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A restructuring model applied in Hellenic Railways during the period 2002 - 2006 according to European legislation

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ABSTRACT

This paper attempts to give a critical view of the process of the Hellenic railway restructuring, during the years 2002 – 2006, and present the results of an evaluation of alternative organisational structures for the new situation. It first presents the current experience in EU and other countries of Europe, and the relative position of the Hellenic railways in relation to the most common models. Then it presents the most likely options for the new organisational structure to be introduced as a result of the application of the EU Directives and the Hellenic legislative frame, and gives the advantages and disadvantages of each alternative, according to the practice and the experience of the author as President and Managing Director (C.E.O.) of the Hellenic railways at that time. Based on this outline and a more detailed presentation of expected income and expenditures of two of the most likely alternatives it suggests a recommended and applied in practice structure of restructuring so that the final outcome of the Hellenic railways' reform would be successful and, above all, "implementable" under the existing conditions in Greece.

1. INTRODUCTION

When speaking of the future prospects of the Hellenic Railways, during the years 2002 – 2006, one is in fact speaking about the way in which the Hellenic railways would apply the EU regulations and directives concerning railways. The first EU Directive that introduced competition in the field of railway transport, by advocating the separation of the infrastructure management from the (rail) transport operation, was introduced in 1991 (Directive 91/440). Since then several other complementary legislation has been introduced but each EU member country has to introduce its own legislation in order to apply, in its own distinctive way, these EU policies. Experiences in re-organisation of Railway companies and restructuring of the railway market are quite diverse in the various countries of Europe and around the world; many solutions have been tried, many mistakes were made. There is no unique or universal solution to be recommended as local conditions are varying widely.

For Hellenic railways the form, size, and nature of the railway network, the size, and nature of the Greek transport market, but also the general economic and political philosophy of the country, makes it a rather unique case. Also after the Yugoslavian crisis in the '90s, the Greek railway network assimilates to an island network (e.g. Ireland), because of the difficulties in border-crossing as well as of the conditions of railway traffic in the neighboring countries. So predicting the optimal form and the final actual outcome of Hellenic railway reform cannot be fully based on any precedent. Besides the above other elements that make the Hellenic railway case quite unique are:

- The Hellenic railway network does not fully comply with the characteristics of a "network" in that: it covers in a geographic sense only 50% of the country, a full 45% of its length is of metric gauge (see Figure 1) with no connection between the two parts, or any measure for interoperable trains between these two parts of the network. It is rather an axis along the mainland of the country than a network, according to the sense implied by the "net".
- There are no links (except for the port of Thessaloniki) to any major port of the country.
- There are no links to Freight Villages that would at least make a case for the development of intermodal transport services.
- It is a "peripheral" network in relation to the EU and other central European networks, therefore there is no transit traffic.

- There are chronic inefficiencies and distortions in the competition environment of the Greek transport system which heavily favours road and to a lesser degree maritime transport.
- There seems to be little political will to take on the "political costs and risks" involved in a radical change.

Following the introduction of the new European legal framework regarding the infrastructure and operation of the railways, a new law was passed by the Greek Parliament in 1998 (Law 2671/98) to "regulate" the matters of OSE. This provided the strategic framework for the change (goals, infrastructure ownership, operation matters, General Personnel Statute - GPR, and other issues). However, even until today little progress in implementing this Law has been made because until now not all the necessary detailed Presidential Decrees have been issued. Moreover each change in the Ministry of Transport implies a change to the previously adopted national policy for railways, with adverse results on the operational scheme of the Hellenic railways. This process was expected to be completed within 2006 i.e. a full 8 years since the initial Law, but finally in 2008, another change in the direction of the governmental policy, gave a new model to the restructuring of OSE. Here we present the initial change of 2002 to 2006, given that the author was Managing Director (C.E.O.) from February 2002 to December 2005 as well as President of the Board of Directors (February 2003 to October 2004).

2. THE EU POLICY FOR RAILWAYS

2.1 The legislative frame in EU

This is a subject on which a lot can be found in the bibliography (CER, 2002 – ECMT, 2005 – Holand et al, 2006 – Nash et al, 2005 – Vinois, 2005). We will therefore only remind here the basic "legal instruments" at EU level:

Initial Directives

- 91/440/EEC on the development of the European Railways
- 95/18/EC for the licensing of the candidates for the operation of the networks
- 95/19/EC for the determination of the capacity of rail infrastructure, maximum loads, and safety certification.

More Recent Directives

- 2001/12/EC modifying the 91/440/EC
- 2001/13/EC modifying the 95/18/EC, and
- 2001/14/EC modifying the 95/19/EC.

