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Key figures*

More than € 28 Bn of revenues in 2015

More than 50.000 km of toll motorways,

bridges and tunnels managed by the **ASECAP** members

reduction reduction in the fatality rate between 2001 and 2015. ASECAP motorways are the safest road networks in Europe.

More than (electronic toll collection) subscribers

A wide offer and services provided to customers

2327

Service areas

1634

Fuel stations

1244

Restaurants

174

Hotels

*Source: ASECAP 2014 Statistical Bulletin

I. Word from the Presidency

Road networks play the leading role in the European mobility and in underpinning the bulk of the European land transport. Although relevant efforts have been made by the European Union and Member States to boost the use of other transport modes, road transport still represents the most used way of moving people and freight across Europe, as over 72% of passengers move by car and 60% of freight is moved by trucks. Therefore, even with these long terms policies aiming at rebalancing the share of the different transport modes, the reliability and the quality of the road transport on the main European axis and beyond, is crucial for the European economy and for all European citizens.

The increased role of innovative tools and arrangements, and of the private sector, in the provision of transport infrastructures and services reflects the changing perception about the role of the State in the provision of public services and the necessity to make available the needed resources without weighting on the public budgets, further to make available, reliable and high quality transport infrastructures. ASECAP members represent an evident example of how those objectives can be met.

The tool of the concession is a cornerstone of the European policies on public private partnership, to the extent that specific EU legislation has been available for more than two decades now, with several revisions in the meantime, that with a stepwise process enhanced their effectiveness in time, and are contributing to the objective of the achievement of a seamless market for concessions all over Europe.

ASECAP also carried a stepwise analysis, on which this document is based, with its recommendation to the European decision makers in order to make the best use of the tool of the concession, also by means of an enhancement of the specific legislation.

> Fabrizio PALENZONA ASECAP President

II. Introduction

During the second half of the last century, European countries started to build their high road capacity network. The scarcity of public funds obliged them to use toll concession schemes, an idea that some European countries had already tested in the period 1920-1940 in order to boost the financing of motorways and to transfer payment for use of this facility to the user as the final beneficiary of this public service.

This model has many advantages for citizens and public administrations and has now become a reference worldwide.

After more than 50 years of toll road operation, many lessons have been learned. The most important one is that the model works perfectly and is fully reliable as far as guaranteeing legal stability and flexibility are concerned.

Today, as the social and macroeconomic scenarios have radically changed, Europe still needs substantial investment to complete, maintain and upgrade its extensive network.

The increasing need for investment to guarantee safety and security on our roads is jeopardized by the stranglehold of limitations on public budgets (as a result of the requirements of the Stability and Growth Pact, the impact of the economic crisis and

the new social and economic trends) and this makes private financing even more crucial. Once again, toll concessions are a proven efficient and sustainable mechanism that can afford such investments.

The potential of this model goes beyond the traditional financing of a motorway. With a wider approach to toll concessions - and an adaptation of their regulatory frameworks - Governments may now have a solution to being able to afford additional investments in their road networks, one that is linked to the motorways and guaranteeing their proper maintenance without harming public budgets.

This document aims to put the spotlight on the benefits of toll concessions, the requirements for the correct development of concessions and how to take advantage of the toll concessions model to prepare for new investments in roads that are still pending (to improve, enlarge, complete and maintain them). Finally, it proposes a set of recommendations to facilitate this model's wider use in Europe. It also analyses what prospects exist for a uniform legislative framework at EU level in order to implement the different principles and/or rules stemming from European Union law in order to target users' interests, the free movement of services in the single market and maintaining a system that is competitive.

III. Benefits of concessions

III.1. Construction and operation of infrastructure - a task for the public or private sector?

Before moving forward to the analysis of toll road concessions, it should first be clarified that the building and maintenance of motorways are in the public interest. This has to do with users' rights, safety, security and growth. These key EU principles are fully addressed in this document.

There are several ways of developing public infrastructure:

- (i) keep construction and operation within the public sphere;
- (ii) transfer construction and operation to private entities:
- (iii) ensure that construction and operation involve both the public and the private sectors.

Given that concessions constitute only one of the available options, assessment of the real impact of toll road concessions requires a broader understanding of each of the available options.

To start with, it should be noted that both alternatives (public or private building and operation) are fully capable of ensuring that the infrastructure is always managed in accordance with public interest.

• No market system - all taxpayers bear the costs

With regard to the first option, it is possible for public infrastructure (including motorways) to be developed exclusively in a non-market context and financed directly from public budgets (mainly using tax revenues) by public entities who remain in charge of construction and subsequent operation.

In this scenario, two alternative models may be followed: (i) construction and operation of motorways are carried out directly by the government or (ii) by a State-owned company which may exist already or need to be created for this specific purpose to conduct the business. In both cases, there is no active market and the costs of building and maintenance are borne by taxpayers rather than by the user.

• A market-oriented model based on the payper-use principle

Notwithstanding the above, a report recently issued by PricewaterhouseCoopers Advisory SpA regarding the future evolution of toll concessions in Europe, shows that in five countries (Austria, Denmark, Netherlands, Serbia and Slovenia)¹, motorways are managed exclusively by the State through public-owned concession companies, which may depend - significantly - on toll revenues. Throughout Europe, a great many motorways are operated by means of concession contracts where the concession company owners are completely private.

In fact, there are several reasons to believe that, although we are focusing on public infrastructure (ie. infrastructure that serves the public interest and therefore is designed to be used by the public community and not for a restricted use by private entities), it is more efficient to use public-private partnerships to construct and operate them. Concession companies can be publicly or privately owned, or be public-privately owned. Each model has its own

This report did not encompass all EU countries, indeed there are other EU countries where motorways are managed directly by the State or by public-owned (concession) companies, including Slovakia and the Czech Republic. In some countries, concession companies exist with private owners and other companies with public owners.

advantages and disadvantages. These instruments may be applied to both private and State-owned companies, on the basis of Article 345 of the TFUE (Treaty on the Functioning of the European Union). On the one hand, there is no mandatory connection between the public or private nature of the infrastructure and its designated purpose and the public or private nature of the contractor/operator. In other words, there is no general principle requiring or recommending that public infrastructure assets should be developed and managed exclusively by public entities. History shows that public-private cooperation mechanisms for the development of public utilities, including those having recourse to the market on the basis of the "pay-per-use principle", have been successfully tested for centuries.

On the other hand, when governments are developing public infrastructure they can be hampered by budget constraints and other factors, which cause delays not only in the construction phase but especially in the operation and maintenance phases. Furthermore, experience has also shown that building and operating large-scale infrastructure like motorways is more effective and successful when carried out by concession companies. Thanks to their greater financial resources deriving from their toll revenues, they are in a better position to manage human resources and build up sound technical know-how, all the while pursuing their obvious profit goals.

When the State operates the infrastructure, budgetary restraints often impose the rule of keeping costs to a minimum, especially when it comes to spending on maintenance, whether routine or extraordinary. That can lead to motorways deteriorating to a point where their operation becomes sub-optimal. By contrast, when a motorway concession is granted to a private company which runs it according to an agreed toll road model, the concessionaire is not just driven but even highly motivated to achieve outstanding levels of efficiency in order to perform the contract in compliance with the highest applicable standards.

All these factors taken together point to concessions as an attractive solution, whether or not they are based on a public-private partnership model, even more so if the infrastructure assets of the countries in question are poorly maintained and deeply indebted governments lack the necessary funding.

The advantages of granting concessions to concession companies are being widely studied, and more detailed references can be found on many of the academic studies and economic reports regarding the subject.

For the purposes of this paper, the main advantages of concessions are described as follows:

- a) Financing: building motorways and other transport infrastructures is very expensive and governments are constantly faced with budgetary constraints. Under these circumstances, they are forced to raise taxes and/or ask for loans in order to cover the massive construction costs. Concession companies, on the other hand, are able to determine their own resources for funding project construction costs, and the concessionaire is free to activate the financial markets, using income from tolls and availability payments to repay loans.
- b) Thus the infrastructure can be built without exerting any impact on the public debt.
- c) Efficiency: concession companies are able to provide certain services or operate certain facilities more efficiently and effectively than governments can, as they operate in a profit-oriented competitive market. Furthermore, they have more flexible management and are not constrained by the lengthy decision-making procedures that tie up the public sector. This is conducive to a high potential for efficiency gains in all phases of project development and implementation, in addition to benefits to society as a result of long-term road planning. If national governments take control of the construction of a motorway, their budgetary constraints may cause some stretches to be delayed, or not even to be completed at all, for lack of funds.

