

Project Finance for public investments: the Italian experience

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The aim of the paper is to illustrate the specificity of the application of project finance in funding public projects and especially in relation to the ways in which public organisations can give monetary and non-monetary support to ensure the economic and financial balance of the project and consequently the desirability of the investment for private organisations. The paper discuss also the results of a study done by the Public Administration Department of the Bocconi University School of Management which illustrate the use of project finance in Italy drawing a “map” of the main and variable elements which characterise the use of project finance for public investments in Italy and outline the main development trends.

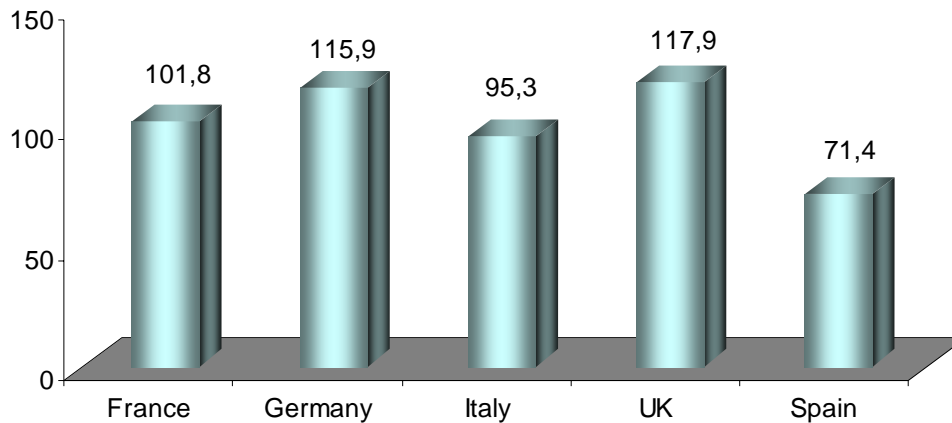
1.1 Introduction

When delivering public services, the two essential conditions which ensure economic development in any given area are adequate infrastructure and high levels of management efficiency. This is true both at a local national level (municipal, regional) and at an international level. Inside the ever expanding European borders, where investments are being made in places, where labour costs are most convenient, relaunching infrastructure and public services becomes an extremely critical factor in competitiveness for more advanced regional and national economies, strongly influencing the dynamics of economic and social development.

Figure 1 shows the results of a survey conducted by the CNEL which looks at levels of infrastructure in five nations of the European Union. The results illustrate the overall infrastructure and assigned an average of 100 points. Great Britain and Germany scored well above the average respectively 117.9 and 115.9, while the other three countries (France, Spain and Italy) were decidedly below average, particularly Italy (95.3) which was second last only to Spain. Italy was below average for all the infrastructure

categories which were taken into consideration, scoring even lower for energy and telecommunications (92-93% of the average of the five countries) while almost up to average for transport and education (97-98%).

Figure 1 - Levels of infrastructure in five nations of the European Union



Source: CNEL 2001

An overall national view shows a wide variety of situations: the data in Figure 2 shows that Southern regions are well below the national average, which determines a noticeable gap between the North and the South of the country.

Figure 2 - Italian level of infrastructure

Italian level of infrastructure (1997 - 2000)							
Areas	Roads and highways	Rails	Harbour	Airport	Energy and environment	Culture and leisure	total
level % on total level							
North west	25,3	22,8	15,4	33,6	32,3	22,5	151,9
North east	20,9	21,2	26,9	14,5	24,4	21,3	129,2
Central	20,1	24,9	17,6	29,7	19	34,1	145,4
South	33,7	31,1	40,1	22,2	23,4	22,1	172,6
level related to population and smq							
North west	107,7	97,2	65,6	143,4	137,2	100	651,1
North east	104	105,6	133,6	72	126,2	110,6	652
Central	102,1	126,1	89,5	150,6	96,4	175	739,7
South	91,8	84,7	109,2	60,5	63,8	57	467

Source: Istituto Tagliacarne 2001

This situation can negatively affect the competitiveness of the country and the capability to attract national and foreign private investments over the mid and long term. Moreover, the chronic lack of public resources and the sizeable cuts made to

expenditure over the last few years, are making it evermore difficult for public administrations (Local Boards, health departments and other public organisations) to fund the public infrastructure required to ensure adequate quality and quantity of citizens needs.

Due to these trends, many public organisations are resorting to alternative funding procedures and sources compared to those which have traditionally shaped the public sector (transfer from central government and debt), in particular, solutions in which private organisations are involved in obtaining the resources required for carrying out works and managing them with specific know-how and professionalism, according to *Public Private Partnerships* (PPP) guidelines.

Generally, a partnership can be defined as a co-operative relationship based on mutual interests and aimed at reaching common objectives both economic and non-, from which each subject indirectly gains individual advantages.

The basis for these relations to be successful is the significant involvement of the partners which is done with the contribution and exchange of:

- human resources;
- distinct abilities;
- financial and technological resources;
- managerial and entrepreneurial capabilities.

In relation to the public sector, the *public private partnership* model has been tested in many international contexts, with varying levels of success. The aim is to reach adequate levels-objectives for the delivery of public services where resources are limited and insufficient.

Specifically, the potential ways in which a public service can be offered range from direct allocation by a public department or office to the complete privatisation of the service. PPP are used when a service that is usually supplied by a public organisation is managed in conjunction with a private organisation. According to the mutual agreements and obligations, the private organisation can take on different responsibilities when planning the service, when building and managing the infrastructure and also in the funding stage. The use of the term partnership also brings

to mind co-operation, integration and risk sharing which defines the underlying spirit of these deals.

In general, the distinctive traits of the *Public Private Partnerships* can be summarised in the following points:

- the will to initiate a **mid to long term contractual relationship** between a public and a private organisation. Short-term contracts usually contain more details in the expected output; this permits an easier and faster evaluation of the performance obtained. In a PPP, the distinctive features of the public investment sector require the partners to have a mutual commitment for a longer period of time. The extended duration increases the level of uncertainty regarding the future outcomes of the agreement and requires a greater degree of flexibility in the management of possible unforeseen events and changes in the context (e.g. changes in the company structure of the private organisation can jeopardise the effective capacity of abiding by the expected outcomes, changes in the demand that may require modifications to be made to the offer and to the pricing policies, legal changes that could influence the service distribution conditions, etc.).
- The definition of a precise **risk allocation and distribution scheme**, in line with the specific expertise and the professionalism of the subjects involved. The risk sharing and risk shifting are aimed at obtaining an optimal allocation of responsibilities and risks between public and private organisations. An optimal allocation then generates the will to reach high levels of performance and to adopt mechanisms which have a relation between project performance and the level of quality expected by the public organisation. An efficient risk allocation can be jeopardised by inaccurate or inadequate assessment, by the inadequacy of the tools set-up for monitoring and evaluation, by the inefficiency of the rewards/prizes assigned, by a partial transfer of the risk compared to the optimal level, by defining inadequate rewards/prizes that can lead to opportunistic behaviour on behalf of the persons in charge of preventing or limiting the effects.
- **The financial copartnership in the investment.** Typically a public organisation will take on all the costs of the investment when allocating a public service, starting from the purchase and availability of the land on which the project is planned, to the

construction and fitting out (equipment, IT requirements, etc.) of the building, and also the fees related to the management and renovation (supply, personnel, etc.). In a PPP the costs are split between the partners, the shares vary according to the kind of project and the private organisations involved. An accurate economic-financial evaluation of the project and the definition and comparison of the costs and benefits expected from the project in order to assess the value for money, ensure the achievement of an excellent level of co-partnership between private and public organisations.

