

Industrial and Infrastructure Projects in the Private sector

Abstract

There has been a growing trend in recent years for governments in many countries to place major industrial and infrastructure projects in the private sector. The governments look to the private sector to finance projects using the projects' anticipated revenues as security, rather than rely on a direct sovereign guarantee of the project debt.

Recently, a growing number of countries have started to implement various privatization programs such as, "Build-Operate-Transfer" (BOT), "Build-Operate-Own" (BOO), "Build-Lease-Transfer" (BLT), "Build-Own-Operate-Transfer" (BOOT), and "Build-Transfer-Own" (BTO).

Many governments have adopted the 'build-operate-transfer' (BOT) approach, so that the private sector even has to operate the facility and transfer it to the government after a specific concession period. The achievement of Eurotunnel in raising equity of approximately US\$1500M for the Channel Tunnel project further inspired world-wide interest in BOT schemes. Examples of infrastructure projects that have been privatized on a BOT basis are power stations, water-supply and sewage-treatment plants,, toll roads, tunnels and bridges. Countries where BOT projects are in place include France, UK and recently developing countries intend to use and facilitate such schemes to execute infrastructure projects.

FORMS OF BOT PROJECTS

1- Build-Operate-Own (BOO)

In this form, the private sector (Concession Company) is responsible for design, finance, construction, operation and maintenance of the facility. In BOO, the title of the ownership remains with the concessionaire. There is no transfer of ownership to government.

2- Build-Transfer-Operate (BTO)

In BTO, the private sector (concession company) constructs the facility and transfers the ownership to the government. The concessionaire operates the facility by taking a contract to operate the facility.

3- Build-Lease-Transfer (BLT)

Here, the private sector (concession company) constructs the facility and leases the facility and transfers it to the government at the end of concession period.

Generally speaking, governments see BOT schemes as a method of financing the construction of projects without the need for a direct sovereign guarantee of the loans. This poses problems for the sponsors, as lenders often insist that host government support must be available. To ensure the success of the project financing, BOT sponsors must negotiate indirect government undertakings, such as establishment of offshore escrow accounts, foreign-exchange guarantees, and concessions to operate existing facilities. Each country has its own method of forming concessions, and BOT projects are more likely to be sponsored when necessary legal framework already exists. Concession holders commonly use turnkey, fixed price construction contracts to pass the construction risks on to the constructor.

Chapter1 – An introduction to public-private partnership and project finance

1-1-Public-Private Partnership

Public-private partnership describes a government service or private business venture which is funded and operated through a partnership of government and one or more private sector companies.

There has been a growing trend in recent years for governments in many countries to place major industrial and infrastructure projects in the private sector. The governments look to the private sector to finance projects using the projects' anticipated revenues as security, rather than rely on a direct sovereign guarantee of the project debt. Financial structure of public-private projects and Major PPP models are discussed in depth in next coming chapters.

1-2-Project Financing

To execute such projects companies shall seek for several financial and contractual structures, mainly to support project's sponsors or lenders which will be discussed in details but as an overview, such financial structures are called project finance. Projects can be funded as direct finance provided by a consortium or by loans from banks or other capital market routes such as shares in stock exchange market or securities or public partnership via fixed rate securities published by governments which is most common in Iran for dams. But the term project financing is referred to a debt obligation that is backed with the value of an asset. (Denisa, Unicredit TiriacBank, 2008)

1-2-1-What is project financing?

Structured financing is a debt obligation that is backed by the value of an asset or credit support provided by a third party. The special purpose vehicle (SPV) or special purpose entity (SPE) is the entity that acquires the asset and sells the securities to purchase the assets. Structured finance is used by corporations to fund major projects so that the lenders look to the cash flow from the project being financed rather than corporation or corporations seeking funding. This financing technique is called project financing and uses the SPV to accomplish its financing objectives. Discussions associated with project financing tend to focus on large complex projects. This might lead one to the conclusion that the project financing principles discussed in this article have little application to smaller, more ordinary financings.

