

Recent Experience on Success and Failure Stories from Funding Large Transportation Projects in Greece

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Abstract

Greece has experienced in the last decade, and is still experiencing, a huge transport infrastructure construction program as a result of an effort to achieve convergence with the other European Union states. A number of so-called large projects have been already completed since the beginning of nineties when they were first planned and studied and an equally important number of large projects are under construction or will start soon. The need for restructuring Public Administration responsible for infrastructure as well as the legal framework for infrastructure of public interest became necessary and after a rather long period of maturity a new situation exists today. By examining the way some of these projects have been planned, studied, tendered and constructed, one can draw useful conclusions about the interrelationships among project characteristics, prevailing institutional and legal framework and of course political attitudes of local, regional and even central government authorities. The examination of five such projects and their evolution reveals at a great extent some of the factors that are responsible for their success and/or failure. It appears that maturation of Public Authorities and construction companies / concessionaires is a very important element in securing the success of a complex project. Furthermore, market conditions affect one or the other way the economic viability of a project but also its social acceptance.

Keywords: Funding, Transport infrastructure, PPP, Concession, Financing

1. Introduction

Greece has experienced in the last decade, and is still experiencing, a huge transport infrastructure construction programme as a result of an effort to achieve convergence with the other European Union states. A number of so-called large projects, most of them satisfying the requirements of Transeuropean Transport Networks, have been already completed since the beginning of nineties when they were first planned and studied and an equally important number of large projects are currently under construction or will start soon. The new Athens International Airport, the Rio-Antirrio Bridge, the new Athens Metro [1], the Attiki Odos Tollway, the upgrade of the Athens-Korinth freeway, the submerged tunnel of Aktion-Preveza etc, are some of the projects that are already in operation. On the other hand the biggest transport infrastructure project in Europe, the Egnatia Freeway with a length of 670 km and a supplementary road network of another 600 km, is not yet finished but over 2/3 of the project are in operation. Furthermore, new projects are starting any time now such as the Thessaloniki Metro, the Thessaloniki submerged arterial and a total of 3 new freeway corridors plus 3 main highway corridors upgrades that will complement the existing freeway system of the country. The specific transport infrastructure programme is by far the biggest undertaken ever in Greece. The total transport infrastructure cost only for the period 2000-2006 is estimated to be around

13 billion Euros [2], largely co-financed by the EU, and concerns major projects exclusively. Table 1 gives an overview of some of these projects along with their initial budget.

This vast effort has been accompanied by important changes in many areas, such as the legal and institutional settings in the country regarding implementation of infrastructure projects, the specific market sector, and also the political and acceptability attitudes of authorities and citizens respectively. In this transitional environment that was also heavily influenced by the EU priorities and rules, some projects can be considered successful in terms of procedure and outcome and some other not.

This paper attempts to provide a mapping of this situation by presenting the recent experience from funding large transportation projects in Greece. The study describes the conditions that led to this reform, presents some key examples, and reports the experience gained and the lessons learnt which are considered to be indicative and representative for countries in similar stage of development in the relevant field.

2. Past and current legal and institutional setting in Greece

Planning, designing and construction of transport infrastructure have been traditionally the responsibility of the Greek State in the case of major projects and the national road network and of the prefectural and local authorities in the case of provincial and municipal infrastructure respectively. Other than planning, design and construction was commissioned to private sector firms and contractors. Financing of transport infrastructure was coming entirely from public funds. The project risk was fully undertaken by the Public Sector. This was systematically leading to delays in all phases as compared to the initial time schedules and also to budget overruns. Incomplete or inadequate studies were resulting in changes in the budget and rescheduling of the implementation plan. In addition, quality was not always secured. The owner of the projects was responsible for the operation and maintenance of the infrastructure once it was completed and delivered by the contractor. That situation had led to a balance between demand and supply in the construction market and there has been a pyramid type of distribution regarding the size of construction firms. Realizing large projects was not an easy task mainly due to lack of public funding.