The policy guidelines (EC, 2001) that have been set out by the above legislation can be summarised in the following basic principles:

1. Securing independence of the railway operation from any state intervention and / or financing.
2. Separation of the rail infrastructure management from the rail transport operation management.
3. Freedom of access to the rail market of any eligible operator for the provision of (paid) transports services.
4. Full commercialisation of rail transport activities (including freight operations) and re-organisation of the services for the benefit of the users.
5. The financing of rail infrastructure remains the responsibility of the state.

2.2 Current European policy in railways

Railway restructuring has been implemented in many countries of the world and in almost all EU member countries. After comparing the many different national models and their implementation[1], a number of general trends and conclusions are emerging and a consensus is growing along the following lines (see Giannakos 2000):

- Most traditional railways Organisations were large, rigid, monolithic organisations, production-led rather than market oriented.

[1] A number of references that have been consulted can be mentioned here. See for example: Cheviakhova et al, 2004), Nash et al, 2005, Peter – Tegner, 2004, Pollitt – Smith, 2002, Schmultzer – Buehler, 2002.

- Railways are frequently obliged to carry out services in the public interest, below cost. As railways are often not compensated for this social burden, cross-subsidisation from freight to passenger operations is the perforce solution.
- Commercial attitude and vision of the railway companies are in many cases inadequate. Marketing capacity is considerably limited. The managerial accounting systems do not allow for distinguishing relevant products, market segments, and their productivity.
- Restructuring is a tenacious process, typically taking between 6 and 12 years to be implemented.
- Restructuring of the railway sector deals with both internal and external reform. External reform refers to the relationship between State and Railway Company, e.g.: to separate regulatory and operational/managerial functions, assigning clear responsibilities, etc. Internal reform pertains to commercialisation of the railway transport business, and implementation of associated organisational and managerial structures and practices within the Railway Company.
- Implementation of rules of "equal competition" between different modes of transport, (e.g. in the financing of infrastructure).
- Separation between infrastructure and operations and within operations between freight services and passenger services, as well as possibly between traction and rolling stock and workshops (usually organised in business units or, ultimately, independent companies).
- Open access to infrastructure for competing railway companies.

A concise picture of the current Railways structure and restructuring process in some European countries, and Greece, is shown in (Giannopoulos, Giannakos, 2006).

3. RAILWAYS IN GREECE - TRANSPORT VOLUME AND RESTRUCTURING

3.1 The situation up to 2006

The Hellenic Railways Organisation (OSE) was founded in 1972 (Act 532/72) and assumed the operation and ownership of the entire interurban railway network of Greece. Under this status the Hellenic railways are owned by an Incorporated Company, whose sole stockholder is the Greek State. The Organization Document (*OD)* of OSE is associated with the hierarchy grading system provided by the General Personnel Statute (Giannakos, 2004, and 2005).

Following the above initial legislation on restructuring and in preparation for the full adoption of (at least) the first railway package, the OSE Group consisted after the first restructuring (2002-2006) of OSE itself (playing the role of the "mother" company to be transformed later to the holding company – see later sections) and a number of subsidiaries. These subsidiaries are the following:

1. ***EDISY SA***, Railway Infrastructure Manager Company, which is to manage and maintain the railway infrastructure (however, exact role and responsibilities are not yet fully clarified and defined).
2. ***TRAINOSE SA (company of Exploitation)***, which is to deal with the operation and exploitation of the network (together with other private competitors).
3. ***ERGOSE SA,*** responsible for the construction of the co-funded works (by EU and the Greek Government) of new sections and modernization of the existing ones along the main railway corridor of the country, the PATHE corridor (Patras – Athens – Thessaloniki – Eidomeni).
4. ***OSE Freight Villages (Emporevmatika Kentra) SA***, dealing with the development and exploitation of Freight Villages and Centers, and finally
5. ***GAIAOSE SA,*** for the development and exploitation of all property of the Greek railways (a Real – Estate company of the land property belonging to OSE).
6. ***OSE Suburban SA (PROASTIAKOS),*** that operates the newly built (for the Athens Olympics 2004) suburban railway of Athens.

The Business Plan of 1998 ("BP1") emphasized, that, if OSE wants to survive and expand, OSE must quickly

- become financially self-sustained so as to be managed as an independent and responsible company,
- switch to a commercial mode of cooperation.

This implies

- a new organizational structure with clearly defined objectives and responsibilities and transparent performance measures,

- investments to modernize our tools especially costs and information systems.

BP2 started much later, i.e. towards the end of 2004. It was not completely implemented, because of a change in the governmental policy, but in general it runs along the same lines as BP1 both as regards its contents as well as the speed of its implementation … The change in the Ministry of Transport on 2004 implied a change in the number of subsidiaries in 4 as it is presented in the following and a new change in the Ministry of Transport on 2007 implied a new change in the whole philosophy adopting a model similar to the French model and all these even if the scientific know-how and the managerial practice demands an eight to ten years period for the fruitful implementation of the restructuring in a railway group.