Although the term "project financing" has been used to describe all types of financing of projects, both with and without recourse, the term has evolved and a more precise definition is: A financing of a particular economic unit in which a lender is satisfied to look initially to the cash flows and earnings of that economic unit as the source of funds from which a loan will be repaid and to the assets of the economic unit as collateral for the loan. A key word in the definition is "initially." While a lender may be willing to look initially to the cash flows of a project as the source of funds for repayment of the loan, the lender must also feel comfortable that the loan will in fact be paid on a worst case basis. This may involve undertakings or direct or indirect guarantees by third parties who are motivated in some way to provide such guarantees. Project financing has great appeal when it does not have a substantial impact on the balance sheet or the creditworthiness of the sponsoring entity. Boards of directors are receptive to proceeding with projects which can be very highly leveraged or financed entirely or substantially on their own merits. The moving party in a project is its promoter or sponsor. A project may have one or several sponsors. The motivation of construction companies acting as sponsors is to profit in some way from the construction or operation of the project. The motivation of operating companies for sponsoring a project may be simply to make a profit from selling the product produced by the project. In many instances the motivation for the project is to provide processing or distribution of a basic product of the sponsor or to ensure a source of supply vital to the sponsor's business. The ultimate goal in project financing is to arrange a borrowing for a project which will benefit the sponsor and at the same time be completely nonrecourse to the sponsor, in no way affecting its credit standing or balance sheet. One way this can be accomplished is by using the credit of a third party to support the transaction. Such a third

party then becomes a sponsor. However, projects are rarely financed independently on their own merits without credit support from sponsors who are interested as third parties and who will benefit in some way from the project. There is considerable room for disagreement between lenders and borrowers as to what constitutes a feasible project financing. Borrowers prefer their projects to be financed independently off-balance sheet with appropriate disclosures in financial reports indicating the exposure of the borrower to a project financing. Lenders, on the other hand, are not in the venture capital business. They are not equity risk takers. Lenders want to feel secure that they are going to be repaid either by the project, the sponsor, or an interested third party. Therein lies the challenge of most project financings. The key to a successful project financing is structuring the financing of a project with as little recourse as possible to the sponsor while at the same time providing sufficient credit support through guarantees or undertakings of a sponsor or third party, so that lenders will be satisfied with the credit risk. There is a popular misconception that project financing means off balance sheet financing to the point that the project is completely self-supporting without guarantees or undertakings by financially responsible parties. This leads to misunderstandings by prospective borrowers who are under the impression that certain kinds of projects may be financed as stand-alone, self-supporting project financings and, therefore, proceed on the assumption that similar projects in which they are interested can be financed without recourse to the sponsor, be off-balance sheet to the sponsor, and be without any additional credit support from a financially responsible third party. It would be a content circumstance if it were possible simply to arrange a 100% loan for a project (nonrecourse to sponsors) which looked as though it would surely be successful on the basis of optimistic financial projections. Unfortunately, this is not the case. There is no magic about project financing. Such a financing can be accomplished by financial engineering which combines the undertakings and various kinds of guarantees by parties interested in a project being built in such a way that none of the parties alone has to assume the full credit responsibility for the project, yet when all the undertakings are combined and reviewed together, the equivalent of a satisfactory credit risk for lenders has resulted.

1-2-2-Reasons for jointly owned or sponsored projects

There has been an increasing trend towards jointly owned or controlled projects. Although most corporations prefer sole ownership and control of a major project, particularly projects involving vital supplies and distribution channels, there are factors that encourage the formation of jointly owned or controlled projects that consist of partners with mutual goals, talents, and resources. These factors include:

The undertaking is beyond a single corporation's financial and/or managerial resources; The partners have complementary skills; Economics of a large project lower the cost of the product or service substantially over the possible cost of a smaller project if the partners proceeded individually; The risks of the projects are shared; One or more of the partners can use the tax benefits. Greater debt leverage can be obtained. The joint sponsors also select the legal form of the SPV (corporation, partner, limited partnership, Limited Liability Company, contractual joint venture, or trust) that will be satisfying their tax and legal objectives.

Credit exposures in a project financing To place a project financing into perspective, it is helpful to review the different credit exposures that occur at different times in the course of a typical project financing.

- Project financing risks can be divided into three time frames in which the elements of credit exposure assume different characteristics: - engineering and construction phase; - start-up

phase; - operations according to planned specifications. Different guarantees and undertakings of different partners may be used in each time frame to provide the credit support necessary for structuring a project financing.