- d) Better performance: when operating a motorway, concession companies are encouraged to deliver a high quality service, to introduce cost-saving improvements and to implement innovative designs and technology. In addition, the government may require the concessionaire to undertake several improvements (inter alia, technological upgrades such as electronic toll collection) which perhaps would not be possible for the government to initiate. In fact, when a government is in charge of a motorway's operation, it has fewer incentives to innovate and reach high levels of efficient performance.
- e) Infrastructure: The focus on good performance also leads concessionaires to make substantial investments in the public infrastructure they operate (which will one day revert to the national treasury when the concession is terminated). With regard to motorways in particular, recent surveys suggest that, thanks to such investments, safety levels have increased significantly and traffic accident fatalities have been coming down year after year.2
- f) Risk transfer: the risks involved in building and operating the concession are (or should be) transferred substantially over to the concessionaire, which then becomes responsible for full compliance with all the building and operation standards previously required by the Government, and also bears - at least up to a certain point - the loss in profit resulting from a variation of the initial circumstances upon which the concession was granted (e.g. reduction of daily traffic on the motorway).
- g) Costs reduction: all costs related to the operation of the concession, including maintenance or repair work to be performed during the concession, are allocated to the concessionaire; this translates into significant yearly savings for the government during the concession period.

- h) Know-how and expertise transfer: the concession allows the government to deal closely with an experienced company, whose highly qualified teams and performance comply with strict efficiency standards. As a result, relevant know-how and technical expertise is transferred to the government's own staff.
- i) Control: the Government has greater incentives to control the performance of the concession contract and carry out a stricter surveillance than if the contract were to be performed by the Government itself or by administrative bodies or companies under its command. This administrative control is also strengthened by feedback from the motorway users, who may also urge the concessionaire to keep the infrastructure in good conditions and introduce improvements.
- i) Stability: when the concession is based on a contract between the grantor and a third party, the government is discouraged from proceeding to make any sudden and/or significant changes to the terms and conditions that govern operation and maintenance of the infrastructure. The concessionaire's rights are therefore more sheltered from political risks under a contract. (Even though a concession contract can be subject to unilateral changes made by the Government, this is generally accompanied by payment of adequate compensation).
- k) Better acceptance of tolls by the users: motorway users tend to accept the payment of tolls more easily when the concession is awarded to a concessionaire, because they then regard tolls as the concessionaire's due and rightful reward for major investments already made in the motorway's construction and for the high quality of service provided.

See the above mentioned PwC report named "Evaluation and future of road toll concessions" dated 2014, pages 27-33, namely the graphic shown at page 29). See also Thais Rangel and José Manuel Vassallo, "Modelling the effect of contractual incentives on road safety performance", Transport Policy, no. 40, 2015, pages 17 to 23.

I) General economic effects: finally, the award of an infrastructure concession needed by the general public to private companies boosts the local (and even national) economy, introducing a whole new dynamic in the private market, creating new jobs and incentivising the adoption of best practices on the sector (leges artis) and development of technological innovation³. Only concessions are in a position to create (or strengthen) a relevant European market related to the management and operation of infrastructural assets which might be able to compete in a globalised economy and be duplicated in other continents.

For all the reasons mentioned above, concessions prove to be a more suitable option available to public sector entities when it is a question of developing major infrastructure projects efficiently in conformity with high quality standards, without placing a heavy burden on the State budget, while at the same time allowing the operational risks to be transferred to private companies.

What is more, operation by concession companies is generally more effective than public operation, hence the concession model is an excellent means of deriving full advantage from the private operator's efficiency. In other words, concessions are a favoured option, not only when compared with public operation, but also when compared with other types of private operation such as services or management contracts.

This is clearly underlined in the table below, taken from the above mentionedw European Commission's report "Guidelines for Successful Public-Private Partnerships", page 30.

The Effectiveness of Alternative PPP structures 4

	Improved Service	Enhanced Operational Efficiency	Enhanced Risk Sharing	Life Cycle Costing	Accelerated Implementation	Leveraging of Public Funds	Implementation Constraints				
	Private Outsourcing										
Service Contracts	Possible	Yes	No	No	No	No	Low				
Management Contracts	Yes	Yes	No	No	No	No	Moderate				
Leasing	Possible	Yes	Some	Possible	No	No	Moderate				
	Integrated Private Development										
ВОТ	Yes	Yes	Yes	Yes			High				
	Private Investment										
DBFO Concessions	Yes	Yes	Yes	Yes	Yes	Yes	Very High				
	BOT Build-c	perate-transfer	It's a form of project financing, wherein a private entity receives a concession from the private or public sector to finance, design, construct, and operate a facility stated in the concession contract. Design—build—finance—operate is a project delivery method very similar where there is not actual ownership transfer.								
Design- Build-Finance-Operate Moreover, the contra		recond-manage-populate is a project ceasing friend or very similar where there is not actual ownership transier, ver, the contractor assumes the risk of financing until the end of the contract period. The owner then assumes eponsibility for maintenance and operation.									
	tracts	These are contracts which define clear tasks or servicesfor the entity to whom the contract has been granted. Ownership of assets and management of responsabilities remain strictly with the private sector. While they afford certain benefits, service contracts cannot address underlying management or cost issues affecting poorly run organizations.									
	Managemer	it Contacts	These are contracts which transfer responsibility for asset operation and management to the private entity. Ownership of assets and management of responsibilities remain strictly with the private sector. These comprehensive agreements involve both service and management aspects and are often useful in encouraging enhanced efficiencies and technological sophistication								
	Leasing		Leases provide a means for private firms to purchase the income streams generated by publicly owned assets in exchange for a fixed lease payment and the obligation to operate and maintain the assets								

See the graphic shown at the European Commission's report named "Guidelines for Successful Public-Private Partnerships", dated March 2003, page 62.

III.2. Different road concession financing schemes

The advantages of concessions must not lead us to forget, however, that several payment mechanisms may be selected for a concession structure and that the model that is specifically adopted will have a significant impact on the development of the project. In broad terms, the models vary depending on whether the project is ultimately funded by the infrastructure users or by the government (ie. public funding through tax-payers) or, in some cases, by both.

On the one hand, the concession model can work on a "pay-per-use" scheme: motorway users are obliged to pay a distance-dependent charge (i.e. tolls) and/ or a time-dependent charge (i.e. the vignette, where and when applicable), for using the infrastructure which, in turn, will constitute the concessionaire's revenues (the concessionaire is therefore encouraged to promote increases in traffic).

This model makes no inroads on public expenditure. Additionally, it transfers the traffic risk over to the concessionaire's side. Indeed, the concessionaire's profitability is exposed to unexpected events that may affect the demand for the infrastructure, unless the same effect results from factors such as a force majeure event, unilateral changes by the grantor, and specific changes in the law or other public decisions that directly affect the economic balance of the concession.

A key concept that underpins motorway concession contracts is the concessionaire's right to a financial rebalance of the concession if certain events occur: this could mean, inter alia, the payment of compensation to the concessionaire, or the extension of the original duration of the concession⁵. This mechanism is designed to restore the original financial balance of the contract (meaning, the financial balance that would exist if such events had not occurred), so that the concession operation is not affected by the concessionaire's unexpected losses. In this regard, it should be noted that the legal purpose of the financial rebalance is not overly focused on the concessionaire's compensation -though this is, of course, an important issue -, but on safeguarding the public interest related to the operation of the infrastructure and its capacity to keep serving its customers.

It is also worth noting that the adoption of a "payper-use" scheme does not imply that the performance of the contract is guided only by strictly economic goals and that no other purpose can be taken into account. In fact, the fees charged to users are not entirely rigid and can therefore be within the legal margins - adapted in view of environmental or social goals (for instance, charging polluting vehicles more heavily, or settling lower fees to the track to which no suitable alternative is available)⁶. Furthermore, the pay-per-use scheme offers a stronger balance from an intergenerational justice point of view, as it spreads the contribution for the maintenance of the infrastructure among all generations present and future that will be benefiting from it. It must be added that the implementation of this scheme is also being considered for cities, in order to manage congestion and reduce air and noise pollution from through traffic.

The second model (public funding) can be subdivided, into two different categories.

As, for example, regarding the Portuguese legal framework, the provisions set forth on article 282nd, paragraph 3 of the Public Contracts Code.

See Directive 1999/62/EC of the European Parliament and of the Council, of 17 June 1999 (altered by Directive 2006/38/EC of the European Parliament and of the Council, of 17 May 2006), on the charging of heavy goods vehicles for the use of certain infrastructure, transposed to the Portuguese by means of the Decree-Law no. 60/2010, of 8 June.

One category is usually named the 'shadow toll' model. This model is quite similar to the toll and project revenues model (described above), given that in both scenarios the amount of the concessionaire's revenue is based on the number of users effectively using the motorway (this risk being commonly mitigated by the existence of traffic lanes). The difference lies in who pays the tolls. In a normal toll, the users pay directly to the concessionaire. In a 'shadow toll' concession, the government pays the concessionaire a fee for each vehicle circulating on the motorway.

Another category of concession public funding is known as "availability payments", according to which the government's payments are based on the infrastructure's availability - meaning that the concessionaire is rewarded for having the motorway fit for purpose and available for public use by any customer who wants to access the infrastructure.

Taking into account the different payment schemes described above, it is easy to conclude that there are several different models to choose from to provide adequate funding for the concession. While it is true that the real toll model, where economically feasible7, seems to be a very advantageous model as it is the only scheme that cancels or minimizes direct public payments, that does not mean that no other model can be successfully adopted. Usually, the particular circumstances of each concession will determine the most suitable model to be followed in practice.