This situation changed when the European Community Support Frameworks started. In view of massive financial support from the EU funds, the Greek Government decided to proceed to an ambitious infrastructure programme adopting other methods than the usual ones. The concession method, that in Greece was used mainly for services to the public, such as public transport services, was selected as the most suitable one for designing and building new transport infrastructure of any kind. The central government through the Ministry of Planning, Environment and Public Works prepared a programme containing large projects such as the new Attiko Metro, the new Athens airport, the Attiki Odos Tollway, the Rio-Antirrio Bridge and the Thessaloniki Metro. Most of these projects had been proposed in the past, but neither complete design studies were available nor had definite decisions been made.

Table 1: List of large projects implemented or under implementation in Greece

Project	Project Cost €	Construction Start Date	Completion Date	Procurement Method	Length (per direction)	Comments
Athens International Airport	2,219,000,000	1997	2001	Concession (BOT)	NA	
Attiko Metro	2,059,000,000	1991	2000	Public Debt	18 km	Pertains to the Base Network
Attiki Odos Tollway	1,244,000,000	1997	2004	Concession (BOT)	65 km	Includes 18 tunnels and 32 urban Interchanges
Rion - Antirion Bridge	800,000,000	1997	2004	Concession (BOT)	2,8 km	Most deep bridge foundation in the world
Athens Suburban Railway	260,000,000	2002	2004	Public Debt	32 km	Connects Athens to International Airport
Athens Tram	265,000,000	2002	2004	Public Debt	25 km	
Athens – Korinthos Highway upgrade	300,000,000	2001	2006	Public Debt	7,5 km	Includes tunnels of total length of 4,7 km
Aktion – Preveza Submerged Tunnel	74,000,000	1995	2002	Public Debt	1 km	Submerged tunnel
City of Patras Bypass	340,000,000	1988	2002	Public Debt	18,5 km	Includes 6 tunnels, 45 km connectors and side network
Egnatia Freeway	3,800,000,000	1997	2010 (expected)	Public Debt	670 km	Includes tunnels of total length over 100 km (10 tunnels over 1 km) and 10 long and very tall bridges
Thessaloniki Metro	1,100,000,000	2006	2012 (expected)	Public Debt	9,2 km	13 stations
Thessaloniki Submerged Arterial	450,000,000	2007	2011 (expected)	Concession (BOT)	3,8 km	Within city limits

Sources: Various project leaflets and official project websites

In the next few years and following international calls for tenders to consortia with the necessary technical and financial qualifications, the Greek State attempted to take advantage of the BOT method for the aforementioned projects. The outcome of that effort is mixed since a couple of these projects progressed with delays but steadily, some other had severe drawbacks, and one was cancelled as a BOT project and turned into a public dept project. There are several causes for that situation. Most important of them include:

- Obsolete legislation for Public Private Partnerships
- Poor financial capacity and experience of local firms in PPP
- No knowledge at all of Public Authorities to launch and manage PPP-based projects

The new situation forced also a restructuring in the market in terms of construction company size and distribution. Larger firms start to emerge in order to satisfy technical and financial criteria set by the Government and the EU rules. This was even further accelerated as a result of the coming event of the Athens Olympic Games. Many firms were taken over by others while some other merged. Mergers and acquisitions prevailed over organic growth due to the time pressure of the 2004 Olympics. New players came into the market and some others lost their privileged position.

However, this change produced many shocks in the whole infrastructure production system. The public administration could not easily deliver what was required by the politicians, who made the specific choices, thus resulting to a rather low absorption rate of the European Community funds. The involved firms, consultants and constructors, were equally dissatisfied because they were playing a game they did not know well with not clearly defined rules. Before the end of the 2nd Community Framework Support period 1994-1999, the Government in cooperation with the European Commission decided to proceed to a most drastic reform and establish new authorities for managing and monitoring infrastructure projects all over Greece. Two types of such agencies or organisations were created; those who were under the direct authority of the Ministry, specific to the type of infrastructure (e.g. Special Authority of Public Works for Concession Road Arterials) and in case of public debt projects those who were project-specific ones, operating under private sector rules, such as the ATTIKO METRO SA (responsible for the new Athens Metro) and the EGNATIA ODOS SA (responsible for the Egnatia Freeway).

