications for their use. For this last reason, the benefits provided by the PPP have to be proved to the community. This can be done by means of quantitative assessments of the value of a project, that can be done by means of technical and economic evaluations.

Another important aspect to be taken into account is the need for a clear enabling legislation since it allows transparency in the determination of contracts with benefits for all the parties.. The consequences of not having this certainty are greater risks and costs and the inability to harness the true potential of the project. Many European countries, included Italy, faced this issue and experienced economic losses due to the lack (or confusion) of regulations.

All the risks just mentioned have to be carefully taken into consideration in the case of use of a PPP for the realization of an infrastructure project. In addition, other criticalities related to the nature of the private sector have to be carefully considered when implementing a PPP:

- The private sector could be induced to excessively reduce costs, leading to negative effects on the quality of the project or on the social benefits of the investment. This is particularly true when it is difficult to bargain the quality of the asset in management phase: in these cases, the private partner can take advantage of this lack of clarity and realize cheap infrastructures, far below the appropriate level of quality. In this case, it can be preferable for the public authority to deliver and realize the project by itself, or to commission to the private only the construction of the infrastructure.
- The social value of a project can be considerably different from the economic value, leading to the unwillingness of the private party to undertake a socially useful project or to the completion of the works in a longer (more economically advantageous for the constructor) time with respect to the needs of the users. Indeed, the most efficient construction time from a social point of view could be shorter than the more advantageous for the private partner. Since the social discount factor is different from the interest rate of the market, long-term projects that are social desirable could be unfeasible with the Public-Private Partnership. Moreover, if the private contractor can manage and therefore take advantage of the infrastructure related revenues for a short period of time, it is induced to spend as less money as possible to properly maintain the infrastructure.

- Still regarding the different interests between public and private partners, it may happen that a private entity strives to realize a project that gives advantages to other activities of the company rather than to the users. This is not acceptable from a social point of view since the main goal of a public facility is to provide a service for the community.

- For the private partner, a risk that may arise is represented by the uncertainties related to the concurrence and to the political willingness. Since a project financed and managed by a private contractor owes its success to the revenues provided by the users' tolls, it is very exposed to concurrency-related risks. A toll road for example could suffer economically from the construction of a new free road in its vicinity or from the amplification of an existing road in the area. Also the political uncertainty may represent an important issue for the private partner. In fact, a change in political willingness can lead to the development of projects that are disadvantageous for the private financed infrastructure or to a change of regulations that can be unfavorable to the project.

1.5.3 PPP and financial crisis in Europe

The financial crisis of 2007 had and still has a big impact on the whole economy of Europe. Also the PPP market was strongly affected by this global downtown, with a decrease of debt financing to private firms and therefore a reduction of PPP projects in the past 3 years. In particular, banks have become more reluctant to finance PPP projects and more selective about the conditions required to allow funding. Moreover, "no viable capital market solutions have emerged to replace the wrapped bond market which closed with the demise of the monocline business"[20] with a consequent reduction in the number of awarded contracts with respect the period before the crisis. In addition, after the economic crisis, writing project off balance sheet has become more difficult due to the more stringent regulations set by the European Countries.

[20] European PPP Expertise Center (EPEC). *European PPP Report 2009*. Rep. DLA Piper, May 2010.

The Public-Private Partnership is important in this context since it has been identified by the European Commission as a means to deliver strategic infrastructure projects for the economic recovery of all the Member States.

Indeed, the European Commission recognized that high quality infrastructures represents a key precondition for recovering from the crisis and undertaking a sustainable growth and that PPPs are a very useful tool to procure, build, finance and maintain infrastructure projects in an efficient and sustainable manner. Indeed, there it is recognized at international level that properly structured PPPs allow delivering more valuable projects with respect to the conventional procurement due to the optimization of the risk sharing between the public and the private sectors. For this reason, the PPP has been considered by the Community as a key component of its anti-crisis strategy.

In this context, the PPPs with greater appeal are those involving private financing due to the huge public deficits of many European Countries. In particular the European Community is trying to push the PPP market by means of a range of programs aimed at incentivizing private investors to finance large scale infrastructure projects.

To this end, through the European Investment Bank (EIB), the European Commission has activated a recovery program, characterized by an increase of the lending activity and by the development of new products and initiatives. In particular, while in 2007 (before the crisis reached the Europe) the total value of the loans was €47 billion, in 2008 it increased €57 billion and both in 2009 and 2010 there was a 30% increment compared with the level of previous years.[21]

This increase in lending was part of a broader package of support measures (including fields such as energy, climate change and infrastructure sectors) which was announced in December 2008 as part of the EIB's Plan for 2009-2011. A proof of the interest of the European Commission in the diffusion of PPPs in Europe is the additional funds given to the European PPP Expertise center, that is European task force about PPP.

[21] European PPP Expertise Center (EPEC). *European PPP Report 2009*. Rep. DLA Piper, May 2010. Web. Oct. 2010.

Another sign of the commitment of the Europe to favor the recourse to PPP delivery methods as a response to the crisis was the Interpretative Communication explaining the EC procurement rules that apply when private partners are chosen for PPP. According to this communication, if the task assigned to the PPP is a public contract fully covered by the Public Procurement Directives, the procedure for selecting the private partner is determined by those Directives. If the task is a work concession or a public contract that is only partially covered by the Directives, the fundamental principles derived from the EC Treaty apply in addition to the relevant provisions of the Directives. Finally, if it is a service concession or a public contract not covered by the Directives, the selection of the private partner has to comply with the principles of the EC Treaty.

Another important document published in response to the crisis is represented by *The Remedies Directive*. It was published as Directive 2007/66/EC in December 2007 and had to be implemented into national law until 20 December 2009. This Directive requires public authorities to wait a certain number of days before awarding a public contract. In this way, rejected bidders have the possibility to undertake a review procedure in time for the award of the contract to be changed, in case an unfair decision has been taken. I case this period is not respected, awarded contracts can be cancelled. Another objective of the *Directives* is to avoid the direct award of contracts, since it is not accepted at Community level. In particular, national courts are allowed to cancel contracts characterized by lack of transparency and competition. In these cases, a new tender must be undertaken. By means of the introduction of these new regulations, the diffusion of fair and competitive tender processes should become easier in all over the Europe.

1.5.4 PPP market in Europe: trend before and after the crisis

The last step in the analysis of the PPPs in Europe is the evaluation of the PPP market from 1990 to 2009, in order to understand the development of the these delivery methods in the different European countries, with particular focus on the transportation sector.

The data that are going to be analyzed come from the *Economic and Financial Report 2010/04* by Andreas Kappeler of the European Investment Bank and Mathieu Nemoz of the European PPP Expertise Center. They did an analysis based on a variety of sources, such as the ProjectWare, the Infrastructure Journal, EIB's own data and validated by EIB country

specialists and the EPEC. Only projects with a capital value at least equal to EUR 5 million were included in the analysis. The considered project values represent the total financing required at the time of the financial close (that is "the date at which all project contract and financing documentations have been signed"[22]) and equal the sum of secured debt and equity.

1.5.4.1 Values and number of PPPs by country

The first important result I got from the *Economic and Financial Report* is the number and value of PPP projects in Europe from 1990 to 2009, that is reported in the following table:

Year	Number of projects	Value of projects (in € millions)
1990	2	1386.6
1991	1	73.0
1992	3	610.0
1993	1	454.0
1994	3	1148.4
1995	12	3264.9
1996	26	8488.2
1997	33	5278.0
1998	66	19972.4
1999	77	9602.6
2000	97	15018.5
2001	79	13315.3
2002	82	17436.2
2003	90	17357.1
2004	125	16879.9
2005	130	26794.3
2006	144	27129.2
2007	136	29597.9
2008	115	24198.0
2009	118	15740.4
Total	**1340**	**253744.9**

Table 1: Number and value of PPP contracts in Europe in the period 1990-2009.[23]

By looking at the chart above we see an increasing trend starting in 1995 and continuing steadily until the middle of the decade, then a stagnation both of the number and value of the EU PPP and in 2008 and 2009 a decline. In particular, in 2008 the decline has been both in the number and in the value of projects, whereas in 2009, although the number of projects was

[22] Kappeler, Andreas, and Mathieu Nemoz. "PUBLIC-PRIVATE PARTNERSHIPS IN EUROPE – BEFORE AND DURING THE RECENT FINANCIAL CRISIS." Eib.org. July 2010. European Investment Bank. Nov. 2010.

[23] Kappeler, Andreas, and Mathieu Nemoz. "PUBLIC-PRIVATE PARTNERSHIPS IN EUROPE – BEFORE AND DURING THE RECENT FINANCIAL CRISIS." Eib.org. July 2010. European Investment Bank. Nov. 2010.

slightly greater than in 2008, the value consistently decreased, passing from €24,198 billion to €15,740 billion. This trend testifies what stated so far. The PPP market saw a constant increase due to the interest of the European Countries and European Commission to incentivize the recourse to these delivery methods for all the reasons presented in the previous chapters. Then, with the economic crisis explained in the previous paragraph, the number and amount of investments were reduced.

Another interesting table to be analyzed is the one that reports the share of each country in the number and value of projects closed in Europe during 1990-2009. In this table, a comparison is provided with results reported in the *Economic and Financial Report of 2007* by Blanc-Brude et al.[24] that are referred to the period 1990-2006 (before the economic crisis).

	% of No. of projects		% of value of projects	
	2009 update	Blanc-Brude et al. (2007)	2009 update	Blanc-Brude et al. (2007)
AT	0.2	0.2	0.5	0.6
BE	0.9	0.7	1.3	1.1
BG	0.1		0.1	
CY	0.2	0.3	0.3	0.4
CZ	0.2	0.2	0.3	0.4
DE	4.9	2.4	4.1	2.9
DK	0.1	0.0	0.0	0.0
EL	1.0	0.6	5.5	3.9
ES	10.1	8.6	11.4	12.8
FI	0.1	0.2	0.2	0.2
FR	5.4	2.8	5.3	3.9
HU	0.7	0.8	2.3	2.7
IE	1.3	0.7	1.6	0.7
IT	2.4	2.1	3.3	3.7
LV	0.1	0.1	0.0	0.0
MA	0.0	0.1	0.0	0.1
NL	1.2	1.0	1.8	1.7
PL	0.4	0.4	1.7	0.9
PT	3.1	2.3	7.0	5.8
RO	0.1	0.3	0.0	0.1
SE	0.1	0.1	0.2	0.2
SK	0.1	0.1	0.5	0.0
SI	0.1	0.1	0.0	0.0
UK	67.1	76.2	52.5	57.7
Total	100	100	100	100

Table 2: Aggregate percentage shares of PPPs in Europe in the period 1990-2009.[25]

By analyzing Tab. 2 it is possible to see that the United Kingdom is by far the country which has made more use of PPPs to finance public projects. Nevertheless, with respect to the 2007

[24] Blanc-Brude, Frédéric. "PUBLIC-PRIVATE PARTNERSHIPS IN EUROPE: AN UPDATE." Eib.org. Mar. 2007. European Investment Bank. Nov. 2010

[25] Blanc-Brude, Frédéric. "PUBLIC-PRIVATE PARTNERSHIPS IN EUROPE: AN UPDATE." Eib.org. Mar. 2007. European Investment Bank. Nov. 2010.

report, the UK has lost almost the 10% of its share. This result testifies that other countries are increasing their recourse to PPPs and therefore this kind of delivery method is widening throughout the whole Europe. The second greatest PPP market is the Spanish one, with a 10% of share as for the total number of projects. France, Germany, Italy, and Portugal account for a percentage between 2% and5%, respectively. Considering the project value, the United Kingdom remains the first market in Europe,with the 53% of share, the Spain the second and the Portugal the third.

Another interesting aspect to be analyzed is the evolution of the United Kingdom market and the EU as a whole since 1990, that is reported in the following figure.

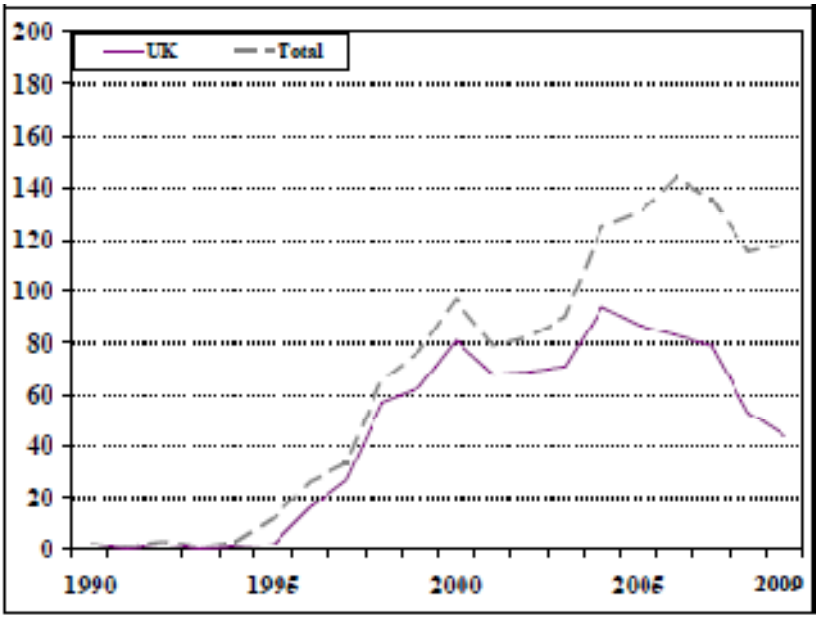


Figure 6: Number of deals reaching financial close per year.

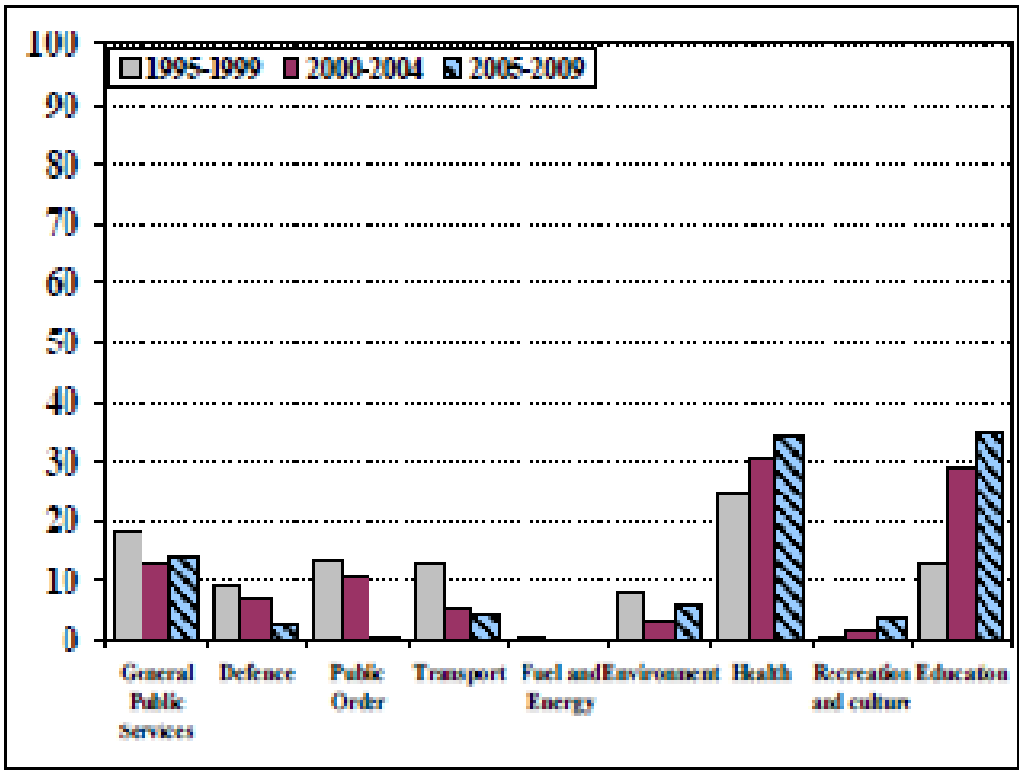
It is possible to notice that the UK has shown a high increase in the number of PPPs starting from the middle 90's until the 2000. Then, after some years characterized by an almost constant number of deals, it increases again with the maximum number of PPPs in the 2004. As for Europe, the peak has been reached later, in 2006. The graph clearly shows how, starting from 2004, the percentage of UK PPPs over the totality has continuously decreased. This is due to the fact that the PPP market has spread all over the Europe in the past few years due both to the shortfalls of many European countries (with a consequent research of private

investors for the delivery of public works) and to the efforts of the European Community to push PPP in all over the continent.

1.5.4.2 PPPs in transportation sector

It is interesting now to look at the role of the transportation sector in the PPP European market, since this is the sector of interest of this thesis. To do this analysis it is important to make a distinction between the UK and the continental Europe since there are many differences in the nature of these two markets.

In the UK, transportation represented only the 4% of the PPP market by number (against the 35% in education and 34% in health) and the 17% by value (compared with the 27% of education and 25% of health) in the period 2005-2009, with a large decrease with respect to the 13% by number and 58% by value of the period 1995-1999.



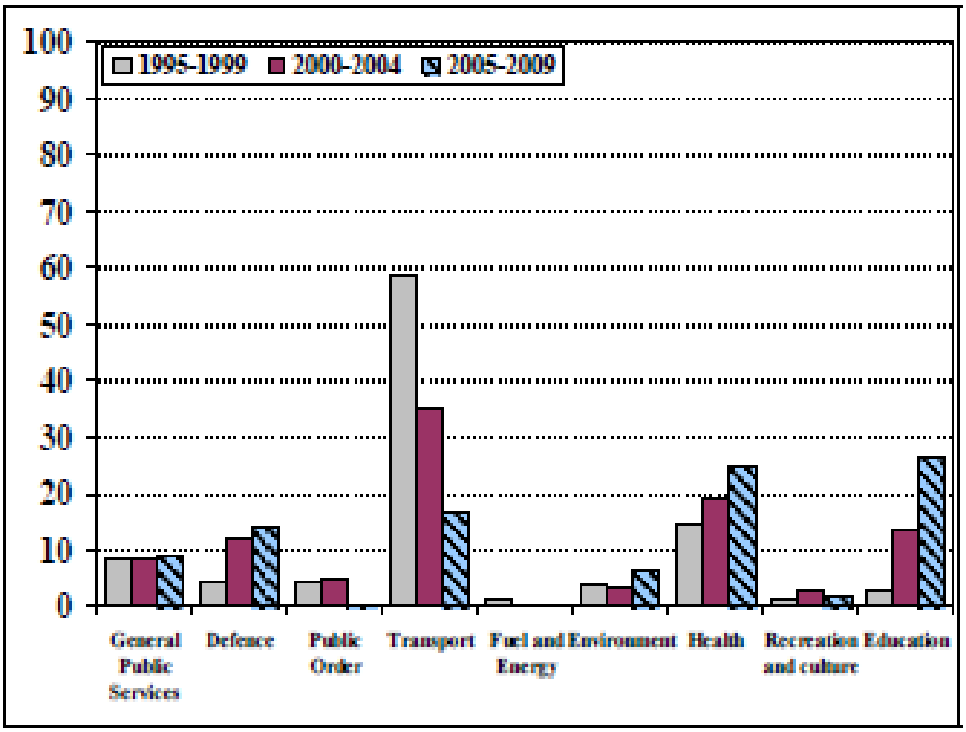


Figure 7: Sectorial distribution of PPPs in UK by number (top) and value (bottom), in %, 5 years averages.[26]

In the rest of the Europe the situation is different since the transportation is by far the one in which the Private-Public Partnership is most used. In particular, in the past 5 years, the share of transportation sector has been 41% by number, with education and health accounting just 26% together. This difference is even larger if the comparison is done with reference to the value of the projects. In fact, in continental Europe, transportation accounts for the 76% in value, with education and health reaching only the 11. The next two figures represent the shares of the different sectors in the continental Europe market.

[26] Kappeler, Andreas, and Mathieu Nemoz. "PUBLIC-PRIVATE PARTNERSHIPS IN EUROPE – BEFORE AND DURING THE RECENT FINANCIAL CRISIS." Eib.org. July 2010. European Investment Bank.