- Definition of high level agreements and planning **associated tools for reviewing the private organisation** and their delivery. A public organisation is subject to strict norms and rules in order to ensure legitimacy and transparency toward the community. Private organisations have less stringent rules, as they focus on the confidential nature of the activity and the need to abide by market laws. For this reason, a PPP must have specific clauses. On one hand, the clauses must reduce the risk of diminishing the level of accountability to the community (such as an unjustified increase in service costs or a reduction in performance quality, by defining specific *Service Level Agreement*). On the other hand, the obligation to abide by transparency and accountability which are related to a public service must not disadvantage the private partner in relation to competitors.
- The definition of mutual **responsibilities** and of correlated areas of accountability. Generally, the responsibilities of a public organisation are defined by national legal norms, while the responsibilities of a private organisation are defined and improved with each contract. In a PPP each subject must take on specific responsibilities for each area of expertise, in relation to which they are responsible for according to the schedule and outline agreed on in the partnership. It is therefore a decisive factor in the initial convenience and opportunity evaluation of the partnership to assess the areas of expertise and the specific responsibilities, and also the expected levels of efficiency and effectiveness as well as to plan a method of rewards/penalties for not abiding by them for each partner.

In relation to the contractual solutions agreed on for each of the variables which have been analysed above, a collaboration between a public administration and a private

organisation can be agreed on according to one of the different types of PPP briefly listed in the matrix in Figure 3. The options range from a typical public intervention, in which the local authority controls every stage of the service, to the total privatisation of the property and the management of the infrastructure and the related public service.

Clearly, whichever partnership model is chosen, the public organisation maintains:

- The responsibility of defining the minimum standards of the quality and quantity of the service;
- The prerogative of confirming the attainment of a determined level of management efficiency and effectiveness in meeting the citizens needs;
- The control of the mechanisms which maintain the prices at levels which are socially acceptable.

Figure 3 - Allocation of Public/Private responsibilities across different forms of Public Private Partnership¹

	Setting performance standards	Asset ownership	Capital investment	Design and built	Operation	User fee collection	Oversight of performance and fee
Fully public provision	Public responsibility	Public responsibility	Public responsabilità	Public responsibility	Public responsibility	Public responsibility	Public responsibility
Passive private investment	Public responsibility	Public responsibility	Pubblico-Privato	Public responsibility	Public responsibility	Public responsibility	Public responsibility
Design and construct contracts	Public responsibility	Public responsibility	Public responsabilità	Private responsibility	Public responsibility	Public responsibility	Public responsibility
Service contract	Public responsibility	Public responsibility	Public responsabilità	Public responsibility	Private responsibility	Ente Pubblico	Public responsibility
Joint venture	Public responsibility	Shared public/private responsibility	Shared public/private responsabilità	Shared public/private responsibility	Shared public/private responsibility	Shared public/private responsibility	Public responsibility
<i>Built Operate Transfer</i>	Public responsibility	Shared public/private responsibility	Private responsabilità	Private responsibility	Private responsibility	Shared public/private responsibility	Public responsibility
Passive public investment	Public responsibility	Private responsibility	Shared public/private responsabilità	Private responsibility	Private responsibility	Private responsibility	Public responsibility
Fully private provision	Public responsibility	Private responsibility	Private responsibility	Private responsibility	Private responsibility	Private responsibility	Public responsibility

¹ Adapted from Public Private Partnerships in the urban water sector, OECD, 2003.

Specifically, the types of PPP illustrated in the matrix in Figure 3 can be summarised in five potential alternative models of contractual relationships:

1. privatisation, by selling public assets to the private organisation or by stipulating a long term (from 50 to 99 years) managing agreement;
2. drawing up an agreement for the management of a public infrastructure and entrusting the private organisation with the responsibility of the maintenance and any financial losses;
3. the DBOT (Design, Build, Operate, Transfer) or DFBOT (Design, Finance, Build, Operate, Transfer) contractual model, in which the private organisation designs, builds, finances all or part of and manages a public project which, at the end of the contract, will be transferred to the private organisation;
4. a leasing contract, in which the private organisation allows the use of an infrastructure, looks after the management and maintenance, and gains profit from the prices established (remunerative projects) or through a fee paid by the private organisation (non remunerative projects) according to the type of service supplied;
5. the so called OMM (Operation, Maintenance, Management) contract in which the public organisation maintains the property on the infrastructure and the private organisation manages it according to the standards agreed on.

Each model of Public Private Partnership can be traced back to a different allocation and distribution of the risks of the initiative.

It has already been mentioned that one of the critical factors for the successful outcome of a PPP is the definition of a scheme of allocation and distribution of the risks, in line with the specific areas of expertise and the professionalism of the subjects involved. In general, the types of risks which need to be assessed in each of the five contractual models are related to:

- the planning phase of the work;
- the construction;
- the management of the service;
- financing;
- the analysis of the demand and the related definition of the price politics to be applied to the users;

- technology outdated;
- the residual value of the structure at the end of the contract.

Project Finance represents one of the potential models of public private partnership which can be established for constructing or managing public infrastructure and can be identified in the build and manage contractual agreement, which is also referred to with the acronym DBOT. It can be said that Project Finance is one of the PPP most frequently used at an international level, as it has been able to guarantee infrastructure and services with definite times and costs to the users even in situations with limited public funds for investments. The complexity of this model requires the integration of diverse professionalisms, capable of evaluating the technical, legal and economical aspects at two different levels. Levels which are subject to the following hierarchy: the first related to the choice of project financing rather than alternative funding solutions; the second related to the choice of the most competitive offer.

1.2 PF and Public Sector

Project Finance is a financial and managerial tool which when applied to the public sector allows private capital and know how to be utilised to construct infrastructure and provide public services.

Project Finance isn't actually used to define a specific financial technique; it in fact defines a way in which to finance investments and entrepreneurial projects in which:

- the cash flow which is meant for the repayment of the loan made for the investment is associated directly to the profits generated by the project itself;
- the guarantee needed for the loan are the assets related to the project which is being financed and not the entire property of the company which is building the project.

The project finance operations therefore modify the traditional merit of credit evaluation: when assessing the loan, the credit institution doesn't evaluate the capability of the companies to ensure reimbursement, but the project profit scenarios and possibilities, which then becomes the only real guarantee for the debt.

Therefore, generally, project finance can be defined as a "financing operation of a specific economic unit in which the sponsor is willing to consider, from the outset, the

cash flow and the profit of the economic unit as the source for funds which will allow the loan to be repaid and the activity of the economic unit as a collateral guarantee on the loan” (Nevitt, 1987).

Practically, project finance is a funding operation made up of a number of contracts (concession, financing, contracting, supply, guarantee, building and maintenance) aimed at:

- for the public administration, integrating public resources (financial, professional and managerial) in order to better or innovate the offer for a public service for the community
- for private companies, to obtain a just compensation of the resources invested in the initiative.

These premises show how difficult is to give an unequivocal definition, able to deal with the wide range of solutions that can be implemented for financing public works. No matter what the specificity of the initiative, project finance in the public sector (Amatucci, 2002) can be led back a financial operation in which:

- The construction of the project is entrusted to diverse organisers who each constitute a specific project partnership, which ensures financial and juridical separation of the project;
- The organisers sponsor the initiative with their own funds (equity) and debt;
- The cash flow of the project represents the main source for the repayment of the loan and for the reimbursement of the shareholder’s equity;
- The security for the sponsors is directly related to the solidity of the project; the evaluation of the debt reimbursement capacity is based on the revenue forecast of the financial venture and not on the organiser’s real wealth and property.

Summarising, project finance can therefore be defined as an “financing venture of a specific economic activity, achieved by a specially constituted partnership, in which the cash flow deriving from the management represent the primary source for covering the debt” (Fabozzi, Nevitt 2000).

Following on from these definitions, it can be seen that one of the fundamental elements of the venture is the establishment of an independent juridical company (**SPV** – Special Purpose Vehicle). The sole corporate purpose of the SPV is the construction and the

management of the project. The SPV is the holder of the fundamental rights and obligations of the project. The establishment of the SPV therefore represents the fundamental condition for the achievement of a project finance initiative, as it allows the project cash flow to be separated from the assets and the other activities of the subjects involved and it also allows the sponsors not to list the loan among the debts of the SPV as the so – called “ring fence” is used.