3.2 The deficits and their origins

In terms of international importance the Greek railway network is at the end of rail corridor X linking Greece with Austria and of rail corridor IX along the Black sea to Russia (AUTh, 1998 and Giannopoulos et al, 2002).Every year the Greek railways transport approximately 14 million passengers (or 1.8 billion kilometer passengers). It also transports about 3 million tons or 400 million kilometer tons of freight. This transport work represents approximately 4% of the total transport work (domestic and international, passenger or freight) of the country. The Hellenic railway network consists of approximately 2500 km of line, approximately 35% of which is of metric gauge. Of particular importance are the planned extensions of the network to the west of the country (HIT, 2003 and UIC, 2000) the west railway corridor that will create a network (terminology derived from the "net") in Greece instead of an axis as it is the scheme of the Hellenic railway "network" today (Giannakos, 2000). These extensions have been included in the Van Miert commission's projects of European priority (they were formally announced by Romano Pronti in December 2003 (Giannopoulos, Giannakos, 2006). As CEO of the Hellenic railways I had signed Memorandums of Understanding (MoU) for the necessity of this West Railway Corridor with the colleagues of Turkish railways, Bulgarian railways, Syrian railways, Italian raulways and the Railways of FYROM. These MoU's have been submitted to the EU in order to adopt the co-financing of this West Railway Corridor after the submission of the Van Miert commission's results.

One major cause of debts is of course the investments associated with the creation of new infrastructure. OSE undertakes loans even for the co- financing of the co-funded projects with the EU (Giannakos, 2008).The economic results of OSE are negative and the Organisation is constantly in deficit. The Organization's annual deficit for the last 5 years amounts to approximately €350 million[2] on average. This is the result of the combination of high expenses and low sales. The personnel payroll represents the biggest percentage of its expenses, while its sales are almost three times lower than the expenses. However its personnel number is not excessive, so to speak. When compared to the European average, OSE has 3.9 employees per network km, with the European average being approximately 5 employees per km. Concerning the deficits situation, some 75% (in reality may be more than 75%) of the operational annual deficit of OSE today is attributed to the infrastructure (development, maintenance, management). This means, for example, that of the 246 million Euros operational deficit of 2004 only 73.8 million Euros, consist the deficit of exploitation. This operational deficit includes, however, the Public Service Obligations (PSOs) for which the Greek State has never so far fulfilled its financial obligations towards OSE (not even signing a Public Service Obligation contract with OSE) [Giannopoulos, Giannakos, 2006]. According to economic analysis (Baltas, 2005) of the current balance of OSE if we deduct the infrastructure costs and the PSO's only 5 % of the annual operational deficit belongs to the "exploitation".

4. EXAMINED ORGANISATION STRUCTURES AS ALTERNATIVE MODELS

4.1 Organisational structures analyzed

The basic organisational model (conforming to EU regulations) would involve:

[2] I*n July 2005 one Euro 1 € corresponded to 1.2 US dollars.*

- A ***Regulatory Authority*** with main duties the safeguarding of issues pertaining to safety and competition. The more free market oriented and competitory is the situation the more is this regulatory authority needed.
- An ***infrastructure owning (or otherwise possessing) and managing Organisation***. This Organisation will have the ownership (although not necessarily), management, administration, and development of the infrastructure, as well as the distribution of capacity and the invoicing for the use of it.
- A number of ***Operating companies*** which can be private or public and which offer passenger or freight services (or both) on this infrastructure.

For the situation in Greece which until recently had only one, state controlled and owned, company the Hellenic Railways Organisation (OSE) the above basic model can be implemented in a number of alternative ways. OSE had, as already mentioned previously, several subsidiary (daughter) companies. Figure 1a below[3] shows the basic model (besides the existing four subsidiary companies) as it is foreseen in the legislation which was introduced (see above) in order to harmonise the Greek system with the EU legislation of the first railway package (directives 2001/12, 2001/13, 2001/14).