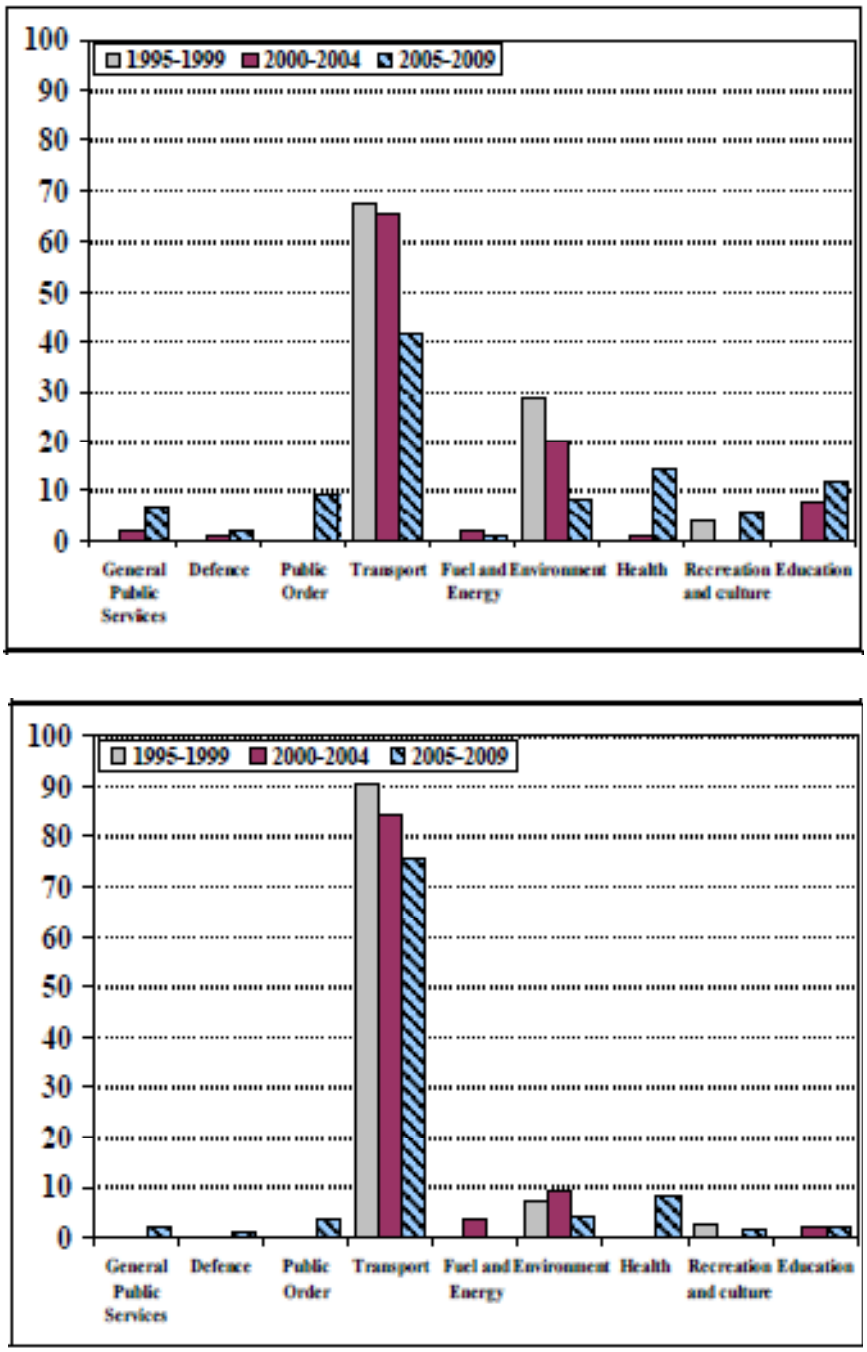
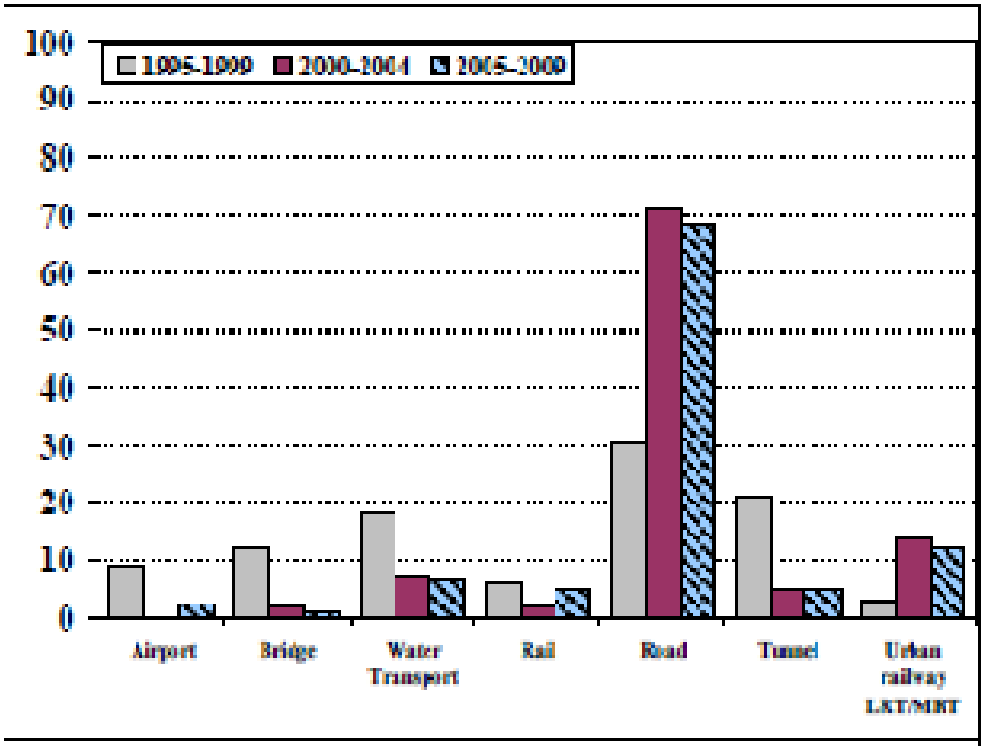


Figure 8: Sectorial distribution of PPPs in continental Europe by number (top) and value (bottom), in %, 5 years averages.[27]

[27] Kappeler, Andreas, and Mathieu Nemoz. "PUBLIC-PRIVATE PARTNERSHIPS IN EUROPE – BEFORE AND DURING THE RECENT FINANCIAL CRISIS." Eib.org. July 2010. European Investment Bank.

Considering the importance of the transportation sector in the PPP market in the continental Europe, it can result interesting to look at the shares of the different sub-sectors. By this analysis, it results that the road sector is by far the dominant component of transportation PPPs. In particular, its share is about the 66% of the total.



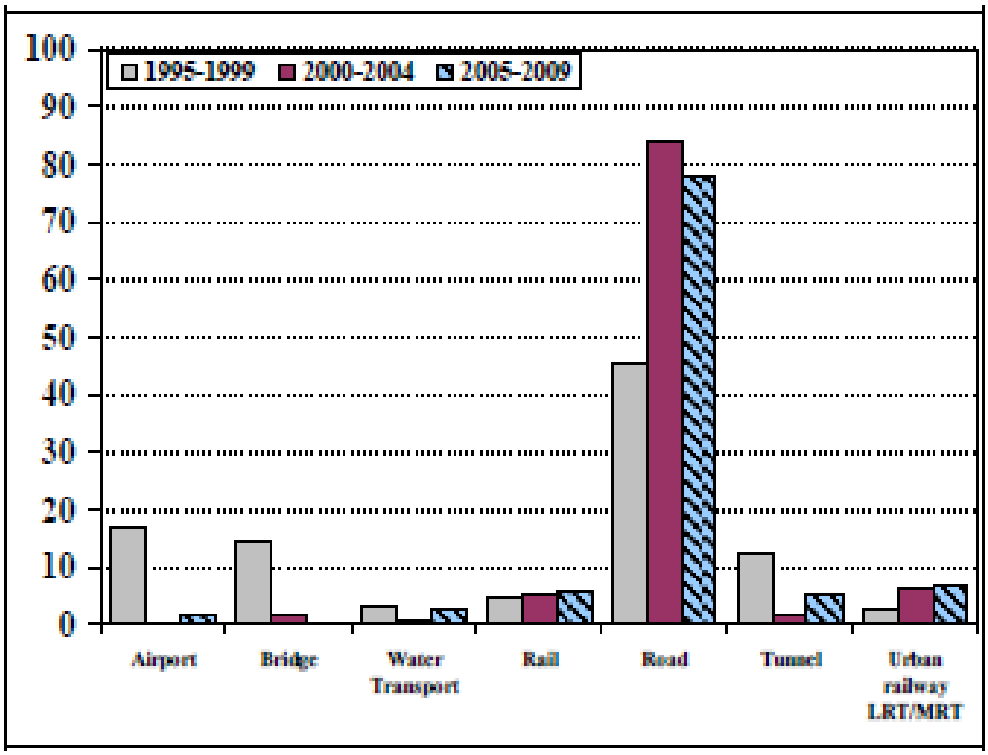


Figure 9: Sub-sectorial distribution of transportation PPPs in continental Europe by number (top) and value (bottom), in %, 5 years averages.[28]

The data provided in this paragraph show how the PPP market has become important in the last decade and how the transportation sector represents the most important component of this market. Although the economic crisis has caused a reduction of the number and values of PPPs in the last three years, it is clear that the Public-Private Partnership represents an important resource in Europe to finance transportation projects. The commitment of the European Commission to incentivize the use of PPPs in Europe confirms how the Public-Private Partnership is seen as a fundamental device to help Europe to successfully undertake important transportation projects that are necessary to overcome the economic crisis.

[28] Kappeler, Andreas, and Mathieu Nemoz. "PUBLIC-PRIVATE PARTNERSHIPS IN EUROPE – BEFORE AND DURING THE RECENT FINANCIAL CRISIS." Eib.org. July 2010. European Investment Bank.

2 PPP in Italy: the project financing

This chapter is aimed at analyzing the Public-Private Partnership in Italy. In particular, the focus will be upon the problems related to the application of these delivery methods in the country. Through the analysis of the main national legislations in matter of PPP, the data about the use of these procurement processes and actual examples of PPP for the procurement of important infrastructure projects, I will try to point out which are the criticalities of the PPP in Italy and the reasons behind them. At the end, some possible solutions to the presented issues will be proposed.

Before going into the details of the analysis of the criticalities, the data regarding the use of PPP in Italy in the past years will be shown. These values are aimed at showing how the Public-Private Partnership is becoming an increasingly used delivery method and therefore how much an improvement of regulations and practices in matter of PPP could be important for the whole economy of the country.

It is important to underline that the focus will be upon the PPP characterized by at least a partial private financing. The reason is that these kinds of PPPs are those introduced more recently and also the more used nowadays, due to the lack of public resources.

2.1 Increasing use of PPP

In Italy, the first procurement processes characterized by private funding were realized in the '90s, following the liberalization of the market of the electricity production with the laws 9/90 and 10/91.[29] According to the UTPF (the Italian task force in matter of PPP) these investments in cogeneration centrals (equal to € 10,000 Billion) testified the possibility of using private financing also in other public sectors.

However, the use of private funds to finance public projects has become considerable only starting from 2002-2003. In particular, the *Second Report about Infrastructures in Italy*, published in may 2009 by the Associazione Nazionale Costruttori Edili[30] (National

[29] Elisabetta, Iossa, and Federico Antellini Russo. "Potenzialità E Criticità Del Partenariato." *Ideas.repec.org*. SIPI Spa, May-June 2010.
[30] Direzione Affari Economici E Centro Studi ANCE. *SECONDO RAPPORTO SULLE INFRASTRUTTURE IN ITALIA*. Rep. no. 2. Second ed. Vol. I. Roma: EDILSTAMPA S.r.l., 2009. *Otinordovest.it*. ANCE, 2009. Web.

Association House Builders), reported the data about the invited and awarded tenders in the period 2003-2008 and in the first part of 2009.

In the period 2003-2008 1950 tenders with private participation has been invited, for a total amount of €26,695 million (€16489 million regard private initiative interventions, 10,206 public initiative interventions). Of the total invited tenders, 1,033 have already been awarded, corresponding to €17,581 million. In 2003-2008, excepting the 2004, the share of the Public-Private Partnership on the total amount of tender invitations has been considerable, going from 13,9% in 2003, to 16,1% in 2005, to 20,6% in 2006, to 15,7% in 2007 and 18,8% in 2008. Even neglecting from the analysis the procurements having value greater than €500 million which can affect the results (since big infrastructure projects such as the Cispadana regional freeway and the external east ring road of Milan have a very big weight in these computations due to the high costs), the PPP represents an important part of the public works market, equal to 9,8% in 2003, 7,5% in 2004, 9,7% in 2005, 10,9% in 2006, 13,4% in 2007, 11,1% in 2008.

To understand the size of the projects where PPP contracts are awarded most, the report about infrastructures provides also a subdivision of the tenders in price classes. In particular, the analysis has shown as tenders making use of private financing between €5 million and €50 million represent an important share of the Italian public works market, rating 16,1% in 2006, 20,5% in 2007, 20% in 2008 of the total value of the invited tenders. Conversely, the use of PPP to award higher value contracts (from 50 to €500 million) decreased from 2006 to 2008, going from 39,5% in 2006, to 35,8% in 2007, to 18,7% in 2008. Nevertheless, the share of tenders making use of PPP remains relevant also in this kind of contracts. In case of public works above EU 500 million, such as the Cispadana regional freeway (€1,095 million tender) and the external east ring road of Milan (€1,579 million tender), the private participation represents the most used way to award projects due to the lack of sufficient resources for the public authorities to finance these projects.

The importance of the PPP market can be confirmed analyzing the data related to the number and value of the tenders awarded in the considered period. Between 2003 and 2008, 1,033 public works characterized by private financing were awarded, for a total value equal to €17,581 million. €1,180 million of the total amount were awarded in tenders proposed by a

promoter (the figure of the promoter will be better explained later) whereas €5,781 million in public initiative tenders. Focusing on the last two years it is worthwhile to notice that in 2008, the tender invitations with private participation were 358, for a total value of €5949 million. Compared with 2007, the tenders increased both in value (+10,8%) and value (+30%). However, excluding the tenders with value greater than €500 million, although the number increased as well (+10.6%), the value decreased (-14.4%) due to the two big projects already mentioned.

The results recorded in the first trimester of 2009 (most recent available result) confirms this trend, with 86 PPP tenders invited, for a total value of €966 million (€456 million with private initiative, €510 with public initiative). These data show how, although the number of invited tenders remained almost the same with respect to the first trimester of 2008, the total value of these tenders increased of the 23.2%. It is meaningful to notice also that in the first semester of 2009 the value of the invited tenders by private initiative showed a 100% increase with respect to the same period of 2008, whereas the value of tenders by public initiative decreased in value but increased in number (+6.4%). On the whole, in the first three months of 2009, the 16.7% of the invited tenders for the procurement of public works is represented by tenders involving private financing. By analyzing the different price classes, the results confirm the 2008 trend. Medium size tenders involving private participation represent 15.5% of the total market and this share increases with the amount of the tender value. It is evident that the lack of public resources makes increasingly necessary the recourse to private funds in order to realize the most important infrastructure projects. Indeed, in the first semester of 2009 the 51.4% of the public works invited tenders with a value between €50 million and €500 million was characterized by the Public-Private Partnership. As for the awarded tenders, in the first semester of 2009, 85 tenders were awarded (+84.8% with respect to the same period in 2008), amounting €630 million (€470 million with private initiative, €160 million with public initiative). This result does not take into account the award of the external east ring road of Milan since it would have distorted the results. In conclusion, the analysis of the PPP market in Italy in the period 2003-first trimester 2009 has confirmed the important role of the private sector in the realization of public works. Exclusive of 2004, in the considered period, the recourse to private participation has consolidated, reaching the 18,8% of the total invited

tenders in 2008 and showing an increase of the 23.2% (in the value of the invited tenders) in the first semester of 2009 with respect to the same period in 2008.

For sake of the analysis of the criticalities of PPP that will follow, it is important to make a distinction among the projects on the basis of the different sectors involved. In the following two charts I reported the data about the PPP invited tenders in 2008 (distinguishing between private and public initiative tenders) in order to show how the value of tenders considerably depends on the considered category.

Private Initiative PPP tenders – 2008		
Categories	**Number**	**Average Sum [million €]**
Cemeteries	23	4.1
Gas networks	23	18
Parking	21	9.6
Plant Design	19	20.4
Sport Centers	17	7.5
Requalification	12	7.6
Market and Trade	7	5.2
Garbage Disposal	6	16.6
Others	31	97.8
Total	159	

Table 3: Subdivision in categories for PPP tenders with private initiative in 2008 (the category other includes the external east ring road of Milan).

Public Initiative PPP tenders – 2008		
Categories	**Number**	**Average Sum [million €]**
Plant Design	67	4.4
Sport Centers	40	2.2
Social Services	13	2.3
Requalification	12	3
Cemeteries	11	5.5
Market and Trade	11	2.7
Gas networks	9	6.7
Education	5	4.9
Parking	5	5.4
Others	26	21.7
Total	199	

Table 4: Subdivision in categories for PPP tenders with public initiative in 2008 (the category other includes the tender for the construction and operation of the €400 million Salerno Garbage Disposal).

By analyzing the two previous charts it is clear that the majority of the PPP tenders regard low and middle size projects and do not involve infrastructure projects. This is due to the fact that generally infrastructures require large investment. The categories with most invited tenders in case of private initiative in 2008 resulted to be cemeteries, gas networks, parks and plant design. Usually, these categories are characterized by low (in the case of cemeteries the average sum is €4.1 million) or middle value of tenders (€18 million, €9.6 million and €20 million in average for gas networks, parks and plant design, respectively). As for the public initiative, the more frequent sectors are the plant design and sport centers and the size of the correspondent tenders are low (averaging €4.4 million and €2.2 million, respectively).

The importance of the PPP in the transportation field is even higher than in the other sectors due to the economic, social and political importance of the projects that are currently under development.

Indeed, in Italy, many large scale infrastructures projects are planned to be financed in large part by means of public funds during the following years. In particular in 2008, the CIPE ministerial committee for economic programming, approved a plan for the realization of several strategic projects in the country, such as the €6.1 billion Messina bridge and the €5.1 billion Milan-Genoa, €5.6 billion Milan-Verona, and €3.3 billion Verona-Padova high speed train projects. The total value of the proposed plan is €46.3 billion[31] and more than half of the funding should come private investors. Therefore, it is evident how a good implementation of the PPPs used for the delivery, realization and operation of such important and huge projects is fundamental for a successful completion.

The Italian commitment in the development of PPP is also testified by the February 2009 approval by the Italian government to invest the funds of the *Cassa Depositi e Prestiti,* that is a company mainly owned by the Ministry of Economy, for the execution of infrastructure projects delivered by means of PPP systems. In this way, additional funds will be available for the development of the PPP market in Italy.

Moreover, these projects have not only a national but also an European importance, testified by the agreement reached in October 2008 between Italy and the EIB whereby the EIB is investing EU 15 billion in the period 2008-2012 for the financing of these infrastructure projects.

2.2 Criticalities of PPP in Italy

The data just presented about number and average values of PPP projects, together with those related to the large-scale infrastructures currently under commitment, are important to show how the characteristics, and consequently the criticalities of infrastructure projects, are different with respect to those of the other categories.

[31] European PPP Expertise Center (EPEC). *European PPP Report 2009*. Rep. DLA Piper, May 2010.

For this reason, a distinction will be made between the issues characterizing general PPP projects and typical problems and criticalities of infrastructure-related PPPs, that are the main concern of the thesis.

In particular, the small and middle scale projects will be first described in general, by means of the results obtained by means of a research of the Bocconi School of Management about a number of Italian tenders undertaken in the 2005-2008 period.

2.2.1 Issues regarding small and middle scale projects

The main issue of Public-Private Partnerships used for small and middle scale projects (not infrastructure projects) is that often the related tenders are not awarded. Indeed, these projects (namely those reported in the previous paragraph such as parking and sport facilities) are abandoned in the 88% of the cases.[32] In particular, a report published by the Bocconi School of Management showed that, among 2,235 tenders invited by local administration in the period 2005-2008 related to parking, sport facilities, cemeteries and public buildings, the 12% only was awarded. According to the report, the reasons of the failures were:[33]

- Errors in the evaluation of the public administration: 27%
- Incapacity to provide funds by the public administration: 25%
- Lack of offers received from the sponsors: 20%
- Removal of the public works by the infrastructure plan of the administration: 18%
- Incapacity of the proposer to fulfill the public administration goals: 15%
- Lack of firms participating to the tender: 11%
- Suspension of the tender due to irregularities: 10%
- Incapacity of obtaining the necessary authorization for the use of PPPs: 8%

By looking at these percentages we can see that the main reasons of the failures in the award of the tenders in case of private participation is the lack of preparation and organization of the public sector. Indeed, tenders not awarded due to internal evaluation of the entity or change of the top management testify that the public authorities were not able to properly evaluate the project and therefore take it to completion. Similarly, works cancelled from triennial plans and tenders failed due to the lack of authorization by competent bodies demonstrates

[32] European PPP Expertise Center (EPEC). *European PPP Report 2009*. Rep. DLA Piper, May 2010.
[33] European PPP Expertise Center (EPEC). *European PPP Report 2009*. Rep. DLA Piper, May 2010.

inexperience in long term planning and in the award of PPP contracts whereas problems connected with the payment of the public contribution show the incapacity of the public party to manage the tender, obtaining the necessary funds for the realization of the project. Also tenders failed due to the suspension of the bidding procedure by the court are a proof of the inability of the public authority of organizing a proper procurement process.

To explain the reasons of these failures by the public party, the study team presented the following data:[34]

- 81% of the tenders were characterized by the lack of feasibility studies;
- 52% of the failures were caused by problems in the pre-feasibility stage;
- 25% of the failures were due to wrong evaluation of the investment;
- 16% of the failures were caused by design problems.

Along with the problems related to the public authorities, also the private sector shows criticalities which contribute to the unsuccessful implementation of PPPs. In particular, the presence of few competitive firms, often of small-scale, makes difficult to organize good PPPs. In most cases, the private entities are not able to manage the complexities of a PPP contract and therefore either prefer to undertake a traditional procurement or, when they participate to Public-Private Partnerships, they do not finalize it.