This particular strategy ensures the project legal, economic and financial independence. This acts as a guarantee both for the creditors of the initiative and for the creditors of each of the sponsors. The ring fence also allows the no recourse debt to be used, which means that the service it ensured solely by the project’s capacity to generate sufficient cash flows.

In the no recourse financing the sponsors can’t recover their losses through the shareholders; in these cases, the banks accept to finance using non traditional methods, accepting entrepreneurial risks, or in some cases third parties are involved, usually insurance companies, which guarantee separate or unit coverage for the project. When using limited recourse debt, the amount, type and time of the reimbursement which can be asked from the shareholders is limited. Lastly, with the full recourse debt the shareholders take on directly the entire risk of the venture, not abiding by project finance assumptions.

As well as the functions catered for by the project company, the **public administration** has a fundamental role and is the true author of the venture. The contribution made to the venture is essentially a grant, as it’s up to the public administration to judge the grant for the construction and maintenance (the main contract of the entire venture) of the new public infrastructure for the private organisation whose offer is nearest to public requirements. Often, as will be seen in the following paragraph, the public authority can accept the role of partial sponsor of the venture.

The **sponsors** can be defined as those people who, after having evaluated the profit gained from participating in the venture, promote the achievement in several ways. Usually, the sponsors are themselves the planning, construction and maintenance companies who work for the SPV and in some cases along with other shareholders make up the company.

The **credit institutions** play a decisive role in the financial set up of the venture. Commercial and merchant banks participate in the venture performing three fundamental functions:

- financial advising in the development stage of the project, ensuring support to the promoters when laying out the economic-financial documentation, during the analysis of the risks and assisting during the negotiations;
- arranging of the funding, involving other banks and financial intermediaries who are interested in underwriting part of the funding;
- complete or partial lending.

Credit institutions can also participate as investors in the project company with equity capital.

The **insurance companies** have a fundamental role when analysing and allocating risks. They offer partial or total contractual coverage for certain risks that the counterparts judge to be risky or can't take on.

In this case, the SPV which has been tailored to the venture, allows the specific project risks to be isolated and transfers them to the subjects involved in the venture.

These elements, which are the ones which characterise a project finance venture make it possible for there to be widespread use of project finance in the public administration as can be seen in the following paragraph which illustrates data collected regarding the diffusion of project finance in Italy.

Generally, the advantages that public administration can expect from project finance can be summarised as follows:

- gaining financial resources through risk (equity) capital and debt from the market;
- replacing bureaucratic - administrative reasoning with managerial approach, placing more emphasis on the revenue of the service and on bettering the quality;
- gaining innovative technical solutions, specialised technical know how, also from overseas thanks to the involvement of international partners that have developed experiences in contexts where liberalisation of public services is more advanced;
- bettering the management and risk allocation, in particular regarding time and money for construction and management performance.

Summarising, project finance could, in the near future, ensure a rapid development of infrastructure and raise efficiency and effectiveness of standards being supplied, while the public administration maintains the prerogatives regarding: direction, programming, control and regulation of the activity done by a third party, private partners.

1.3 Types of projects which can be funded with project finance and the role of the public administration

The straightforward application of the project finance model, in which the economic and financial performances of the venture during development and use ensure a cash flow that is sufficient to repay the debt to the project company, isn't always applicable to financing public investments. The nature of public services and the functional allocation of public infrastructure, the change in demand and the variety of needs of diverse users, require significant changes to be made to the theoretical reference model. The reference model has, up to now, only ever been used for large scale private investment projects (oil plants, gas plants, oil mining, telecommunications, energy plants, etc.) which are typically part of the capital intensive productive sector.

Project finance operations for the development of public investments often don't have sufficient cash flow to repay start up and maintenance costs and therefore require public funding in order to ensure the economic and financial stability of the project and to consequently encourage private participation in the project.

Public support can vary according to the sector and specificity of the project. Public projects which can be funded by project finance can be classified in two main categories with reference to the users:

- Projects which require users to pay;
- Projects which require the public administration to pay.

For projects which require the users to pay², a further distinction can be made based on the level of fees and prices applied:

1. Projects which have prices that ensure profit making (financially free standing ventures). In this case public support to the project isn't a financial contribution, but is a clear contractual agreement regarding the limits and obligations of the subjects involved and the determination of qualitative and quantitative standards and criteria in line with the needs stated by the demand.
2. Projects that provide non-remunerative services, with a "political" or social price, which don't repay the total investment and maintenance costs (mid-remunerative projects). In this case the public administration is required to support the project with supplements on the revenue and at times with public grant.
3. Projects that provide free services to the users. The lack of payment on behalf of the users don't allow the investment and maintenance costs to be repaid. This means that project finance requires ways to integrate revenue which will allow the venture to be economically and financially balanced. In this case the public administration defines "shadow fees" and or management fees which are funded by taxes, and can be supplemented by public grant.

Projects which require the public administration to pay are aimed at creating the conditions which will allow the agency/office/department to supply the service which they are in charge of. The involvement of private organisations is aimed at constructing infrastructure/building – such as public and municipal offices, hospital facilities – at the functional maintenance of the projects and to supply any support services to the core activity (the so-called accessory services). Generally, the private organisation doesn't interact with the user and is funded by the public agency for the availability of areas and the support services supplied through a maintenance fee, and, in some cases, a public grant. Should the project plan for any private commercial activities (bar, restaurants, parking etc.) for the users (citizens in municipal offices, hospital and nursing home patients etc.), the payment can be guaranteed by charging the user/client market prices, or for a fixed fee if the public organisation believes that it is socially just to contribute with a revenue supplement.

² This kind of structure is usually applied to local public utilities, where there is a direct relation between

The scheme in Figure 4 summarises the types of projects which can be funded through project finance with particular emphasis on the different degree of public financial intervention.

Figure 4 – Project finance for public infrastructure: types of projects, public financial support and sectors (Vecchi 2004)

<i>TYPE OF PROJECT</i>		<i>FINANCIAL SUPPORT</i>	<i>APPLICABLE SECTORS</i>
PROJECTS WHICH REQUIRE THE USER TO PAY A FEE	Fee which ensures economic and financial balance	None	Parking Lots, cemeteries, canteens, incinerators, toll roads, sport facilities
	Fee which doesn't ensure economic and financial balance	<ul style="list-style-type: none"> – Shadow toll – Public grant 	Toll roads, tunnels, cable railways, sport facilities, recreation – cultural facilities, purification plants, aqueducts, day care centres, day care retirements facilities, retirement villages.
	No fee applied to the user	<ul style="list-style-type: none"> – Shadow Toll – Unsecured funds 	Roads, tunnels, bridges
PROJECTS WHICH REQUIRE THE PUBLIC ADMINISTRATION TO PAY	The company delivers commercial services to users, who pay a market price form them	<ul style="list-style-type: none"> – Maintenance Fee – Public grant 	Hospitals, public buildings, schools, prisons

The areas in which project finance can be applied and the ways in which the project can be financially sustained as shown in Figure 4 are guide lines and aren't meant to be exhaustive or compulsory. Particularly in relation to the economic and financial balance it must be pointed out that the aim is for it to be "minimised". There is, in fact, no way to give an acceptable level, the amount depends on the sector, the kind of project and the political and social choices made by the public administration³. The decisions regarding the *quantum* (amount) and *modus* (method) shouldn't be based merely on the amount available and the most frequently used methods to sustain the project, but

supplier and user.