Despite the fact that the existing European experience was profound in PPPs, the adoption of the PPP practice in the Greek market met a lot of obstacles and reactions. The obstacles had to do mainly with the nonexistent or the incomplete legal and institutional framework, the allocation of responsibilities among the various authorities and the definition of the criteria for promoting a project as a public or public private partnership one [3]. The shortage of the suitable framework was initially overcome by enacting each public private partnership contract as an official law, following ratification through the National Parliament. As far as the allocation of responsibilities is concerned, and due to the specific shortages in experience and framework, the initiation and management of those contracts were initially made at the highest level of Central Government and consequently passed to the special authorities established. Finally, the criteria used, for promoting a project in one or another way, were rather vague and based partly on social needs, partly on the interest expressed by the private sector.

As the PPPs were handled almost at the highest level, they became an area of intense contradiction. Although the two biggest political parties in Greece, representing the 85% of the electorate, were in favour of such initiatives, the way they were promoted has been the most hotly criticized issue for a number of years. The reactions on behalf of local communities and general public were derived from the inadequate information and knowledge with respect to the future charging regime. Besides, the principles of “the user pays” and “the polluter pays” were rather unknown to the politicians, local communities and general public.

The above problems have affected all the transport infrastructure projects, however at a different degree and extension.

3. Examples of large projects

The examination of five “large” transport infrastructure projects aims at presenting some of the success and failure stories in the recent Greek history and at providing useful insights regarding the appropriate funding method. It will also enable the drawing of conclusions with respect to the effects of the prevailing legal and institutional environment on the funding choices of the involved authorities. The five examples are the following:

- Attiko Metro (AM)
- Attiki Odos Tollway (ATODOS)
- Rion-Antirion Bridge (GEFYRA)
- Thessaloniki Metro (THESMETRO)
- Thessaloniki Submerged Arterial (THESUB)

The Attiko Metro project (AM)

The new Metro System of Athens (ATTIKO METRO) was conceived as a necessity many years ago, but it was just at the late eighties that the political process got into track. The project was very demanding that time in terms of funds, expertise and mobilisation of resources. The European Community took a decision to provide a grant up to 50% of the construction cost enabling in this way the Greek Government to start the project with the traditional Design-Build method signing a turnkey contract with an international consortium. ATTIKO METRO SA was established to manage the contract, operate initially the system and acquire the know-how for the prospective extensions of the Metro system in Athens but also in other metropolitan areas. A project manager, with international experience was selected, to provide leadership and technological advice and help this Organisation to evolve. The construction of the Metro system took longer than anticipated mainly due to technical and institutional reasons but also due to archaeological findings. The contractual architecture was clearly suboptimal leading to many Contractor’s claims. The first sections having a length of 18 kms were given to operation in 2000 after long delays, but the new mode received a very warm welcome. Passenger traffic exceeded the initial forecasts. A main issue that created complications has been the conflicting interventions of supervising governmental entities after the vertical separation of the construction and operations activities. ATTIKO METRO SA supervised by the Ministry of Planning, Environment and Public Works has constituted an Operations Company

supervised by the Ministry of Transport. Therefore, an integral optimization of investment level and service level was disabled.

In addition to the first phase of the project two extensions of the initial phase have been already completed and given to operation while two more extensions are in progress. A second generation of extensions is also under preparation.

The Attiki Odos Tollway (ATODOS)

Attica freeway, which is part of the Trans-European Network program of the European Union, is a modern 65-km toll road creating a semi ring road around the city of Athens and its metropolitan area. Although, the project went into bid in the early 90's, the construction of the road started in 1997 and the last section was delivered in 2004. The project was procured with the BOT method. Due to its nature, i.e. being very close to populated areas, a large number of site works and parallel utility displacement projects had to be also accomplished. The land acquisition procedures took very long too. The archaeological findings emerged during the land works was an additional factor for delays and cost overruns. This kind of risks, however, were undertaken by the State as normally happens.

The financing package of the project comprises several facilities, including a loan by European Investment Bank, a syndicate of international banks and loans by local banks. An Independent Engineer, appointed by the banks, supervised the works too [4], [5], [6]. Additional funding has been provided by the Greek State (35% of investment cost was provided in the form of grants containing contributions from various EU funds) and the shareholders (15% of investment was covered by equity). The particular characteristic of the project financing was that EIB's loans were section-specific and the availability of the loans depended on the Concessionaire meeting deadlines for completing certain road sections. Also, EIB did not take the construction risk, which was borne by the banking syndicate. During the operational phase, EIB's loans are guaranteed by the Greek State, however.