Among others advantages, the use of tolls to finance and pay roads implies:

- a. a fair distribution of duties among taxpayers and users: the individual who profits from the infrastructure pays for its use (independently of its nationality) and not the taxpayers;
- b. savings made in public funds which may be allocated to other social or investment priorities;
- c. that there is no impact on public deficit;
- d. an influence over the traffic demand due to price signals;
- e. that external costs of transport can be internalised; and
- f. that the road use tax scheme may be equated with other transport modes where the users bear the infrastructure costs (air, rail, maritime...).

In this regard, it is worth noting that not all the concessions based on a real toll model manage to be sustainable and financially self-sufficient.

III.3. Concession operation

The above statements also apply in the case of brownfield projects where the capital expenditures have already been reimbursed. Tolls should also cover the significant costs occurring during operation and maintenance phase. Concessionaires are in fact entitled to recover the investments they make for the operation and maintenance of the infrastructure, which include (but are not limited to) current maintenance, improvements in the infrastructure, as well as heavy maintenance (which requires significant financial resources and a peak in capital expenditures to be funded by the concessionaire).

It is commonly knowledge that the term of a concession is usually determined by the size of the hefty amounts invested by the concessionaire in building the infrastructure: as motorways are extremely expensive forms of infrastructure (where costs easily rise to several hundred million euros) and the construction costs fall upon the investor,- supported by bank loans, the concession contract usually lasts long enough to allow the concessionaire to recover the investments made to develop this public asset8 and to obtain a fair remuneration for his work and capital invested.

But this does not mean that private operation of public infrastructure is only justified for the length of time during which the concessionaire is recovering its initial investments; on the contrary, regardless of the recovery of such investment, the concession still remains the best option for operating heavy infrastructure. The same reasons - efficiency, performance, innovation, safety, risk transfer, control - for recommending a concession at the early stages still hold true at later stages, as stated earlier in this section.

On the one hand, the operation of certain infrastructure is very complex from a technical point of view (for instance, seaports) and a private specialized company is better placed to deal with all the daily difficulties arising from the provision of such services. On the other hand, even when the operation is not complex in itself, a private company, with qualified staff and competing in the market, is usually better placed to deliver a high-standard performance than are most administrative bodies (having lower budgets and smaller human resources, fewer incentives for efficiency and innovation, and lumbered with slow and bureaucratic decision-making procedures).

In addition, the national government and civil services are constantly subject to financial constraints and have limited public servants to carry out all the tasks that, in theory, could be performed by either the public or the private sector.

Furthermore, since few public bodies are keen to develop commercial activities, the government's activity in the economy is of necessity subject to the subsidiarity principle, according to which the public sector may not intervene in cases where the private sector is able to provide a more efficient response to meeting the public goals that are to be achieved.

In this regard, it should not be forgotten that a whole private concession market for operating heavy public infrastructure has been flourishing in the past few decades, with undeniable success - not only regarding the operational side per se but also from the perspective of economic growth, job creation and the development of businesses and technology. This should never be underestimated when guestions are raised whether governments should directly operate all existing public infrastructure. There is also enough evidence to show that governments are better at carrying out an effective and close supervision of motorways under concession than when they are using the public sector to operate motorways directly.

In brief terms, there are several solid reasons for granting the operation of public infrastructure to private companies, under the surveillance of the State as Regulator.

⁸ ISee Article 18th, paragraph 2, of Directive 2014/23/EU, as well as Article 410, paragraph 1, of the Portuguese Public Contracts Code.

IV. Requirements for an efficient road concession model

Concession contracts have many particular features when compared to other public-private contracts: they are long-term contracts that often last for decades, the amounts invested are huge and require the collaboration of many lenders (often organized in a syndicate) and additional financial instruments such as bonds, guarantees etc. are also brought into play. These contracts are regulated without any autonomous right to set the toll tariffs; they are also of fixed time duration.

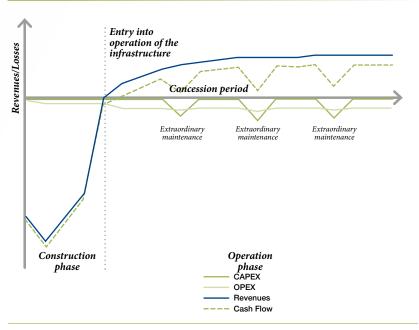
Given all these particular characteristics, this chapter identifies the main requirements needed for the successful deployment of such contracts.

IV.1. Stable legal framework

a. Respect of the contract is a key element for concession success

Concession contracts are based on a long-term relationship between the granting authority (the Concession Authority) and the contractor (the Concessionaire). In this scheme, the Concessionaire finances, maintains and operates an infrastructure on behalf of the Concession Authority, which remains the owner of the asset under concession and will gain full rights to the infrastructure at the end of the concession contract's term, without making any payment. In compensation, the Concessionaire levies tolls on motorway users during the concession period.

Holding no other asset than the contract itself, for the Concessionaire it is of vital importance that the terms and the conditions agreed upon at contract signing can be guaranteed over the complete duration of the contract. Otherwise, it is simply not possible for the investors to obtain a fair return on their investment over time, rendering the financing of such infrastructures simply impossible. With this kind of contract, profitability is assessed over the total contract duration: typically, losses are recorded during the first few years and profits become much higher during the final years. As clearly illustrated in the figure below, such a return is not reached before the contract terminates in due time.



Source: ASECAP - Evaluation and future of road toll concessions - PWC 2014

Concession contracts need to be adjusted where necessary to meet any changes that are out of the concessionaire's control but which could affect the economics of the concession. Such necessary changes must nevertheless be implemented with full respect of the economic equilibrium of the contract and the applicable procurement rules.

Many changes in the regulatory framework are likely to have a direct impact on the Concession contract's cash flow, therefore, balance has to be achieved one way or another. Concession contracts do not resemble normal contracts between private partners in that one of the parties - the public entity - has control of the regulatory or financial tools (taxes) that can effectively alter the contract equilibrium without prior agreement being obtained from the other party. When this happens, a rebalancing of the figures is needed.

Unfortunately, some decisions and developments that have occurred in different countries over recent years have not contributed to generating a good climate of confidence for investments.

In Spain, eight toll motorway concessions are facing bankruptcy proceedings due to a faulty allocation of risks that prompted unexpected increases in costs for expropriation of land, also for extra construction in combination with a huge decrease in expected traffic flows.

Even though Spanish law recognises that government support should be given (through compensation accounts and participative loans8) to help the concessions get off the ground, this support has never been implemented. On top of that, Spain is changing its law in order to limit the impact on the public treasury of the possible liquidation of these concessions, by decreasing the agreed payments defined in the contract in the case of early termination.

In Italy the delegation law for the implementation of new EU Directive 2014/23/EU - recently approved by the Parliament - provides that both works concessionaires and services concessionaires are obliged to award 80% of construction work, services and supplies contracts to third parties by public tender. This means, for example, that the concessionaires are virtually excluded from the direct execution of construction work or services or from arranging for execution by related companies. This provision heavily impacts active motorway concession contracts. Currently, contracts stipulate that motorway concessionaires are obliged to award to third parties just 60% of construction work; in fact, it is most important for concessionaires to be able to execute directly a larger part of the works (40%), services and supplies, not only in financial terms but also to allow them to control costs and respect the scheduled dates for execution.

So, the new provision will negatively impact the contractual assets, generating more costs and more risks for the concessionaires.

In Portugal, the lack of a stable legal and regulatory framework, in combination with, inter alia, the introduction of additional charges not foreseen at the signing of the concession contract has led to litigation between several concessionaires and the Concession Authority over the economic balance of the concession contract, being subject to arbitral proceedings.

In order to restore the confidence of investors, both the contract and the rules governing concessions should be fully complied with during the whole life of the concession.

⁹ Law 26/2009 and Law 43/2010

b. Issue of modifications of State guarantees and other payments to which the contracting authority is committed

Particular attention should be paid to State or public guarantees. Such guarantees are typically granted at an early stage of the concession when risks are considered too difficult to be precisely assessed and limited, or simply too high to be borne by private investors. Later on, as the concession matures, these guarantees may appear to be less needed and valued, and sometimes this leads to early cancellation by the Concession Authority.

The precise financial value of a State guarantee is of course subject to debate. Such a guarantee generally has little or no measurable impact on the regular cash flow of an ongoing concession, since it is designed to operate only if things go wrong. It should, however, be remembered that this tool may have been a prerequisite for securing initial financing. Depending on financial market conditions, the guarantee may be needed again when the concessionaire seeks refinancing, which is a very common occurrence because concession contracts expand largely over typical loans' maturity. Therefore, a guarantee should be considered as holding a defined high economic value for the beneficiary. A clear demonstration of this fact is that it would be treated as State Aid if granted to an existing ongoing contract.

A State guarantee may be cancelled due to legislative or political issues, or to comply with European regulation. In all those cases, it creates the need for rebalancing the contract. When during the late '90s the French State guarantees were cancelled for most French concessions, due consideration was given to this when the duration of the modified concession contracts was reset, thus allowing a fair economic rebalancing that would not affect the overall value of those concessions.

The calculation of the value of the guarantee should respect the general principles and rules implemented during the life of the concession contract. For instance, amortisation should be calculated according to IFRIC 12 rules, based on the motorway traffic and not on arbitrary linear criteria.