³ L. 109/92, art. 20: the contribution as an element which is not outside the tender

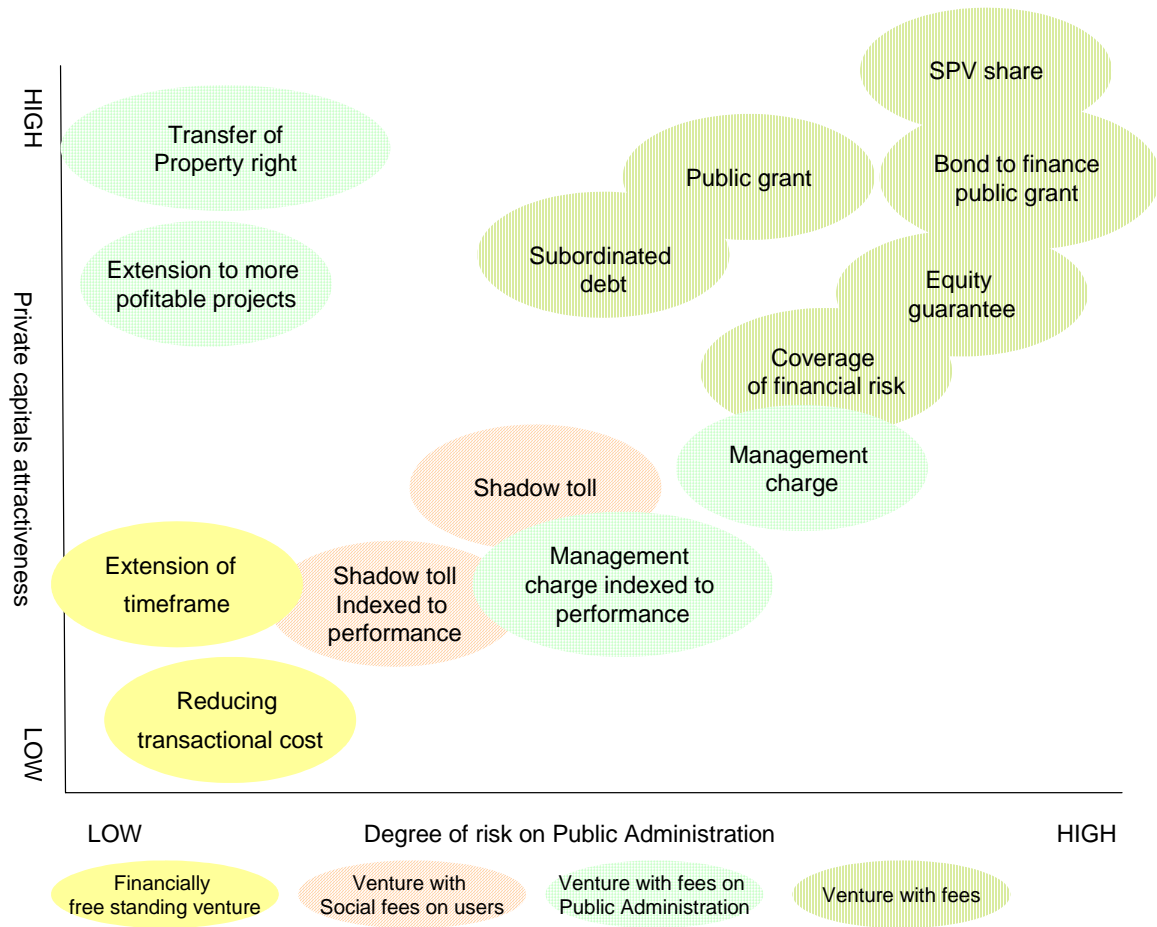
should be the outcome of a careful analysis of the economic and financial plan of the venture.

If we take look at a toll road, this can be considered a financially free-standing project if the toll is enough to refund the investment. A toll which will ensure the economic and financial balance of the project isn't necessarily politically acceptable, and this at times will determine the failure of a project, which is what happened for the M1/M15 Vienna-Budapest toll road: the users were reluctant to pay the toll and chose other routes. More often the public administration pays a shadow toll in order to ensure lower prices. For example, in the UK, most highways are toll free. Notwithstanding this the UK government has adopted project finance schemes for the construction, adjustment and maintenance of some highways, using a shadow toll system sponsored by the Highway Agency (Department of Transport) directly with the licensee using inversely proportional prices to the traffic flow⁴.

Referring to the support supplied by the granting administration, both the *quantum* and the *modus* have been mentioned, i.e. to the tools, monetary or non, which can be implemented, that ensure the economic and financial balance of the venture. Figure 5 shows some potential interventions considering two parameters, the capability of attracting potential investor interest and the level of risk of the granting administration.

⁴ The structure of the shadow toll paid is more complex, as the unit price needs to be adjusted according to the type of vehicle and for the levels of performance ensured by the administrator (speed of intervention in case of accidents and decrease in accidents compared to a national proxy).

Figure 5 – Financial and non financial public support to ventures (Vecchi 2004)



This Figure also links these tools with the three categories of projects which can be funded through project finance as illustrated above.. The associations are just indications and aren't binding, but they do derive from the characteristics of public infrastructure projects. The singling out of the best method should derive from an evaluation of the tools which ensure minimum risk for the public administration and from the one which is most in line with the project characteristics. Up to now, in Italy, the most frequently used tools are public grant, shadow tolls and maintenance fees, the effects of which can be easily estimated: if a direct relation can be established between shadow tolls and projects for which the users pay social tariffs or are free of charge, and between maintenance fees and projects which are used by the public administration, this relation cannot be found for other tools.

For example, public grant, which impact significantly on the public administration budget as they require a high cash flow and/or *ad hoc* funding given by higher public

agencies, Regions (States), Ministries, Government Agencies etc., could be substituted with more effective tools such as:

- The extension of the venture to other more profitable integrated projects;
- The transfer of real property or use of it to non functional assets;
- Participating in the project company debt;
- Payment of the subordinate debt.

The subordinate debt allows the financial structure of the project to be optimised. If the contracting agency has enough liquid assets, supporting the project with subordinate debt is more effective than public grant for two reasons:

1. It's not subject to VAT which costs 10% of the total value,
2. The impact on the current net value of the cash flow is greater due to time value of money, because it can be paid when the project company is created and not when the grant has been made in relation to work advancement⁵.

Another very effective tool is to transfer ownership rights or privileges to non functional assets⁶, this allows the selling and valorisation politics of the real property to be coordinated with the new investments and on the other hand to control the effects of the investment on the agencies budget. Inserting assets in a project finance scheme can comprise:

1. Transfer of ownership rights to non functional assets when the contract is stipulated, these can be exploited by developing new commercial activities or alienated by the project company;
2. Transferring ownership rights of the non functional structure only after the new investment has been implemented;
3. Transferring the use of assets for the duration of the project for developing commercial activities, at times socially based.

⁵ Due to the time value of money, if the cash availability is the same the economic indicators are better or when the cash deposited is reduced the maintenance of the financial and economic conditions balance.

⁶ L 109/94, art.19: "the bidder can relinquish as property or use real property owned, or for expropriation, when the use is related to the project to be granted, as well as real property which is no longer of public interest, and has already been highlighted in the three year plan, excluding the real property already planned to be divested". This possibility was previously only for contract work.

Experience in the UK has shown that inserting available assets in project finance contracts is quite frequent and the justifications which support this choice are mainly the following:

1. Greater ability and know how compared to private organisations to exploit real property;
2. Fee and public grant reduction owed by the public administration to the licensee.

Transferring ownership or use rights to the public agency's assets requires a careful estimate of the economic value of the assets in order to ensure the best choice which will generate value for the public administration and for the community (value for money).

This means that it could often be more convenient to alienate or exploit real property anyway, without using a project finance contract and then to use the income to cover the amounts used for co-financing projects, for public grant, for equity, for subordinate debt or for maintenance fees.

1.4 Defining the fee and the “shadow tolls”

The maintenance fee and the “shadow tolls” can be defined as a fixed fee ahead of time and for the entire duration of the contract or they can vary, if they are related to certain parameters according to the aims of the public administration. The public administration which gives the grant has to carefully plan the method of payment.