The freeway serves daily over 250,000 users for short or longer trips. The toll levied is flat regardless of the entry and exit point of the user. Manual and Electronic Toll Collection (ETC) Systems are available, and for regular users special subscriptions and discounts are offered. The project is considered a very successful one and the traffic carried daily has exceeded the forecasts by more than 30%. At certain sections, traffic volumes reach saturation levels at peak periods, leading to the need for immediate action in order to maintain the high levels of service offered. The freeway holds one of the best safety records in the world. The concessionaire has to return the project to the State after 23 years from the signage of the contract. An early termination clause is included in case the rate of return on equity reaches 13.1%.

A major handicap of the contract architecture is that it does not contain incentives for reducing the operating and maintenance expenses. This leads to excess spending from the concessionaire's side avoiding in this way an early termination of the concession. Another issue to mention is that the consortium was made up by many medium size local firms. Though these firms became in turn quite larger, this led to unavoidable delays of the project bankability, thus project implementation as well.

The GEFYRA project

The Rio-Antirrio Bridge or GEFYRA is a long suspension bridge linking two Greek regions separated by sea. This inter-regional link is located at the intersection of two major roads: the Patras - Athens - Thessaloniki motorway which links the three most important cities of Greece and forms part of the European motorway network, and the Kalamata - Patras - Igoumenitsa Western road corridor. The bridge provides a permanent link reducing crossing time to 5 min (compared to a previous average of 45 min by ferry boats), improving crossing comfort to high standards and remaining in operation whatever the weather conditions. It became operational in 2004.

The procedure for the project started in 1991 with the invitation to tender and it was only in 1996 that the Concession Contract for the Design, Construction, Financing, Maintenance and Operation of the Rio-Antirrio Bridge was signed and one year later that the project was financially closed and the Effective Date defined. The final feasibility study has produced IRR from 6.93% (worst case) to 12.56% (best case) [7].

GEFYRA is a good practice of a private infrastructure concession financed in modern Greece. The duration of the concession is 42 years from the Effective Date but contains an early termination clause in case of the shareholders' nominal return exceeding the 11.5% threshold. Generally speaking, the concessionaire is fully responsible for the project and has no right to carry on any business other than the Rio-Antirrio bridge project. More than 50 agreements have been signed for the implementation of the project. The project is considered a very successful one, especially if one looks at the technical achievement. Traffic levels also exceed forecasts.

The Metro of Thessaloniki (THESMETRO)

This is perhaps the most suffered project of all in the modern history of Greece. The first international call for offers under a BOT method took place in 1991, after a long planning and preliminary design phase and after a pre-selection procedure of candidates. The first bidder was announced by the owner of the project in 1993, but lacking past experience of BOT procurement method and also due to lack of appropriate legislation it took almost 5 years to make a decision that the first bidder was not the appropriate one for the project, in terms of bankability. Negotiations started with the second – and only one left - bidder that lasted almost 2.5 years. The agreement between the two sides was brought into the Greek parliament for ratification, since no special PPP legislation was available at that time. The approval was granted but due to various problems partially inherited from the procurement documents back from 1991, the agreement was never materialized. What in fact happened was that the preferred bidder never managed or really attempted to secure the EIB loan and the remaining project financing. A restricted risk transfer due to a generous traffic guarantee by the State was also a reason for EIB's reluctance to facilitate a loan.

The whole bidding process was cancelled in the beginning of 2004 and the Government was committed to re-tender the project in public procurement terms. The responsible Ministry passed all its privileges to the state-owned ATTIKO METRO SA, which took the role of the project owner. After a dead 6-month period due to the Athens 2004 Olympic Games, a new Call for bidders has been announced, based on a Restricted Procedure and the lowest bid rule. The Call consisted of two stages, one for pre-selection and one for

submitting technical and financial offers. At the end, four consortia submitted offers and the agreement between the lowest bidder and the owner of the project was signed and approved in May 2006. Project works are starting these days and the Metro is expected to commence operations in 2012, i.e. 20 years after the first call for tender.