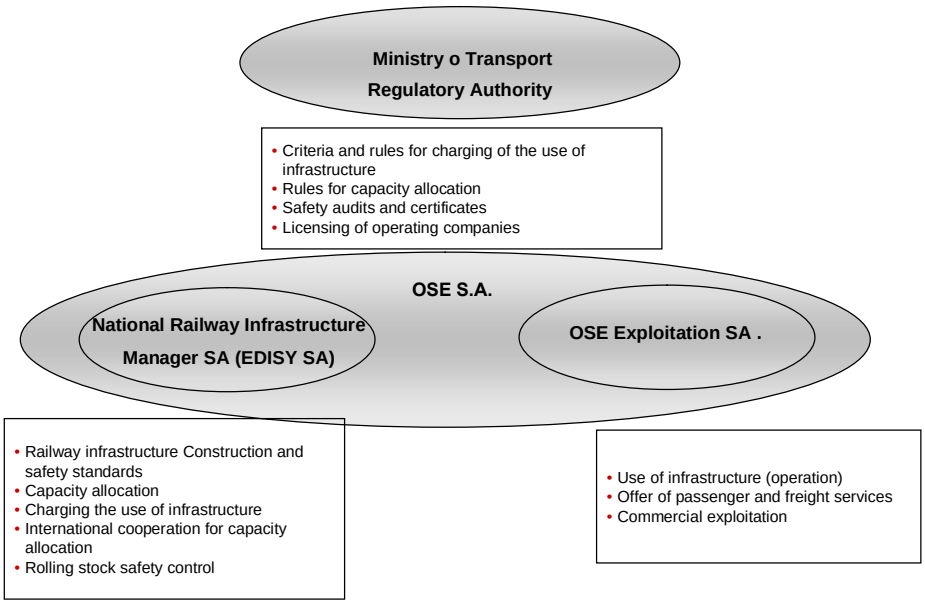

Figure 1a: The new organisational structure that concerns the existing railway company (OSE)[source, Giannopoulos, Giannakos, 2004]

In it, the Ministry of Transport is assumed to be the *Regulatory body* mentioned earlier, while the existing railway company is dissolved and in its place there is:

- One new **holding company** (***OSE SA***) which owns the shares of all daughter companies (this may also at a first stage owe the land property of the existing OSE company).
- One Infrastructure managing company, the **National Manager of Railway Infrastructure** (***EDISY SA***).
- One **Operating company** (***OSE Exploitation SA***)

Under this model the ownership of the Infrastructure and the Land stays in the mother (holding) company and the management of the infrastructure will be done by the infrastructure company. The management of the modernization works (new construction) co-funded by the EU will remain in the responsibility of the

[3] *Courtesy of drawing Kantor SA.*

existing infrastructure development subsidiary of OSE, the ERGOSE while the development of the fixed assets and the real estate activities will remain in the responsibility of the other existing subsidiary GAIAOSE.
Figure 1b below shows an alternative model which takes explicitly into account the need to safeguard existing personnel's rights and manages all liabilities of the existing situation. In it, a new "***Liability Management Company***" is created, which undertakes to service the existing OSE debt, safeguard existing salaries and other benefits for the existing personnel while charging the new companies for using this personnel at market prices for their salaries, similar to the German model of railway restructuring. The solution of undertaking the existing debts –clearly foreseen in the EU directives- was not accepted by the Ministry of Economy acting indirectly –adopting this attitude- as a supporter of the competitors of the Hellenic railways.

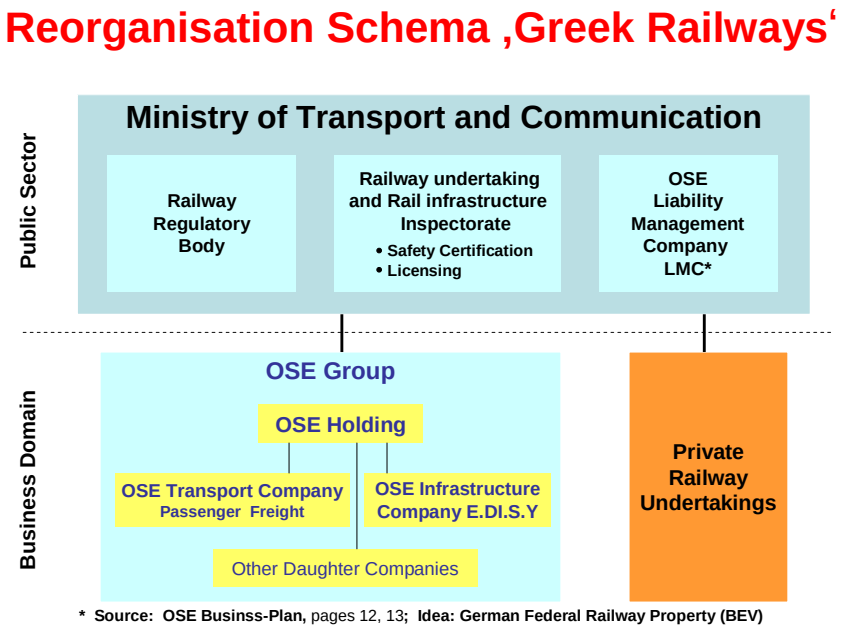

Figure 1b: A more comprehensive model of (re-) organisation with full accountability of the liabilities of the existing OSE company towards the existing personnel.)[source, Giannopoulos, Giannakos, 2004]