In some cases, the economic role of the guarantee is played by payments to which the contracting authority is committed, as may be the case for early termination payments.

If a concessionaire is declared bankrupt, the additional costs faced by the national government should not diminish the amount of these early termination payments, as happened in Spain, when the State unilaterally deducted the extra costs for land expropriation¹⁰.

IV.2. Flexibility of concession contracts

a. Modification of contracts during their term

A key principle of the concession contract is its adaptability. Given the duration of an average concession contract- often spread over decades in the case of a motorway - it is impossible to foresee all the events that will occur through the life of the contract, or any future developments of the situation. Where contracts have not correctly predicted the evolution of traffic needs, adjustments will have to be made for the infrastructure to comply with up-to-date needs and requirements. Necessary adjustments may be driven by reasons as varied as new traffic developments, environmental upgrades, upgrades needed for safety or technical reasons. Examples of such adjustments include Electronic Toll Collection, Intelligent Transport Systems etc.

Further adaptations should still be anticipated. For instance, the development of connected or automated vehicles is clearly emerging - but we have no idea of their modus operandi.

As a consequence, some flexibility is needed for adapting the contract in response to unforeseeable events or environmental changes and this is indeed allowed by European regulations¹¹.

When applied to long-term contracts such as toll motorway concessions, the granting authority

should regard flexibility as a normal contract component rather than an extraordinary procedure. In practice, when reflecting on the duration of real contracts, it can be seen that flexibility has always been there. In France, for instance, contract adjustments for the main historical motorway concession contracts¹² have been made every 15 to 26 months over the last 20 years.

Directive 2014/23/EU also includes the possibility for making modifications according to provisions included initially in the contract itself (see Article 43 1. (a)13). It is an attractive tool but unlikely to meet all needs. Furthermore, automatic adjustments to the economic equilibrium included in the contract may themselves give rise to further imbalances: tariff increases -for example to compensate for a new tax - may have an impact on traffic levels that negatively affects the value of the compensation awarded. Automatic adjustments might not be effective in all situations; however rapid procedures to determine this rebalance should be implemented in order to avoid undesirable delays, as has already happened in some cases.

The uniform implementation of Article 43 is extremely important for the interests of this specific sector.

Directive 2014/23/EU on concessions, passed on 26 February 2014, authorises the modifications of contracts during their term in its Article 43, including for reasons already cited which may cover some of the cases listed above.

APRR, AREA, ASF, ESCOTA, COFIROUTE, SANEF, SAPN

[&]quot;Concessions may be modified without a new concession award procedure in accordance with this Directive in any of the following cases (a) [under provisions included in the initial contract]

⁽b) for additional works or services by the original concessionaire that have become necessary and that were not included in the initial concession [...]where a change of concessionaire: (i) cannot be made for economic or technical reasons [...]; and (ii)would cause significant inconvenience or substantial duplication of costs for the contracting authority or contracting entity.

⁽c) where all of the following conditions are fulfilled: (i) the need for modification has been brought about by circumstances which a diligent contracting authority or contracting entity could not foresee; (ii) the modification does not alter the overall nature of the concession; (iii) [...] any increase in value is not higher than 50 % of the value of the initial concession. [...];"

⁽d) [in case of replacement of the concessionaire]

⁽e) [if the modification is not substantial]

b. Balanced risk allocation

In any concession contract, particularly under Directive 2014/23/EU, at least some of the risks are transferred to the contractor. A balanced risk allocation at the conclusion of a concession contract is a key factor of success: it minimizes the cost of the infrastructure and helps ensure its permanence. Economic theory tells us that the party best able to shoulder the risk should continue to bear it. It is possible that some risks are best shared between partners, at least to some extent. This is the case when a State guarantee is given on all or some share of the debt.

It is important to note that a change in legal, fiscal or environmental conditions may transfer the capacity to shoulder the load from one partner to another. Contracts should then be adapted accordingly.

One example of unbalanced risk allocation can be seen in Spain in the case of the access toll motorways to Madrid. These were confronted with unexpected and unmanageable increases in the price of the land where their roads were built. The original price of the land (qualified as agricultural land) was fixed by the grantor authority and bidders were unable to make any variation in their proposals. After the concessions had been awarded, the courts decided to change the land use from agricultural to urban, and this caused the total land acquisition cost to rise from 387 million to 2.250 million euros. Given the fact that toll concessionaires had no possibility to influence the court rulings, and the fact that the increase in expropriation costs clearly cannot be related to the efficiency of a concessionaire company's management, it makes no sense to force the concessionaires to assume such a risk.

c. Cases of contract rebalance

The need to rebalance a contract may spring from extraordinary circumstances not directly related to the contract. If and when external conditions outside the contractor's control are dramatically changed for reasons totally beyond the powers of the contractors, it may be in the best public interest to rebalance the economics of a contract. This certainly does not mean that investors should be protected against market risks, but rebalancing the contract may be the best option to avoid a costly case of bankruptcy or a denial of service to users, the costs of which would be transferred - at least partially - to public authorities, thereby generating a global socio-economic loss. Extraordinary provisions may be taken for a limited period of time to allow the infrastructure to function in difficult times and to foster conditions for recovery.

This treatment is not specific to infrastructure. During the worldwide financial and economic crisis of 2008-2009, many sectors (automotive, banks, insurance, commodities etc) experienced various degrees of State aid to offer temporary protection and foster restructuration and recovery of the affected companies. The only distinction in the case of a concession contract is that the tools for State aid may be found in the contract itself through adjustments of existing clauses. It is then done at no cost and no risk for the public budget.

A convincing example of this may be seen in traffic-related risk, which is usually borne by the concessionaire. Volatility of traffic versus forecast traffic in the order of a few percentage points per year are only to be expected and would not justify any intervention in the contract if omitted from the initial contract, no matter how costly this might

prove to the concessionaire. However, drops in the traffic flow of more than 40% in the traffic forecast over a few years go beyond all reasonable estimates; no business model is able to shoulder such a high level of risk through private financing. Most concession contracts do contain a clause providing for benefit-sharing when some thresholds are reached. They should also include - or if they do not, the legislation should permit it - a rebalancing clause if major changes occur that radically modify the economic environment foreseeable when the contract was awarded.

In general, we can mention four circumstances that should lead to a rebalance of the contract in favour of either the government or the concessionaire:

- a. when cases of force majeure occur (earthquakes etc.);
- b. when the grantor Administration imposes new obligations upon the concessionaire in the sphere of the contract which had not been included in the initial contract (ex. building additional connection) (This is an example of the so-called «ius variandi».);
- c. when Administrations take decisions that affect the contract (eg. building parallel roads/amending the legislation) (the so-called «factum principis»);
- d. when unforeseen events occur that fundamentally alter the equilibrium, result in an excessive burden for the concessionaire.

All these cases should be recognized and provided for in a uniform instrument and in the national legal frameworks in order to determine the rebalance of the concession contract. Private investors require predictability and Administrations need to build a solid and fair framework to attract investors to develop their infrastructure plans.

IV.3. Operating in a harmonized and planned framework

a. Integration of all transport modes

It is legitimate for a State Authority to optimize modal choices according to social and environmental needs. It is also an absolute imperative to have a harmonized transportation framework that functions in conjunction with other public policies. Many considerations have to be taken into account while setting a multimodal transportation policy, including the following:

- land availability and restrictions over land use,
- environmental impact,
- health and safety considerations,
- social impact,
- impact on job market,
- economics of the system from public and private perspectives.

A railroad that runs parallel to a motorway network may be legitimate and in accordance with public interest. Different transport modes do not generally have the same usage and functionality, therefore the coexistence of both infrastructures may in many cases be justified. This is especially true in the context of a harmonized and planned framework for transport policy.

Tolled motorways, complying with both the userpayer and polluter-payer principles, are a powerful tool for putting a price on externalities generated by thermal powered engines. It is usually completed with fuel taxes which more than compensate for the cost induced by the free road network (compensation may be as high as twice the investment and maintenance costs in the example of France).

Bearing that in mind, it is not acceptable that subsidies should be spent on artificially boosting modal transfers which otherwise would make no economic sense. Public spending of such nature would probably be better oriented towards more efficient environmental policies, assuming that a sound and fair economic assessment had been performed previously.

b. The case of parallel free roads

The example of Spain and the construction of a network of free express roads, sometimes running exactly parallel to tolled motorways, is a good example of a change that cries out for rebalance. No provision in a contract can (or some say should) prevent a government from building a road it views as necessary for public interest. Wise public spending teaches that such a road stretch should be the only one delivering the service and not be a route competing with an existing road. Motorway infrastructures are indeed a perfect example of natural monopolies. However in Spain, the itinerary and functionality are so clos--e that the competition is blatant: the roadways not only run in parallel but they are in direct sight of each other; the speed limits and traffic capacity are the same. Even worse, free roads are of course cheaper than toll roads and may have more connecting points to the secondary network. This example is a clear case of unforeseen and unfair competition occurring during the life of a concession.

If you consider that in Spain, roughly 30% of the tolled network is affected by this competition from free expressways, the impact on the cash flow of the concessions is huge. This is largely the cause of several financial underperformances which have occurred over the last five years. For some small independent concessions, which are not backed up by a larger mature network, it has even ended up at times in bankruptcy.