Anyway, one of the most important reasons behind the difficulty to successfully implement Public-Private Partnerships where the private entity has to finance, at least partially, the project (since this is the most modern and researched category by the public party) is the lack of transparency and clear rules in the Italian regulation. In most cases, public and private parties are not able to properly understand how they have to behave in a Public-Private Partnership, which are the procedures to follow in the award of these contracts and how to allocate responsibilities. This lack of transparency has led to several problems in the recent years, such as either the incapacity to award contracts, as just mentioned, or, in particular for large infrastructure projects, delays, overruns, low quality projects or projects awarded for a higher price with respect to the real value of the work (due to the possibility for the private to get around the regulations).

[34] European PPP Expertise Center (EPEC). *European PPP Report 2009*. Rep. DLA Piper, May 2010.

2.2.2 Italian regulations about PPP with private financing

To fully understand the definition of the Public-Private Partnership in the Italian regulation and in particular of the mechanisms and regulations related to the private financing for the realization of public works, it is necessary to start from the first "modern" law in matter of public works in the Italian Legislation.

This law is the n.109/1994, *Legge quadro in materia di lavori pubblici*, which was written and approved in response to the politic crisis of the first 90's in Italy which marked the end of the so called First Republic and the beginning of a new age in the Italian politics. This law was aimed at giving clear rules about the award of public works in the country since in the previous years many contracts were awarded illegally or going around the law, due to the lack of fixed and stringent regulations and controls. Therefore, this law established all the mechanisms, rules and practices to be followed and respected for the invitation and award of each kind of public contract, including the concession and management of works to private entities, that is a form of Public-Private Partnership. In particular, the article 19 paragraph 2 defined the concessions of public works as contracts between a contractor and a public administration with the following objectives: final design, working plan, execution of public works and the functional and economic management for a certain amount of time, defined in the contract. However, the 109/1994 (commonly called Merloni law from the name of the minister of Public Works who created it) did not introduce the possibility of private financing to public works, limiting the involving of the private sector to one or more of the following phases: design, construction, operation and maintenance. Therefore, private entities had the possibility to receive a public project such as an infrastructure in loan, operate it and take advantage of the correspondent revenues (or be paid by the public authority for the management of the facility in case of projects that did not provide sufficient revenues) for a certain period and then return the facility to the public party but they could not finance the project.

The Merloni law was subjected to three different modifications, namely the law n. 216/1995 (the so called Merloni-bis), the law n. 415/1998 (or Merloni-ter) and the law n. 166/2002 (Merloni-quater). The last of these modifications (merloni-quater) acknowledged the law n. 433/2001, the so called *Legge Obiettivo* (Objective Law) that was the legislative tool to set

procedures and terms of financing for the realization of strategic large-scale infrastructures in Italy for the 2002-2013 decade. As for the implementation regulation, the Italian government published the DPR 554/1999, called *Regolamento d'attuazione della legge quadro in material di lavori publici*, in order to better apply the Merloni law.

The legislative decree n.163/2006 *Codice dei contratti pubblici relative a lavori, servizi e furniture in attuazione delle direttive 2004/17/CE e 2004/18/CE* (Codex of public contracts in actuation of the directives 2004/17/CE and 2004/18/CE) repealed the Merloni law and became the new Italian law in matter of public contracts, acknowledging the European directives of 2004. This decree, that is not only referred to the public works but to all the public contracts, has repealed some parts, changed some others and kept other articles of the Merloni law, becoming the new reference law in the Italian legislation. The n.163/2006 has already been modified three times, by the first corrective decree, D.L. n.6/2007, the second corrective decree D.L. n. 113/2007 and the third corrective decree D.L. 152/2008 which is currently the law in force in Italy. The implementation regulation of the law n. 163/2006 was published on June 8th 2011.

Among these laws, which represent the set of regulations about public works in Italy in the past fifteen years, this thesis is focused on those articles regarding the regulations about tenders and contracts involving private financing. The aim is understanding which have been the different rules in force in the course of the past years and which the criticalities or weaknesses of these articles that have prevented from the successful application of PPPs with private financing.

2.2.2.1 Law 415/1998 (Merloni-ter): introduction of the project financing

The first law which has introduced the possibility for a contractor to finance the project was the law n. 415/1998 (or Merloni-ter) which added some paragraphs to the article 37 of the Merloni law. In particular, these additional paragraphs were added by means of the article 11 of the Merloni-ter, called realization of public works without financial burdens for the public administration. This article introduced the possibilities for the so called promoter to present proposals concerning the realization of public works included in the triennial program of the

public administration, by means of contracts of concession, with financing completely or partially provided by the promoters.[35]

The proposals had to include an environmental study, a preliminary design, a financial plan declared on oath by a bank, specific characteristic of the service, and guarantees given by the promoter to the public administration. Moreover, the cost for the realization of the proposal had to be provided and it could not be higher than the 2.5% of the investment value.

According to this law, each year by October 31th, the public administration had to evaluate the received proposals and indentified those of public interest and, by December 31th, they had to invite a tender, based on the preliminary design by the promoter and the values of the necessary elements for the economic evaluation of the proposals, with the criterion of the most economically advantageous bid and award the concession by means of negotiate procedure between the promoter and the two better offerors[36]. According to the article, in case of unique offeror, the negotiated procedure was between the promoter and the only offeror, whereas in case of no other proposals the promoter was forced to undertake the project (two cautions guarantee its participation). Another rule specified in the article was that the winner of the concession contract had to contract out at least 30% of the works. Moreover, after the award of the contract, the winner contractor could create a special purpose company (SPC) which substituted the contract, becoming responsible for the concession without any approval required. This special purpose company was allowed to submit bonds (although it had to provide a part of equity) and, in case of cancellation of the concession contract due to non-fulfillment of the public administration, the reimbursements, penalty and compensation that the public entity owed to the society had to be used to pay the credits to the banks which financed the society. Only after all the credits had been paid, the society received the remaining money. On the other hand, in case of cancellation of the contract due to responsibilities of the society in charge of the concession, the banks could avoid the cancellation by finding a new society in place of the previous one, by 90 days from the reception of the written request of the administration to cancel the contract. Another important point of this norm is that the credits of the entities financing the realization of a public work,

[35] "Law February 11th 1994, N. 109 - La Nuova Legge Quadro in Materia Di Lavori Pubblici."*Bosettiegatti.com*. 1998.
[36] "Law February 11th 1994, N. 109 - La Nuova Legge Quadro in Materia Di Lavori Pubblici."*Bosettiegatti.com*. 1998.

or the management of public services had the priority on the personal property of the society and subcontractors who purchased the rights on these goods.

The aim of this law was to facilitate the fulfillment of public works characterized by the involvement of private capitals in order to provide for the lack of public resources and for the necessity of curtailing the public debt.

However, this law presented two main issues, namely it did not guarantee a sufficient competition and it gave excessive risk to the project society with respect to the bank.

In the other European countries, generally the risk is equally shared between the promoter and the banks. Conversely, with the Merloni-ter law, the risk was mainly assumed by the special purpose company since the banks' credits had the priority on the personal property of the SPC and in case of cancellation of the contract by the public administration, reimbursements were received firstly by the banks and only when all the credits had been paid, by the SPC. This aspect could be a first explanation of the little success of the project financing in Italy.

Moreover, a high competition was not guaranteed by the law since in case of no other contractors interested in the project in addition to the promoter, the contract was awarded to the promoter without a competitive tender. Therefore, it could happen that a big consortium, composed by a variety of important firms, made a proposal to the public administration and if this proposal was accepted no other firms were able to compete with this consortium. The consequence was the impossibility for other private entities to compete for the award of the project and therefore to guarantee that the contract would have been awarded at the best condition for the public administration.

Therefore, both from the public administration prospective and from the private party one, this law presented criticalities that contributed to explain the amount of failures in the award of these kinds of contracts in the past years.

2.2.2.2 Law 166/2002 (Merloni-quater): introduction of the pre-emption right

This law, called *Disposizione in materia di infrastrutture e trasporti* (provision about infrastructures and transportation"), modified several aspects of the Merloni law and, in particular, with the article 7 paragraph cc), it introduced an important modification in matter of project financing with the with the introduction of the pre-emption right for the promoter of

the project. The dispositions of this paragraph gave the possibility for the promoter to adapt its proposal to the best among the other proposals of the tender, becoming the contractor of the concession.[37] Other paragraphs of the article 7 modified the way to public the programs containing the public works eligible to be realized with private financing and the timing for the decisions of the public administration (for example the due dates of October 31th and December 31th were repealed and the limit of four months for the public administration to choose if accept or refuse the project of the promoter was introduced). Specifications about the reimbursement of the best proposer by the promoter in case of award of the contract to the promoter were also introduced.

To analyze better understand this law, it is necessary to consider the context in which it was written. In 2001, the Italian government launched a new infrastructures plan for the modernization of the country with the "Objective Law" n. 443/2001. On December 2001, the "Comitato Interministeriale di Programmazione Economica" (CIPE) with the deliberation n. 121 tried to implement this plan and gave to the UTFP the task of promoting the diffusion of the procurements characterized by the use of private financing throughout the public administrations. Therefore, the introduction of the pre-emption right can be seen as a means to facilitate this huge infrastructures plan. Moreover, it was also aimed at making more flexible the project finance in Italy in order to facilitate its diffusion to the middle and small projects.[38] However, the pre-emption right is against the principle of fair competition and equity of treatment of the Treatment of the European Community. For this reason, the European Commission activated the Misdemeanour Procedure n. 128/2001 against Italy, stating that the pre-emption right is against the European community principles and requiring that Italy at least clearly state in the tender invitation the advantages given to the promoter and the selection criteria of the proposals. This passage is very relevant since it shows how the European Commission itself recognized the problems of the Italian regulation about project financing and directly intervened against Italy for the violation of the Community Principles.

[37] *Italian Parliament*, Law august 1th 2002, n. 166 - "Disposizioni in materia di infrastrutture e trasporti", *Gazzetta Ufficiale* n. 181 del 3 agosto 2002 - Suppl. Ord n.158, *parlamento.it.*
[38] Gentile, Massimo. *Project Financing - La Nuova Disciplina - Guida Operativa*. Second ed. Rome: DEI Srl, 2009.

2.2.2.3 Community Law n. 62/2005: the legislative means for future modifications

This law was written in response to the laws 2004/17/CE and 2004/18/CE about the award of public works in the European Community. In particular, the 62/2005 imposed to the public administration to indicate the selection criteria and the existence of the pre-emption right in the indicative notice containing the works eligible to the application of private financing. Moreover, this law delegated the Italian Government to make new legislative decrees in order to acknowledge the two European directives.

2.2.2.4 Legislative Decree n. 163/2006: the new code about public works

The Community law was acknowledged with the D.Lgs n. 163/2006, called Contracts Code, which rewrote the Italian regulation about the public works. This law modified and substituted the Merloni law but as for the project finance it did not change anything. The only difference was that it would allow for a future application of the project finance also to services contracts after the publication of its implementation regulation. However, since the implementation regulation has been written only on November 29th 2010, the Contract Code did not affect the project finance at the time of its publication.

Therefore, after this law, all the problems about the project finance remained, included the complexity of the procurement process which was still characterized by the declaration of public interest of the proposal by the public administration, the tender for the choice of the two best proposals and the negotiated procedure with the promoter, with the right of pre-emption. Due to the lack of improvements, the European Commission continued to criticize the Italian regulation about the project finance, underlying the unjustified exclusion of all the bids excluded the two best ones even if the excluded bids were better than the one of the promoter, if they were more than two and the possibility for the promoter to adapt its proposal to the best one.

2.2.2.5 Legislative Decree 113/2007: abolition of the pre-emption right

To solve the problems just highlighted by the European Commission, the next law, which is also called “second Corrective Decree of the Contract Code”, contained three articles aimed at modifying the dispositions of the Contract Code. In particular, it suppressed the pre-emption

right and modified in some parts the indicative notice and the notice of presentation of the proposals.

The objective of this law, which modified also other parts of the contract code, such as the concessions in general, providing for a reimburse to the contractor at the end of the concession period (in order to make more attractive for the private firms the public works characterized by insufficient revenues) was therefore to guarantee a fair competition among proposers (as required by the European Community), increase the transparency of the procedures, fast track the award of contracts and prevent the infiltration of the organized crime in the tenders.

This law could seem to solve the problem of the unfair treatment in the award of public works by means of project finance and therefore to satisfy both the requirements of the European Community and the necessity of an actual competition among the private firms. In fact, both the "Consiglio di Stato" (that is the main legal, administrative and judiciary body in Italy) and the commission of the Chamber of Deputies expressed acceptation for this Legislative Decree.

However, the law was not favorably accepted neither by the European Community nor by the Italian firms for opposite reasons.

The European Commission argued that the promoter still maintained a consistent advantage with respect to the other bidders since it could compete with the best two proposers only, instead of with all the firms participating to the tender. This critic testifies a huge different in philosophy between European Commission and Italy. In fact, the European Commission considered illegitimate the concept of giving a certain advantage to that stakeholder (the proposer) that made the effort of realizing the project[39]. This idea was at the base of the Italian project financing but could not be accepted by the European principles stated in the Treaty. Moreover, the European Commission criticized also the fact that the advertisement of the indicative notice of the (small and middle size) works that could be realized with project finance at Community level was optional according to the Italian law, whereas it should be mandatory in order to guarantee a European (and not only national) competition. For these reasons, the European Commission activated the Misdemeanour Procedure n. 2007/2309

[39] Gentile, Massimo. *Project Financing - La Nuova Disciplina - Guida Operativa*. Second ed. Rome: DEI Srl, 2009.

against Italy, by means of which it contested these dispositions that were considered incompatible with the Community directives and highlighted the existence of some incomplete laws with respect to the corresponding Community regulations and some dispositions of the directives that were not acknowledged by the Code.

On the other hand, the Italian firms and in particular the ANCE (that is the national association of building firms) expressed their opposition to the abolition of the pre-emption right, underlying that this suppression made much less attractive the project finance market.

2.2.2.6 Legislative Decree n. 158/2008: a significant change in the project financing

To respond to the critics of the European Commission, the Italian Government published on September 11th 2008, the third corrective decree to the Contracts Code, which gave for the first time a definition of public-private partnership and deeply changed the project finance. This decree, still in force, takes into account the critics of the Misdemeanour Procedure by the European Commission as well as those of the Court of Auditors and the "Consiglio di Stato". The main differences regard the selection of the promoter, with the modification of the articles from 152 to 160 of the law n. 163/2006. In particular, the article 152 has been completely rewritten, the 154 and 155 repealed and the 159 and 160 modified.

However, the first difference is the introduction of the definition of public-private partnership. The PPP contracts are defined by the new law as contracts regarding one or more aspects such as design, construction, management or maintaining of a public project, including in every case the total or partial private financing.[40]In particular the concession of works, the concession of services, the financing lease, the award of works by means of project finance and the mixed societies. The new law provides for three different procedure of project finance, in addition to the traditional award of concession contracts:

- unique tender for the identification of the promoter and the award of the concession contract (art. 153, paragraphs 1-14). In this case, the public administration publishes a tender (based on a feasibility study) for the identification of a promoter, with the criterion of the most economically advantageous proposal. The proposers have to present a

[40] *Italian Government*, Law September 11th 2008 n.152 – "Ulteriori modifiche ed integrazioni al decreto legislativo 12 aprile 2006, n. 163, recante il codice dei contratti pubblici relativi a lavori, servizi e forniture, a norma dell'articolo 25, comma 3, della legge 18 aprile 2005, n. 62", Gazzetta Ufficiale N. 231 del 2 Ottobre 2008 - Suppl. Ordinario n. 227/L, *parlamento.it.*

preliminary design, an economic-financial plan (declared on oath by a bank) and specifications about the characteristics of the service and management[41]. The public administration selects the promoter based on the most advantageous economic proposal. Afterwards, it has three different possibilities:

- if the project does not need modifications, the contract is awarded to the promoter;
- if the public administration requires modifications to the project and the promoter accepts these modifications, the contract is awarded to the promoter;
- if the public administration requires modifications to the project and the promoter does not accept these modifications, the public administration can ask the following proposers in the ranking to accept the modifications at the same conditions with respect to those of the proposer, and the concession is awarded to the first proposer that accepts them. If the contract is not awarded to the promoter, the promoter has the right to be paid by the contractor with an amount of money equal to the expenses it bore for the preparation of the proposal.

- double tender with pre-emption right for the promoter (art. 153, paragraph 15). In this case, the public administration, based on the feasibility study, publishes a tender, specifying that the procedure does not involve the award of the concession to the promoter, but the pre-emption right with respect to the best propose. The preliminary project presented by the promoter is subjected to approval by the public administration and modifications have to be made, if required (as in the case of unique tender)[42]. Then, the administration invites a new tender with the criterion of the most advantageous economic proposal, based on the preliminary project and on the economic and contractual conditions offered by the promoter. Also in this case there are three different possibilities for the award of the contract:
  - the contract is awarded to the promoter if the administration does not receive more economically advantageous proposals;
  - in case of better proposals with respect to the one of the promoter, the promoter has the faculty to adequate its proposal, becoming the contractor of the project. In this

[41] Unita' Tecnica Finanza Di Progetto (UTFP). *Relazione Sull'Attivita' Svolta Nel 2008*. Rep. May 2009.
[42] Unita' Tecnica Finanza Di Progetto (UTFP). *Relazione Sull'Attivita' Svolta Nel 2008*. Rep. May 2009.

case, the promoter has to reimburse the expenses borne by the best proposer for the participation to the tender;

- if there are better proposals with respect to the one of the promoter and the promoter does not adapt its proposal, the contract is awarded to the best proposer.

- *ad hoc* procedure in case the Public Administration does not publish the tenders by six months after the approval of the annual list of public works eligible for private financing (art. 153, paragraphs 16-18). In this case, the private firms having the necessary qualifications, can present proposals with the same content as in the case of the two previous procedures (preliminary project, economic plan, specification of the characteristics of the service and management). If the public administration finds one or more proposals of public interest, it has three different possibilities to award the contract:
  - if the preliminary project needs to be modified, the administration invites a competitive dialogue, based on the received proposal, to find technical and economic solutions which satisfy the administration;
  - if the preliminary project does not need to be modified, the administration can invite a concession to which the promoter can participate or a selective procedure. In both the cases, the promoter can take advantage of the pre-emption right for the award of the contract.
  - there is also a modified procedure for the intervention of private firms for public works not included in the program of the public administration with respect to the previous version of the Contracts Code. In this case the public administration are obliged to evaluate the received proposals.

These innovations are aimed at forcing the administrations to anticipate many choices that were previously delayed to a later time (usually to the phase of evaluation of the proposals) and to let know in a early stage of the process its requirements and needs. In particular, whereas with the previous regulations there was a phase of evaluation of the proposals at complete discretion of the public administration and only later a proper tender, this law provides for an immediate tender procedure, based on a feasibility analysis. In this way, both the public administration (that has to set the feasibility study as a base for the tender) and the

private firms (that have to meet the indications and evaluation criteria provided by the administration in the tender documents) have a greater responsibility.

In particular, the unique tender procedure allows to simplify and reduce the time for the award of the contracts, as wanted by the legislator, guaranteeing at the same time a fair competition, as required by the European Commission, since all the participants compete fairly on the base of the quality and costs of the project.

However, the double tender prevents from a correct competition, and therefore the achievement of the best project for the administration, due to the reintroduction of the pre-emption right in the second tender. First of all, the possibility for the promoter to make use of the pre-emption right discourages the possible proposers from participating to the tender. A proof is the fact that, of all the contracts awarded with the mechanism of the promoter Lombardia (the most populated and productive region in Italy) in 2007, the 75% of the invited tenders were characterized by the absence of proposers competing with the promoter. Although these data are referred to contracts awarded on the base of the 2006 law (and therefore were not subjected to the double tender procedure), the considered tenders were characterized by the presence of the pre-emption right for the promoter. Thus, they can be considered indicative of the disincentive to compete, caused by the pre-emption right.

Moreover, even when a firm decides to participate to the tender, there can be opportunistic behaviors either by the promoter or by the proposers. This is due to the fact that the firm to which the contract is awarded, must reimburse the cost of participation to the tender, to the best proposer (or to the promoter) up to the 2.5% of the total value of the investment. Therefore, the proposers can be induced to present slightly improved proposals with respect to the one of the promoter in order to obtain huge reimburses by the promoter, inflating the born expenses.[43]At the same time, since the promoter is free to fix the premium it has the right to receive if it does not make use of the pre-emption right, it can state the maximum value of the costs borne to participate to the tender (that is the 2.5% of the investment value), in order to discourage the participation of other firms to the second phase of the tender. This is due to the fact that, if another firm awards the contract, it has to pay this high premium to the

[43] RICCHI M., Negoauction, discrezionalità e dialogo competitivo (Una teoria per l'affidamento dei contratti complessi di PPP), 2008.

promoter. These possible unfair behaviors (allowed by the law) can prevent from a correct competition.

Furthermore, this procedure introduces inefficiencies in the selection process and therefore due to the so called winner's curse, which discourages the firms from submitting aggressive proposals. This is due to the informative advantage of the promoter with respect to the proposers. Indeed, since the tender regards its project, the promoter can easily understand if the best proposal of the tender is feasible or not. If it is, it can makes use of the pre-emption right, and awards the contract. Otherwise, it does not adapt its proposal to the best one, since it knows that the estimate is wrong and therefore the project would result in losses for the firm undertaking the project. This advantage for the promoter increases with the increase of the common value in the contract. In fact, the more are the common costs among the proposers (such as oil, materials and workers costs), the less is the possibility for the other firms to make lower (but feasible) bids with respect to the promoter, since the leeway to introduce innovations which lead to a lower cost is constrained by the high share of common costs.

