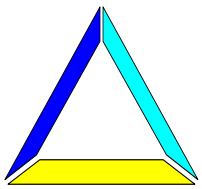
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Public-Private Partnerships for Ukrainian Highways

Key Principles for Success

Executive Summary

The poor quality of Ukraine's transport infrastructure such as highways together with large needs for investments requires the state to attract private competence and funding. However, Ukraine has so far not succeeded in implementing such Public-Private Partnerships (PPPs). As our analysis demonstrates, PPP projects must not be simply seen as a private entity pursuing its business under a general state guarantee. Rather, both sides have various risks and benefits which need to be specified and allocated through complex contracts. Key to success is to define balanced bargaining positions for both sides, so that an overall project failure is never an option to either one.

In Ukraine, we argue that the main problem is not the lack of sufficient legal frameworks, but rather the lack of PPP-specific capacities, competence and reputation. Against this background, we provide recommendations of how this capacity could be developed.

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1 Introduction

One of the key challenges that a government faces is to maintain existing transport infrastructure networks and to add new capacities where necessary. In Ukraine, where infrastructure networks tend to be underdeveloped, the prospects of hosting the 2012 UEFA EURO championship creates urgent need for improvements. To satisfy international expectations and improve the country's reputation, the Ukrainian government has developed an ambitious plan for infrastructure improvements[1] with total investments of almost UAH 100 bn (EUR 13.9 bn), mainly focussing on highways and railways. While the latter are supposed to be financed by the state-owned railway company, almost UAH 43 bn (EUR 6 bn) are planned for investments in road networks. Since the government plans to attract 70% of these funds from private investors, a particular focus of future infrastructure policy will be on attracting investors for Public-Private Partnerships (PPP).

The overall PPP market in Ukraine does almost not exist. In particular, and despite several attempts, not a single highway PPP project has so far been implemented. Therefore, the respective legislation is currently under discussion and policy makers are urgently trying to find possibilities to improve this poor record. To provide a benchmark for this process, our paper discusses the key factors for success in international highway PPPs (section 2). Against this background we then briefly analyse the situation in Ukraine (section 3) and provide policy recommendations (section 4).

2 Principles for successful highway PPPs

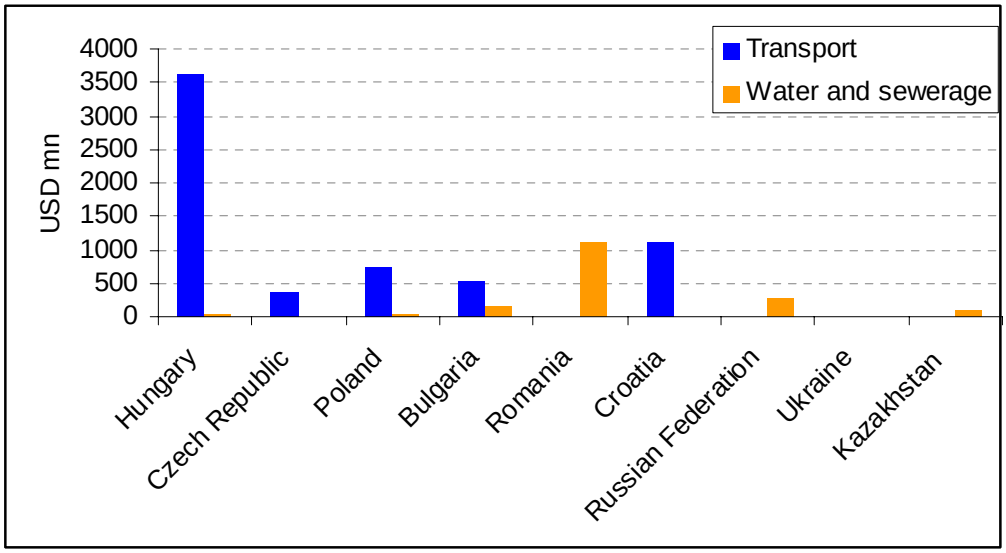
By definition, a PPP requires the outsourcing of specific project tasks and responsibilities from public to private institutions. The different tasks that can be outsourced include design (D), building (B), financing (F), operation (O) and maintenance (M). Depending on specific project needs, they can be combined in various ways, typically described by characteristic acronyms like BOT, DBFM, etc. A typical highway PPP project has a lifetime of at least 10, mostly 20 years or longer and includes a combination of the different tasks mentioned above, as well as the corresponding regulation and quality control.

Despite the generally large need for infrastructure investments and the appealing characteristics of PPPs, not many countries in Eastern Europe have so far succeeded in implementing this mechanism for large infrastructure projects. Among the few exemptions are Hungary and Croatia while others, such as Poland, the Czech Republic, Bulgaria or the Russian Federation, have so far attracted only modest amounts of investments (see figure 1). Outside of Europe, Chile provides a well-accepted benchmark for PPP standards with an overall PPP investment volume of about USD 5.4 bn in transportation and another USD 0.9 bn in water and sewerage projects since 1990 (World Bank PPI database).

[1] State Purpose Programme adopted by the Decree of the CMU No. 1295, October 31, 2007.

Figure 1

Total investment in concessions by country and sector (total for 1990-2006)



Source: World Bank Private Participation in Infrastructure (PPI) Project Database.