The fact that the parallel free expressway has been granted by a different (generally regional) Administration should not prevent the concessionaire from having its contract re-balanced.

Although a similar phenomenon occurred in Portugal, the reintroduction of tolls in some road stretches, together with the abandonment of construction of competitive road stretches, has somewhat mitigated the loss of traffic to other road corridors. Nevertheless, experience shows that parallel free roads have a direct impact on tolled motorway traffic and are highly influential not only on the behaviour of individual road users but also on the concessionaire's revenues.

V. End of the concession

A great number of tolled concessions in Europe were granted in the 1960s, 1970s and 1980s and today are mature concessions that will expire in the near future. Key elements to be defined are how to manage the termination of these contracts and how to deal with the infrastructure once the concessions have ended.

V.1. What the end of the concession implies

It is important, when dealing with the concept of termination of the concession period, to have a clear understanding that, as for any contract, a concession agreement is subject to conditions and that for a successful termination of the contract all these conditions have to be satisfied.

Some of these conditions are technical, (e.g. the obligation of the concessionaire to leave the infrastructure and the equipment in a pre-determined good state) and are obvious. However, the concessionaire also has the right to be fully paid according to the concession contract clauses. Several aspects may need further analysis because they can affect the way in which a concession expires.

In any event, at the expiration date of the contract it often happens that the relationship between the grantor and the concessionaire does not end abruptly, nor do the reciprocal obligations and rights terminate. Instead, a rather sensitive transitional phase opens. This phase is not adequately considered by the applicable legislation or in the contracts, therefore we plan to analyse it in the following way.

The transition between the incumbent concessionaire and the new one, if any, has to be managed in both financial and technical terms; indeed, while in an ideal world the new concessionaire/operator would have been chosen well in advance so as to allow for a timely and smooth transition, this may not always be the case. Due to potential problems in the tendering process or to other causes, the actual transition period may be delayed, and in the interim period, some specific solutions may need to be applied.

V.2. Alternatives after the expiration of a toll concession contract

When the contract of a toll road concession expires, then the grantor Authority has different options for dealing with the facility.

The first option is to withdraw the toll and then operate the motorway as part of its remaining tollfree network. This assumes that the possibility to collect tolls from the users is removed, hence the motorway maintenance costs will from now on be directly transferred to tax payers. This option cannot be justified in economic terms nor is it in the public interest, since it not only increases the public deficit and reduces the availability of public funds for other social priorities, but it also attracts traffic coming from alternative (paying) transport modes, thereby jeopardizing the State objectives of promoting an integrated transportation policy. Moreover, it could only be adopted for political reasons.

The second option is to keep the toll going in order to build up reserves for further investments. Then several choices are open:

1- If the aim is only to support the costs of maintenance, the toll tariffs will be lower than the ones collected during the previous concession contract; the new concession contract will be of shorter duration (since the construction component becomes ever smaller compared to maintenance and operation). This would be well accepted by the public. However, the Administration is losing the chance to undertake additional investments for updating, enlarging and improving its road network.

2- If, on the contrary, the State plans for additional investments on top of the cost of maintenance, toll tariffs could in fact go higher and substantial investments would then become affordable.

The first option, limited to covering maintenance costs, can be managed directly by the Administration, for example through an "in-house" solution - although this could also give rise to a new concession contract. The alternative involving additional investments may however be more worthwhile for taxpayers and the Administrations. Therefore it should be the object of a new toll concession contract following the usual public procurement rules.

In view of the above, it can only be expected that, in the future, the majority of heavy public infrastructures will be operated under public-partnership agreements and based on a pay-per-use scheme.

V.3. The transition phase between concessionaires

Normally if a new concession contract is granted after the termination of the existing one, the transitional phase to be managed runs from the formal termination of the concession contract up to the date of entry in operation of the new organisation. In Italy, however, the concession contracts include a general obligation for the incumbent that at the end of the concession period remains under the obligation to operate the toll road until the date of transfer of the concession operation to the new organisation. This is dealt with by means of a fairly generic clause that has caused many problems.

In the Italian experience the lack of any fixed and reliable reference about the kind of relationship that should exist after the termination date of a concession, together with the lack of clarity over the obligations and rights of the parties, have led to problems that also affected the capacity of the concessionaire to have credit on the financial market in the final weeks of the concession, and this has led to a series of lawsuits between the grantor and the concessionaire.

a) A specific feature making credit difficult, the "replacement fee" (Subentro in Italy)

The need for reliable management during the transitional phase is of particular importance, for instance in Italy, due to the presence of the "replacement fee"

The Italian legislation stipulates that, if at the termination date of a concession there is an "unpaid" value of the investment for which the incumbent concessionaire has not yet been repaid, the new concessionaire replacing the old one has to pay the sum. The replacement fee is a weighty consideration in the public procurement as a cost for the bidding parties in case they win. In practical terms, this case may materialize, for example when the period of the concession is too short to permit the repayment of all the investments (including financial costs) through the toll revenues; in consequence, the concession contracts also include a "replacement fee "clause that will require the new party entering the concession to repay that value.

Even though the solution may appear reasonable, the practical experience teaches us that the replacement fee may be an obstacle to the project's bankability; the banks are fairly reluctant to offer financing to the incumbent concessionaire, in the final years of the concession, for which the repayment is conditioned by the result of a public procurement, leading to a great many uncertainties in terms of timing. Some conditions should therefore exist to soften the risk and to allow the banks to finance the new concessionaire.

b) When the State takes over control

The EU legislation in force gives nation States the right to decide on the most appropriate modes and means for the execution and operation of public works and services, thereby safeguarding the freedom of both States and public authorities to choose whether to deliver directly to the public or to do so by means of third parties. In the latter case, public procurement rules must be respected. In addition, the "in house" solution also exists.

It would be useful though to analyse more deeply the cases where:

- 1. the object is an expired concession;
- 2. the concession in question is in a well-developed sectorial market context, functioning and open to competition.

In that situation the choice by the State to "absorb" the concession would imply to some extent a regression - and in the meantime put a stop to the further development - of a market sector.

The acquisition by the public sector of a component of a market that in itself fully exists and works should be limited in some way, for instance, to those cases where the public service needs could not in practice be satisfied through the competitive market. In other words, derogation to the general principle of recourse to the market and of maximization of the participation of the market actors, should be considered acceptable only when well defined financial, environmental, territorial characteristics would not permit an effective recourse to the market.

VI. Cases of new concessions

VI.1. Need for investments

A complete and updated road network is essential for the interchange of goods and persons, national economic development and the creation of jobs.

In many Western European countries the high capacity road network is already quite extensive and mature but is still incomplete. Major investments are required to finalize the network and to guarantee a better connexion between cities and between important industrial and logistic areas. In Eastern European countries, the road network is not so developed and requires substantial financing for new construction.

Most of the road network was been laid out in the middle of the last century and needs to be adapted to the demands of modern traffic, especially in urban areas, where the population is growing fast. Updating to state-of-the-art technical and safety standards is also needed.

On top of that, continuous high-level investment is required to guarantee the proper maintenance of the network. In some countries the maintenance of high capacity networks is assured by concessionaire companies that collect tolls from the users. However, other countries do not collect tolls from their networks and the maintenance depends on the availability of public funds. This is also the case for the secondary road network, which is not only extensive but also requires continuous investment.

According to the European Road Federation Yearbook 2014-2015, the EU28 total road length¹⁴ reaches 1,905,871 km. However the total road network operated under a concession scheme is nearer 50,000 km, according to ASECAP data. This implies that approximately 1,850,000 km of public roads have to be maintained through public budgets.

VI.2. Public budgets are cut while road maintenance deficits increase

According to the recommendations of the World Bank, countries should ideally invest 2% annually of the value of their road networks in order to ensure their proper maintenance.

However, the public budgets of the EU Member States are facing important cuts due to the economic crisis, the need to cover other social priorities and the constraints of the Stability and Growth Pact.

This assumes that the public sector budgets allocated to road maintenance are decreasing dramatically and important deficits on roads maintenance are emerging.

In the case of Spain, only 18% of the high capacity road network is tolled. This implies that the remaining 82% (more than 13,500 km) plus the whole secondary road network (149,579 km) is maintained through public budgets. However public funds are not available for this and it is estimated that the deficit of maintenance in this network (secondary network plus non tolled high capacity network) reaches €6,200 million.

In the case of France, with 9.100 km, toll roads represent 57% of the high capacity road network. The road network financed by public resources is up to 6,900 km for high capacity roads plus 373,000 km for the secondary network. This burden on public

¹⁴ Motorways + main or national roads + secondary or regional roads

VI.3. How to make new projects viable

funds could be significantly reduced if the maintenance were delegated and optimized.

In Portugal, nearly 84% of the national motorway network (i.e. 2.565,8 Km) is subject to toll payment, either under the traditional real toll model or under the multilane free flow model (fully electronic toll system). Nonetheless, in some low-traffic concessions, the charging of tolls does not cover the full maintenance costs of the infrastructure, hence other sources of revenues have to be obtained.