Thessaloniki Metro System in its First Phase is designed to be a totally underground system, with a length of 9.2 km and 13 stations. Total system implementation cost (construction - equipment supply - supervision and project management) is estimated to be 1,157,000,000 € (VAT excl.). Based on the latest Economic Evaluation Study [8], it is clear that the project has operational surplus during the analysis period, namely the revenues are more than enough to cover the operating cost. However, it is also clear that the operational surplus is not sufficient to cover the interests and loan reimbursement for the period 2012-2021. Sensitivity tests revealed that financial schemes with a 50% EU grant, 20% to 10% national public contribution, and 30% to 40% EIB loan would result to a positive cashflow (i.e. no government subsidy will be needed any more by 2026 and 2027 respectively).

Thessaloniki Submerged Arterial (THESUB)

The Thessaloniki Submerged Arterial is a 6.5 km arterial street of which 2.5 km is a tunnel under the sea level. It aims at enabling the through traffic to bypass Thessaloniki city centre. The project will function complementary to the existing Inner (Eastern) Ring Road of Thessaloniki that bypasses the city from the continental side of the area. The project was first conceived in early eighties as a means for decongesting the historical city centre that receives high volumes of through traffic. After a decade of strong debates and allegations between supporters and opponents and between authorities of different level, a solution was elaborated, but still the definitive alignment is a contested issue. The first technical studies started in 1996, but the international call for tenders that included a pre-selection of suitable consortia took place in the year 2000. The technical and economic offers are based on documents revised by 2004, which do not prescribe the time-saving, technologically more advanced solution of e-tolling in order to avoid any revenue risk from the side of the public sector.

The cost of the project has been calculated to 450 million € but it requires high operation and maintenance costs due to the tunnel equipment and due to the traffic control centre. The project was procured with the BOT method and with co-financing from the Greek state including EU grant. The exact financing scheme is not yet known since the bid winner is still in negotiations with the owner of the project. A special agency under the Ministry of Planning, Environment and Public Works is the responsible authority acting on behalf of the Greek state. However the EIB has already approved a loan up to 50% of the final project cost. The financial offers were evaluated against 3 criteria, namely, the subsidy required by the State in case of low traffic volumes, the maximum toll rate requested and the rate of return on equity requested to be achieved in case of an early termination. It is interesting to mention that, according to the 'best' offer, the early termination of the concession will take place if the rate of return on equity reaches 4%. This is far smaller than the figures in other BOT projects, but it has to be understood in view of the subsidy requested and certain deficiencies of the prospective contract architecture.

The THESUB project has in fact taken advantage at a great extent of the reforms that took place in the previous years. However, it also suffered in the early stages i.e. the period 1995-2002, when responsibilities and initiations were diffused between the central government ministry and the local and regional authorities. An issue associated with this particular project is the need for strong and continuous collaboration between the owner of the project, the concessionaire and the local authorities given that the project lies within the city limits. Right now no locally based authority has responsibility regarding any project related decision-making.

The project is expected to accommodate daily between 60,000 and 100,000 vehicles [9] in the first years of operation. The toll rate cap has been set to 0.93 €/per passage.

Table 2 gives an overview of the main financial and other (non technical) characteristics of the 5 selected project examples.

4. Key success and failure factors

Failure factors

The introduction of PPPs for the implementation of transport infrastructure was initially faced by the serious lack of know-how and experience, on behalf of both public administration and private sector companies. This deficiency was evident at every phase of the procedure, from procurement to construction, resulting in enormous delays in project implementation as well as in extremely complex and extensive documentation.

At the first phase of the process, public administration attitude towards PPPs was hesitant and its reflections rather slow. Public administration was unwilling to change its own procedure and way of doing things. Although the top-level administration has had the intension and commitment to proceed with the new setting in the transport infrastructure field, the managing and monitoring authorities have shown inertia to follow. In no case a Public Sector Comparator (PSC) analysis has taken place to estimate the least net financial burden of the State, when comparing PPP and traditional procurement. Adaptation to the new situation was difficult for the private sector as well. The competitive consortia hinder the project implementation, raising appeals on wrong basis and solving their differences through the time-consuming legal way. Speaking indicative, the procedure from call for tenders to start of construction required 5-7 years at average, while there are instances that this period lasted up to 15 years.