The schema in Figure 1b takes explicitly into account some of the most important and necessary preconditions for Greek railway reform i.e.:

- *Clearance of old burdens of the past*. Especially debt clearance (i.e. take over of accumulated debts by an OSE Liability Management Company thus freeing the new OSE from interest payments)
- *Balance sheet adjustment*, with revaluation of fixed assets at real value producing a depreciation reduction.
- *Shifting responsibility* for all "old" OSE employees to a new OSE *Liability Management Company* and "leasing" them back under salary conditions of the market.
- Unabated continuation of funding of investment for new construction, up-grading and replacing of rail infrastructure.
- Adjustment of finance conditions for all areas of transport infrastructure.
- Adaptation of the system of granting Public Service Obligations (PSO) to a service more oriented to market conditions by "contracting" for the State's subsidies (through tendering and competition).

Figures 1a and 1b present what can be called our two basic Organisational models which we termed A and B correspondingly.
Among the two basic alternatives A or B, several sub-alternatives are discussed concerning the future of all 6 of the subsidiaries that existed in the period 2002-2006. For example, one option would be that the

"6 entity" situation of today be reduced to 3 or 4 entities as follows: *OSE Holding Company* (Entity 1) having two to three subsidiaries: one for *Operation (OSE exploitation already named TRAINOSE* –Entity 2*)* in which the PROASTIAKOS (OSE Suburban) will be incorporated, and one for **EDISY** - *Infrastructure Management* (Entity 3) in which ERGOSE will be a new subsidiary through selling of its shares, and the other subsidiary will be *GAIAOSE* and the *Freight Centers* of today for real estate and freight villages activities. ERGOSE may also go as a subsidiary of the holding company, OSE Holding, directly (in which case it will be Entity 4).
The delicate question of the Rolling Stock Maintenance Workshops can be solved by making this activity a separate business unit of the *Infrastructure Manager* (EDISY) with accounting and administrative separation, or a separate company. This will give "equal" chances to all future operators so that a new operator may not face the adversary condition either to ask maintenance services for rolling stock of its rival (they can always buy them from the neighboring countries). In the future this business unit may be spinned-off as an independent subsidiary, not necessarily of public interest.