In the case of Austria with 2,200 km, the toll roads represent 100 % of the high capacity road network (Autobahnen + Schnellstraßen). The part of the road network financed by public resources is up to approx. 34,500 km for second class roads (Bundestraßen + Landesstraßen) plus approximately 71,000 km for the secondary network of municipal roads. In other words, only 2 % of the Austrian road network is tolled.

This problem grows exponentially and quick actions are required to reverse this situation: it is commonly accepted that each €1 not spent today on ordinary maintenance will eventually incur €5 in extraordinary maintenance and €25 in future reconstruction.

Having a good road network is crucial for any economy. The lack of road maintenance has a corresponding impact on our society: the worse road safety, the higher the congestion problems, the greater likelihood of damage to vehicles, the higher the impact on environment, and so forth.

Due to the fact that our road network is quite mature and most of the high-traffic corridors have already been built, the big challenge now is to make affordable other projects which are also necessary for the country and the citizen, but with lower traffic volumes.

Different measures can be implemented to make these projects attractive to private investors:

a. Measures to mitigate traffic risk

In addition to the fact that new projects will scarcely profit from heavy traffic volumes, the experience reached in many countries shows that traffic forecasts are often far away from reality and this traffic risk is becoming unmanageable for the private counterpart.

In some countries, solutions focused on mitigating the traffic risk, such as flexible-term contracts on the basis of the least present value of the revenues, have been successfully implemented. This does not imply that the counterpart will not assume this risk, but it will share it with the granting Administration up to a certain agreed and predefined cap.

DIRECTIVE 2014/23/EU on the award of concession contracts states in Article 5 that "The award of a works or services concession shall involve the transfer to the concessionaire of an operating risk in exploiting those works or services encompassing demand or supply risk or both. The concessionaire shall be deemed to assume operating risk where, under normal operating conditions, it is not guaranteed to recoup the investments made or the costs incurred in operating the works or the services which are the subject-matter of the concession. The part of the risk transferred to the concessionaire shall

involve real exposure to the vagaries of the market, such that any potential estimated loss incurred by the concessionaire shall not be merely nominal or negligible".

Thus, the transfer of operational risks has to be real and significant. However it is not said that all operational risks have to be fully and completely assumed by the private counterpart. This opens the door to seeking out efficient risk allocation schemes for sharing traffic risk that may turn a project viable.

i) Minimum income guarantee (MIG)

Concessions with limited traffic volumes can profit from a minimum income guarantee (MIG) clause. The economic and financial plan of the concession foresees a certain level of income during the life of the concession contract. The grantor should define a level under which the concessionaire will be compensated. The challenge is to define this threshold to ensure a real transfer of risk to the concessionaire.

In the case of Chile¹⁵, the minimum income guarantee was successfully used in different toll motorway concessions. The total guaranteed income in present value is the same for all the bidders, and it is equal, in present value, to 70% of the investment cost plus the total maintenance and operation costs estimated by the government. If the real revenues fall below the lower band in any year, the government will have to compensate the concessionaire for the difference between the MIG band revenues and the real revenues at the end of that year.

If the concessionaire decides to take the MIG guarantee, it has the obligation to share part of the revenues obtained whenever real traffic turns out to be higher than expected.

ii) Variable concession period

Concessions may be granted with a guarantee to receive a pre-fixed amount of revenues calculated on present value. This implies that the duration of the concession is variable. If the average traffic growth is higher than the level guaranteed, the concession will end earlier than estimated. By contrast, if the average traffic growth turns out ultimately to be at or below the levels forecast, the concession contract will expire some years later than the term originally established.

This solution has been also implemented in Chile¹⁶ under the name of Revenue Distribution Mechanism (RDM) especially in renegotiations of concessions.

iii) Mix schemes: tolls + availability payments

Other solutions for concessions with limited traffic volumes may take the form of a mixed scheme with direct tolls from users supplemented by availability payments from the State to guarantee predefined levels of quality and service. This requires a concrete and precise definition of key performance indicators that can include level of services, quality of the pavement, signalling, equipment, road safety etc. Whether or not these indicators are achieved implies a real risk for the concessionaire with the application of specific penalties if any of them is not fulfilled.

These kinds of initiative will, on the one hand, limit or mitigate the risks assumed by the private investors and thus attract private investors. The private sector is still bearing an important risk, although this risk is not unlimited, and meanwhile the whole investment is not compromised.

On the other hand, some of these solutions allow the Administration to participate in the profits of the project if traffic levels develop to be higher than foreseen.

See José Manuel Vassallo and Antonio Sánchez Soliño "Minimum Income Guarantee in Transportation Infrastructure Concessions in Chile": The MIG mechanism described has demonstrated some important advantages: First, MIG made traffic risk distribution fairer since traffic risk, which is difficult for any concession stakeholders to control, was substantially mitigated. Second, MIG made financial institutions feel more comfortable in lending to infrastructure projects, encouraging their participation in the privatization process, Third, MIG was not very costly for the government, despite the unexpected economic crisis suffered in Chile. See José Manuel Vassallo "Traffic Risk Mitigation in Motorway Concession Projects - The Experience of Chile": "These lessons suggest that LPVR (Least Present Value of the Revenues) is a very attractive mechanism for procuring motorway concessions and limiting traffic risk. However, from experience so far, two measures can be suggested that can help to improve concessionaires' perception on LVPR. First, there is a need to implement a limit on the downside risk. Second. it is necessary to establish a minimum concession duration in such a way that the concessionaire will enjoy an upside if the traffic is higher than expected".

If the previous measures are implemented and the demand risk is modulated, then probably, smaller guarantees will be needed from the State.

b. Leveraging the contract in public interest: the **Adossement System**

A concession contract is also a powerful tool for use by public authorities. If a project cannot be financed through direct competition, the risks become too high to be transferred without a costly guarantee; a very efficient mitigation process may be found through Adossement.

The Adossement System is a contractual tool for financing new road infrastructure. In socio-economic terms it is profitable but not financially balanced as it uses savings from infrastructure that exists already or adds the new motorways to the existing companies.

The role of the Concession Authority as road network planner is crucial in order to identify which road sections are to be included in the existing concession agreement while guaranteeing economic and financial balance to the Concessionaire.

The implementation of adossement systems means that using public resources in the form of public subsidies can be avoided for developing the road motorway network, especially in areas where potential traffic would not be sufficient to fund the infrastructure totally.

Adossement enables specific project risks to be backed up by a mature network where their assessment by the Concessionaire is well known. It is certainly the cheapest and the most efficient mitigation tool available to the Concession Authority for leverage.

This system is socially interesting as it implies strong solidarity among territories and regions.

This approach, which has already been implemented in some countries, should be promoted and supported by European institutions and the legislation consequently adapted.

In the case of France¹⁷, an adossement system was used to complete the section of the A85 motorway between Tours and Vierzon. During the same period, another motorway, the A19, linking the A10 to the A6 was built further north by Arcour, a dedicated concession company, after a competitive bidding tender process. Both infrastructures share similar technical characteristics and average construction costs per km were in the same range. When comparing tariffs, however, we can see that a journey on the A19 can cost as much as 55% more than a journey on the A85, which was very close to the average tariff on the overall network¹⁸. ASFA conducted a broader study on three recent motorways in 2012 which illustrated that tariffs were on average more than 40% higher for new infrastructure when compared to the existing network.

Highway	A19	Overall network			
Concession company	Arcour	France			
Construction costs	800 M€				
Financial costs during construction period	45 M€				
Debt	623 M€				
Capital	125 M€				
Public subsidies	97 M€				
Concession duration	65 years	from 2031 to 2036			
End of concession	End of 2070	IFOITI 203 F tO 2030			
Tariff (average cost per km, excluding VAT)					
LV	9,85 c€/km	6,92 cts €/km			
HGV	30,86 c€/km	20,95 cts €/km			

Source: 2012 ASFA study

¹⁷ See Annex 1

On 1 January 2016, the tariff for a journey between Savigny-sur-Clairis (exit #3) to Orléans-Nord (A10, exit #14) was set at €15.90 TTC for 108km on the A19 motorway, while a journey between Esvres (#10) to Romorantin-Lanthenay (#14) on the A85 costs €7.10 TTC for 75km on the A85 motorway.

A step forward from this model can be the integration into the same concession contract of a set of actions and investments in different facilities. For example, based on the revenues coming from a motorway with high traffic level investments for improving adjacent roads, their maintenance can also be included in the concessionaire's responsibilities. This happened for example in Spain, where the same concession contract included the construction, operation and maintenance of a toll motorway and a stretch of a toll free road (M-50).

c. Financing instruments

Once the project is viable, it is easier to find financing. However, in some cases it is necessary to promote various financial instruments to help promoters close the financing of the concessions and make them affordable.

Many different instruments have been implemented all over the world: Direct loans (Senior debt) from the EIB, Europe's JESSICA programme, the UK's Treasury Infrastructure Funding Unit, the USA's Transport Infrastructure Finance and Innovation Act and Private Active Bonds, the EIB's Project Bond Credit Enhancement, Korea's Infrastructure Credit Guarantee Fund, the BROU guarantees in Uruguay, GPOs in Mexico and so on.