Projects generally begin with a long period of planning and engineering. Equipment is ordered,

construction contracts are negotiated, and actual construction begins. After commencement of construction, the amount at risk begins to increase sharply as funds are advanced to purchase material, labor, and equipment. Interest charges on loans to finance construction also begin to accumulate. Project lenders do not regard a project as completed on conclusion of the construction of the facility. They are concerned that the plant or facility will work at the costs and to the specifications which were planned when arranging the financing. Failure to produce the product or service in the amounts and at the costs originally planned means that the projections and the feasibility study are incorrect and that there may be insufficient cash to service debt and pay expenses. Project lenders regard a project as acceptable only after the plant or facility has been in operation for a sufficient period of time to ensure that the plant will in fact produce the product or service at the price, in the amounts, and to the standards assumed in the financial plan which formed the basis for the financing. This start-up risk period may run from a few months to several years. Once the parties are satisfied that the plant is running to specification, the final operating phase begins. During this phase, the project begins to function as a regular operating company. If correct financial planning was done, revenues from the sale of the product produced or service performed should be sufficient to service debt—interest and principal— pay operating costs, and provide a return to sponsors and investor.

Some projects are financed from beginning to end with a single lender or single group of lenders. However, most large projects employ different lenders or groups of lenders during different risk phases. This is because of the different risks involved as the project facility progresses through construction to operation, and the different ability of lenders to cope with and accept such risks. Some lenders like to lend for longer terms and some prefer short-term lending. Some lenders specialize in construction lending and are equipped to monitor engineering and construction of a project, some are not. Some lenders will accept and rely on guarantees of different sponsors during the construction, start-up or operation phases, and some will not. Some lenders will accept the credit risk of a turn-key operating project, but are not interested in the high-risk lending during construction and start-up. Interest rates will also vary during the different risk phases of project financing and with different credit support from sponsors during those time periods.

Short-term construction lenders are very concerned about the availability of long-term “take out” financing by other lenders upon completion of the construction or start-up phase. Construction lenders live in fear of providing their own unplanned take out financing. Consequently, from the standpoint of the construction lender, take out financing should be in place at the outset of construction financing.

Chapter2 – Public-Private Partnership Models

2-1-Public-Private Partnership Models

The PPP models vary from short-term simple management contracts (with or without investment requirements) to long-term and very complex BOT form, to divestiture.

These models vary mainly by:

- Ownership of capital assets
- Responsibility for investment
- Assumption of risks, and
- Duration of contract.

The PPP models can be classified into four broad categories in order of generally (but not always) increased involvement and assumption of risks by the private sector. The four broad categorizations of participation are:

- Supply and management contracts
- Turnkey projects
- Lease
- Concessions
- Private ownership of assets.

2-1-1-Supply and management contracts

2-1-1-1-Management Contracts

A management contract is a contractual arrangement for the management of a part or whole of a public enterprise by the private sector. Management contracts allow private sector skills to be brought into service design and delivery, operational control, labor management and equipment procurement. However, the public sector retains the ownership of facility and equipment. The private sector is provided specified responsibilities concerning a service and is generally not asked to assume commercial risk. The private contractor is paid a fee to manage and operate services. Normally, payment of such fees is performance-based. Usually, the contract period is short, typically two to five years. But longer period may be used for large and complex operational facilities such as a port or airport.

There are several variants under the management contract including:

- Supply or service contract
- Maintenance management
- Operational management

2-1-1-2-Supply or service contract

Supply of equipment, raw materials, energy and power, and labor are typical examples of supply or service contract. A private concessionaire can itself enter into a number of supply or service contracts with other entities/ providers for the supply of equipment, materials, power and energy, and labor. Non-core activities of an organization (public or private) such as catering, cleaning, medical, luggage handling, security, and transport services for staff can be undertaken by private sector service providers. Such an arrangement is also known as outsourcing. Some form of licensing or operating agreement is used if the private sector is to provide services directly to users of the infrastructure facility. Examples of such an arrangement include, catering services for passengers on railway systems (the Indian Railways, for example). The main purpose of such licensing is to ensure the supply of the relevant service at the desired level of quantity and quality.

2-1-1-3-Maintenance management

Assets maintenance contracts are very popular with transport operators. Sometimes equipment vendors/suppliers can also be engaged for the maintenance of assets procured from them.

2-1-1-4-Operational management

Management contracts of major transport facilities such as a port or airport may be useful when local manpower or expertise in running the facility is limited or when inaugurating a new operation. Management contracts are also quite common in the transport sector for providing some of the non-transport elements of transport operations such as the ticketing

system of public transport and reservation systems. Operational management of urban transport services can also be contracted out to the private sector.