A fixed fee ensures a definite and manageable burden and therefore doesn't require significant monitoring systems. On the other hand such an inflexible system could induce opportunistic behaviour on behalf of the private organisation, seeing that there is no incentive for efficient management, this system also has a higher risk of straying the real performance from the true performance over the mid-long term.

Using a variable fee⁷ allows these limits to be overcome and to enact the principle of risk sharing, which is the distinctive trait of project finance.

⁷ A working example can be found with the Active Payment Mechanism utilised for the A13 Thames project, Highway Agency, UK Ministry of Transport, www.highways.gov.uk.

When creating the variable shadow fees the risk sharing objective can be obtained in two ways, which can be used in a complementary manner:

- ✓ by forecasting a cap on the return, such as with the shadow fees applied to the first UK project finance experiences;
- ✓ by indexing the shadow fees to real performance parameters as for the A13 Thames Gateway Highway with the active management payment mechanism which foresees rewards and penalties based on the private organisation's ability to reach the objectives given by the public administration. For the case considered these objectives are traffic flow, a fast recovery of normal driving conditions following bad weather or accidents, reducing the number of accidents below the national average.

The variables used for indexing the shadow fees can basically be summarised in three main categories.

1. availability charge, which refers to maintaining adequate levels of functioning and usability of the infrastructure, accompanied by the forecast of differentiated penalties according to the unavailability of certain types of areas (higher penalties are assigned to highly critical areas with limited availability);
2. performance charge, according to the level of achievement of the outputs assigned to all the services planned in the contract;
3. volume payment, which is applicable only in certain sectors. An example is the calculation of the shadow toll paid by the UK Highway Agency to remunerate private organisations in project finance contracts for the construction and the management of the highways which in the UK are toll free. The structure of the tariff anticipates that the unit payment diminish according to the volume of traffic, so, that should there be low traffic flow the tariff would repay the debt, but wouldn't ensure a predetermined capital yield. The UK projects usually plan for four traffic categories (adjusted according to the length of the vehicles) that determine the levels of shadow tolls to be paid.

In the Italian Health System, starting from the initial projects finance, variable fees have been determined. Three examples of management fees in investment projects for

hospital buildings follow. The first two projects were awarded in 2002 (Azienda Ospedaliera Spedali Civili di Brescia) and in 2004 (Ospedale di Castelfranco Veneto e Montebelluna, Ulss di Asolo), the third is still being evaluated.

1. Variable fee based on the occupancy of the available places with the forecast for a floor and a cap rate to ensure the stability of the cash flow for the project company⁸. The Hospital of Brescia has planned to pay the project company an annual fee for construction and management of extra services made up of:

- A fixed fee, the amount of which can vary according to the EURIBOR rate every 6 months, with a minimum of 3.75% and a maximum of 7.25%; and will be increased or diminished by 55,000 Euro for each increase or decrease of a quarter point (or rounded up by fraction of).
- A variable fee, based on the occupancy of the area involved in the project.

This rate is determined based on:

- all the wards involved in the project,
- the number of beds (154) considered which make up 100% of the total capacity which to refer to,
- the number of days that the beds are available (based on a 360 day year)
- the day in which the patient is admitted in order to determine the length of the stay in hospital.

Based on these factors, an overall synthetic indicator has been individuated, the so - called Occupancy Target Rate⁹. For each year of the project, a target value has been calculated to be used as a benchmark in order to determine the variable part of the tariff. Figure 6 shows the rates established in the contract: it can be clearly seen that the variable rate is linked to the project's capacity to ensure an increasing occupancy rate.

⁸ The contract which regulates the subject doesn't plan for the private organisation to be involved in dealing with non medical services.

⁹ The term "Occupancy rate" refers to the true occupancy for each bed, both ordinary and day hospital, which are involved in the project.

Figura 6 – The target rate of occupancy

Time frame	Target rate of occupancy
2005	78%
2006	79%
2007	80%
2008	81%
2009 till the term of contract	82%

According to the contractual agreements, except the first part which is fixed at 275,000 Euro, the variable part of the fee can fluctuate between a minimum of 258,228.45 and a maximum of 774,685.35 Euro. Should the occupancy rate be the same as the target occupancy rate, the variable fee is 516,456.90 Euro. For each percentage point (or fraction of) greater or lesser than the target occupancy rate, the variable fee will be increased or diminished by 25,822.82 Euro, up to a maximum of +/-10 percentage points¹⁰.

Summarising, the variable part of the fee is approximately represented by a differential between 9.7% (for the minimum amount of the rate) and 24.67% should the licensee reach the highest level due to the occupancy rate.

Both of the amounts (fixed and variable) are subject to adjustment according to a reviewing coefficient based on the annual ISTAT index for detail prices.

2. The Asolo Healthcare organisation negotiated a unique fee established as a percentage of the its annual income, if it is included in a contractually agreed on range. Should the income fluctuate above or below the established levels, lesser or greater percentages will be charged so that the fee will be at a level which ensures economic and financial balance. The fee is also subject to penalties in case the performance shouldn't meet the expectations of the granting agency. Should the annual income be less than a minimum amount (based on the 2000 income reduced by 3%) the percentage to be applied will be increased by 28.5% in order to guarantee the economic and financial balance and nevertheless will ensure that the fee paid is the same as the amount which would be earned if the income were the same as the minimum amount. Should the annual income be greater than the maximum level (based on the 2000

¹⁰ For example, if the real occupancy in 2009 is 85%, the amount given to the project company will be 593,925.22, equal to the equivalent amount for having reached the referral occupancy rate of 516,456.90Euro, increased by 77,468.32 which is equal to 22,822.84 times 3 percentage points.

income increased by 3%) the percentage will be less than 28.5% and will nevertheless guarantee a fee which is equivalent to the highest level income.

3. The third Healthcare organisation chosen by the authors, has been negotiating a fee made up of two distinct components: one for the availability of the areas, indexed to the Euribor, according to the fluctuation of the financial costs of debt, and one for the repayment of the maintenance and non-sanitary services for which a penalty of up to a third of the total value can be applied. The availability fee of the areas is aimed at covering the cost of senior debt, which, as has already been mentioned, is variable; the service fee ensures that the maintenance costs and the repayment of the risk capital is guaranteed, this is also variable depending on the performance and allows a certain pressure to be put on the efficiency and effectiveness of the private organisation. In this case, the structure of the fee doesn't allow the value for money to be maximised, because the Health Agency has to sustain a financial risk linked with the fluctuation of the passive interest rates, in this circumstance the Health Agency doesn't have the ability required to sustain it effectively.

1.5 Mapping public administration project finance: the Italian experience

Over the last few years, Italian public administrations have financed an ever increasing number of investments using project finance. In this paragraph the main results of the study made by the research Group "Strategies and Financing Tools" of Public Administration and Health Department of Bocconi University School of Management on behalf of Formez during 2003/2004 are shown.

The aim of the study is to obtain a "map" of the main and variable elements which characterise the use of project finance for public investments in Italy and outline the main development trends.

The mapping has been acquired by asking the people in charge of the technical offices to fill in a questionnaire. The sample is made up of 60 projects, selected among over 1.000 public administration contacted. The representativeness is ensured by

extrapolation criteria selected by the research team. The criteria used can be summarised as follows:

- type of contracting administration;
- locations;
- sector involved in;
- progress of the procedure.

The survey of the projects was done over 6 months, from December 2003 to May 2004.

The analysis was based on the following elements:

- types of projects completed with project finance;
- locations of the ventures;
- types and aims of the projects;
- types of procedures used and progress of the procedure;
- main characteristics of the grant;
- type and amount of public funding to sustain the initiative.