From the European institutions some specific financing instruments for the deployment of toll concessions should be investigated. One of the instruments recently promoted at the European Union level is the European Fund for Strategic Investments (EFSI), a guarantee mechanism¹⁹ which also aims to mobilise private investment.

VI.4 Eurostat criteria

A crucial issue for EU Member States is the impact of investments on public deficits and debt.

The criteria defined by Eurostat that regard an investment in a concession as outside the balance sheet of the Administration – therefore not affecting

its public deficit - are focused on the transfer of specific risks. A real transfer of risks to the private counterpart has to exist.

Currently it is assumed as a general rule that the construction risk and the risk of revenues (understood as risk of traffic demand or availability risk) should be borne by the concessionaire company.

Nevertheless, these criteria are not clearly and publicly defined and there is a great deal of confusion about their interpretation, especially with regard to what level of risk is to be transferred to the private counterpart and the consideration of some mechanisms (guarantees, minimum revenues etc.) that could be introduced to mitigate some of the risks.

It should be argued that the criteria of Eurostat should be logically the same as defined in Article 5 of the Directive: Recognition of the transfer of an operational risk and Eurostat should clearly indicate this limit.

Interpretations are always present and national administrations are often reluctant to grant projects that may be recognized as engendering public deficit and debt. This implies that some grantor Administrations have frozen the launch of concessions even if they are needed by the population.

Unfortunately, the rules of Eurostat are not so clear and Administrations have no opportunities to ask Eurostat for a pre-evaluation of the projects.

VI.5 Dispute resolution

Just like in long-term contracts, in toll concession contracts it is very common that some clauses in the contract are interpreted differently. It is essential to establish a rapid and objective procedure to resolve these differences as quickly and economically as possible. Recourse to arbitration should be explored and encouraged.

The EFSI is an initiative launched jointly by the EIB Group - European Investment Bank and European Investment Fund - and the European Commission to help overcome the current investment gap in the EU by mobilizing private financing for strategic investments

VII Towards an enhanced application of the EU principles and secondary rules, through further harmonization of the legislation

VII.1 Objective

In the previous chapters the factors affecting the life of a concession have been analysed, and several proposals examined. Due to the variety of issues and their implications, ranging from strictly legal to the openly market implications, even where new EU Directives exist some topics still emerge as needing solutions for improvement with consequent benefits for the concessions market.

As a final step, in order to improve the future of concessions and therefore make the EU economy benefit from them, ASECAP believes it is essential that the EU should also develop a further harmonizing tool, ex. a revised Directive, stemming from and implementing the principles of:

- "legal certainty"/"stability of the contract",
- "competition for the market" and "equal treatment of public and private enterprises"

in order to coordinate them with the internal market competition rules, of course using the legal basis of the Directives 2014/23/EU²⁰ and 2014/24/EU.

The aforesaid points are examined in greater detail below, and several ideas set out in the preceding chapters will also be recalled, to emphasize how they could be incorporated into an overall revision.

VII.2 Focus on specific provisions of the "Directive 23"

Recent legislation has indeed introduced an innovative regulatory system for awarding concession contracts, in particular for: a) the transfer of risk, b) the ius variandi, c) the changes introduced in the in-house providing. It is therefore useful to describe them briefly, before entering into analysis of their possible integration.

a) Transfer of the risk

A significant aspect contained in Directive 23/2014/ EU (Directive 23) is the transfer of risk from the Public Authority to the concessionaire, as explained in Article 5 paragraph 1 of this Directive. Operational risk, which has to be transferred to the concessionaire, «should not be guaranteed to recover the investments made or the costs incurred for the management of jobs.» Clearly this will have a real impact on future concession contracts and on the economic and financial sustainability of operations. Directive 23 is applicable instead of 24 only if the entrepreneur is suffering from a real risk arising out of toll road management. That is, why the risk has to be moved at least partially onto the concessionaire and duly paid.

Directive 2014/23/EU of the European Parliament and of the Council of 26 February 2014 on the award of concession contracts and Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014, on public procurement, repealing Directive 2004/18/EC

b) lus variandi

Article 43 of Directive 23 lays down the conditions to be followed to amend a concession contract without starting up a new procedure. The conditions that have to be considered are: a) the concession contract can be changed without a new procurement procedure when additional works or services are necessary (Article 43, point b). However, additional works must not exceed 50% of the value of the original concession. b) Concession contracts could also modified if the changes are not "substantial". On this specific point Article 43, paragraph 4 of the Directive provides four conditions under which a modification is considered to be substantial:

- a) the modification introduces conditions which, had they been part of the initial concession award procedure, would have allowed for the admission of applicants other than those initially selected or for the acceptance of a tender other than that originally accepted or would have attracted additional participants in the concession award procedure;
- b) the modification changes the economic balance of the concession in favour of the concessionaire in a manner which was not provided for in the initial concession:
- c) the modification extends the scope of the concession considerably;
- d) where a new concessionaire replaces the one to which the contracting authority or contracting entity had initially awarded the concession in other cases than those provided for under point (d) of paragraph 1

All these concepts have to be truly integrated in order to achieve certainty of law all over Europe.

Furthermore, as also highlighted in the chapter V.3 above, the application of specific instruments can make projects viable that would not otherwise be viable, or no longer be viable. We refer here for example to the concept of "adossement" that is fully detailed in the preceding chapter.

It is also worth recalling the recent resolution on State Aids thanks to which, for motivated reasons, the merger of two distinct concessions in France made it possible to improve the conditions of a specific infrastructure.

c) In-house operation

Directive 23 re-determined (through an unclear provision) the «in-house providing» scheme beyond the traditional Court jurisprudence (Anav, Parking Brixen, Coname etc). The specific discipline should be integrated through an harmonization instrument dedicated to toll roads, taking into account that:

- the presence of private enterprises in the minority shareholders of the firm (obviously without the possibility to express a veto right) has to be regulated from a secondary rule. It could be coupled with a service contract which specifically regulates certain rights of participation in the company results without endangering additions to the «inhouse operation «scheme. The selection of the private minority shareholder/service providers has to be carried on having regard to internal market rules (directive 24).
- Directives 23 and 24 (23/2014/EU and 24/2014/ EU)introduce a second significant innovation: establishing that concessions awarded to controlled legal persons should not be subject to the application of the procedures provided for by both Directives if the contracting authority or contracting entity exercises a control over the legal person concerned which is similar to that which it exercises over its own departments provided that the controlled legal person carries out more than 80 % of its activities in the performance of tasks entrusted to it by the controlling contracting authority or contracting entity or by other legal persons controlled by that contracting authority or contracting entity, regardless of the beneficiary of the contract performance.

VII.3 Legal certainty/stability of the contract: contract stability vs. implementation of domestic policies in a competitive market

The European principles of «legal security» and «legitimate expectations» are the two key points that must be integrated into legislation on motorway concessions, in order to protect private investors with regard to stability of the motorway concession contracts. Even though Administrations are not prevented from using their authority to modify existing contracts (which will always imply some corresponding compensation for the concessionaire), it is therefore necessary to determine and regulate under what circumstances, and using what procedures, they may do so.

Clearly the problem arises in the particular case of long-term motorway concession contracts, in which the needs of investors are more likely to be influenced by market fluctuations and other economic factors.

In such cases, a modification of the original contract by extending the concession term, which also happens to be covered by the provisions of Directive 23) is necessary in order to protect investors.

In conclusion, modifications are allowed:

- Either with the express consent of the concessionaire (this seems to be the normal criterion)
- or, if done unilaterally, only with due respect of criteria of "proportionality" and "necessity"

The modification must be necessary for the protection of European interests and not exceed what is reasonable. If the new regulations/or modification go beyond the above-mentioned criteria, the administration has to pay a compensation to be fixed on the basis of the European Convention on Human Rights. In this regard it is worth recalling that the notions of protecting legitimate expectations and legal certainty are not limited to contractual rights: the Strasbourg Court held that simple interest investors and / or expectations should also be protected.

VII.4 Competition in the market and equal treatment of public and private enterprises

VII.4.1 The competitive market model based on users - payers/MEIP (Market **Economy Investor Principle**)

Schematically the criteria of the market economy investor principle (the "MEIP") is used to determine whether the conditions in which public entities that provide - directly or indirectly - funds for businesses are inspired by those that a private investor would claim based on normal commercial criteria.

The MEIP presents an alternative to deciding to keep the roads and their construction market directly under sole public sector management. In fact, when the management model public/private concession is chosen, based on the principle of motorway services paid for directly by the user, it is necessary to respect the «private investor» (MEIP) concept that was developed by the Court of Justice in the Lanerossi and Alfa Romeo cases.

MEIP is also relevant with specific reference to the rights of private investors, who need the legal certainty that their investments will be safeguarded from their public or private competitors, just like in a normal competitive market between private individuals..

The MEIP scheme is very important when Members Sates to open the market to different forms of competition for open market procedures for public or private entities, in accordance with Article 345 (TFEU). In this case it is clear that public entities, including the in-house solution, must respect the market behaviour in that the adoption of these rules must not affect the operation of the market. This is happening especially when the management and maintenance of infrastructure is based on the criterion of «pay per use».