As the double tender is characterized by a high common value, due to the fact that the base of the tender is the price proposed for a unique project, namely the one of the proposer, the problem of winner's curse is very relevant. Thus, the firms that would like to participate to the tender know that they will award the contract only if their proposal is too optimistic. This results either in a more prudent behavior of the proposers in the tender phase, or even in the decision of not participating to the tender. Therefore, the winner's curse caused by the pre-emption right results in a lack of competition in the second phase of the tender.

Moreover, since this procedure is not known at European level, it discourages the participation of foreign firms to the tender. This problem was stated by an English journal specialized in project finance, which wrote in January 2009:"*Foreigners have long said that Italy is a mistery to us*".

As for the third procedure, which allows the private firms initiating a new tender that was not started due to the inactivity of the public administration, it is very complex and therefore prone to swindles despite the intent is to push the project finance in case of public administration's inactivity. However, applications of this third procedure are required before firm conclusions could be drawn.

3 Project Financing in Italy: actual examples to highlight criticalities

In this part of the thesis I am going to show actual projects awarded by means of project financing, that can be considered illustrative cases of the criticalities characterizing public works which make use of this delivery and financing strategy.

In particular, in order to clearly and easily present these problems, a schematic framework will be built up, listing the general responsibilities and issues that cause the failure of many middle-size public works, delivered by means of project financing. Afterwards, an illustrative case of this kind of projects will be described, following the proposed framework, in order to prove and reinforce the identified criticalities.

The same approach will be used for large scale infrastructure projects, which are characterized by some of the problems affecting also the middle-size projects, but also by different issues. Therefore, a specific framework will be created for this category and three illustrative examples will be treated.

In this way, concepts already expressed in the first part of the thesis will be reinforced and pointed out by means of actual examples.

3.1 Small and middle scale projects

Small and middle size public works usually do not concern infrastructures (which are very expensive to build and maintain) but usually schools, theaters, stadiums, cemeteries or public buildings in general. In general, the value of these contracts range between one million dollars (or euro) and few dozens of millions of euro. In Italy many projects of this size have been delivered in the past few years, as already explained, mainly due to the shortfalls of the public administrations.

However, as previously written in the thesis, almost nine projects over ten do not reach completion. Therefore, the main problem of the project financing for these kinds of projects is that they are not completed. Since the aim of this research is to understand the reasons and the responsibilities behind these failures, I have tried to build up a schematic framework to analyze the topic.

In particular, I have subdivided the framework in three parts, one for each stakeholder of the procurement process, namely public administration, private party and the law. Although the law is not an active player in the process, the previous paragraph of the thesis should have proved that the regulations about public works, Public-Private Partnership and in particular project financing, have a strong influence on the results of the tenders. Since this influence is often negative, due, for instance, to the lack of transparency and to the continuous changes in the regulations, the law has been considered as an important factor to explain the incapacity of realizing projects by means of project financing.

3.1.1 Schematic framework

1. Public administration
    a) Incapacity to raise adequate funds
    b) Use of the project financing for projects that are not suitable for it
    c) Incapacity or unwillingness to attract firms to the bid phase
    d) Lack of advertisement/publicity to the project
    e) Difficulty to properly evaluate and understand all the parts, elements and criticalities of the contract
    f) Incapacity to obtain all the authorizations and respect all the regulations and laws
    g) Incapacity to properly allocate the risks (in particular the financial one) between the administration and the contractor
2. Private party
    h) Impossibility or unwillingness to bear a consistent part of the financial risk
    i) Incapacity or unwillingness to fulfill the goals of the public administration
3. Law
    j) Regulations about project financing are recent and have already been modified several times
    k) Pre-emption right

Before going through the case study, a brief explanation of the proposed framework is worthwhile.

As for the public administration, the incapacity to provide adequate funds to finance a project is a significant problem since the project financing in Italy often requires a significant

involvement of the public entity to the funding of the public work. In fact, low and middle size projects generally do not provide a sufficient return on the investment for the private party. For this reason, it may happen that a public administration is not able to provide the part of financing the private entity requires to accept the job.

Strictly related to this first point there is the incapacity of the facility that should be built to create enough return to be attractive for the private firms. In this case, the project financing is not the best delivery strategy. Therefore, public administrations should avoid its use in these cases since the amount of financing required by the firms to sign the contract is generally too high.

The third and fourth points concern the lack of competition in the bid phase. It is a fact that many times there are no firms competing with the promoter to award the contract. Obviously, this may result in the award of contracts that are not economically advantageous for the public administration or in the approval of poor quality works. One of the factors concurring to the lack of participants to the bid phase is the lack of adequate advertisement of the inclusion of a project among those eligible for the award of a project financing contract. The Italian law prescribes a series of actions to undertake in order for a public project to have adequate visibility at national and international level. However, it happens that public administrations do not fulfill the regulations. Foreign firms are the most penalized ones, having limited possibilities to gain knowledge of the invitation of a tender. Protectionism may be the reason behind this behavior. It is evident that such a behavior represents a huge obstacle to the achievement of the best contract for the public administration, resulting in the failure of the project when this unfair behavior because excessively evident.

The incapacity to properly evaluate all the aspects of the deal, ending up with contracts that allocate excessive risks to the public administration, is often due to the lack of experience and knowledge of the mechanisms of the project financing for the people working in the administration. Therefore, this point is closely related to the last one, that is the incapacity to allocate the risks, fulfill the regulations and obtain all the authorizations, prescribed by the Law.

On the other side, also the private party behavior is often a cause of the failure of the project financing applied to the middle size project in Italy. Many times firms are unable or unwilling

to fund the majority of the project, as the project financing would require in its ideal conception. In case of small and middle size projects, this is mainly due to the fact that private firms are too small to have the necessary financing capacity. In addition, sometimes they are not able to create structures or infrastructures that are expected to produce enough revenues or to correctly estimate the potential gains that the management of a facility can provide them.

Another important obstacle to the successful completion of a project is that often private firms goals often do not coincide with public administrations objectives. Therefore, it happens that a project that could be of public utility is conceived by the firm in such a way to become disadvantageous for the community, such as a parking for which high fares want to be applied by the private company. If this conflict of interests is not solved, the project may become impossible to realize provided that the public administration does not decide to sign a disadvantageous contract for the citizens.

The criticalities of the Italian law have already deeply described in the previous chapter. For sake of the proposed framework, two main problems have been identified, namely the high number of changes in the regulations about project financing, and the pre-emption right. As for the first problem, the continuous changes of regulations about how to handle these kinds of tenders and award the contracts have create confusion in these processes. The second issue, namely the pre-emption right, was first introduced, then removed, and, finally, re-introduced. Many private financing projects have been awarded when the pre-emption right was in force, with consequent big problems in terms of fair competition. Many firms avoid to participate to tenders where a company can adapt its proposal to the best one, thus resulting in bid phases with no competitors. This is another important reason of the large number of failures in the past years.

3.1.2 Mantova stadium example

This case study is the Public-Private Partnership agreement with project financing that the administration of Mantova (a 50,000 inhabitants city in the north of Italy) signed with a group of private firms for the construction of a new soccer stadium in the suburbs of the city in 2005, and then revoked in 2009, paying € 274,000 as compensation for the cancellation of the contract.

The majority of the issues presented in the framework can be found in this example. Therefore, the new Mantova soccer stadium represents an illustrative case study of critical middle size PPP contract awarded with project financing.

Firstly,the project will be briefly described. Afterwards, the main facts and passages that brought firstly to the signature of the contract, and at then to its cancellation, will be reported. Finally, the schematic framework will be used to explain all the factors contributing to the failure of the project.

3.1.2.1 The project

The current Mantova soccer stadium is located in the south of the urban area of Mantova, just few hundred meters away from Palazzo Te, one of the most important historical building of the city. This stadium had a capacity of 12,000 seats in the early 2000's that was increased to 15,000 seats in 2005, when the local soccer team moved up to the second division of the Italian national league. In the past year (2010), the team failed due to economic reasons and now it plays in fourth division. For this reason the capacity of the stadium has been brought to 7,500 seats.

The project, that was proposed in 2005, should consist in the realization of a new stadium in the suburbs of the city (see Annex 1). In particular, the new complex, comprehensive of the stadium itself (characterized by a capacity of 15,000 seats that could be extended to 20,000 seats), two training pitches, locker rooms, a medical room, a restaurant and the infrastructures necessary for the access to the stadium, should be built in "Spolverina" location, at the border between the City of Mantova and the City of Curtatone, on a 181,000 m^2 area. The area of the old stadium (45,000 m^2) should be sold to the private consortium as main payment for the project (M 15 € over a total estimated cost of M 21.22 €), with the possibility to demolish the stadium and construct commercial buildings. The rest of the financing should come in part directly from the city (M 4.7 €) and in part from the private consortium (M 1.52 €).

3.1.2.2 The delivery procedure according to the law in force

This project was awarded by means of project financing according to the law n.109/1994 *Legge quadro in materia di lavori pubblici*, updated to its fourth version (law n. 166/2002).

According to the law in force, the promoter could present a proposal concerning the realization of a public work included in the triennial program of the public administration, by means of contracts of concession, providing part of the financing.

The proposal should include an environmental study, a preliminary design, a financial plan declared on oath by a bank, specific characteristics of the service, and guarantees given by the promoter to the public administration. In case the administration declares the proposal to be of public interest, it invites a tender, based on the preliminary design of the promoter, with the criterion of the most economically advantageous bid and it awards the concession by means of negotiate procedure between the promoter and the two better proposers. If one or more competitors present a better bid with respect to the one of the promoter, it can exercise the pre-emption right. This means that it can adapt its proposal to the best one to award the contract. After the negotiated procedure, the contract of concession, comprehensive of design, construction and management for an agreed period, is awarded to the private firms, that have the possibility to create a new society for the sake of the realization of the project.

3.1.2.3 Significant events of the process

In order to understand the criticalities of the project it is necessary to present all the significant events of the delivery process:

- 2003: the intervention for the realization of a new stadium in the city of Mantova is included in the official records of program.
- July 1st 2004: the notice of pre-information for the design, realization, construction and management of the new stadium is published.
- November 3rd 2004: the A.T.I. society between the Maire Engineering S.p.a. and the CoopSette s.c.a.r.l. companies[44] presents its proposal attaching the preliminary project and the economic plan declared on oath by the MPS bank. This was the only proposal the city received for the project.
- January 17th 2005: the city requires some modifications to the preliminary project.[45]
- February 8th 2005: the society presents a new project, according to the required modifications, for the design, construction and management under concession of the new

[44] City of Mantova-Secretary General, *Record of decision of the municipality n. 139*, Jul. 9th 2009.
[45] Authority for the Vigilance on Public Works, *Inspection 24049/07/14*, Roma, Apr.26th 2007.

Stadium of Mantova, with an estimated total construction cost equal to M 21.22 €.[46] The proposed duration of the lease is 20 years and the administration has to pay M 4.7 € to the private society and sell out the current stadium and the surrounding area (45,000 m^2), guaranteeing its building capacity. The value of the area according to the private society is M 15 €. The rest of the funds (M 1.52 €) have to be provided by the private society.

- February 17th 2005: the bid of the promoter in Maire Engineering Spa and the CoopSette s.c.a.r.l. is declared of public interest.
- April 5th 2005: beginning of the tender procedure for the selection of the private partner in charge of the design, construction and management of the New Stadium, with the criterion of the most economically advantageous proposal, based on the preliminary project of the promoter.
- June 17th 2005: the A.T.I Costruzione Generali Giraldi S.p.A.-Semana S.r.l. requires to be invited to the tender.
- June 20th 2005: the Costruzioni Cimolai Armando S.p.A. of Pordenone requires to be invited to the tender.
- December 23rd 2005: the city of Mantova invites the two bidders to the further stages of the restricted procedure.
- March 3rd 2006: since the two companies have not presented any bid, the provisional award of the contract is given to the promoter.[47]
- May 22nd 2006: the office LL.PP. requires to review the preliminary project approved on February 17th 2005 in order to adapt it to the new regulations of the professional national League for the 2005/2006 season. The reason is that one of the requirements of the League is about the maximum capacity of the stadiums for playing in the first division. According to the new rules approved in 2005, the minimum capacity has to be 20,000 seats. In the mails exchanged between the Agency and the promoter, the problem of a monumental constrain (former law n. 1089/1939) in force on the area of the current stadium arises. This constraint could affect the possibility to build new activities above the area that will be sold to the promoter. Therefore the estimated value of M 15 € of the area could be significantly modified.
- July 6th 2006: the definitive contract is awarded to the promoter.

[46] City of Mantova-Secretary General, *Record of decision of the municipality n. 139*, Jul. 9th 2009.
[47] City of Mantova-Secretary General, *Record of decision of the municipality n. 139*, Jul. 9th 2009.

- April 26th 2007: the Authority for the Vigilance on Public Works publishes a document about an inspection it undertook on January 16th 2007 about the project of the New Stadium. In this document it underlines several criticalities about the project, the contract and the way the process for the award of the concession has been developed. The two main issues underlined by the Authority are the excessive imbalance of financial burdens towards the city, that would bear the 93% of the total design and construction cost and the 64% of the total cost (including also management and operational costs). Moreover, the cost to be borne by the public administration to purchase the area where the new stadium should be built is not included in the contract but has to be paid by the administration. For this reason, the Authority states the city of Mantova has made a distorted use of the project financing that goes against the principles of transparency and profit making. Indeed, the project financing is a means to allocate a significant part of the initial investment to the private firms in order to shift a conspicuous share of the financing risk to the private entity. The way the contract has been arranged seems excessively disadvantageous for the City.

  The second issue is superficiality about the estimate of the old stadium's area. Indeed, the City does not make use of a third party survey to verify that the estimate of the promoter was correct. Due to this negligence, the problem of the monumental constrain was not discovered before the signature of the contract.
- Therefore, the Vigilance underlines the necessity to carefully review the conditions of the agreement, suggesting either to set a new agreement characterized by a proper allocation of the risks between administration and promoter or to revoke the previous contract.
- May 7th 2008: the City communicates to the promoter that the agreement cannot be completed due to the monumental constraint and to the new regulations about the capacity of the stadium. Moreover, in the same communication, the City informs the promoter that the adaptation in the economic-financial plan can be done only changing the duration of the lease, according to the indications of the Authority for the Vigilance on Public Works.
- In the following months: administration and promoter do not find an agreement to establish new conditions for the signature of a new contract.

- July 9th 2009: the Municipality revokes the deliberation n.621 February 17th 2005 about the declaration of public interest of the project for the construction of the New Stadium.[48]
- July 2010: the A.T.I. society sues the City of Mantova for the cancellation of the contract by the public administration at the Administrative Court of Brescia, requesting 826,000 € as compensation and M 7.946 € for pre-contractual responsibility (according to the firms, the City was acquainted of the monumental constrain on the old stadium area). The request is dismissed and the City of Mantova must pay only the amount of money established by the law, that is 2.5% of the halve of the initial investment (because also the promoter has part of the responsibility, according to the court). The City has already paid this money (274,000 €).[49]
- January 2011: the private firms sue the City at the Council of State.

3.1.2.4 Explanation of the causes of the failure by means of the framework

In the following lines, the previously presented framework is reported for the case study of the New Stadium of Mantova. All the criticalities that have been identified during the analysis of the case study has been checked with the √ symbol.

1. Public administration
   a) Incapacity to raise adequate funds √
   b) Use of the project financing for projects that are not suitable for it √
   c) Incapacity or unwillingness to attract firms to the bid phase √
   d) Lack of advertisement/publicity to the project √
   e) Difficulty to properly evaluate and understand all the parts, elements and criticalities of the contract √
   f) Incapacity to obtain all the authorizations and respect all the regulations and laws √
   g) Incapacity to properly allocate the risks (in particular the financial one) between the administration and the contractor √

2. Private party
   h) Impossibility or unwillingness to bear a consistent part of the financial risk √
   i) Incapacity or unwillingness to fulfill the goals of the public administration

[48] City of Mantova-Secretary General, *Record of decision of the municipality n. 139*, Jul. 9th 2009.
[49] Mortari Sandro, *Stadio, e' ancora braccio di ferro*, Gazzetta di Mantova, Mantova, Feb. 2nd 2011

3. Law

j) Regulations about project financing are recent and have already been modified several times √

k) Pre-emption right √

Now, all the identified issues will be explained and justified, divided in the three categories that have already been presented: public administration, private party, law.

Hereafter, the public administration's responsibilities for the considered case are explained:

- **Incapacity to raise adequate funds:** one of the main problems that brought to the failure in the award of the project is represented by the use of the area where the current stadium is placed as a means to pay the contractor for the realization of the "New Stadium". This choice (which caused many problems to the public administration due to the monumental constraint) was due to the incapacity of the city of raising funds for the financing of the project in a different way. For this reason, the city was obliged to sell an important area in the city center for financing the project.

- **Use of the project financing for projects that are not suitable for it:** another problem which contributed to the failure of the project is the fact the New Stadium was not a suitable project for the application of the project financing. Indeed, due to the limited dimension and population of the city, the expected income given by the management of the stadium by the private firms was not sufficient to induce the contractor to bear a large part of the initial cost. This is the main reason why the promoter asked for a very large financing by the public administration. Therefore, the project financing was not suitable for the New Stadium Project since this delivery and financing system is useful for both the public and private party when the facility that is going to be built is expected to provide high and stable revenues. In this case, the contractor is willing to make a high initial investment due to the future expected revenues, and the public administration can have an important facility built without investing upfront a huge amount of money. This situation was not the one of the New Stadium since the expected annual profit (€ 196,000) was very low with respect to the initial investment.

- **Incapacity or unwillingness to attract firms to the bid phase:** only one promoter presented a proposal to the pre-information notice. This proposal has been considered of public interest by the administration on February 17th 2005. On April 5th 2005, the second phase for the award of the contract of design, construction and 20 years management of the "New Stadium" began. Only two firms (in addition to the promoter) requested to be invited and, after the invitation, none of them decided to participate to the tender phase. As a consequence, the contract was awarded to the promoter without any competition with other firms. This means that the administration was not able to set a competitive tender phase.

- **Lack of advertisement/publicity to the project:** the inspection by the Authority for the vigilance of public works' contracts on April 26th 2007 stated that the notice of pre-information about the inclusion of the "New Stadium" project in the plan of the possible public works to be realized by project financing (published on July 1st 2004) did not respect all the requirements of the Italian Law. In particular, the article 37 bis, paragraph 2 bis of the Law n. 109/94, updated to the fourth version (Law n. 166/2002), required that the notice must be transmitted to the Observatory of public works, that advertizes it at national and European level. This lack of advertisement was another obstacle to the fair competition that is a fundamental requirement of a public work tender.

- **Incapacity to properly evaluate and understand all the parts, elements and criticalities of the contract:** during the negotiated procedure for the award of the contract, an important aspect was not considered neither by the public nor by the private party, that is the monumental constraint (former Law 1089/1939) regarding the area where the current stadium is built. Due to the monumental constraint, the demolition and construction of new buildings on the old stadium area couls be done only after the approval of the Territorial Board. The public administration did not consider this problem that is fundamental for the economy of the project. Indeed, the majority of the financing of the project relied on the value of the area sold by the administration to the contractor. If this value resulted to be smaller, another way to finance the project should be fund. Moreover, the administration did not require a technical-economic survey by a third party for the evaluation of the value of the area that they were supposed to give to the

contractor. The city accepted the estimate done by the promoter. In addition, the promoter did not support nor justify this estimate with any documentation. Therefore, the public administration showed enormous superficiality about this point. Another important aspect neglected by the public administration was the cost for the purchase of the area where the "New Stadium" should be built. In fact, the city did not have the property and did not consider this cost, nor prepared any estimate about it, during the award of the contract. This negligence testifies the superficiality of the City about the analysis of the contract.

- **Incapacity to obtain all the authorizations and respect all the regulations and laws:** the administration did not consider the monumental constrain and did not ask for approval of the Territorial Board in order to understand the actual building capacity of the area. Therefore, the City awarded the contract without a necessary authorization. This resulted to be one of the principal issues of the process.

- **Incapacity to properly allocate the risks (in particular the financial one) between the administration and the contractor:** the Authority for the vigilance of Public Works underlined the excessive imbalance of financial burdens towards the city. In fact, the total construction cost of the "New Stadium" was expected to be € 21.22 M, where only € 1.52 M had to be borne by the contractor, plus €54,000 per year for the lease, amounting to € 1.08 M for the whole period of concession. Also considering the management costs, the contractor was expected to bear € 7.8 M in the whole period (€ 1.52 M for the construction and € 6.28 M for the management). This amount represents only the 36% of the total investment. On the other hand, the City had to pay € 19.2 M plus the cost for the acquisition of the property of the area. It is evident that such an allocation of the financial risk between administration and contractor is disadvantageous for the city and does not represent a smart way to make use of the project financing. Indeed, this kind of financial strategy should be used to shift a significant part of the economic burdens to the private party.

The private party's responsibilities are:

- **Impossibility or unwillingness to bear a consistent part of the financial risk:** the contractor proposed an agreement where the majority of the financial risk had to be borne by the public administration. Therefore, the proposed contract was characterized by a distorted use of the project financing by the promoter. In fact, it tried to take advantage of the economic benefits provided by the management of the stadium for the lease period and of the possibility of constructing on the former stadium area, without bearing an adequate part of the investment. Moreover, after the inspection of the Authority for the vigilance of public works, which underlined this imbalance between public and private entity, the contractor did not try to arrange a new contract, characterized by a different allocation of the financial risks between the parties.