This kind of delays led to cost overruns and to changes in the project environment. Particularly, it put a certain burden on potential concessionaires to follow the procedure (e.g. maintaining letters of warranty etc) and reduced the competition, as only the affluent construction consortia have the financial power to sustain the bid costs during such a long period. In parallel, the project environment was evolving and the system was unable to cope with those changes. The changes referred to both the internal environment (e.g. required size and method of the proposed intervention) and the external environment (e.g. market size). As a result, new rules set at a certain point of time were canceling the results of efforts undertaken at the previous time period governed by different rules. Of course, delays had certain negative impacts on the reliability of the Greek State and its commitment to proceed anyhow in the implementation of the projects.

Table 2: Overview of financial and other (non technical) characteristics of the Greek project examples

Project Characteristics	Attiko Metro (AM)	Attica Freeway (ATODOS)	Rio-Antirrio Bridge (GEFYRA)	Thessaloniki Metro (THESMETRO)	Thessaloniki Submerged Arterial (THESUB)
Procurement Method	Public Debt	BOT	BOT	Initially BOT Now Public Debt	BOT
Area of reference	Urban	Suburban/extra-urban	Rural	Urban	Urban
Start date of call for tenders	1988	1990	1991	1992	2000
Effective date of contract	1991	1997	1996	2006	N/A
Project completion date	2000	2004	2004	2012	N/A
Total Investment Cost (B1 €)	2.06	1.24	0.80	1.10	0.45
Constant Prices	1988	1996	1996	2004	2004
European Grants	50%	17.5%	47,97%	40%	To be defined
National Grants	11%	17.5%		10%	To be defined
Private Equity		15%	8,55%		To be defined
EIB loan	39%	50%	43,48%	50%	50%
Financing Gap Ratio (DR=5%)	n.a.	n.a.	n.a.	76.9%	Not known
ERR	13%	>15%	6,9%	12%	>20%
Analysis period (years)	30 +5			30 +5	
Concession Period	n.a.	23 years	42 years	n.a.	30 years
Early Termination clause	n.a.	YES	YES	n.a.	YES
Rate of Return		11.6%-13.1%	11.5%		4%
Public Warranty on Loans	YES	YES only during operation	NO	YES	NO
Operating Subsidy	NO	NO	NO	NO	Conditional YES
Charging	PT fare	Flat Toll	Flat Toll	PT fare	Flat Toll
Operating Cost Recovery Ratio	>1	>1	>1	>1	>1

n.a.: not applicable

The lack of experience resulted also in extremely complex and extensive documentation. The relations among the involved parties (i.e. the concessionaire, the Greek State, the European Institutions, the Commercial Banks etc.) were rather vague, the main issue being the risk transfer and allocation. The negotiations and agreements were made on a project basis and verified by contracts. As a result, the concession contract was supplemented by a number of other related contracts, the number of which could be even more than 50.

Furthermore, it should be mentioned that market size and structure did not advance the implementation of sound and fair partnerships for large infrastructure projects. In particular, the market size was rather small for the magnitude of the investments, meaning that these investments acted as a development lever and could have a noticeable impact on certain figures of National Economy, such as employment rate and other multiplier effects. One can say that the performance of the Greek economy as a whole was heavily dependant on the implementation of these projects and this was asking for specific considerations and interfaces, mainly from the side of the Central Government. The abovementioned circumstances put a pressure on the decision making process and led the Central Government to act nervously under pressure.

On the other hand, the market of construction industry, namely the supply side, has a lot of oligopolistic traits, which have been inflated by the procurement requirements of the large infrastructure projects. During this transition phase, the market of construction industry has changed thoroughly and evolved in an oligopoly structure, dominated by few key players (consortia or companies). Taken advantage by the fact that the implementation of these investments was crucial at national economy level, the construction companies had the power to influence the rules of the game and set the price level. It is not accidental that the earlier PPP contracts achieve high equity rates of return, ranging from 11.5-13.0%. Needless to say that the strong dependency from the EU financing, which stressed the Greek State to absorb the funding within a certain framework and time, turned to be a significant factor of pressure that increased the negotiating power of the construction companies.

Success factors

The effects of a learning curve have been obvious in the case of the implementation of large transport infrastructure projects in Greece. The social benefits produced by the operation of the first projects themselves as well as the experience gained during the transition phase proved to be the leading success factors for the projects to follow.