1.5.1 Sectors and size of projects

The sectors in which project finance is most readily applied to are those which are financially free-standing, in which the maintenance generates returns which allow the full cover of the investment without other guarantee or financial support required. As has been highlighted in the first paragraph, this kind of venture is hard to come across in public works, as given their social and political characteristics, fees, which allow the complete cover of investment and maintenance costs, aren't always applied. Often infrastructure based on services which are free of charge or which have "government controlled prices" are used.

The sectors found in the survey are in line with the ministerial categories for public investments planned for the development of the three-year plans. These are as follows:

- recreation projects (leisure, tourism and free time),
- sport facilities,
- urban regeneration projects;
- parking and transport;
- cemeteries;

- government housing;
- social and healthcare projects;
- schools;
- public building (mainly offices);
- utilities (water, power, waste)

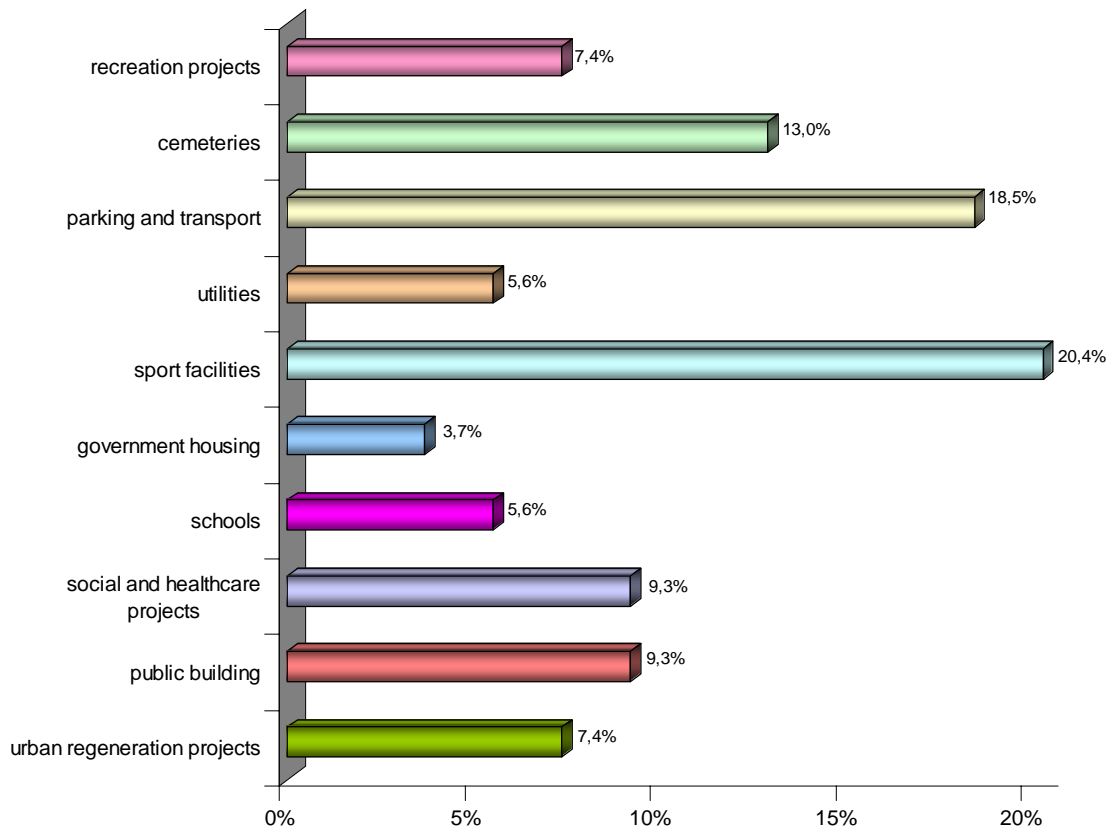
The sectors in which project finance ventures have been utilised represent almost all the categories of public investments. Due to the characteristics of the public administration and the size of the investments, project finance hasn't as yet been used for airports or railway transport; some ventures have been made for maritime, lake and river infrastructure and prisons.

The data shown in Figure 7 illustrates that most initiatives have been completed in sectors which have more consolidated experience and in which the cash flow allows an easier application of the project finance. It can be said that the projects with little or no return require greater skills on behalf of the public and private organisations in order to define the payment methods, in negotiating the risk sharing and, in general, in getting the venture together, even though for some areas, such as health and social, there are many international experiences which can be used as examples.

The three areas in which project finance is mostly used in Italy are: buildings for sport (20.4%), parking lots (18.5%) and cemeteries (13%), these are not considered to be very critical ventures. A reasonable number of ventures can also be seen in more critical fields such as healthcare and public structures (both at 9.3%), urban regeneration projects also have a high percentage (7.4%), many of which are co-financed by ERDF¹¹, specifically with the URBAN program. Compared to the international trend, there are still not many examples for utilities, especially due to the constant legal changes. The use of project finance for funding utilities can be a good answer to the need to guarantee, on one hand, a rapid development of infrastructure in Italy, and on the other to increase the efficiency and effectiveness of supply. It would also make the move toward liberalisation and privatisation of utilities to be faster, allowing the public administration to focus on policy, planning, control and regulation functions.

¹¹ The structural fund European Regional Development Fund

Figura 7 – Sectorial distribution of projects (% of total number of projects)



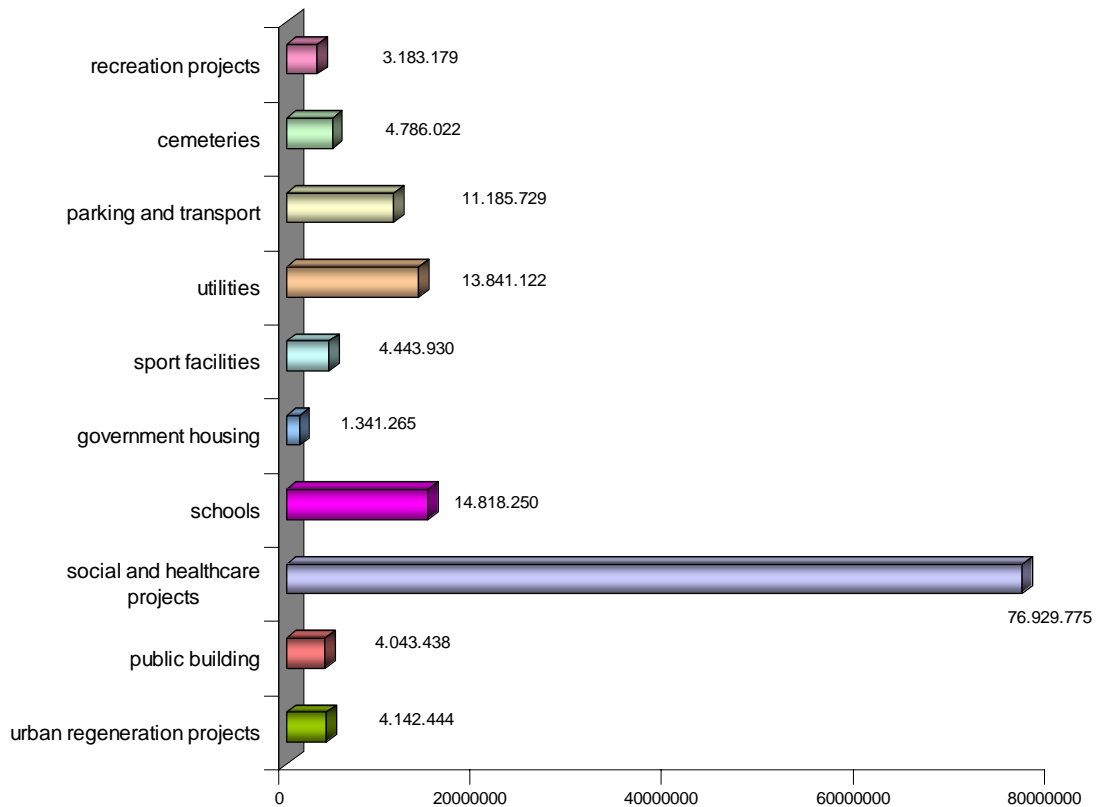
The high concentration of project finance in light infrastructure (sport structures, parking lots and cemeteries) results in a narrow range for the average cost of the projects surveyed. Only 14% of the projects analysed are over 20 mil. Euro and just over 9% are more than 30 mil. Euro.