In the simplest type of contract, the private operator is paid a fixed fee for performing managerial tasks. More complex contracts may offer greater incentives for efficiency improvement by defining performance targets and the fee is based in part on their fulfillment.

2-1-2-Turnkey

Turnkey is a traditional public sector procurement model for infrastructure facilities. Generally, a private contractor is selected through a bidding process. The private contractor designs and builds a facility for a fixed fee, rate or total cost, which is one of the key criteria in selecting the winning bid. The contractor assumes risks involved in the design and construction phases. The scale of investment by the private sector is generally low and for a short-term. Typically, in this type of arrangement there is no strong incentive for early completion of a project. This type of private sector participation is also known as Design-Build.

2-1-3-Affermage/Lease

In this category of arrangement an operator (the leaseholder) is responsible for operating and maintaining the infrastructure facility and services, but generally the operator is not required to make any large investment. However, often this model is applied in combination with other models such as build-rehabilitate-operate-transfer. In such a case, the contract period is generally much longer and the private sector is required to make a significant level of investment.

The arrangements in an affermage and a lease are very similar. The difference between them is technical. Under a lease, the operator retains revenue collected from customers/users of the facility and makes a specified lease fee payment to the contracting authority. Under an affermage, the operator and the contracting authority share revenue from customers/users. Following Figure shows the typical structure of an affermage/lease contract. In the affermage/lease types of arrangements, the operator takes lease of both infrastructure and equipment from the government for an agreed period of time.

Generally, the government maintains the responsibility for investment and thus bears investment risks. The operational risks are transferred to the operator. However, as part of lease, some assets may be transferred on a permanent basis for a period which extends over the economic life of assets. Fixed facilities and land are leased out for a longer period than for mobile assets. Land to be developed by the leaseholder is usually transferred for a period of 15-30 years.

It may be noted here that if the assets transferred to the private sector under a lease agreement are constrained in their use to a specific function or service, the value of assets is dependent upon the revenue potential of that function or service. If assets are transferred to the private sector without restrictions of use, the asset value is associated with the optimum use of the assets and the revenues that they can generate.

2-1-4-Concessions

In this form of PPP, the Government defines and grants specific rights to an entity (usually a private company) to build and operate a facility for a fixed period of time. The Government may retain the ultimate ownership of the facility and/or right to supply the services. In concessions, payments can take place both ways: concessionaire pays to government for the

concession rights and the government may also pay the concessionaire, which it provides under the agreement to meet certain specific conditions.

Usually such payments by government may be necessary to make projects commercially viable and/or reduce the level of commercial risk taken by the private sector, particularly in the initial years of a PPP programme in a country when the private sector may not have enough confidence in undertaking such a commercial venture. Typical concession periods range between 5 to 50 years. It may be noted that in a concession model of PPP, an SPV may not always be necessary.

Concessions may be awarded to a concessionaire under two types of contractual arrangements:

- 1- Franchise
- 2- BOT type of contracts

2-1-4-1-Franchise

Under a franchise arrangement the concessionaire provide services that are fully specified by the franchising authority. The private sector carries commercial risks and maybe required to make investments. This form of private sector participation is historically popular in providing urban bus or rail services. Franchise can be used for routes or groups of routes over a contiguous area.

2-1-4-2-Build-Operate-Transfer

In a Build-Operate-Transfer or BOT (and its other variants namely Build-Transfer- Operate (BTO), Build-Rehabilitate-Operate-Transfer (BROT), Build-Lease-Transfer (BLT)) type of arrangement, the concessionaire undertakes investments and operates the facility for a fixed period of time after which the ownership reverts back to the public sector. In this type of arrangement, operating and investment risks can be substantially transferred to the concessionaire. However, in a BOT type of model the government has explicit and implicit contingent liabilities that may arise due to loan guarantees provided and default of a sub-sovereign government and public or private entity on non-guaranteed loans. By retaining ultimate ownership, the government controls policy and can allocate risks to those parties best suited to bear them or remove them.