The law-related issues regarding the considered case are:

- **Regulations about project financing are recent and have already been modified several times:** since the regulations about project financing have been changed several times in the few years following the introduction of this delivery method, it resulted very difficult for the public administration to get familiar with this delivery and financing strategy. This has surely contributed to part of the problems experienced in the arrangement of the contract.

- **Pre-emption right:** the pre-emption right, introduced by the law n.166/2002, surely contributed to the absence of contractors willing to participate to the tender for the award of the contract. In fact, as already underlined in the previous chapter, the pre-emption right represents a significant obstacle to a fair competition in the selection process, and therefore discouraged the firms that were interested in the project.

3.1.2.5 Considerations and conclusions

The New Stadium of Mantova is a very useful example to understand the criticalities of the public works awarded as leases under the financial mechanism of the project financing. It is also interesting because it testifies the serious consequences that both the public administration and the private entity may undergo in case the project is not realized.

As it can be seen by looking at all the factors that concurred to the failure of the project, both private and public entities were liable for the for it. The city had to compensate the private firms with € 274,000 for a project that will not be realized. Moreover, the public administration has already been sued one time and will be brought to court a second time by the contractor, which asks for almost € 9 million as compensation for the responsibilities of the City to the failure of the project. Therefore, the money already paid as compensation, the time to be spent for the two trials and the possibility to be sentenced and pay almost € 9 million, are all negative consequences for the City of Mantova, that were caused by the incapacity to carefully arrange the delivery process and the conditions of the contract. In fact, the public administration awarded a concession contract that was clearly disadvantageous for its own interests, due to the enormous imbalance of the financial burdens towards the city. The necessary verification of the value of the old stadium area to sell to the private society was not performed and the monumental constrain was therefore neglected. These serious problems testify the inability and lack of experience of the public administration, that was not even able to attract more bidders to the tender process, in order to guarantee fair competition in the selection process.

On the other hand, the private firms obtained only part of the compensation they requested and lose a lot of time for a project that will not be built up. They tried to take advantage from the wrong management of the bid phase of the public administration but they exaggerated in their bid before stopped by the Authority for the Vigilance on Public Works. A more prudent behavior as well as the recognition of the monumental constraint could have brought to a different conclusion of the process.

In conclusion, almost all the issues explained in general for the middle size projects awarded by means of project financing are evident in this case study.

3.2 Large scale projects

In this section, three highway projects, that are currently at different stages of advancement, will be analyzed, in order to understand which are the main criticalities concerning this kind of works. As will be shown by the case studies, usually the core problem is not the failure of the projects, that tend to be completed, due to their importance at regional or national level and to high future revenues that are usually expected for new highways. In fact, the main

criticality is represented by the long "iter" to be followed to award the project, and, in particular, to the authorizations to be received by the different Cities that will be crossed by the new infrastructure. This leads to very long procurement phases, which cause delays to the beginning of the construction of these strategic infrastructures.

However, also for large scale projects, it may happen that they are completed even after long procurement cases. This is the case of one of the case studies that will be analyzed hereafter, namely the regional "Autostrada"[50] which was proposed to ling two cities of the Lombardia region, namely Cremona and Mantova. The procurement process is currently at a stagnant phase, and probably the "Autostrada" will be either not built or significantly shortened, despite a very long procurement process characterized by two trials for the award of the concession contract. However, since it is not already known how this project will end up, it will be studied by means of the same schematic framework of the other two cases studies, namely Cispadana and Pedemontana Veneta. In particular, all these large scale infrastructure projects will be studied by considering as main problem, the significant time required from the decision to build the infrastructure by the public administration, and the beginning of the works.

This schematic framework is characterized by four stakeholders instead of three. In particular, along with public administration, private party and law, also the Cities affected by the new infrastructure are included. Indeed, since regional and national infrastructures pass through many territories and therefore affect many Cities, relations and agreements between public administration and Cities, represent a fundamental aspect to be taken into account for the success of these projects. In many cases, oppositions or high compensative requests from Cities or territorial organizations, represent one of the main obstacle to the rapid completion of the procurement process.

3.2.1 Schematic framework

1. Public administration

a) Not transparent or even incorrect choice of the project of public interest (promoter)

[50] "Autostrada" is the common way to used in Italy to call a roadway belonging to the "A" category in the Italian Highway code. Highways belonging to this category are characterized by two independent carriageways, with a median divider preventing from going from a carriageway to the other one. Each carriageway has two or more one way lanes, a right shoulder or emergency lane, a left shoulder, no grade intersections, and service areas along the route. Generally, the limit speed is 130 km/h.

b) Incapacity or unwillingness to attract foreign firms to the bid phase
c) Incapacity to properly evaluate and understand all the parts, elements and criticalities of the contract or the project itself
d) Slowness in the different phases of the procurement phase
e) Difficulty to coordinate the process and the different parties involved in it
f) Lack of support from the national government in case of regional projects

2. Private party

g) Incapacity to fulfill the prescriptions of law and tender documentation
h) Incapacity or unwillingness to include a benefit-cost analysis in the proposal
i) Lack of consideration for interests and needs of the citizens affected by the project
j) Differences between the designed project and infrastructure actually built

3. Law

k) Differences between regional and national laws about public works and project financing regulations, resulting in complexity of the procurement process
l) Lack of requirement of a benefit-cost analysis, supporting the offer of the proposers
m) Long trial duration in case of recourse by one of the parties involved in the project
n) Length and complexity of the procurement process both at national and regional level

4. Interested Cities and territories

o) Necessity to protect interests and properties of their inhabitants
p) Requirements of high compensations to allow the passage of the infrastructure through their territory
q) Contrasting interests among different Cities

Also in this case, before entering into the details of the case studies, the different points of the schematic framework will be explained.

As for the public administration, the first point, that is the incorrect choice of the project of public interest, regards the fact that the public administration has complete freedom of choice of the project of public interest, among those proposed by different private entities. Therefore, the administration can choose a project rather than another without a transparent procedure but just according to its preference. This fact prevents from a fair competition among different proposers and sometimes the choice of the best solution, thus representing an issue for all the parties involved or affected by the project. Indeed, the public administration may choose a

preliminary project which does not represent the best solution from a transportation point of view, companies proposing the project are not sure to be evaluated in objective way, and the project may happen not to be the most rewarding for administration and private party.

The second point, namely the incapacity or unwillingness to attract foreign firms to the bid phase, is proved by the low number of foreign bidders that usually participate to these tenders, that should be opened to the European market. Although this is not a responsibility of the public administration only, it is a fact that the promoter, which has an advantageous position with respect to the other competitors (in particular in presence of the pre-emption right), is always an Italian group of firms. Obviously, the lack of a transparent procedure for the choice of the promoter is connected to this problem, since a foreign group is not sure that it will be treated an Italian group, due to the absence of objective evaluation parameters.

The lack of observance of the provisions and prescriptions included in the tender documentation represent another relevant problem that may lead to the incorrect award of a public works contract. One of the case studies that will be discussed in the next paragraphs, namely the Pedementana Veneta highway, is an illustrative example of this problem. As a consequence of the violation of the tender regulations, the contract was awarded to the promoter, although it exercised the pre-emption after the deadline that was prescribed by the tender document. This led to a recourse and two trials, with consequent delays in the delivery process.

As for the difficulty to properly evaluate and understand all the parts, elements and criticalities of the contract, this may happen both in the phase of the choice of the promoter, as already explained, but also during the choice of the contractor that will award the concession of the project. Usually, the main problems regard the choice of the route and, consequently, the areas and properties to be crossed. Sometimes, getting the right to pass through a certain area is complicated from a legal point of view. In some cases, environmental or monumental constraints are not considered. Obviously, this may lead to significant delays and overruns to the project.

The slowness of the public administrations in different phases of the procurement process is another key problem that leads to delays Indeed, several times the choice of the promoter, the negotiated procedure and the revisions to the project take many months to be accomplished.

Another public administration problem is the incapacity of coordinating the procurement process and the different parties involved in it, since it is very difficult to accommodate and conciliate opposite interests, such as those Cities and private party. The incapacity to do so may result in conflicts between the parties, that cause delays and make the project more expansive.

Moreover, when a project is regional, such as the majority of the new freeways built under project financing, the national government does not provide economic support to the Region. Therefore, since the regional resources are less than the federal ones, raising enough money to finance part of the project may be difficult for the region.

As for the private party, a relevant problem is the difficulty to fulfill the prescriptions of law and tender documentation. This leads to trials that are undertaken by one or more groups of firms, challenging the documentation provided by the company that awarded the contract. Another issue is that sometimes the company does not include a cost-benefit analysis in its bid. This is legal because the Law does not require to do it. However, in order to allow the public administration to choose the best project among those proposed by the different companies participating to the tender, this analysis should be included, along with the assumptions behind it.

Another criticality that is pertaining to project financing, is the lack of consideration for interests and needs of the citizens affected by the project, since the goal of the contractor is the profit rather than delivery of a service for the community. Obviously, in general to make profit, the private party has to build a useful infrastructure in order to persuade people to use it. However, since the social utility is not the main aim of the contractor, it may happen that the design does not account for some needs of the cities affected by it or of the users of the new infrastructure. This may lead to the realization of a project that is not the most useful to the users, and the consequence is represented by oppositions and protests.

The last criticality related to the private party is that sometimes the preliminary project is modified with respect to the one that was agreed with the Cities crossed by the new infrastructure, without advising the Cities themselves. When this is the case, strong oppositions arise and lead to delays and problems for the continuation of the delivery process.

Criticalities concern also the law regulating public contracts in general, and project financing in particular. An issue is that, in some regions, different rules have to be followed with respect to the national ones, and this may make more difficult the understanding of the procedures and regulations to be followed, both for the public and the private party.

The second criticality is the lack of requirement of a benefit-cost analysis to support the bids of the various proposers. This is very critical because if the groups presenting the preliminary project to become the promoter and those competing for the award of the concession contract do not provide this analysis by their own, evaluating which is the best proposal becomes very hard.

Another major problem is that trials in Italy take long time to be completed and this is problematic due to the high frequency of trials following the award of a project financing contract.

Moreover, sometimes the decisions of the court are very controversial and difficult to understand. This may be due to the complexity of the delivery process, and to the lack of experience and fully knowledge of the mechanisms behind complex projects.

The last law-related problem concerns the length and complexity of the procurement process both at national and regional level, which sometimes makes the delivery phase very long.

The interested cities and territories play an important role for the successful and rapid development of the procurement process. This is due to the fact that a new infrastructure has an enormous impact on the lands it crosses. Therefore, Cities affected by these projects try to protect their interests and ask for compensations in order to give the required authorizations to the project. This may be problematic in particular during a recession period. Indeed, many Cities are undergoing shortfalls and therefore are not even able to provide the basic infrastructure services to their citizens. Therefore, they try to take advantage of the construction of a new large infrastructure by asking for significantly high compensations (such as the construction of infrastructures that are important for the City). This leads also to another problem, namely the contrasting interests among different Cities. Indeed, due to the limited amount of money available for the realization of compensation infrastructures or

services, different Cities may fight each other. Usually, they also argue about the route of the new infrastructure since all of them have different priorities and necessities.

3.2.2 Cispadana regional toll "Autostrada"

The Cispadana regional toll "Autostrada" is a project undertaken by the Emilia Romagna region, aimed at creating a rapid road connection between the A22 toll freeway (also called Autostrada del Brennero), going from Modena to Passo del Brennero, and the A13 toll freeway, connecting Bologna to Padova.

3.2.2.1 Project

The freeway will be 67 km long, beginning in the Reggiolo City (where there is the connection with the A22 toll "Autostrada") at west, and finishing on the Ferrara south barrier of the A13 "Bologna-Padova" toll "Autostrada", in connection with the "Ferrara-Porto Garibaldi" freeway (which provides an access to the Adriatico sea). Four tollbooths and two service areas (shown in the map of the freeway) have been planned along the route, in addition to the two junctions with the A22 and A13 toll "Autostrade". The Cispadana, that will pass through 13 Emilia Romagna cities, will be characterized by two separate carriageways, each of them made of two 3.75 m wide lanes and one emergency lane (3 m wide). The two carriageways will be separated by an internal divider (4m in width). Therefore, the total cross section width will be 25 m.[51] The "Autostrada" has been designed in such a way to accommodate a third lane without necessity of demolitions or significant modifications to bridges and viaducts. Annex 2 shows the plan of the Cispadana toll highway.

[51] SIOP Emilia Romagna. "L'autostrada Cispadana: Un Esempio Di Project Financing." *Sioper.it*. 2010.

Figure 10: Current map of the area.

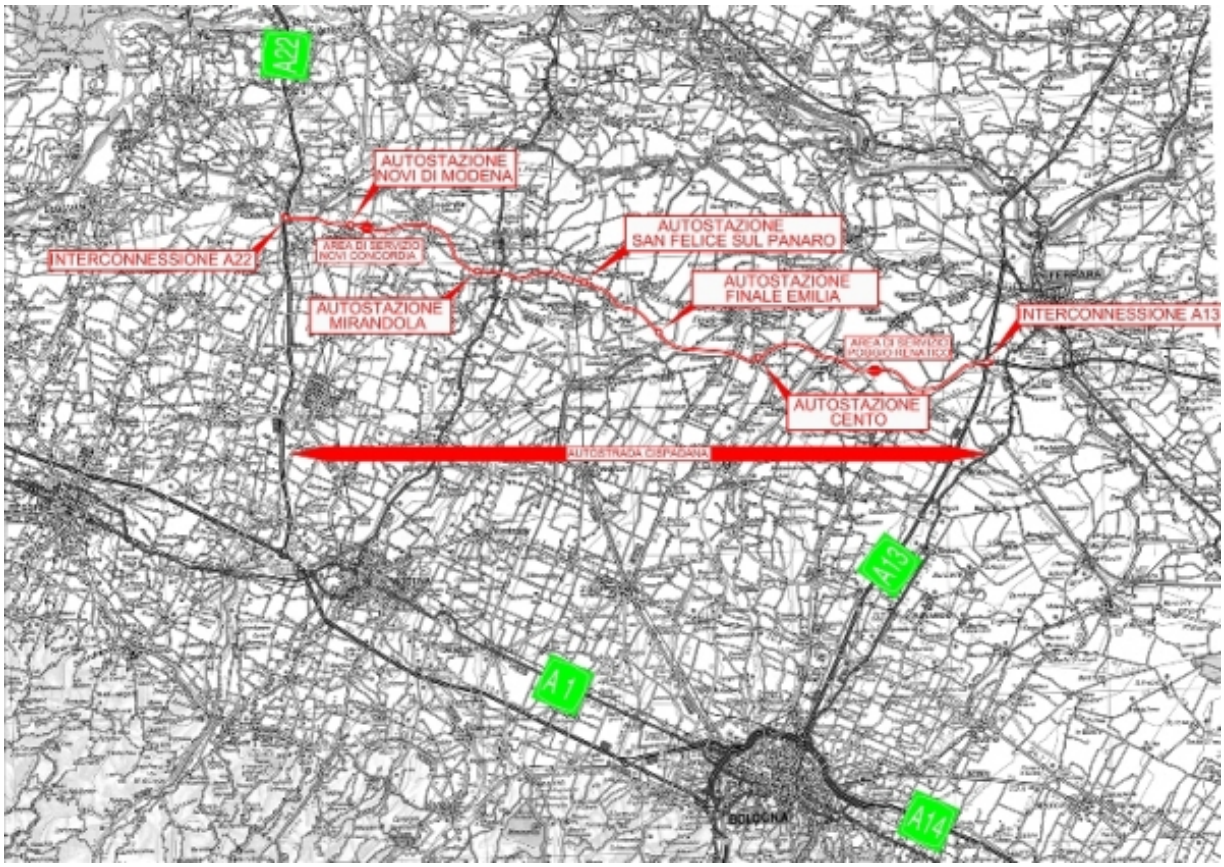


Figure 11: The route of the Cispadana regional "Autostrada" (in red).

3.2.2.2 Delivery procedure according to the law in force

The delivery procedure used for the Cispadana "Autostrada" was the one prescribed by the national law n.163/2006, that was the one in force when the procurement process began. According to this law, a public notice for the research of the promoter has to be published by the public administration. Afterwards, the region has to declare one of the proposals (if any) to be of public interest, identifying the promoter. Then, based on the preliminary project of the promoter, a restricted procedure has to be set, resulting in the selection of the two best proposals in the tender process. The last phase consists in a negotiated procedure between the two best proposers and the promoter, which may make use of the pre-emption right to award the contract. Therefore, the delivery procedure followed the national law, although the freeway was regional.

3.2.2.3 Significant events of the process

The willingness to realize a west-east freeway by the Emilia Romagna region, connecting the A22 to the A13 toll "Autostrade", which are characterized by a south-north development, dated back to the 1986.

- On February 6th 1986, the regional council approves the so called PRT, "Piano Regionale Integrato dei Transporti" (Integrated regional plan of transport), which represents the main tool for the transportation planning at regional level in Italy, where it is stated the importance of the realization of this infrastructure.
- In April 1999 the regional law 3/1999, called "Riforma del sistema regionale e locale" (reform of the regional and local system), gives the possibility to plan infrastructures of regional interest, included in the PRT, as regional highways, on the base of a feasibility study. Therefore, according to this law, the responsibility to realize this infrastructure shifts from the national to the regional administration.
- In the 1998-2010 PRT, the importance of the realization of this infrastructure as a strategic element for the regional road system is confirmed. The feasibility study for the realization of an "Autostrada" between A13 and A22 is approved by the Emilia Romagna legislative assembly.
- The process for the award of the contract for the realization of the infrastructure began in 2006. As already written, the reference Law is the n.163/2006, that is the one in force at national level at the time of the beginning of the process.
- By the deadline for the presentation of the proposals (January 2nd 2007, with a possible extension to June 30th), the Emilia-Romagna region receives six bids.
- On July 27th 2007, the Regional Committee declares the proposal of the A.T.I. Autostrada del Brennero Spa (which has the 51% of the society), Coopset Soc.coop., Pizzarotti & C. Spa, Cordioli & C. Spa, Edilizia Wipptel Spa, Oberosler Cav. Pietro Spa, Impresa Costruzioni Geom Collini & C. Spa, Consorzio stabile Co. Seam Srl, Consorzio Ravennate and Mazzi Impresa Generale di Costruzione, to be of public interest. According to this proposal, the regional financing to the project is € 198 million, representing a significant reduction with respect to the maximum economic commitment established by the region in the public notice.

- After the selection of the promoter, the Region discusses with the Provinces and the Cities that will be crossed by the infrastructure, and the promoter is asked to partially modify the preliminary project. In this phase, the Region has to find a compromise between the requests of the Cities, that required some modifications to the route and integrative infrastructures for allowing the passage of the freeway in their territory, and the equilibrium of the financial plan with the contractor.
- This process takes until March 27th 2008, when the Regional Committee approves the modified preliminary project and the economic-financial plan.
- After the choice of the promoter by the region, one of the company which has presented a bid for the execution of the infrastructure, namely the Societa' Autostrade Estense scrl, appeals to the regional administrative court (TAR) of Bologna, on April 23rd 2008, and to the Consiglio di Stato (that is the main legal, administrative and judiciary body in Italy), on March 23rd 2009. The society, which asks for the revocation of the choice of the promoter, loses in both the cases.
- On April 8th 2008, the notice of the restricted procedure for the identification of the two best proposers to challenge the promoter in the negotiated phase is published. The base of the restricted procedure is the preliminary project of the promoter, as modified according to the requirements of the region, the scheme of the agreement, and the projected traffic volumes in vehicles/km per year.

  The tender documentation includes: the assumed value of the investment (€ 1,095 million, where € 908 million were expected for the realization of the infrastructure), the duration of the concession (49 years and 6 months, beginning with the signature of the contract) and the time for the execution of the works (54 months, starting from the approval of the executive project). Only one society participates to the restricted procedure. Therefore, the negotiated procedure regards the unique proposer and the promoter only. The bid of the proposer includes a public contribution of € 180 million and a concession period of 51 months. On the other hand, the promoter proposes a € 179.7 million public contribution and a concession period of 44 months.
- Thus, on January 29th 2010, the contract is awarded to the promoter, without the necessity of making use of the pre-emption right. After the verification of the requisites of the promoter, on November 27th 2010, the lease contract is definitely awarded to the A.T.I. Autostrada del Brennero.

- The successive phase is the “Conferenza dei Servizi”, namely the institution of the Italian legislation aimed at acquiring all the authorizations, documents, licenses and permissions for the realization of a project, by means of the convocation of apposite collegial assemblies, according to the Law 241/90. The first meeting of the “Conferenza dei Servizi” was hold on January 28th 2011, in order to obtain the approvals to proceed with the final design. The next phases that will be undertaken in order to begin the construction of the “Autostrada” are the evaluation of environmental impact on the final project, the expropriation procedure, and finally the approvals to the final project and working plan.
- The expected beginning of the construction is in 2012.

3.2.2.4 Explanation of the criticalities by means of the schematic framework

Although this project is still in an early phase, some relevant criticalities can already be identified. The general problem, which is common for many large infrastructure projects in Italy, is the long time required for the beginning of the works.