The reclassification of the project areas according to the value of investments in Figure 8 shows that the healthcare is the most capital intensive sector, putting the fields in which there is a greater concentration of projects (parking, cemeteries and sport structures) in a new perspective.

Infact, in the healthcare sector the average investment is of 69.9 mil Euro: the distribution of the project shows that the range is extensive, there have been sizeable

projects, at times greater than 250 mil. Euro. Other fields in which the dimension of the projects is sizeable are infrastructure of schools (14.8 mil Euro), utilities (13.8 mil Euro) and Parking (11.2 mil euro).

Figure 8 - Sectorial distribution of projects (average amount of investment)

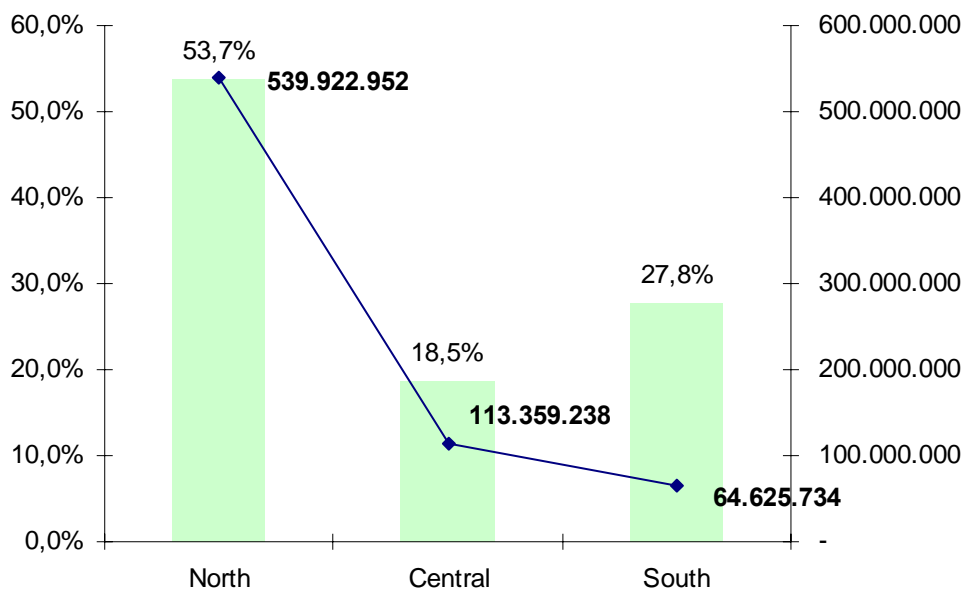


The entire value of public investments which have been completed or which are being completed using project finance is approximately 719 mil. Euro, 75% of which in Northern Italy, 16% in Central and 9% in the South.

As Figure 9 shows, Central Italy hosts 18,5% of the projects which add up to 113 mil. Euro; while there are a greater number of projects in the South but for lesser amounts, 27.8% have a total amount of only 64.6 mil Euro. The average amount of the projects is

respectively 11.3 mil. Euro and 4.3 mil Euro. The projects developed in the North are the 53,7% of the total number for a 540 mil Euro and have a significantly higher average value, 18.6 mil. Euro.

Figure 9 - Geographical distribution: number of project (%) and total amount of investment



It is necessary to highlight that the costs and time required during the start up procedures of the project finance ventures aren't proportioned to the economic value of the project. Generally it takes about 12/24 months from the notice to the agreement, while the costs are difficult to estimate, due to the potentially sizeable transaction costs. For these reasons, the UK public administrations, which are very experienced in project financing public/private partnerships, have opted for a centralised management of a number of projects from the same field, through a unique tender. Although when using a centralised management for a number of projects, specialisation and economies of scale are an advantage, it must be noted that there is a threshold above which the marginal increase of the dimension of the project only leads to an increase of time and management costs. This threshold is difficult to estimate, but is linked with the field, the ability and the experience of the public administration and of the private organisations.

1.5.2 Types and main characteristics of the projects

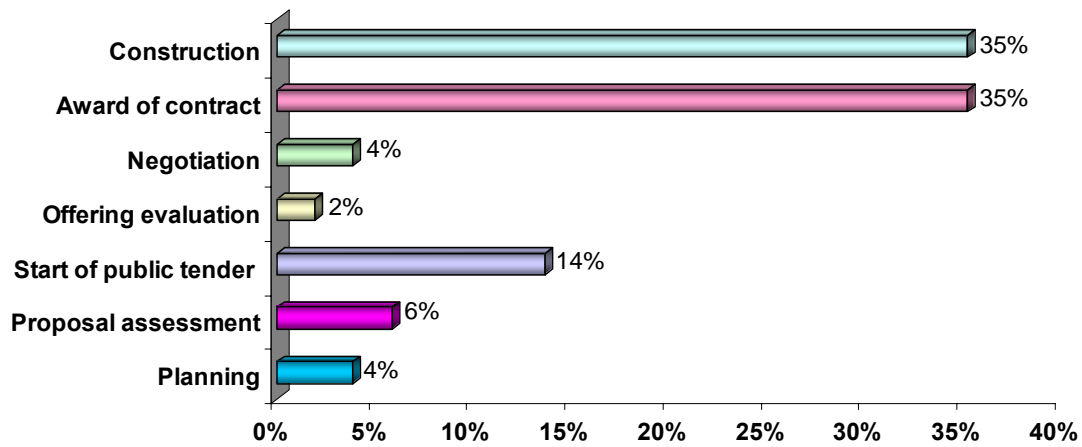
Generally, project finance is chosen for funding new buildings or infrastructure (67%), while it's not very utilised for renovations (16%) and expansions (17%). Renovation and expansion projects usually have a greater degree of complexity and therefore greater risk, both in the design and in the organisation stage, this can have a negative impact on the schedule and on the budget.

The legal framework chosen for the project companies analysed is predominantly (96%) ex art.37 bis Law109/94 (project finance through private initiative). It can be said that for new construction, private initiative can be more suited in order to assure unity between the three levels of design and construction and also so that innovative and creative elements are introduced by the private organisation in order to make the offer more competitive.

In light of the preponderance of the projects regulated according to article 37 bis in this survey, we will look into the project progress reports and the number of proposals received following notification.

Regarding the procedure, Figure 10 shows that most of the projects surveyed are in the later stages, over 35% are being constructed. The calls for bids published for new construction are numerous, this supports the forecast of an increase of awards for 2005.