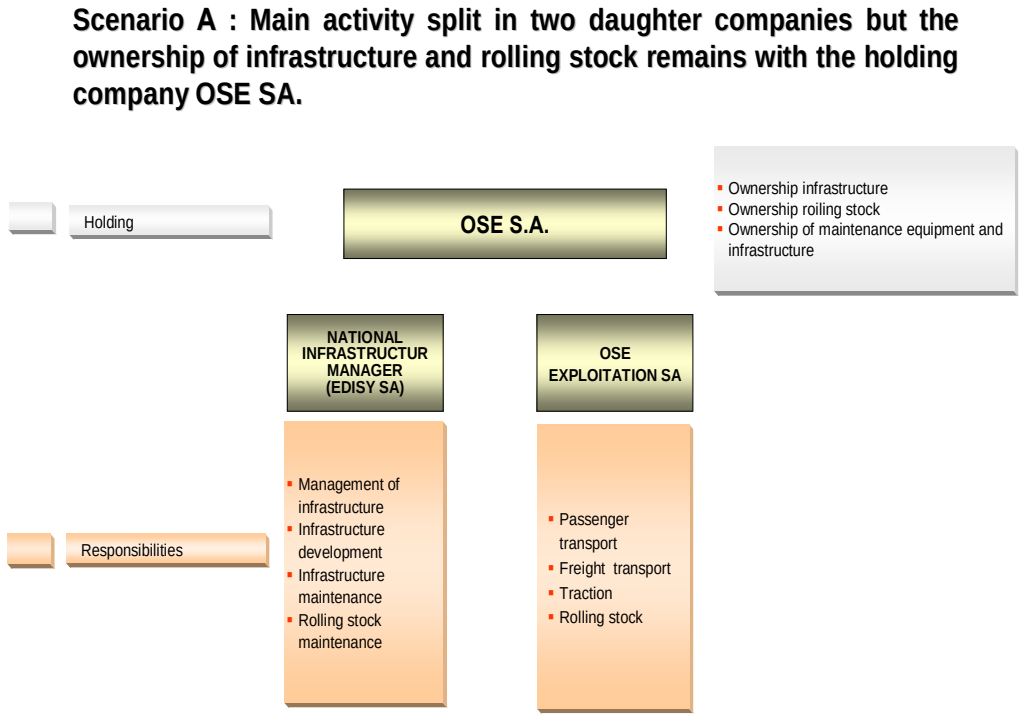

Figure 2: Scenario A1

Overall there were 5 alternative organisational structures or "Scenarios" that were formed, based on the above considerations. These can be presented in a summary form as follows (for reasons of simplicity we do not mention the existing subsidiaries mentioned above, and which are "attached" according to their scope to the appropriate the main daughter company shown in the alternative scenarios below):
Scenario A1: One Holding (OSE SA) owning infrastructure, rolling stock, and 2 daughter companies one for managing the infrastructure (called EDISY SA), and one for exploitation (called OSE Exploitation SA). The infrastructure and rolling stock maintenance goes to EDISY.
Scenario A2: One holding and 2 daughter companies as before but the ownership and maintenance of the infrastructure goes to EDISY, while the ownership and maintenance of the rolling stock goes to the OSE exploitation SA.
Scenario A3: The same as A2 but a new daughter company is created for the ownership and maintenance of the rolling stock (called Rolling Stock Maintenance SA).

Scenario B1: The same as A1 but with the existence of the *OSE Liability Management Company*.
Scenario B2: The same as A2 but with the existence of the *OSE Liability Management Company*.

Scenario A2: Main activity split in two daughter companies but the ownership of infrastructure and rolling stock goes to the respective companies

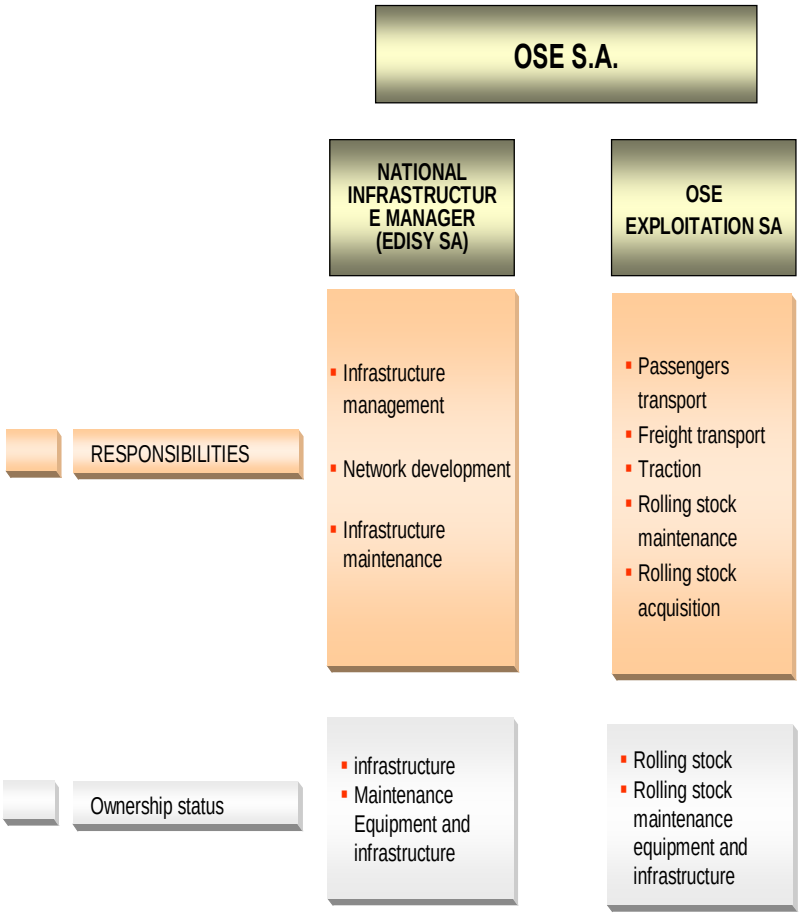

Figure 3: Scenario A2

Obviously a number of other alternatives could be formulated by a number of different combinations as regards the responsibilities for the infrastructure and rolling stock ownership and maintenance.
Figures 2 and 3, show in a diagrammatic form two of the above 5 scenarios (Scenarios A1, and A2 respectively). In the same alternatives if we add the *Liability Management Company (LMC*) as shown in the overall presentation of Figure 4b we arrive at the Scenarios B1 and B2 respectively.
It is also assumed that after the creation of all spin-off companies and when the system starts its operation under the new schema, the Greek State will undertake the:

(a) coverage of the infrastructure operational and maintenance costs,
(b) signing of PSO contracts and
(c) prompt fulfillment of its financial obligations coming from the (a) and (b), since these obligations of the State are due since 1971 (when OSE was founded) and have never been respected by the state.

Each of the proposed scenarios has been analyzed and studied in detail especially as regards its financial and economic consequences but also as regards the :

- legal form of the organisation of each company (type of control of Business Units and

subsidiaries, and so on),
- Form of the top-management structure (Management Committee with advisory or enhanced executive role, etc), and
- Ownership status of the rolling stock, and so on.