Two differenct phases can be identified for this project, both of them taking a long time. Firstly, the period between the recognition of the necessity of realizing an east-west infrastructure to improve the circulation in an area that is poor of efficient road connections, and the publication of the notice for the research of the promoter to realize the Cispadana “Autostrada”. During these two events, there was a 20 year period in which neither the State nor the region were able to begin the project, due to the high cost of the intervention and to the frequent changes of national and regional laws in matter of public works’ award. Also the phase between the publication of the notice for the research of the promoter and the beginning of the works is taking a long time. Today, the project is still preliminary, and three and a half years has elapsed between the choice of the promoter (July 27th 2007) and the definite award of the lease contract to the A.T.I. Autostrada del Brennero (November 27th 2010). Moreover, these 3 and a half years, which included restricted and negotiated procedures, have not led to a significant reduction of the public contribution to the financing of the project, since the proposal of public interest consisted of € 198 million to be provided by the region, whereas the final award was € 179.7 million.

The reasons behind the long time required for the delivery process will be explained by means of the schematic framework shown at paragraph 3.2.1. The criticalities that have been identified during the analysis of the Cispadana project have been checked with the symbol √**.**

1. Public administration

a) Not transparent or even incorrect choice of the project of public interest (promoter) √
b) Incapacity or unwillingness to attract foreign firms to the bid phase
c) Lack of observance of the provisions and prescriptions of the tender documentation
d) Difficulty to properly evaluate and understand all the parts, elements and criticalities of the contract or the project itself √
e) Slowness in the different phases of the procurement process √
f) Difficulty to coordinate the process and the different parties involved in it √
g) Lack of support from the national government in case of regional projects √

2. Private party

h) Difficulty to fulfill the prescriptions of the law or tender documentation
i) Lack of a benefit-cost analysis in the bid or incorrect analysis
j) Lack of consideration for interests and needs of the citizens affected by the project √
k) Unjustified modifications to the preliminary project during the procurement phase √

3. Law

l) Differences between regional and national laws about public works and project financing regulations
m) Lack of requirement of a benefit-cost analysis, supporting the offer of the proposers
n) Long trial duration in case of recourse of one of the parties involved in the project √
o) Controversial judgment of the court
p) Length and complexity of the procurement process both at national and regional level √

4. Interested Cities and territories

q) Necessity to protect interests and properties of the residents √
r) Requirements of high compensations to allow the passage of the infrastructure through the territory √
s) Contrasting interests among different Cities √

Now, all the identified issues will be explained and justified, according to the four categories of the above schematization, namely public administration, private party, law, and Cities and territories.

Hereafter, criticalities related to the public administration are explained:

- **Not transparent or even incorrect choice of the project of public interest (promoter)**
  The Cispadana case study is an illustrative example of the negative consequences of a non-transparent choice of the promoter, that is the first step of the delivery process. Indeed, one of the causes behind the long duration of the procurement phase was the decision of the Societa' Autostrade Estense scrl to appeal court both at regional and local level, after the selection of the A.T.I. Autostrada del Brennero S.p.a. as promoter of the project. Due to the uncertainty about the decision and to the time required to defend from the lawsuit, the process for the award of the contract was slowed down. A more transparent selection process of the promoter could have avoided the lawsuit of the loosing proposer, which is something very common during the phase of award of public works' contracts with project financing.

- **Difficulty to properly evaluate and understand all the parts, elements and criticalities of the contract or the project itself**
  Due to the long time between the initial project of the promoter and the current stage of the procurement process, the cartography where the Cispadana "Autostrada" was initially drawn is differaent from the actual configuration of the territory. In fact, some modifications of the area in the recent years have occurred. However, the cartography has not been updated from the initial one and therefore some new neighborhoods are not represented, such as the Bastia one, in the City of San Possidonio. For the same reason, the "Autostrada" is planned to pass very close to a neighborhood in the city of Mirandola. As for the San Felice City, the old PRG (the tool for building on the territory of a City) instead of the new PSC (which substituted the PRG one year ago) has been used for the project. The region should have checked for this issue and imposed to review the route of the freeway to accommodate these modifications. This negligence, that is a responsibility also of the private party, results in fights of the Cities that are crossed by the new infrastructure and consequent delays to the project.

- **Slowness in the different phases of the procurement phase**
  The procurement process is taking a lot of time also because of the slowness of the public administration to perform the different steps of the delivery phase. The phase between the publication of the notice for the research of the promoter and the beginning of the works is taking a long time. Today, the project is still preliminary, and three and a half years have elapsed between the choice of the promoter (July 27th 2007) and the definite award of the lease contract by the A.T.I. Autostrada del Brennero (November 27th 2010). Moreover, these 3 and a half years, which included restricted and negotiated procedures, did not lead to a significant reduction of the public contribution to the financing of the project. This means that the public administration took a long time to accomplish the various phases of the project without the justification of an improvement of the economic conditions for the public party.

- **Difficulty to coordinate the process and the different parties involved in it**
  Due to the different interests between contractor and Cities, the coordination among the different parties is very complicated for the public administration. Indeed, the region has to bargain with local entities having different (sometimes opposite) interests, while, at the same time, preserve the conditions and equilibrium of the economic-financial plan agreed with the contractor. Currently, the region is having problems in accomplishing this task.

- **Lack of support from the national government in case of regional projects** Another problem has been the lack of contribution for the realization of the project by the State. Without any financial and political support, the region had to undertake all the phases of the projects, the relation with the firms and with Provinces and Cities by its own. From an economic point of view, it became fundamental to allocate the majority of the financial burdens to the society that awarded the contract, and the Region was successful in doing this. On the other end, the closer relation with the Cities with respect to what happens when a project is managed by the State, complicates the decisions and increases the time to find the best solution for all the parties.

The next stakeholder to be analyzed is the private party, and its criticalities are the following:

- **Lack of consideration for interests and needs of the citizens affected by the project**
- **Unjustified modifications to the preliminary project during the procurement phase**
  A significant issue related to the contractor concerns some differences in the project with respect to the expectations of the Cities. In particular, some roads that should not be modified according to the Cities, will be closed in order to realize the new highway and the majority of the route will be realized above the ground level, rather than below it. This last aspect entails problems of acoustic and visual impact that are increased by the limited number of trees that will be planted in order to mitigate such impact. Moreover, Cities complain also for the locations of the quarries that will be used during the construction phase. According to the administrations, in the preliminary project presented to the Cities, the quarries are located in the vicinity of the highway instead of in the zones previously decided by the Province and already acquired for this purpose by some companies. These differences between the expected project and the actual one, and the lack of consideration of the needs of the communities affected by the new infrastructure, are common for projects that are completely designed, built and managed by private entities. The result is represented by the oppositions from the Cities, which could lead to further scheduling problems for the continuation of the project.

The criticalities related to the Law are:

- **Long trial duration in case of recourses by the parties involved in the project**
  Trials in Italy usually take a long time to be completed and the possibility to appeal to two different courts, both the regional and the national one, further lengthen the time necessary to have a definitive decision about a recourse. The two lawsuits on April 23rd 2008 and March 23rd 2009 are examples of the length of the law in Italy.

- **Length and complexity of the procurement process**
  According to the Law n. 163/2006, a public works contract awarded with the project financing method, requires an amount of bureaucratic steps to undertake in order to award the contract. Publication of the public notice, choice of the project of public interest, modification of the project presented by the promoter, restricted procedure for the

selection of the competitors that will challenge the promoter, negotiated procedure and verifications of the requisites of the society awarded with the contract, require a lot of time to be performed without any advance in the stage of the projects, which remains preliminary.

This represents a relevant problem, regarding all the projects awarded by means of project financing, as regulated by the laws up to the n. 163/2006.

The criticalities related to the Cities and territories are:

- **Necessity to protect interests and properties of the residents**
- **Requirements of high compensations to allow the passage of the infrastructure through their territory**
- **Contrasting interests among different Cities**

  The strong oppositions of the Cities that will be crossed by the new infrastructure represent another significant problem that the Region had to face and is still coping with. Every City has a different opinion the final route of the freeway and requires integrative infrastructures in order to give its permission to the realization of the infrastructure in its territory. Moreover, it has to be considered that in these last years (in particular after the economic crisis) Cities are very short with money and in several cases unable to realize or even maintain the basic infrastructures necessary for the local road system. This situation makes their requirements to the Region more extreme with respect to what would usually happen. Moreover, each City has different needs, that may be contrasting one another, resulting in conflicts causing delays and overruns. Also political reasons are relevant since each City administration obviously defends the interests of its inhabitants for maintaining the support of the community.

3.2.2.5 Consideration and conclusions

In conclusion, the main problem of this project is the long time that is taking for the beginning of the works. The main causes are the complex amount of passages that the Law prescribes in the procuremen process, the fact that the route will pass through many Cities, the lack of support by the State, and the difficulty to balance interests of private firms involved in the project and interests of the Cities.

3.2.3 Cremona-Mantova regional toll "Autostrada"

The second large scale project that will be dealt in this chapter is another regional toll "Autostrada", that is currently at the final design phase (that is the second of the three stages of the design, namely preliminary design, final design and working plan). This project is called Autostrada Regionale "Integrazione del sistema transpadano direttrice Cremona-Mantova". In this thesis, it will be named Cremona-Mantova regional "Autostrada", since the project consists in the realization of a new toll "Autostrada" connecting the City of Cremona with the City of Mantova, both belonging to the Lombardia region, Italy. Since the highway is regional, the procurement process was regulated by two regional laws, namely the Regional Law May 4th 2001, n.9 and the Regional Regulations July 8th 2002, n.4, of the Lombardia region.

3.2.3.1 Project

The project should consist in a regional toll "Autostrada", characterized by two lanes per direction, connecting the City of Cremona, from the junction with the A21 (connecting Torino to Brescia) "Autostrada", to the City of Mantova, at the junction with the A22 (connecting Modena to Brennero) "Autostrada".

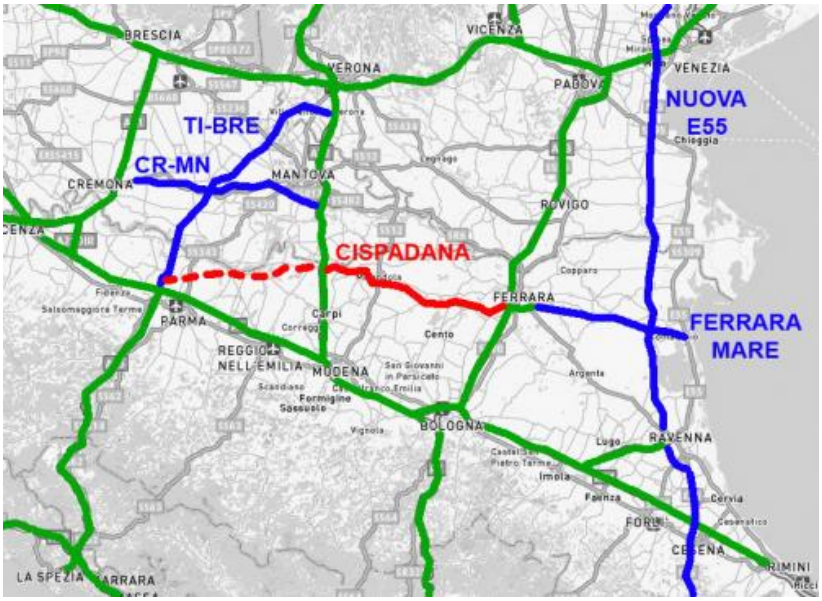


Figure 12: "Autostrada" Cremona-Mantova in the regional network.

In particular, the project is subdivided in three phases:

- Phase 1: it is composed by four parts and has to be completed by 36 months from the approval of the working plan (final stage of the design). These parts are:

  - Stretch 1A: toll "Autostrada" stretch going from the interconnection with the A21 in the City of Cremona to the interconnection (west) with the Tirreno-Brennero (TiBre) freeway in Tornata City. The total length of this stretch, which represents the beginning of the new freeway (Cremona side), is 29.6 km. The TiBre highway is a project dated back to the 1970s aimed at connecting the A15 freeway (Cisa) with the A22 "Autostrada", that has not already been realized.

  - Stretch 1B: highway stretch, from the former SS62 state highway, to the interconnection with the A22 "Autostrada". This stretch is in the City of Virgilio (Mantova) and represents the final part of the new freeway (Mantova side).

  - Stretch 1C: loop route of Virgilio at the former SS62, from the interurban axis of Mantova, to the Virgilio station. This stretch is in Mantova and Virgilio territories, and is 3.8 km long.

  - Stretch 1D: 3.8 km loop route to the former SS10 in the Castellucchio (MN), Curtatone (MN) and Mantova territories.

- Phase 2: highway stretch from the interconnection (east) with the Ti-Bre highway (that is under design), in Marcaria City (MN) and Acquanegra sul Chiese City (MN) to the Castellucchio station in Castelluchio City (MN). This stretch is 4 km long and has to be completed by 15 years from the completion of the first stretch.

- Phase 3: highway route from the Castellucchio station in Castellucchio City to the former SS62 in Virgilio City. This stretch is 9.2 km long and has to be completed by 20 years from the completion of the first phase.

The public contribution to the financing of the project is € 108 million and has to be paid by the public administration during phase 1, proportionally to the advancement of the works.

The aim of the project is to provide a fast connection between the cities of Mantova and Cremona, and complete the road system of the "Pianura Padana" area.

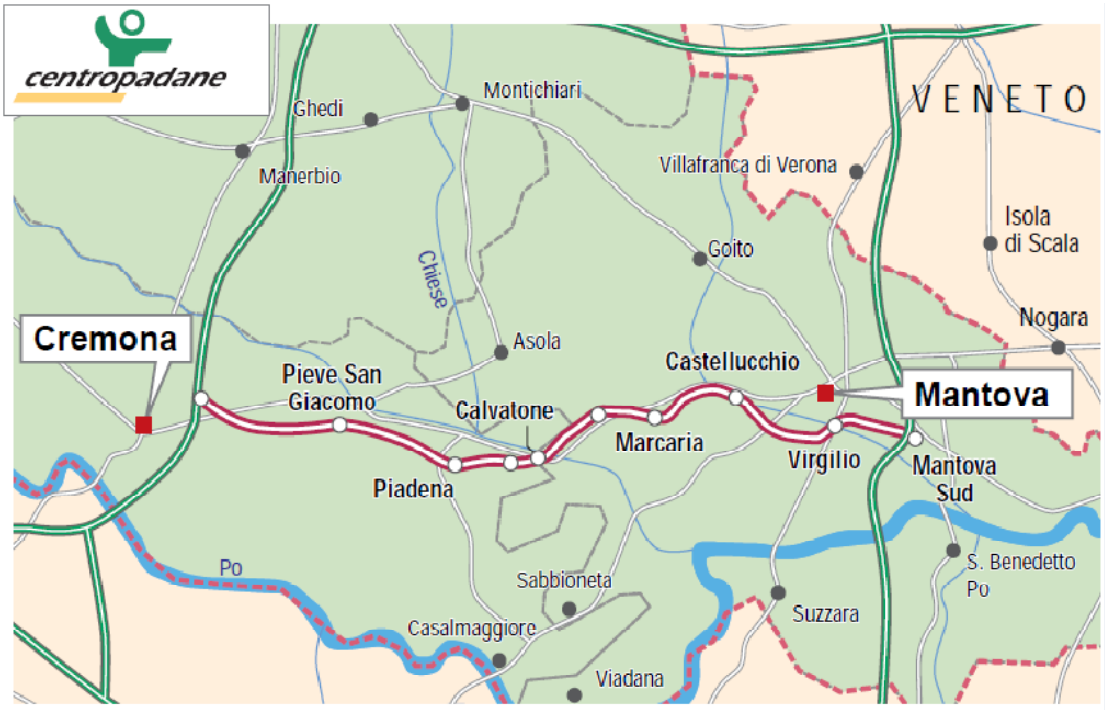


Figure 13: Cremona-Mantova "Autostrada" route.

The plan of the regional "Autostrada" is reported in the Annex 3.

3.2.3.2 Delivery procedure according to the law in force

Since the Cremona-Mantova is a regional "Autostrada", the delivery procedure has to follow regional regulations. For the Lombardia region, there are two reference laws regulating the procurement process of public works, namely the L.R. (regional law) n. 9/2001 and the R.R. (regional regulations) n. 4/2002. Acording to these two documents, the project finance procurement process is composed by three different phases:

- Phase 1: the public administration identifies the promoter, that is the entity which presents a preliminary project (which includes an economic bid) of public interest to the administration.

- Phase 2: the public administration pre-selects a number of firms and invite them to a tender, that is aimed at finding the two best bids for the award of the contract of concession of the project, following the criterion of the most economic advantageous bid. The parameters to be considered (with the corresponding weights) are specified in the tender invitation documentation. The contract includes final design, environmental impact study, working plan, construction, and management of the infrastructure for an agreed upon period between private and public parties.

- Phase 3: the promoter and the two best bidders participate to a negotiated procedure, again based on the most economic advantageous bid, for the award of the concession contract. The promoter does not have the pre-emption right with respect to the two best bidders.

3.2.3.3 Significant events of the process

- The beginning of the "iter" of the procurement process was in July 2002, when the regional Council identified the route from Cremona to Mantova as regional "Autostrada" for the integration of the Lombardia (and more in general "Pianura Padana") road system.
- Then, according to the L.R. 9/2001, the regional Council commissioned Infrastrutture Lombarde S.p.a. (that will be called ILSPA from now on) to manage the procurement process for the construction and management of a new road connection from Cremona to Mantova.
- On December 13th 2002, the regional Council recognized the preliminary project presented by Autostrade Centropadane S.p.a. (that will be called Centropadane from now on) as coherent with the objectives of the region and chose it as promoter.
- Since Cremona and Mantova provinces were also planning the Ti-Bre construction, awarded to the Autocisa and the two routes were planned to intersect. Therefore, on February 13th 2003, Lombardia region, Autocisa, Cremona Province, Mantova Province, Rete Ferroviaria Italiana S.p.a. and Mantova City signed an agreement to optimize the global roadway system of the Cremona and Mantova provinces.

- In October 2003, the project is approved by the "Conferenza dei servizi" (after some modifications to the initial route) and the planning preservation constraint is applied to the land use of the Cities where the highway is planned to go through.[52]
- On April 15th 2005, the second phase of the procurement process began, with the tender invitation for the final design, working plan, construction and management, under lease agreement, of the Mantova-Cremona regional "Autostrada", by means of negotiated procedure and the criterion of the most economically advantageous bid. The tender documentation included the pre-qualification requisites for the admission to the tender. Three companies are admitted to this phase, namely CINTRA, ATI Pizzarotti and Impregilo S.p.a.. According to the tender documentation (and to the regional law), the two best proposers would be admitted to the negotiated procedure with the promoter and in case of lack of bids or inadmissible, invalid or inappropriate proposals, the concession would have been awarded to the promoter. The Impregilo S.p.a. does not submit an offer. Therefore, only two companies participate to the second phase of the procurement process and were both admitted to the negotiated procedure with the promoter. In particular, on October 24th 2005, Cintra (in A.T.I. with Merloni Finanziaria) and A.T.I. Pizzarotti classify respectively first and second, with 83.47 and 50.93 points, respectively.
- On October 27th 2005, Centropadane, ATI Cintra and ATI Pizzarotti are invited to the negotiated procedure with the promoter.
- On December 6th 2005, the classification is published by the commission. ATI Cintra is the first classified with 75.73 points, ATI Centropadane the second one with 74.91 points and ATI Pizzarotti is third with 43.70 points.
- On December 7th 2005, the region announces that the ATI Cintra –Merloni Finanziaria will build and manage the Cremona-Mantova regional "Autostrada".
- On May 11th 2006, the regional council expresses its acceptation about the award of the contract to the new society composed by the Cintra and Merloni Finanziaria, and called "Autostrade per La Lombardia".
- In 2006, the promoter appeales against the award of the contract to the A.T.I. Cintra and Merloni Finanziaria.
- On January 18th 2007, the regional court of Brescia rejects the recourse, whose main points were the incomplete documentation presented both by A.T.I. Cintra and A.T.I.

[52] Lombardia Region Council. *Deliberation n. VII/15954*, Milan, December 30th 2003.

Pizzarotti and the different evaluation of a parameter involved in the classification between the first tender between the two competitors and the negotiated procedure, by the Infrastruture Lombarde S.p.a..

- However, the promoter appeals also to the Consiglio di Stato, which reverses the outcome of the tender, on July 5th 2007.
- On December 7th 2007, the contract iss definitely awarded to A.T.I. Centropadane, which included Coopsette S.c.a.r.l., Profacta S.p.a., Paver Costruzioni S.p.a., Industria Cementi Giovanni Rossi S.p.a., Ingegneria Biomedica Santa Lucia S.p.a., ASM Brescia S.p.a., Azienda Energetica Municipale S.p.a., Infracom Italia S.p.a., Technical S.p.a. and Consorzio Servizi Infrasrutture Piacenza.
- The A.T.I. Centropadane constitutes the special purpose company Stradivaria S.p.a. and presented the final project on April 4th 2008.
- During the summer 2008, interested agencies and corporations submit their observations about the project to the Ministry of the Environment. Many critics are moved to the project, challenging its utility, environmental impact and time to be completed.
- After one year of observations and discussions about the project, part of the route is modified in 2009 and the project published another time.[53]
- Still in 2010 a solution has not been found and a part of the route (between Bozzolo (MN) and Mantova) has been cancelled. Today, the realization of the "Autostrada" is in doubt.

3.2.3.4 Explanation of the causes of the failure by means of the framework

The reasons behind the current stagnant situation of the project will be discussed by means of the schematic framework shown at paragraph 3.2.1 and already used for the Cispadana case study.