Figure 10 – Distribution of venture by stages of the procedure

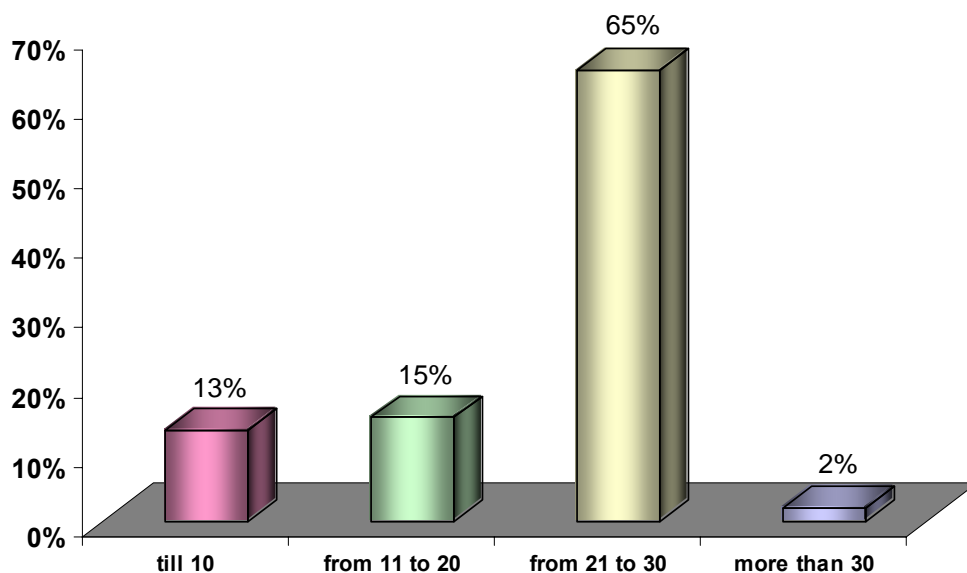


The number of proposals surveyed show that 2/3 received only one proposal. This shows that the Italian project finance market isn't ripe. This isn't due to the "alleged" lack of ability of the public administration, but has more to do with the private organisations. The number of organisers increases the complexity of the evaluation process for the public administrations, but also refines competition and attenuates the effects of pre-emption rights introduced with Law 166/02¹². Often the number of proposals received by the public administration is low and in some cases there have been none. This is also due to the fact that after the project has been listed in the three year plan, often public administration doesn't draw an adequate feasibility study which contains all the technical, economic and financial information needed for the investment to be made and the specific requirements of the public administration. The lack of a feasibility study lengthens the evaluation period of the proposal, as supplements or modifications to the project contents are often required before it gains public interest. It is also necessary to highlight some of the characteristics of the companies which work on public ventures. The market is fragmented and not concentrated, the average size of the companies is small and knowledge of project finance is often limited, as can be said for knowledge of the complexity of the procedure.

¹² The Law 166/02 introduced changes in the legal framework for public works. With regards to project finance, it removed limits on the duration of the grant and the maximum amount of unsecured funds and opened the way to use project finance for non-remunerative works, i.e. for those projects that have mostly public funding.

Regarding the duration of the agreement, most of the projects go from twenty to thirty years, and rarely any longer than thirty years. This threshold is considered critical by both parties as risk evaluation is hard to predict and estimate beyond this. The length of the grant is often a critical factor for public administrations that are reluctant to use project finance for funding, construction and maintenance of investments. This incentive is in fact rarely used to ensure economic and financial stability of the projects and to reduce the amount of public financial support, as both public and private organisations are reluctant.

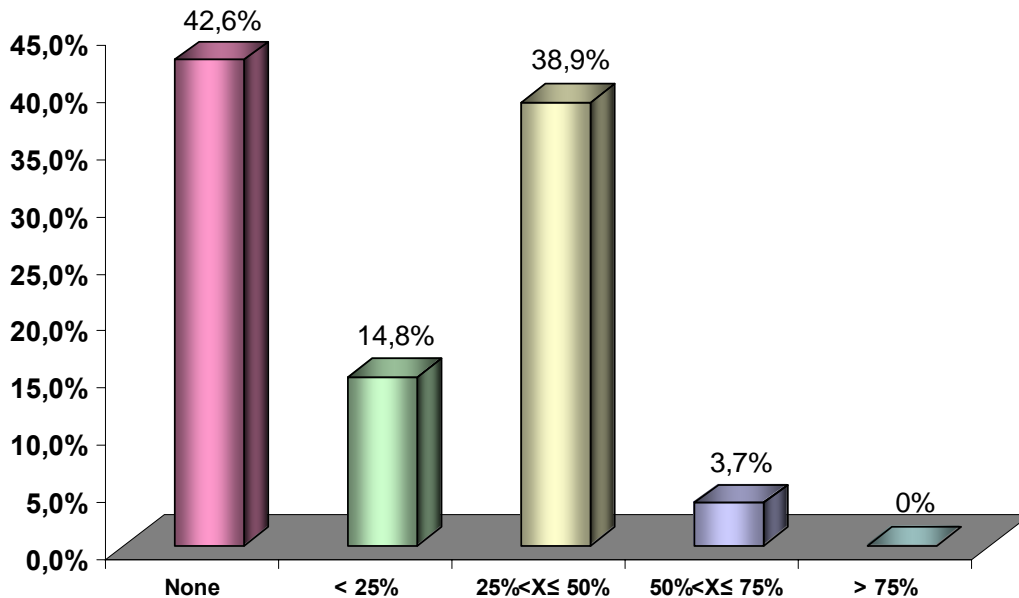
Figure 11 – The duration of the agreement



As has already been mentioned, public infrastructure which supplies free or government subsidised services can't repay the investment or the maintenance costs. This situation requires different, monetary or non, support from the public administration. If the maintenance fee is given to repay services supplied directly to the public administration, the shadow toll and the public grant are aimed at ensuring the economic and financial balance of the project. With reference to the projects surveyed, 57% has a public subsidy, which on average amounts to 30% of the total value of the venture. 39% of the

projects have a mid to high subsidy, between 25 and 50% of the investment, as shown in Figure 12.

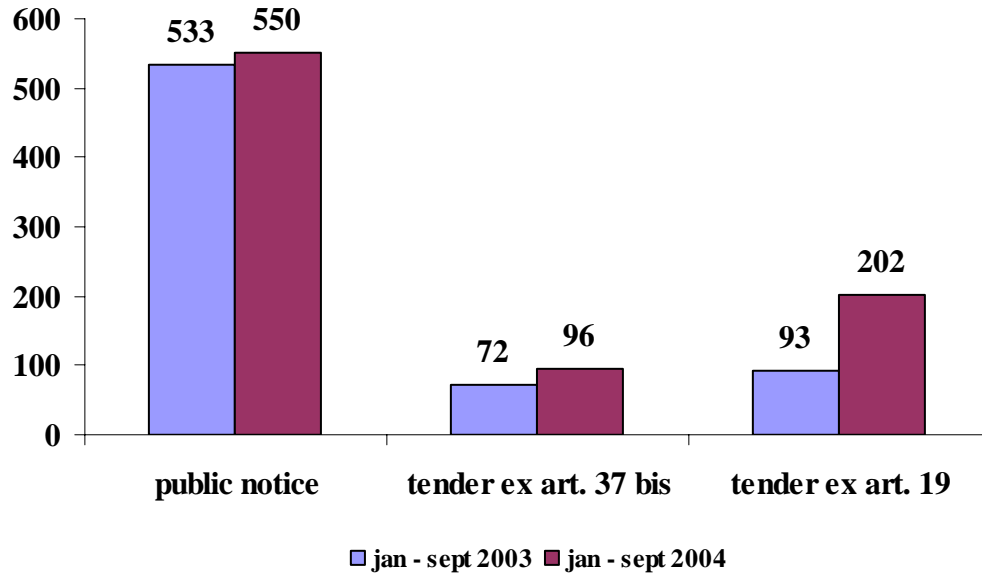
Figure 12 – Amount of public subsidize (% of total value of investment)



It is also interesting to note that 42% of all projects didn't receive any subsidy. This is because 52% of the projects surveyed, mainly sport centres, cemeteries and parking lots, charged fees to the users. These projects usually have benefit from an integration revenue if government subsidised fees are applied.

The legal framework and the experience gathered over the years have definitely influenced the trend of the projects awarded and contracts stipulated, with a significant increase from 2001. The positive trend over the last few years, greater experience and diffusion of the tool, the push toward liberalising some sectors and the lack of resources for investments (mainly for health, where project finance represents the only solution to bridge the existing infrastructure gap and to comply with the need to get credits) motivate the increased growth of project finance venture from 2003 to 2004 as shown in Figure 13.

Figure 13 – Trend of venture from 2003 to 2004 (Source Infopieffe/CRESME 2003 – 2004)



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