4.2 Evaluation of the alternative models

The evaluation procedures entailed calculation of the income and cost sheets for each Alternative situation under some basic hypotheses concerning tariff rates and policies for capacity allocation, pricing, etc. In general it was assumed that:

- Tariffs will remain at their 2005 levels (in constant 2003 prices) for both passengers and freight thus accounting only for the rate of inflation (this is a "safe – base, worse case" assumption which may well not be followed in practice but in such cases it will mean better financial results).
- The specific capacity allocation procedures as well as the operating practices of the private operators will achieve overall network capacity increases of the order of 10% as compared to today.
- Number of total personnel remains the same as in 2003 with slight decreases of 5% per year over the next 5 years only.
- Transport demand for the railways is increased (as a result of the liberalization) by 6% on first year of application and 3% per year for the next 5 years[4].

Since the final calculations and Tables for each alternative (and sub-alternative) would not fit in the limited space available in this paper the approach taken is methodological, i.e. aiming to demonstrate the evaluation approach and the method for the economic analysis used.
In Giannopoulos-Giannakos, 2006 an example of the economic analysis in terms of the expected income and expenditures for each of the companies in the 2 "A" alternatives (A1 and A2) is presented. In the absence of the application of the provisions for a "**Liability Management Company**" as in Alternatives B, the calculations are "burdened" by the current loan and financial liabilities of OSE which are transferred to the new companies. Thus in all cases the end result for the new companies, remains a loss making.
In the case of Alternatives B, the above burdens are not transferred to the new companies and the end result is of course greatly improved, and if in addition the payment of the PSOs are regularly settled by the government, then the new company for exploitation will be showing a positive balance.

This shows the importance of a decision (that is still pending) about the current debts as well as the maintenance of the current bonuses and other benefits for the existing personnel.
In Scenarios A1, A2, A3 the analysis shows that under the hypotheses made concerning the traffic flows etc, in all cases the net results remain loss making (i.e. negative). The sum of the net results for alternative A1 stands at 520.9 mil Euro, for A2 at 452.6, and for A3 st 542.0. Thus alternative A2 is the most promising one in terms of the evaluation objective set earlier i.e. maximising the net results. For alternatives B1 and B2 the financial situation is better (again the B2 better than B1) because of lower financial expenses due to the fact that the long term loans burden of the existing OSE Company, are transferred to the Liability Management Company and do not burden the new companies.

5. IMPLEMENTATION TOPICS

5.1 The steps to be followed

The implementation implications of the above alternatives for the new structure of the Greek railway system are many. Perhaps the biggest and more complex of them are the demands that such a re-

[4] It has to be noted that along the only "commercially viable" transport axis of the whole network, i.e. the Athens to Thessaloniki line, in 2002 OSE had the 31% share of the market of passengers, while air took 44% (Aegean Airways 24%, Olympic Airways 20%) and the buses (KTEL) 16%. This was almost a yearly increase of 7% increase since 1998 when OSE had a share of 18%, and air transport 51%.

organization would pose to the OSE existing staff. There is considerable change to be made and this is a very difficult task to accomplish, so it should not be affected at "one stroke".

There are a number of steps to be taken or phases to be implemented, before such a fundamental change is effected. Although today (May 2006) most of the "new" companies that will form the cluster of companies of Alternatives A or B, already have been created, they are "functioning" in parallel to the old OSE structure which still remains the main operational Organisation for the Greek railway system.
So a number of implementation steps must be made in order to "activate" so to speak the new Organisations and start the new system functioning. The recommended such steps are the following:

Step 1: Cost Centres
This step involves the re-organisation of the existing cost centres and the introduction of new cost centres, which broadly reflect the new activities of the Railway. Already the present OSE is moving towards this direction following the formation of its 6 new Directorates General as suggested by the first Business Plan for the period 1998 – 2002.
It is possible to redevelop the organisation with a view to the future introduction of Business Units by first of all introducing these Cost Centres which will be in line with the future organisation. The budget process for this phase will therefore need to be carried out along these lines.

Step 2: Profit Centres
The next step in the reorganisation process will be the introduction of Profit Centres for those services which generate revenue. This step involves the setting up of Profit Centres into which the previous Cost Centres will be integrated. It will also see the divesting of the remaining non-core activities if appropriate.
The Profit Centres will concern the main activities of the Railway-Operation (Freight, Passenger, and – possibly- Technical Services) as well as of Infrastructure development and maintenance.