The criticalities that have been identified during the analysis of the Cremona-Mantova "Autostrada" project have been checked with the √ symbol.

[53] Romani, Francesco. *L'autostrada cambia tracciato*, La Gazzetta di Mantova, Mantova, Jul. 31st 2009.

1. Public administration
   a) Not transparent or even incorrect choice of the project of public interest (promoter) √
   b) Incapacity or unwillingness to attract foreign firms to the bid phase
   c) Lack of observance of the provisions and prescriptions of the tender documentation
   d) Difficulty to properly evaluate and understand all the parts, elements and criticalities of the contract or the project itself √
   e) Slowness in the different phases of the procurement process √
   f) Difficulty to coordinate the process and the different parties involved in it √
   g) Lack of support from the national government in case of regional projects
2. Private party
   h) Difficulty to fulfill the prescriptions of the law or tender documentation √
   i) Lack of a benefit-cost analysis in the bid or incorrect analysis √
   j) Lack of consideration for interests and needs of the citizens affected by the project
   k) Unjustified modifications to the preliminary project during the procurement phase
3. Law
   l) Differences between regional and national laws about public works and project financing regulations √
   m) Lack of requirement of a benefit-cost analysis, supporting the offer of the proposers √
   n) Long trial duration in case of recourse of one of the parties involved in the project √
   o) Controversial judgment of the court
   p) Length and complexity of the procurement process both at national and regional level √
4. Interested Cities and territories
   q) Necessity to protect interests and properties of the residents √
   r) Requirements of high compensations to allow the passage of the infrastructure through the territory
   s) Contrasting interests among different Cities √

In the next pages, the identified issues will be explained as in the previous case studies.

The criticalities related to the public administration are explained:

- **Not transparent or even incorrect choice of the project of public interest (promoter)**
  The main issue of the Cremona-Mantova "Autostrada" is represented by its doubtful utility. This is testified by the study of a transportation engineering and applied mathematics society, called Polinomia, which undertook a study about the criticalities related to the Cremona-Mantova and Tirreno-Brennero highway. The results of this study show that the Cremona-Mantova "Autostrada" is expected to be mainly characterized by short-medium movements. Therefore, the expected traffic would not be sufficient to justify the realization of a new highway to connect the two Cities. Only 20,000 vehicles per day are expected to make use of the infrastructure in 2032, that is the year in which the whole "Autostrada" should be opened. Another relevant problem is represented by the time required to complete the whole route.
  Indeed, according to the agreement between public administration and contractor, the third and last part of the "Autostrada" has to be completed by 20 years after the completion of the first part. This term is extremely long and goes clearly against one of the main advantages that are expected by the use of the project financing, namely the shortening of the construction time. However, other criticalities have to be carefully analyzed both about the project and the procurement process.

- **Difficulty to properly evaluate and understand all the parts, elements and criticalities of the contract or the project itself**
  Another relevant problem is the apparent underestimation of the negative externalities of the project, that would significantly impact the territory crossed by the "Autostrada". The first of these issues is represented by the extremely high use of ground required for the realization of the infrastructure, in one of the most cultivated and productive area of the country. Indeed, about the 2% of the cultivated lands in Mantova province would be lost because of the new infrastructure, with an enormous environmental impact and economic losses for the farms of the area.[54] In particular, 155 farms would be directly damaged by the route. This is particularly problematic since in the Mantova province territory, 23% of

[54] Romani, Francesco. *Mantova-Cremona, Valanga di osservazioni*, La Gazzetta di Mantova, Mantova, Aug. 27th 2008.

the companies work in the farming industry (against the 6% of the Lombardia region). Another drawback of the infrastructure is represented by the already relevant health problems of the area, which is characterized by high pollution. The presence of a new freeway with its consequent vehicular emissions, would result in a worsening of this situation. A problem is also represented by the way in which the project would be realized, namely by first building the ends of the infrastructure and, then, after 20 years, the central part. This means that there will not be any kind of link between the two Cities until 20 years from the realization of the extremities of the "Autostrada". All these issues should have been carefully considered before awarding the project and adequate measures to soften the impacts of these externalities should have been included.

- **Slowness in the different phases of the procurement process**
  Between the choice of the preliminary project presented by Autostrade Centropadane S.p.a. (on December 13th 2002) and the selection of the two competitors to participate to the negotiated procedure with the promoter (April 15th 2005), almost two and a half years elapsed. This period represents a significant loss of time in the procurement process and should have been avoided by the public administration. Moreover, after the award of the contract to the A.T.I. Centropadane S.p.a., on April 4th 2008, there was no advancement in the project and currently, the final project is still under discussion.

- **Difficulty to coordinate the process and the different parties involved in it**
  Many critics were received to the project and the public administration was not able neither to continue with the project, nor to modify or abandon the project in order to fulfill the requests of the many agencies and corporations that are contrary to the project.

The issues related to the private party are:

- **Difficulty to fulfill the prescriptions of the law or tender documentation**
  One of the elements contributing to the long time required for the definitive award of the contract was the recourse of the A.T.I. Centropadane against the decision to select the A.T.I. Cintra as contractor for the project. One of the main reasons of the recourse was the incomplete documentation presented by A.T.I. Cintra during the negotiated procedure. Indeed, part of the documentation required by the tender invitation document was not

submitted by the A.T.I. Cintra in its proposal, but only after the request of the Responsabile Unico di Procedimento (RUP, which is in charge of the verification of the feasibility of the project).

- **Lack of benefit-cost analysis in the bid or incorrect analysis**
  The preliminary project does not include neither an analysis about the future traffic on the infrastructure, nor a cost-benefit analysis of the project. This means that the private party cannot make reliable predictions about the economic success of the project. Although the Italian Law does not prescribe a benefit-cost analysis as necessary element to be included in the preliminary project, it does prescribe to include a preliminary evaluation about expected costs and benefits of the new infrastructure. Therefore, the preliminary project should have included information about expected costs, benefits and traffic on the new infrastructure.

The next set of criticalities are related to the laws in force in Italy

- **Differences between regional and national laws about public works and project financing regulations**
  The presence of regional laws about the award of public work contracts and project financing that partially differ from the national ones, complicate transparency and full understanding of the procurement process by the private companies. This can be a further explanations of the problems in the documentation of the proposers.
- **Lack of requirement of a benefit-cost analysis, supporting the offer of the proposers**
  The lack of a specific requirement of benefit-cost analysis and traffic prediction, is a significant issue of the Italian Law since it prevents a transparent and objective evaluation of the various proposals. This was a problem in the award of the Cremona-Mantova contract since it made very difficult to properly evaluate the various proposals. The two recourses were in part the consequences of this lack of transparency.

- **Length and complexity of the procurement process both at national and regional level**

  As in the national Law, also in the regional one, the procurement phase is made of three different phases, that have been already explained, namely the choice of the project of public interest (and therefore of the promoter), the selection of the two best competitors, and negotiated procedure between them and the promoter.

  These three separate phases contribute to the length of the delivery phase that is a relevant problem of the project financing in Italy.

The problems related to the interested Cities and territories are:

- **Necessity to protect interests and properties of their inhabitants**
- **Contrasting interests among different Cities**

  Due to the large use of land, to the air pollution and to the damages to the farming industry, environmental agencies and Cities have opposed to the realization of a new infrastructure that they think will create more problems than benefits. In particular, the definitive route is a problematic aspect that has not already been solved and this is in part because of the several oppositions encountered.

3.2.3.5 Considerations and conclusions

In conclusion, the Cremona-Mantova "Autostrada" is an illustrative example of a project that probably was not to be built because of the low revenues it was expected to produce and the long time to be completed. Moreover, the process was very long due to lawsuits and long times for obtaining the required approvals. Currently, the construction of the highway is in doubt. Public administration had the greater responsibility for the possible failure of the project since it should have understood that it was not feasible for the already explained reasons. However, also the behavior of the private companies and some criticalities in the Italian Law contributed the problems just presented.

3.2.4 Pedemontana Veneta toll "Superstrada"

The last large scale project is a toll "Superstrada"[55], called Pedemontana Veneta, whose construction should start by the end of this year (2011). The final project has already been completed and approved by the appropriate authorities. This project is particularly interesting since, unlikely the previous case studies, the delivery process was conducted in a proper way, from the beginning to the award of the contract. The choice of the project of public interest and the parameters used to evaluate the proposals appear to be appropriate. Moreover, proposers participating to the tender presented detailed documentation supporting their offers, thus allowing the administration to take the decision of the award of the contract on the base of sufficient information. Also the repartition of the financial burdens between private and public party was appropriate, since the contractor bears the majority of the financial risk. However, also in a case in which all the conditions seemed to be favorable for the rapid conclusion of the procurement process, an error of the public administration at the end of the delivery process led to lawsuits, which brought delays to the completion of the procurement phase and therefore to the beginning of the works.

3.2.4.1 Project

The Pedemontana Veneta "Superstrada", when completed, will be part of the Pan-European railway and roadway corridor, linking Turin to Kiev. Therefore, it is an infrastructure with strategic importance not only at national level, but also at European scale. In this context, the construction of a new highway is particularly important since the existent national network is almost at saturation in that area.

Moreover, the new "Superstrada" will complete a ring that will include the entire central area of the Veneto region and will connect the Province of Vicenza to the Province of Treviso, which are two very industrialized areas. This new infrastructure is therefore expected to favor a further development of an already advanced area, by improving the mobility of the zone. According to simulations at the 2035, the highway is expected to carry 18-25% of the current

[55] Superstrada is the common way to use in Italy to call a roadway belonging to the "B" category in the Italian Highway code. Highways belonging to this category are characterized by two independent carriageways, with a median divider preventing from going from a carriageway to the other one. Each carriageway has two or more one way lanes, a right shoulder, no grade intersections, and service areas along the route. Generally, the limit speed is 110 km/h.

traffic of the area, improving the traffic on the congested regional and provincial highways of the area. The new toll highway will connect Montecchio Maggiore (Vicenza) to Spresiano (Treviso). In particular, the route is made of two stretches, the first one is 30.75 km-long and goes from the interconnection with the A4 "Autostrada", at Montecchio Maggiore, to the interconnection with the A31 "Autostrada", at Villaverla (Vicenza). The second stretch is 64.15 km-long and links Villaverla to Spresiano, where an interconnection with the A27 "Autostrada" will be created.[56] The "Superstrada", belonging to the B category, according to the Italian Highway code, will be a toll highway, characterized by two 3.75 m wide lanes per direction, with an internal 3 m-wide divider. The cross section width will be 24.5 m.

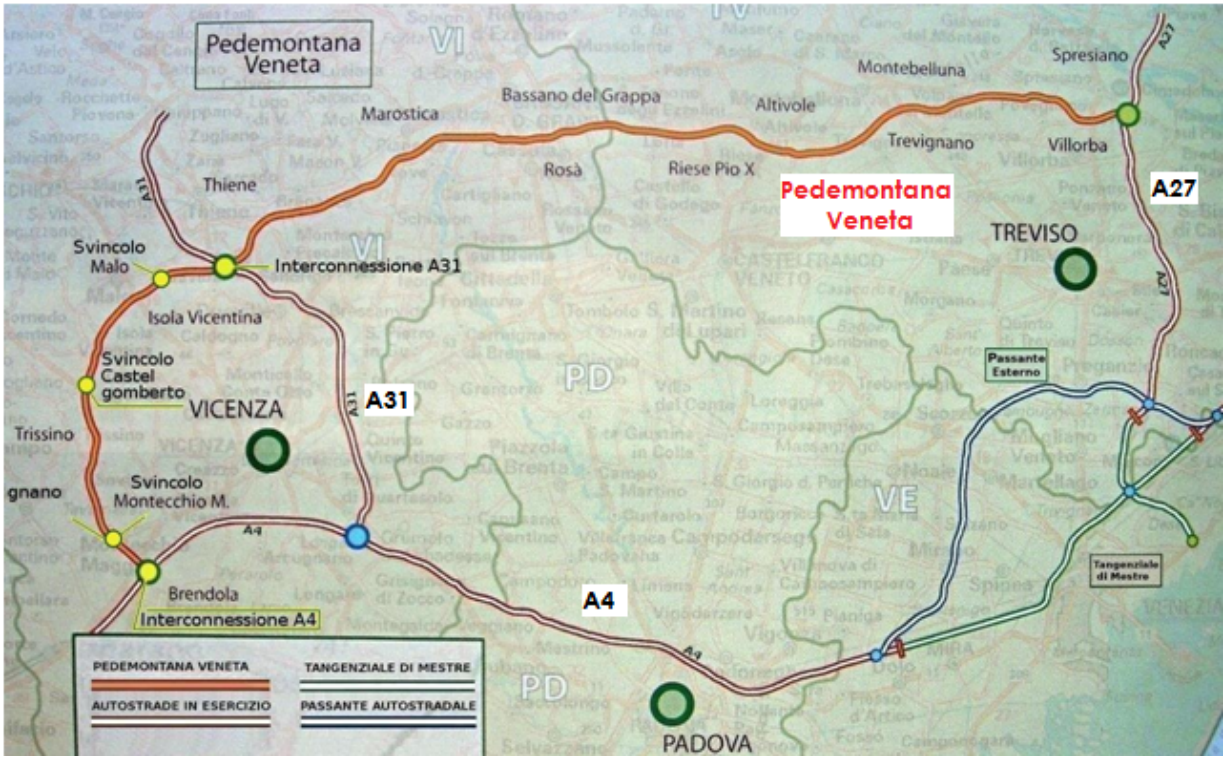


Figure 14: "Superstrada" Pedemontana Veneta route.

In addition to the construction of the 94.90 km "Superstrada", the contractor will be also responsible for building 26.50 km of complementary roads, aimed at efficiently connecting the new "Superstrada" to the existent regional and provincial network. These roads will be two-way single carriageways, with one lane for each direction. The total number of Cities crossed by the new infrastructure will be 37. 22 of them belong to the province of Vicenza,

[56] CIPE, "CIPE deliberation n.96/2006", March 29th 2006.

whereas 15 to the province of Treviso. According to the preliminary project, the total cost of the infrastructure should have been € 1,989,868,000, with a € 225,854,962 public contribution (11.35% of the total cost) and the remaining 1,745,938,000 covered by the contractor. This cost has increased to € 2,130,011,400.38 after the modifications introduced by the definitive project. The lease period went from 40 to 39 years, beginning with the opening of the highway.

Annex 4 shows the plan of the new "Autostrada".

3.2.4.2 Delivery procedure according to the law in force

The law in force at the time of the delivery process was the n. 166/2002, the so called Merloni-quarter, which introduced the pre-emption right for the promoter. In particular, according to this law, the public administration that wants to realize a public infrastructure by means of project financing, selects one proposal among those received from the various firms interested in the project. The proposer whose preliminary project is selected becomes the so called promoter. Then, a tender is invited among the firms interested in the award of the contract for the final design, construction and management of the infrastructure, on the base of the preliminary project of the promoter. The two best proposers of this phase proceed to the last phase, which consists in the negotiated procedure with the promoter. The three participants are invited to improve their previous offers, which are evaluated according to the parameters set by the public administration. If the proposal of the promoter results to be the best one, the contract is awarded to it. Otherwise, the promoter has the possibility to equalize its proposal to the best one, thanks to the pre-emption right, and award the contract as well. In case the promoter does not adapt its offer, the contract is awarded to the best proposer. The procurement process followed also the regional law n. 15/2002, which however did not include significant differences to the prescriptions given by the national law.

3.2.4.3 Significant events of the process

- The creation of a new corridor connecting the Piemonte, Lombardia and Veneto regions was part of the new national infrastructure plan, launched by the Italian government in 2001, by means of the "Objective Law" n. 443/2001. In particular, this new road axis was included in the deliberation n.121/December 2001 of the "Comitato Interminesteriale di

Programmazione Economica" (CIPE), which tried to implement the proposals of "Objective Law".

- In particular, by means of the deliberation n. 3858/December 3rd 2004, the Veneto region Council chooses the project of the Autostrada Brescia Padova S.p.a. for the design, construction and management of the "Superstrada" Pedemontana Veneta as the project of public interest. The society becomes the promoter of the project, with "Pedementona Veneta Society S.p.a.".
- On November 2nd 2005 and March 14th 2006, respectively, the regional Council and the Ministry of the Environment express their acceptation about the environmental impact of the project. However, the Ministry of the Environment communicates some prescriptions and recommendations to be acknowledged by the promoter. On March 15th 2006, also the Ministry of cultural heritage gives its approval, with some prescriptions and recommendations as well.
- On March 29th 2006, by means of the deliberation n. 96, the CIPE approves the preliminary project of the Pedemontana Veneta toll highway, on the base on a total cost of € 1,989,688,000, where € 225,854,962 has to be provided by the public administration, and € 1,745,938,000 by the contractor. The duration of the lease contract is 40 years, and the region has to provide a semestral contribution equal to € 10,190,000, that could be reduced, or also cancelled in case of significant traffic growth, and consequent higher revenue with respect to the expected one.
- Afterward the project was partially modified, based on the prescriptions and recommendations just mentioned.
- The deliberation n. 3185/17 October 2006 calls the restricted procedure for the selection of the two best proposers that will participate to the negotiated procedure for the award of the contract with the promoter. The total cost indicated in this deliberation is increased to € 2,155,048,000, due to the modifications requested by the Ministries.
- On November 10th 2006, the Veneto region publishes the tender invitation, which includes the restricted procedure on the base of the preliminary project of the promoter, and the negotiated procedure between the two best proposers and the promoter.
- In particular, the tender documentation prescribes a public contribution of € 243,750,000, plus a semestral contribution of € 10,199,000 for 30 years, beginning with the opening of the "Superstrada". The semestral payment will depend on the revenue generated by the

tolls collected by the contractor during the 40 years of lease. The documentation indicates also the parameters of evaluation of the bids, that would have chosen by means of quantitative and qualitative elements:

- The qualitative parameters (40 points in total) are the technical and esthetic value of the project (25 points), the method of management of the work (10 points) and the road safety characteristics (5 points).
- The quantitative elements (60 points) are the extent and duration of the toll exemption for residents (10 points), the duration of the lease period (3 points), the duration of the design and construction period (5 points), the initial public contribution (21 points) and the semestral public contribution (21 points).

The documentation states also that proposers could use the traffic volumes provided by the promoter, those calculated by the public administration, or volumes personally computed. In this last case, the traffic study should be attached to the bid.

The tender documentation states also that the negotiated procedure between the promoter and the two best proposers of the restricted procedure would be carried out only if the commission of the competitive tender had considers at least one of the two proposals presented by the competitors of the first phase, to be better than the one of the promoter.

As for the exercise of the pre-emption right by the promoter, the documentation prescribes that the commission of the competitive tender will communicate the scores of the companies participating to the negotiated procedure by means of a public session.

If the selected proposal belongs to one of the companies participating to the restricted procedure, the promoter has the possibility to declare its intention to adjust its proposal to the best one by 10 days from the public session. In this case it would award the contract.

- After the restricted procedure, the commission of the competitive tender judges the two offers received by the “Consorzio stabile SIS S.c.p.a.” (that will be called “S.I.S. consortium” from now on) and temporary association of firms among Cintra s.a., Merloni Finanziaria S.p.a. and Ferrovial Agromana s.a., to be better than the one of the promoter. Therefore, the commission accepted the two bids, giving 81.50 points to the S.I.S. consortium and 20.84 to the Cintra s.a., Merloni Finanziaria S.p.a. and Ferrovial

Agromana s.a temporary association. Thus, both the proposers are admitted to the negotiated procedure. In particular, the bid of the S.I.S. consortium is characterized by a lease period that is one year shorter with respect to the one proposed by the promoter (39 years instead of 40 years), and a 5% reduction of both the initial and the semestral contribution to be provided by the public administration.

- Only the S.I.S. Consortium and the promoter takes part to the negotiated procedure, since the Cintra s.a., Merloni Finanziaria S.p.a. and Ferrovial Agromana s.a. temporary association decides not to participate. During this phase, the S.I.S. consortium improves its previous bid, by proposing a further 25% reduction of both the initial contribution and the semestral payment to be provided by the public administration for the construction and management of the infrastructure. Moreover, it increases the duration of the toll exemption for the residents. In particular the total toll exemption for the residents.
- On September 25th 2007, the commission of the competitive tender communicates the scores of the bidders by means of a public session. The S.I.S. consortium offer receives 100 points whereas the promoter's proposal 0 points. Therefore, the provisional contract is awarded to the S.I.S. consortium. The promoter does not take advantage of the pre-emption right by 10 days after the communications of the scores.
- On October 5th 2005, the commission awards the provisional contract to the S.I.S. consortium, that is also invited to present the economic-financial plan, declared in oath by a bank, in order to verify it and proceed to the final award.
- The S.I.S. consortium transmits the economic and financial plan to the public administration. The plan is accepted on October 24th 2007, during a public session.
- After this public section the promoter, headed by the Impregilo S.p.a. (that entered in the group of the promoter with other Italian companies before the negotiated procedure), exercises the pre-emption right, by adapting its offer to the best one, on October 30th 2007.
- On December 4th 2007, the regional Commission approves the result of the tender procedure and awards the contract to the promoter.
- In 2007, the S.I.S. consortium appeals to the Veneto administrative regional court of Venezia against the decision to award the contract to the promoter. One of the reasons brought by S.I.S. is that the deadline for the exercise of the pre-emption right was not observed by the promoter. According to S.I.S. consortium, the 10 days to take advantage of the pre-emption right should be counted from September 25th 2007, when there was the

communication of the scores by means of a public section, as written in the tender documentation.