In a BOT concession, often the concessionaire may be required to establish a special purpose vehicle (SPV) for implementing and operating the project. The SPV may be formed as a joint venture company with equity participation from multiple private sector parties and the public sector. In addition to equity participation, the government may also provide capital grants or other financial incentives to a BOT project. BOT is a common form of PPP in all sectors in Asian countries. A large number of BOT port and road projects have been implemented in the region.

Under the Build-Rehabilitate-Operate-Transfer arrangement, a private developer builds an add-on to an existing facility or completes a partially built facility and rehabilitates existing assets, then operates and maintains the facility at its own risk for the contract period. BROT is a popular form of PPP in the water sector.

A key distinction between a franchise and BOT type of concession is that, in a franchise the authority is in the lead in specifying the level of service and is prepared to make payments for doing so, whilst in the BOT type the authority imposes a few basic requirements and may have no direct financial responsibility.

2-1-5-Private ownership of assets

In this form of participation, the private sector remains responsible for design, construction and operation of an infrastructure facility and in some cases the public sector may relinquish the right of ownership of assets to the private sector.

It is argued that by aggregating design, construction and operation of infrastructure services into one contract, important benefits could be achieved through creation of synergies. As the same entity builds and operates the services, and is only paid for the successful supply of services at a pre-defined standard, it has no incentive to reduce the quality or quantity of services. Compared with the traditional public sector procurement model, where design, construction and operation aspects are usually separated, this form of contractual agreement reduces the risks of cost overruns during the design and construction phases or of choosing an inefficient technology, since the operator's future earnings depend on controlling costs. The public sector's main advantages lie in the relief from bearing the costs of design and construction, the transfer of certain risks to the private sector and the promise of better project design, construction and operation.

There can be three main types under this form:

- Build-Own-Operate type of arrangement
- Private Finance Initiative (a more recent innovation)
- Divestiture by license or sale

2-1-5-1-Build-Own-Operate

In the Build-Own-Operate (BOO) type and its other variants such as Design-Build-Finance-Operate, the private sector builds, owns and operates a facility, and sells the product/service to its users or beneficiaries. This is the most common form of private participation in the power sector in many countries. For a BOO power project, the Government (or a power distribution company) may or may not have a long-term power purchase agreement (commonly known as off-take agreement) at an agreed price from the project operator.

In many respects, licensing may be considered as a variant of the BOO model of private participation. The Government grants licenses to private undertakings to provide services such as fixed line and mobile telephony, Internet service, television and radio broadcast, public transport, and catering services on the railways. However, licensing may also be considered as a form of "concession" with private ownership of assets. Licensing allows competitive pressure in the market by allowing multiple operators, such as in mobile telephony, to provide competing services.

There are two types of licensing: quantity licensing and quality licensing. By setting limits through quantity licensing, the government is able to moderate competition between service providers and adjust supply between one area and other. Quality licensing however, does not place any restriction on number of providers or the amount of service produced but specifies the quality of service that needs to be provided. The government may get a fee and a small share of the revenue earned by the private sector under the licensing arrangement.

2-1-5-2-Private Finance Initiative

In the Private Finance Initiative (PFI) model, the private sector similar to the BOO model builds, owns and operates a facility. However, the public sector (unlike the users in a BOO model) purchases the services from the private sector through a long-term agreement. PFI projects therefore, bear direct financial obligations to government in any event. In addition,

explicit and implicit contingent liabilities may also arise due to loan guarantees provided to lenders and default of a public or private entity on non-guaranteed loans.

In the PFI model, asset ownership at the end of the contract period may or may not be transferred to the public sector. The PFI model also has many variants. The annuity model for financing of national highways in India is an example of the PFI model. Under this arrangement a selected private bidder is awarded a contract to develop a section of the highway and to maintain it over the whole contract period. The private bidder is compensated with fixed semi-annual payments for his investments in the project. In this approach the concessionaire does not need to bear the commercial risks involved with project operation.

Apart from building economic infrastructure, the PFI model has been used also for developing social infrastructure such as school and hospital buildings, which do not generate direct "revenues".

2-1-5-3-Divestiture

This third type of privatization is clear from its very name. In this form a private entity buys an equity stake in a state-owned enterprise. However, the private stake may or may not imply private management of the enterprise. True privatization, however, involves a transfer of deed of title from the public sector to a private undertaking. This may be done either through outright sale or through public floatation of shares of a previously corporatized state enterprise.

Full divestiture of existing infrastructure assets is not very common. However, there are many examples of partial divestiture.