The benefits produced by the operation of the first large projects, such as the Athens Airport and Attiki Odos Tollway, have increased significantly the acceptance levels of PPPs among citizens and users. The initial reluctance to adopt the “the user pays” principle has gradually fell back and the high quality of service provided by the new infrastructure contributed to the creation of the suitable circumstances for the promotion of new PPP schemes.

Additionally, public administration exploited the experiences gained through the first large infrastructure projects for implementing new ones either as PPPs or as public debt ones. The establishment of the new specialised public agencies has facilitated project management and monitoring. These agencies in the case of the PPPs were specific to the

type of infrastructure (e.g. Special Service of Public Works for Concession Road Arterials) and in case of public debt projects were usually project specific (e.g. Egnatia Odos). The agencies have both the specialised personnel and the clear responsibility to run the projects more effectively. This is proven by both the terms of the latest concession contracts that foresee lower equity rates of returns and the advanced level of service provided by public dept projects, such as Attiko Metro.

Another success factor is that the Greek construction industry, with some exceptions, has had the reflections to participate as a key player and adapt to the new situation. It should be noted that construction in Greece is traditionally a leading industry. The prospects for the Greek construction companies are quite good in the area of South-eastern Europe and in the Mediterranean countries too.

All in all, a deal size below €1.5 billions seems to be affordable for PPPs within the market size of Greece, particularly concerning equity raising with debt being less of an issue. A small deal size is normally less risky, leading to better pricing.

5. The way forward

The rules for funding transport infrastructure are gradually changing and become stricter and tighter. The lack of funds, both at national and EU level, increases competition among sectors and among states. Every year more and more research findings and study results are incorporated in the regulations and in the rules concerning infrastructure funding. The ‘willingness-to-pay’ approach has to be used in any case for the determination of the socially optimal charge level and eventually for the calculation of the expected financing gap ratio [10] for a project that may generate revenues. Public dept projects will get a smaller share for fund scarcity reasons. The dependence of state authorities on financing from private funds will grow and the private sector will be present in this kind of projects at an increasing pace.

In such an environment the rules of the game in all phases of a tendering process should be crystal clear and the involved actors should be aware of their role and responsibilities. A, mostly, open tendering procedure is needed to enhance competition. For the same reason, a very large but bundled project has to be unbundled and separately tendered. At the same time interface risks have to be kept to minimum. Issues such as risk allocation, prevailing legislation, technical standards, etc, need to be well defined in the tender documents. Equally important is the existence of complete and comprehensive studies. The existence of a strong consulting industry is quite important for the preparation phase of most projects.

An additional point is the preservation of the social interest from the side of the owner of the project who normally represents the state or another level of government. It is often the case that public authorities, in their effort to promote a project and make it bankable, forget its initial scope. These authorities therefore need to re-position the focus of their targets. Social needs should be prioritized by means of CBA and value-for-money financing of projects by means of PSC.

By looking at the current situation in Greece, one could say that funding and production of transport infrastructure have found a way to proceed, but the Greek PPP market is still young however [11]. The Olympic Games gave a push forward to the evidence that a

sufficient market capacity evolved, at least in terms of resources. A lot of progress has been made and there is accumulated knowledge and rich experience. Given the small market size of the country, most of the new projects differ from the previous ones and bring together new issues that need to be tackled. Furthermore, new needs emerge, mainly coming from the need to operate and maintain the existing infrastructure - and the infrastructure that will be created in the near future.

This means that the existing State owned or administered agencies need to proceed to a next, more demanding phase to handle increased complexity. It seems again that a new reform may be necessary for welcoming the next era of transport infrastructure projects. In this context efforts to clarify conflicting responsibilities among newly established public agencies and conventional public administration authorities are necessary. It is important to reduce uncertainty amongst market participants about the potential offered by the Greek transport infrastructure market.

Finally, the newly brought by the Government legal framework regarding PPPs for any kind of infrastructure project – excluding however the “large ones” – provides a promising environment and it is believed that it will facilitate the implementation of new PPP schemes, mainly at provincial and municipal level. Creative financing tools such as securitizations have also been recently enabled by means of a new legal framework.

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