However, the Impregilo S.p.a., that heads the group of societies including the promoter, namely the Pedemontana Veneta S.p.a. Autostrada BS – VR –VI – PD, and Autostrade per l'Italia S.p.a., Autovie venete S.p.a.. Grandi Lavori Fincosit S.p.a., Impresa costruzioni Giuseppe Maltauro, Rizzani de Eccher S.p.a., Carron cav. Angelo S.p.a., Consorzio cooperativo costruzioni, Impresa ing. E. Mantovani S.p.a., Intercantieri Vittadello S.p.a. and Serenissima costruzioni S.p.a., presents in turn a cross-appeal.

In particular, the Impregilo S.p.a. claims that the offer presented by the S.I.S. S.p.a. in the restricted procedure was not better than the one of the promoter, since the 5% reductions offered both for the initial and semestral payments, were based on the overestimate of the traffic volumes, and therefore of the future toll revenues. The regional court judges first the cross-appeal of Impregilo S.p.a.. Indeed, if the offer presented by the S.I.S. consortium in the restricted procedure is found to be worse than the one of the promoter, S.I.S. would be excluded by the negotiated procedure, and therefore its recourse about the result of the negotiated procedure would be irrelevant.

- In April 23rd 2008, the regional court names a technical consultant (called "consulente tecnico d'ufficio", or CTU, in Italy) to evaluate the cross-appeal of Impregilo S.p.a.. In particular, he is asked to evaluate if the proposal of the S.I.S. consortium during the restricted procedure was better than the one of the promoter, considering the validity of the traffic volume estimate.
- In October 2008, the technical consultant states that the bid of S.I.S. S.p.a. in the restricted procedure was better than the one of the promoter, and the traffic estimate was valid.
- Nevertheless, the administrative regional court considers that the proposal of S.I.S. S.p.a. is not better than the one of the promoter. Therefore, S.I.S. S.p.a. iss excluded from the restricted procedure, with the judgment n. 3593/2008, on November 11th 2008. Due to this judgment, the recourse of S.I.S. iss not even considered, since the company has already been excluded from a previous phase with respect to the contested one.
- The S.I.S. consortium appeals to the Consiglio di Stato, against the regional court judgment and against the promoter (for the same reasons brought in the previous trial). The Consiglio di Stato, grants the recourse of S.I.S. against the decision of the

administrative regional court, claiming that the evaluation of the technical consultant was unjustly disregarded.

- Indeed, in its relation about the offer presented by S.I.S. in the restricted procedure, the technical consultant explained that the tender documentation allowed a significant freedom about the traffic volume estimate. Moreover, the traffic estimate of S.I.S. was similar to the one included in the study about the traffic volumes, made by the Veneto region in 2004. In fact, it is most likely that the less reliable estimate among the one of the S.I.S., that of the Veneto region, and the one of the promoter, is the last one, since the predicted traffic volumes are significant lower with respect to both the ones of the region and the those of S.I.S. Therefore, the Consiglio di Stato rejects the point made in the cross-appeal, previously accepted by the regional court, stating that the bid presented by S.I.S. in the restricted procedure was better than the one of the promoter, and valid from the point of view of the estimate of the future traffic volume.
- Therefore, the Consiglio the Stato proceeds with the analysis of the S.I.S. recourse, and determines that the pre-emption right was exercised after the deadline. In particular, it states that the 10 days to exercise the preemption right had to begin with the public session of September 24th 2007, when the result of the negotiated procedure was declared. Therefore, the deadline was October 5th 2007. According to the Consiglio di Stato, the additional time granted to the promoter for the exercise of the pre-emption right violated the tender provisions. In fact, the public session, organized on October 24th 2007 by the commission of the competitive tender to verify the economic and financial plan of S.I.S., was not to be done. Indeed, the commission was in charge of the evaluation of the two proposals only, whereas the final award of the contract had to be determined by the public administration.
- For this reason, after having accepted the recourse of S.I.S., the Consiglio di Stato awards the contract to the S.I.S. consortium on June 17th 2009.
- On August 15th 2009, after the Decree of the Prime Minister, that declared the state of emergency about the traffic situation in the provinces of Treviso and Vicenza, a special Commissioner is named for the management of the traffic situation in the territory of the Pedemontana Veneta. Through the nomination of this Commissioner, the responsibility for the management of the contract for the realization of the new “Autostrada” passes from the Veneto region to the national government.

- On August 21st 2009, the Convention between the Commissioner and the contractor A.T.I. "Consorzio Stabile S.I.S. S.c.p.a. and Infrastructuras S.a." for the final design, construction and management of the toll Pedemontana Veneta "Superstrada" is signed.
- On January 5th 2010, the contractor presents the final project of the "Autostrada".
- During the following two months, the agreements for the expropriations are signed.
- On March 22nd 2010, the final project is approved by the "Comitato Tecnico Scientifico Ministeriale" (Technical-Scientific Ministerial Committee).
- In June 2010, the final project is updated, according to the expropriation agreements and to the observations of the "Comitato Tecnico Scientifico Ministeriale".
- On September 7th 2010, the economic and financial plan of the project iss updated. The total cost became € 2,131,011,400.38.
- On September 20th 2010, the Commissioner approves the final project by means of the decree n.10.
- Currently, the expropriations activities are under way and the construction is expected to begin in few months.

3.2.4.4 Explanation of the causes of the failure by means of the framework

As already anticipated, the delivery process of the Pedemontana Veneta was not characterized by many problems and obstacles, as in the previous case studies, but by an error of the promoter, that exercised the pre-emption right too late and a mistake of the commission of the competitive tender with extended this period, violating the tender documentation. To highlight these problems which were the cause of two recourses and consequent delays to the completion of the procurement process, the schematic framework shown at paragraph 3.2.1 will be used.

The problems identified during the analysis of the Pedemontana Veneta project project have been checked with the √ symbol.

1. Public administration
   a) Not transparent or even incorrect choice of the project of public interest (promoter)
   b) Incapacity or unwillingness to attract foreign firms to the bid phase
   c) Lack of observance of the provisions and prescriptions of the tender documentation √

d) Difficulty to properly evaluate and understand all the parts, elements and criticalities of the contract or the project itself
e) Slowness in the different phases of the procurement process √
f) Difficulty to coordinate the process and the different parties involved in it
g) Lack of support from the national government in case of regional projects

2. Private party

h) Difficulty to fulfill the prescriptions of the law or tender documentation √
i) Lack of a benefit-cost analysis in the bid or incorrect analysis √
j) Lack of consideration for interests and needs of the citizens affected by the project
k) Unjustified modifications to the preliminary project during the procurement phase

3. Law

l) Differences between regional and national laws about public works and project financing regulations
m) Lack of requirement of a benefit-cost analysis, supporting the bid of the proposers
n) Long trial duration in case of recourses of parties involved in the project
o) Controversial judgments of the court √
p) Length and complexity of the procurement process √

4. Interested Cities and territories

q) Necessity to protect interests and properties of the residents
r) Requirements of high compensations to allow the passage of an infrastructure through the territory
s) Contrasting interests among different Cities

In the next pages, the issues of the procurement process will be explained, as already done for the previous case studies.

The criticalities related to the public administration are:

- **Lack of observance of the provisions and prescriptions of the tender documentation**
  The reason behind the majority of the problems characterizing the delivery procedure of the Pedemontana Veneta project was the error made by the commission of the competitive tender, about the award of the contract to the promoter. In particular, after having awarded the provisional contract to the S.I.S. consortium, on September 25th 2007, the commission

called a public session on October 24th 2007, which was not required by the tender regulations. In fact, after the award of the provisional contract, the entity in charge of the control of the financial and economic plan and of the award of the definitive contract was not the tender commission, but the public administration itself (namely the Veneto region). Moreover, the commission considered the 10-days period for the promoter to present the pre-emption right, starting from the public session of October 24th 2007. This was a very serious error since the tender documentation, which has the value of a law for the specific tender procedure, stated that the 10 days should be counted from the provisional award of the contract. Therefore the correct deadline for the exercise of the pre-emption right was October 5th 2005. For this reason, the award of the contract to the promoter was an error, since it represented a violation of the tender regulations.

- **Slowness in the different phases of the procurement process**
  A secondary critic that can be moved to the public administration is represented by the long time that was taken for the choice of the project of public interest (one year, from December 2003 to December 2004) and for the approval of the preliminary project, which occurred only in March 2006. Obviously, the responsibility for the long time elapsed has to be shared with the Italian regulations in matter of public works, that require many approvals and bureaucratic passages at all the stages of the delivery process. However, the slowness of the public administration represented surely a major contribution to this long time.

The issues related to the private party are:

- **Difficulty to fulfill the prescriptions of the law or tender documentation**
  The behavior of the promoter contributed to the problems and the confusion arisen after the provisional award of the contract to S.I.S., on 25th September 2007. Indeed, the promoter should have been aware of the fact that the 10 days available for the exercise of the pre-emption right started from September 25th, independently on the behavior of the commission, since it was written in the tender documentation. It seems that the promoter tried to take advantage of the behavior of the commission to gain time for deciding if exercising the pre-emption right or not. A higher readiness and capacity to understand if

the exercise of the pre-emption right was convenient or not would have allowed the promoter to regularly award the contract.

- **Lack of a benefit-cost analysis in the bid or incorrect analysis**
  The prediction of the promoter about the future traffic volumes on the new "Autostrada" was excessively conservative. This is proved by the fact that both the estimate of the region and the one of the S.I.S. were significantly higher (and similar each other). Most probably, the reason of such a conservative prediction was due to a conscious attempt of the promoter to underestimate the future revenues, in order to ask for a higher public contribution. In this way, the promoter could have borne less financial risk and got more profit from the infrastructure. However, the promoter should have been aware of the fact that S.I.S. could propose a significantly better bid, based on the Veneto region traffic estimate. Therefore, the promoter should have decided in advance if exercising the pre-emption right in case of a better bid of the competitor, since it could have an idea about the bid of S.I.S. Instead, the promoter was not able to take a quick decision and regularly award the contract by exercising the pre-emption right in time. A more careful analysis of the extent to which the bid could be improved, would have allowed the promoter to award the contract, by taking advantage of the pre-emption right.

The next set of criticalities are related to the law in force in Italy:

- **Long trial duration in case of recourses of parties involved in the project**
  The Veneto administrative regional court and the "Consiglio di Stato" took one year and seventh months, respectively, to express their judgment about the recourses of S.I.S. These time spans, that are common for the administrative trials in Italy, should be shortened in order to accelerate the delivery process.

- **Controversial judgments of the court**
  The decision of the Veneto regional administrative court was very controversial and difficult to understand. Indeed, the court decided to grant the cross-appeal of the Impregilo S.p.a., which claimed that the bid of the S.I.S. consortium was not better than the one of the promoter, although the technical consultant expressly hired for the evaluation the validity of the bid, stated that the proposal of S.I.S. was valid and better than the one of

the promoter. Therefore, the decision of the court seems illogical. In the second recourse, the "Consiglio di Stato" overturned this decision, pointing out that the regional court should have taken into account the opinion of the technical consultant.

- **Length and complexity of the procurement process**
  The Pedemontana Veneta project was awarded according to the law in force at the time of the beginning of the procurement process, namely the law n. 166/2002. This law is made of three different phases, namely the choice of the project of public interest, the restricted procedure and the negotiated procedure with the pre-emption right. As already explained in other paragraphs of the thesis, this procedure is very long ad time consuming. Therefore, it surely contributed to the excessive length of the delivery process.

Criticalities related to the Cities and territories:

As for the Cities and territories, although some oppositions have been carried out, they have not led to significant delays in the procurement process, at least at the current stage of the process. Therefore, they are not considered as problems affecting the Pedemontana Veneta delivery process.

3.2.4.5 Considerations and conclusions

In conclusion, it can be stated that also a project characterized by high expected revenues, international competition (the S.I.S. is a Spanish company) and an appropriate tender documentation may experience problems and delays in the delivery process, due to errors of public administration, promoter, Veneto regional court, and to the presence of the pre-emption right.

4 Conclusions

By analyzing the past and current situation of the Public and Private Partnership in Italy, both from a general point of view, and by means of recent case studies concerning middle size projects and, in particular, large infrastructure projects, a number of conclusions may be drawn.

However, before presenting the main findings of the research, it is important to underline a significant aspect. Since the diffusion of the project financing in Italy is recent, all the large infrastructure projects delivered by means of this procurement method, that represent the focus of the thesis, are still under way. In particular, the most advanced among the described case studies is the "Superstrada" Pedemontana Veneta, whose final project was recently approved and whose construction is going to start by few months. The other two considered infrastructures are either still at the preliminary design (regional "Autostrada" Cispadana), or even their construction is in doubt (regional "Autostrada" Mantova-Cremona). Therefore, the specific evaluation of these projects, and also the general conclusions about the current situation of the project financing in Italy, are partial. In order to have a complete understanding of all the criticalities of this delivery method, it would be necessary to wait for the opening of the analyzed infrastructures and for their results in terms of traffic volumes and revenues. Definite conclusions could be drawn only when the actual costs and revenues will be known.

However, even at this initial stage, it is already possible to find a number of issues and criticalities to the Italian project financing, concerning all the parts involved in the project.

The first problem that has been identified in the research is the lack of clear and stable regulations regarding the Public-Private-Partnership in Italy. A definition of PPP was provided only in 2008, with the Legislative Decree n. 158/2008, which defined PPPs as contracts regarding one or more aspects such as design, construction, management or maintenance of a public project, including in every case the total or partial private financing. However, the possibility of delivering public projects with private participation to the financing of the work was introduced in 1998, with the law 415/1998 (Merloni-Ter). During the ten years elapsed between 1998 and 2008, several modifications were brought to the regulations about PPPs. In particular, in 2002, the Law n. 166 introduced the so called pre-

emption right to encourage the private participation to the delivery of important and costly infrastructure projects. According to this Law, the delivery process for the award of a public works contracts, characterized by private contribution to the funding, became the following one. A public administration willing to build a new infrastructure with project financing asks for bids from private firms. Based on the received bids, it chooses a project (the so called project of public interest) and selects the promoter. Then, a competitive bid phase among the other firms (or associations of firms) interested in designing, building, managing (for an agreed period, during which the private company exploited economically the infrastructure), and partially financing the project, is carried out, based on quantitative parameters, determined by the public administration in the tender documentation. The two best bidders of this phase, the so called restricted procedure, could participate to the last step, that was the negotiated procedure, with the promoter. A second competitive tender, still based on quantitative parameters, was carried out. According to the Law n. 166/2002, if the best bid is the one of the promoter, the contract is immediately awarded to it. If the best bid is the one of one of the other two competitors, the promoter has the possibility to adapt its bid to the best one, and award the contract. The Law was modified in 2006, then in 2007, and finally in 2008. In particular, in 2007 the pre-emption right was removed, as a result of the pressures of the European Community, that accused Italy of violating the Community principles of transparency and fair competition. However, the last law, that is in force today, namely the Legislative Decree n.152/2008, modified another time the regulations for the award of public contracts with project financing. In particular, according to this law, three different delivery schemes can be followed (leaving complete freedom of choice to the public administration), and one of them reintroduces the pre-emption right for the promoter.

This brief explanation of the different laws regulating the delivery process of public works characterized by private financing points out that there is still confusion about the topic. Many modifications occurred in few years, sometimes contradicting each other, and, today, there is not a unique and clear delivery procedure to be followed for the award of this kind of contracts. Moreover, in case of regional projects, regional laws which are in some cases different from the national ones, have to be followed, and this further complicates the understanding of the situation for the public and private stakeholders of the delivery process.

Aside from this first problem, it is a matter of fact that the majority of the large infrastructure projects were awarded either by following the Law n. 166/2002 or the Legislative Decree n.163/2006. In both the cases, the scheme is the one previously described, which includes the selection of the project of public interest and the possibility for the promoter to exercise the pre-emption right.

In my opinion, this scheme is characterized by three main issues, where two of them are strictly connected each other.

The first problem is the choice of the project of public interest, and therefore the selection of the promoter by the public administration. This choice is completely at the public administration's discretion. In fact, none of laws introduced in the past years prescribes criteria for the selection of the project of public interest. Therefore, the administration is completely free to choose the preliminary project (that will be the base of departure of the whole delivery process) without being forced to apply objective criteria. Obviously, this goes against the principle of transparency and fair treatment among the companies willing to participate to project. As a consequence, it should not surprise that the promoters of important projects are always Italian companies, or large group of companies, that usually have also direct or indirect relations with political entities.

This first problem, which significantly penalizes the competitiveness among the bidders in the delivery process, and often discourages foreign firms from participating to the tender procedure, is worsened by a second issue, namely the pre-emption right of the promoter. Indeed, according to the 2002, 2006 and also 2008 laws, the promoter has relevant advantages with respect to the other bidders participating to the delivery process. In particular, it does not participate to the first bid, namely the restricted procedure, it competes only with two firms, or groups of firms, rather than with all the competitors participating to the first phase in the second bid phase, and, most of all, it can exercise the pre-emption right if its bid is not the best one of the competitive tender phase. This last point violates the Community principle of fair competition.

These two issues, namely lack of objective criteria to select the promoter and significant advantage for the promoter in the bid phase, become much more serious due to the fact that they are coupled together. Indeed, the promoter, that has enormous advantages in the bid

phase with respect to all the other competitors, is selected by means of a non-competitive procedure, such as the choice of the project of public interest is. In other words, out of the three phases that compose the process of selection of the contractor, the first one, namely the selection of the promoter, is not competitive, the second one, that is the bid phase among the competitors other than the promoter is competitive, and the third one, namely the negotiated procedure, is competitive but not fair, since the promoter can exercise the pre-emption right. The consequence is that, in the majority of the cases, selecting the promoter means selecting the contractor, and the fact that the selection of the promoter is completely arbitrary makes the actual competition extremely limited.

The third problem of the procurement process is its length and complexity. Three phases are too many, especially if one of them is carried out without competition, and therefore it is not only useless, but also damaging, and the second one is partial (because the promoter does not participate to it) and useless, since it represents only a pre-selection for the negotiated procedure. Reducing the number of phases would mean reducing the length of the procurement process, and therefore the time between the decision of building an infrastructure and the beginning of the works. Moreover, there is a number of bureaucratic steps (that are reported in the case studies) to undertake for the definitive award of the contract, whose number and length seems excessive.

The current law, namely the Legislative Decree n. 158/2008, tried to improve the situation, by giving the possibility to the public administration to carry out a unique tender for the selection of the promoter and the award of the project financing contract. However, the public administration may make use also of a double-tender procedure, consisting of two phases, namely a first bid phase for the selection of the promoter, and a second one between the promoter and the other competitors interested in designing, building and managing the infrastructure, for the award of the contract, in which the promoter can exercise the pre-emption right. The fact that two possibilities are provided (actually there is also a third possibility, allowing unsolicited proposals of private companies to the public administration, but it is not discussed, since it is quite confusing and it has never been applied so far), without prescribing when to use one and when the other one, and the fact that one of these possibilities re-introduces the pre-emption right (removed by the Legislative Decree n.

113/2007) represent significant issues, that could lead to the lingering of the majority of the problems described in the thesis.

To improve the Italian procurement process, reducing the time necessary to deliver the project and increasing the competitiveness in the bid phase, I propose the following solution.

The procurement process for the award of the contract for the final design, construction, and management and economic exploitation of the new infrastructure should be made of one competitive phase only.

In particular, the public administration, once decided to build an new infrastructure by means of project financing, should constitute a commission, including experts in the field of transportation, infrastructure and project financing. This commission should prepare a study including the proposed route of the infrastructure, some specifications about its technical characteristics, an estimate of the costs of construction and management, and a prediction of the future traffic volumes and expected revenues of the facility. Based on this study, a unique bid phase should be carried out. In particular, the commission should provide the potential competitors with the study it carried out, and prepare a tender documentation including all the parameters that will be evaluate by the commission, with their correspondent weight. These parameters have to be as objective as possible and include both technical and economic elements. The commission should specify a maximum public contribution and require in every case that the bids include a detailed cost-benefit analysis. Once all the bids have been received, the commission will evaluate them by means of the parameters included in the tender documentation. The contract will be award to the best bidder.

This procedure would allow to significantly shorten the time of the procurement process since only one phase would be required. Moreover, a fair competition would be guaranteed since all the bidders compete at par, according to known and detailed parameters, and all of them are provided with the same information about the project, since the commission publishes its study. The most important point for the success of the project is therefore the work of the commission, that should have a perfect understanding of the problem, in order carry out a high quality study and be able to properly evaluate the bids. The commission has to be also able to properly allocate risks between public administration and future contractor. To this

end, the impartiality of the experts composing the commission is fundamental for the success of the procurement process.

Obviously, the proposed solution is very general, and does not represent the remedy for all the problems of project financing in Italy. The issue should be faced by experts in the Law, Economics, Politics and Engineering fields, that should work together in order to find a way to guarantee the successful implementation of this procurement process.

My proposal should be seen as an indication about the way to follow for improving the situation, based on the European experience, the study of the Italian situation, and the analysis of the case studies I carried out.

In general, I think that it is reasonable to propose a modification to the current scheme, going in the direction of the reduction of the steps characterizing the current procurement process, and of the cancellation of uncompetitive and unfair bid phases.

5 Annexes

5.1 Annex 1

5.2 Annex 2

5.3 Annex 3

5.4 Annex 4

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