VII.4.2 Competition in the market

Whichever choice is selected for the motorway management (public or public/private model), any scheme for a future toll roads market must be based on Competition for the Market and respect the principle of protection of the rights of users which originate from the application of legal rules on SGEI (Services of General Economic Interests) as provided by the combined provisions of Articles 106 para. 2 and 14 TFEU to protect the pursuit of the public mission. This principle specifically provides that SGEI has to be complied with through respecting (i) the quality, (ii) the efficiency and (iii) reasonable price. On the basis of this so-called «constitutional right» most of the derivative EU provisions are already modified in a so-called "re-regulation" effort.

Having introduced this process of re-regulation into the various areas of mobility, the European Union has put at the centre of its secondary legislation the interests of users' rights. It is obvious that such re-regulation has affected the principles of legal certainty and the legitimate expectation of contract concession stability of the concessionaires, who therefore need to be indemnified.

In order to meet the standards for users' rights in Article 14, Article106 TFEU provides specific tools to finance the SGEI. Altmark standards as well as Almunia Package²¹ constitute additional specific criteria for financing the toll road sector.

VII.5 Basis for legislative revision

Based on the high level principles of "legal certainty"/"stability of the contract" and of "competition for the market" and "equal treatment of public and private enterprises", it is possible to build the foundations of an enhancement of the EU legislation on concessions that would make this tool more effective in underpinning the EU growth plans. It would therefore be possible to give to the market players a better and more reliable playing field, and at the same time guarantee the satisfaction of the public interests and objective.

ASECAP supports all such initiatives.

a) The conditions for the application of Article 106 TFEU according to functional "Altmark case (C-280/00)"

In 2003 the EU Court of Justice ruled on the so-called "Altmark case" that referred to the compensation in a non-profitable transport service not constituting State aids, under certain conditions.

The simplest way for public authorities to meet the Altmark conditions is to conduct a tender in an open, transparent and non-discriminatory market. It is useful to recall the four conditions of the Altmark case:

a) the recipient undertaking is actually required to discharge public service obligations and those obligations have been clearly defined;

b) the parameters on the basis of which the compensation is calculated have been established beforehand in an objective and transparent manner,

c) the compensation does not exceed what is necessary to cover all or part of the costs incurred in discharging the public service obligations, taking into account the relevant receipts and a reasonable profit for discharging those obligations;

d) where the undertaking which is to discharge public service obligations is not chosen in a public procurement procedure, the level of compensation needed has been determined on the basis of an analysis of the costs which a typical undertaking would have incurred in discharging those obligations.

b) Motorways in the "Almunia package"

In 2013 the Eurpean Commission adopted and published a revised Guide on the Service of General Interest, the so called "Almunia package", which actually contributes to the creation of greater legal certainty in the law of the European Union with regard to the compensation of a concession contract. It also provides new details on the same compensation, especially on aspects that will have a substantial impact on the internal market and competition.

VIII. Recommendations

Toll concessions have been implemented for decades and, as a result, many countries profit from a safe sustainable motorway network of high quality.

Today, Member States are still faced with important investments for upgrading, enlarging, completing and maintaining their road networks. Toll concessions are an outstanding tool for them to use to close the existing gaps in road investment without any impact on public funds.

This solution has been traditionally used to develop a physical infrastructure; however it can also be implemented when wider investments become necessary in different infrastructures in a region.

The following actions should be undertaken in order to promote the use of toll concessions as a solution for those investments:

Recommendation #1: Strict and full respect of the contracts and of the legal framework to guarantee the correct deployment of toll concessions. Unilateral decisions that may alter the contract should be compensated for.

Recommendation #2: For mature concessions, it is important to ensure that termination of their contracts is conducted correctly.

Recommendation #3:The legal framework should be reviewed to promote a wider use of the "Adossement" system.

Recommendation #4: When a toll concession ends, a new tender should be launched that incorporates i) additional investments in the facility itself and in others in the same area and ii) the long term maintenance of the concerned infrastructures.

Recommendation #5: For new contracts, a revision of the risk allocation schemes is needed: Concessionaires are willing to bear important part of the project risks, however these risks cannot be unlimited.

Recommendation #6: For future contracts with limited traffic volumes, new schemes such as mixed revenue schemes, minimum income guarantee or variable concession period should be considered in order to make these projects viable.

Recommendation #7: Clarify Eurostat criteria to state that concession projects have no impact on public deficits.

Recommendation #8: Public-private partnerships in road infrastructure should continue to be promoted, based on a pay-per-use scheme (as and when possible).

Recommendation #9: Consider the introduction of a campaign aimed at revising the current legislation with the goal of an enhanced application of the EU principles and of the secondary rules.

ANNEX 1 "Adossement" arrangements

For a long time, especially in France, implementation of the "Adossement" system has enabled new sections of motorways to be financed by tolls levied on older, more profitable sections that have sometimes already been amortised, by entrusting them to the same franchisee in the framework of a contract negotiated directly. This has been done without recourse to a competitive call for tenders but with an extension of the term of the initial franchise, when found necessary.

In brief, the abandonment of "Adossement" is the direct result of the transposition of the European Procurement Directive 93/37 which abolishes the discrimination that hitherto benefited the existing motorway operating companies. Therefore calls for tenders for new franchises have opened up competition to private operators that had previously been excluded. However, the balancing of subsidies has been observed, even though this was not required up to now as the "Adossement" system has been noticed, with existing franchise holders being awarded (subsidies had been camouflaged by "Adossement".

Nevertheless, a return to a limited without competitive tender) the construction and operation of new sections of motorway, with the amendment of their list of franchises added to by a rider to the contract. These practices are supported by a European Directive of 2004²² that authorises the franchisor to award additional works to the franchisee without any publicity or competitive tender, by adding a rider to the franchise contract, provided that certain conditions are fulfilled. In principle this adds additional investments to the initial structure, either by establishing a technically or economically indivisible "lot", or by regarding them as requisites for completing the existing structure.

It is worth noting that, for a new section, the choice between a call for competitive tenders and an "Adossement" arrangement is influenced by impacts on tolls that can vary. Economic theory permits the definition of several notions of "optimal toll". The simplest option is that of the optimal toll for the operator, that is to say the toll that maximises its receipts. In the case of France, for a section of standard motorway we obtain²³ a numerical value close to €0.14 per vehicle-km for private cars.

A more complex notion of the optimal toll takes into account not only the interest of the operator but also those of the user-payer and of taxpayers. This is an optimal toll in the sense of collective utility or welfare function. The evaluation of this price, calculated by taking into account a public funding scarcity coefficient of 1.5, gives a value close to €0.07 per vehicle-km²⁴.

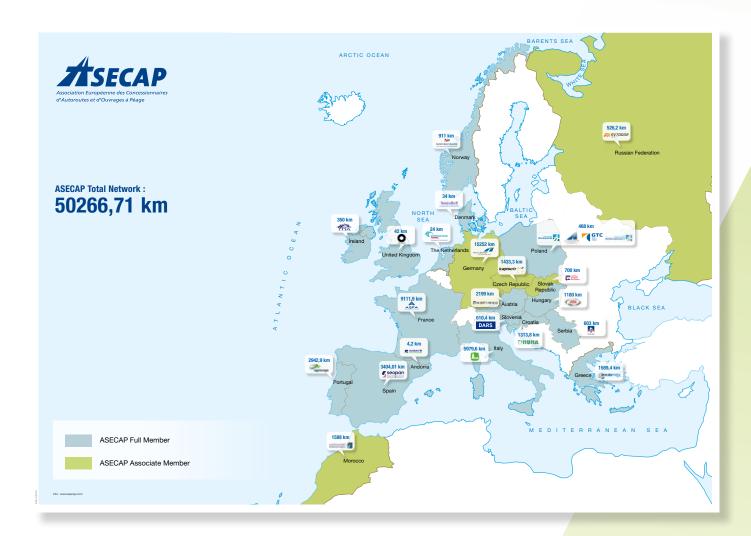
However, the new franchises on the French motorway network operate with tolls of about €0.14 per vehicle-km whereas the motorways of the network franchised previously operated with tolls of about €0.07. The former results from calls for tenders aimed at minimising the share of public financing and thus having a toll which optimises receipts, whereas the tolls of the older roads were welfare-oriented; even so, they nonetheless permitted funding without public subsidy due to denser traffic than with the new projects.

With attention paid to lessening the financial contribution demanded from the users, these differences justify a recourse to the "Adossement" system for new projects that are eligible for this procedure.

Article 61 of Directive 2004/18/EC

For the demonstrations and numerical values see A. Bonnafous (2015). The economic regulation of French motorways: Just how private did they become? Transport Policy, 41, 33-41,

This was the case for the motorways opened in 2010: the A88 (Falaise-Sees) and the A65 (Langon-Pau) priced €0.14 and €0.113, respectively



ABOUT ASECAP

ASECAP is the European Association of Operators of Toll Road Infrastructures, whose members' networks span more than 50,000 Km of motorways, bridges ans tunnels across 22 countries.

ASECAP's purpose is to defend and develop the system of motorways and road infrastructure in Europe. Tolls are applied as a means to ensure the financing of their construction, maintenance and operation.



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