Step 3: Business Units

In the subsequent step, Business Units will be introduced which will take over the Profit Centres in the appropriate activities. In this step, the Railway will remain or be a Joint Stock Company under private law (at the first stage 100% owned by the State) with separate Business Units for Infrastructure, Freight Services, Passenger Services and (possibly) Technical Support (Rolling Stock maintenance). The director is in charge of each unit, who is responsible for the performance of the unit. The directors of the Business Units will be members of the Executive Board of the Joint Stock Company.
As an example seven business units could be established based on operational criteria: Passenger, Freight Transport, Network Exploitation, Network Development, Network Maintenance, and Rolling Stock Maintenance.
At any stage of the above process (but preferably after the creation of the Business units) the corresponding elements can be incorporated into the new companies.

5.2 Implications for the process

The above transition process suggests a gradual series of logical steps leading to the reorganisation of the Railways and its re-orientation along commercial lines with the intention of becoming fully profit-oriented, cost efficient and cost effective. The approach proposed indicates a seamless transition from the present production led focus through a phase of cost recognition moving to profit centres and ultimately to stand-alone business units within a joint stock type framework.
The three steps suggest a logical and systematic process that increases awareness within Railways of a radically different management approach and set of priorities to be addressed and absorbed. The process is designed to make the progression as sympathetic to the realities of the national economic position and to the specific position of the railway sector.
The recognition of costs as a first step, where in the production process costs clustered and to which part of the operation they are apportioned, begins the process of breaking from a 'free issue' position and implies accountability for costs in the delivery of products and services.
Moving to the step of Profit Centres draws into the raised level of cost awareness an appreciation of income streams across the main activities covering passenger services, freight services and infrastructure.

The responsibilities of the Headquarters / Administration will be to act as the focal point for the railway in terms of reporting the overall financial and commercial position of the Railway in this transition phase.
The profit centre phase should clearly identify the relative strengths of the various parts of the enterprise in terms of financial performance and reinforce the need for improved systems and management information. These in turn will underpin initiatives to modernise or re-position the profit centres as separate entities as a prelude to becoming business units in their own right.
The final phase in the transition is to move to the position where the principal functions effectively operate as separate Business Units with allocated assets and business targets.
The whole process from the present position of a centralised unreformed command economy type of operation with limited discretion allowed to managers to one where business focus and measurable commercial performance are the key attributes, needs to be managed to ensure the transition is made correctly and seamlessly. Personnel issues will need to be treated sympathetically through the phases of change as the skill base and the whole complexion of the national railway operation changes.
Management of the process and maintaining the viability of the entire enterprise will be a significant task to implement.

6. CONCLUSIONS

The analysis made in this paper and most notably the economic evaluation of the proposed actions, shows that even with the new structures, if we keep more or less the current "trends" as regards the transport work (as we did in this study), the new companies will continue to be loss making. The alternative B2, i.e. when the ownership and maintenance of infrastructure and rolling stock goes to the two corresponding daughter companies for infrastructure and exploitation and at the same time all current debts as well as the extra social provisions for the personnel go to the new "Liability" company , seems to produce the best net results anf seems to guarantee the economic viability of the new companies.

Therefore the idea presented in Figure 1b in which a special *Liability management company* is set up to handle the existing debts and safeguard the social and other benefits attributed to existing personnel, is our main recommendation here. It seems to be also the only case that can guarantee social acceptance of the changes as well as operational efficiency and viability for the new companies. It has been tested, after all, with the German railway re-organisation with encouraging results (which must by the way be studied in detail by those that will take the final decisions). Irrespective of the specific organisational model that will finally be implemented and besides the issue of the Liability Management Company mentioned above, our analysis shows that special attention and a permanent solution must be given to the handling of the Public Service Obligations (PSOs) of the state towards the railways. This issue and the fact that the existing railway company has never been compensated by the state for these PSOs is the main cause for the current deficits of operation and the corresponding debts. The unwillingness of the Ministry of Economy to apply the –foreseen in the EU directives- undertaking of the existing debts acts –indirectly- as a supporter of the competitors of the Hellenic railways

The other major cause of debts is of course the investments associated with the creation of new infrastructure. OSE undertakes loans even for the co- financing of the co-funded projects with the EU (Giannakos, 2008).This is an issue whose feasibility is not part of this analysis. These investements will have to continue in the future until the railway network of the country is completed according to the existing plans.In all instances the new railway companies that will be created must use a systematic and well working cost accounting system. The awareness of costs is the most important issue concerning the change of a state owned enterprise to a market driven enterprise.

It is also of great importance to specify the relations between the companies/business units so that their new procedures/functions and organizational changes are well defined and documented in the sense of companies/business units described in the paper. Finally, it must be stressed that all involved personnel should be trained or re-trained. The Managers should be able to manage actively the necessary change and play their new role in the new organization structure. The other employees should be able to understand and accept the new organizational structure with the new relationships. The key element in all organizational changes is the personnel and its positive attitude towards this change. This will be a key element to seek in the coming years for the Greek railways. There is also need for continuity and stability in the governmental policy and not a change each two to three years in average.

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