The reasons for the mixed record of PPPs in infrastructure projects in Eastern Europe are manifold. The contracts that specify rights and obligations between public and private partners are highly complex and cannot foresee all eventualities and anticipate all events which can possibly impact the project. Hence, PPP contracts are typically incomplete. Consequently, there is not a single blueprint for highway PPP models which can and should always be applied. Nevertheless, international experience in general and the lessons learned in Easter Europe in particular illustrate that there are a number of principles and critical issues that a successful project needs to consider. These will be discussed in this section.[2]

2.1 Legal and institutional background

Safeguarding the interests of public and private partners requires a solid legal and regulatory framework. While it must be flexible enough to allow for project-specific solutions, it must also be sufficiently specific enough to reduce possible risks and transaction costs, provide for appropriate regulatory controls, and specify the principles of conflict resolution procedures. Therefore, an appropriate legal framework for PPPs needs to enable and specify:

- The existence of infrastructure-providing entities;
- The rights, duties, and responsibilities of all stakeholders;
- Corporate governance standards; and
- The general terms and principles of tendering, contracting and conflict resolution procedures.

Given the complexity of PPP contracts, determining the terms and conditions for partnerships, monitoring the performance of all partners and (re)-negotiating contracts are demanding tasks

[2] The discussion in the section is mainly based on OECD/ITF (2007).*Transport Infrastructure Investment: Options for Efficiency*; Engel, E., Fischer, R. and A. Galetovic (1999). *The Chilean Infrastructure Concessions Program: Evaluation, Lessons and Prospects for the Future*. Centro de Economía Aplicada, Universidad de Chile; and Beckers, T. and C.v. Hirschhausen (2003). *Konzessionsmodelle für Fernstraßen in Deutschland: Eine ökonomische Analyse der Risikoallokation beim A- und F-Modell*. DIW Discussion Paper 388.

and require highly-qualified individuals. Also, the understanding of fundamental challenges of PPP contracts such as the interplay of risks and incentives is not limited to a given sector. Hence, there is no obvious need that sector-specific institutions have to represent the public partner in PPP contracts. Instead, the institutional capacity and experience of the public institution in charge is a key factor to success for any type of PPP. Ultimately, the record and experiences of this institution, the consistency of its PPP agreements across sectors, as well as its accountability in negotiations and renegotiations all add to the credibility of a state as reliable partner. Hence, the procurement, management and monitoring of PPP contracts should be under the responsibility of a specialized public PPP office, e.g. organized as an independent public institution or as an own department of a Ministry.

2.2 Life-cycle management

Efficient projects establish partnerships over the full life cycle of a project. In this way, profit-maximizing private partners will also seek to minimize costs over the full life cycle. For example, a concessionaire has an incentive to spend more on creating the original assets as long as this will lower future maintenance costs. In turn, the society benefits by having the project realized at minimum total costs (*cost efficiency*) and in particular, without quality losses due to one-sided cost savings during the construction phase. Hence, a successful PPP contract should include both, construction as well as operation (and preferably also design planning), and the consequences from choosing a specific design or variety should be assumed by the party responsible for this choice.

2.3 Tendering procedures

As all available experience from successful PPP projects demonstrates, a competitive tendering procedure is a key requirement for future performance. Only in this way it can be ensured that the offered bids are as closely as possible to the true costs of the project. That said, a selected private partner can later be changed only at significant costs. In turn, this raises the private partner's bargaining power and motivates for submitting initial bids below expected costs while speculating on favorable renegotiations at later project stages. Given the incompleteness of PPP contracts, such opportunistic bidding strategy can never be fully avoided. However, the extent to which it might be possible is reduced if a number of crucial conditions are considered. For example, it is important that interested private firms are not allowed to have strong relationships with the procuring authority. Otherwise, if e.g. state-owned firms under the control of a transportation Ministry participate in a tender by the same Ministry, initial underbidding of true costs is rather likely. Another important factor is transparency during the tendering procedure as well as in all later (re)negotiations. The more information on submitted bids and results of renegotiations is available, the more likely is it that unrealistic assumptions can be identified and one-sided negotiation results be avoided. Finally, the auction mechanism itself should be kept as simple as possible. Otherwise, if e.g. contesters are required to submit bids for several variables which are combined by more or less arbitrarily specified weights, the true value of alternative bids is difficult to assess. Moreover, the corresponding PPP contracts will be rather complex and thus, more difficult to supervise. In turn, all this will make opportunistic behavior more likely.

An example for a simple but straightforward auction mechanism is the *Least Present Value of the Revenues* (LPVR).[3] Under this scheme, the government specifies maximum usage fees and minimum quality standards, and specifies a discount rate. Firms then bid for the lowest present value of discounted revenues, which they need to cover all project costs, including investments, operation and maintenance.

[3] This mechanism has e.g. been successfully used for highway concessions in Chile worth more than USD 1 bn (Vassallo, J.M. 2006, *Traffic Risk Mitigation in Highway Concession Projects. The Experience of Chile*. Journal of Transport Economics and Policy, Volume 40, Rart 3, September 2006.

2.4 Risk allocation

The most important aspect of a PPP contract is how various risks are allocated between public and private partners. Generally, specific risks should be allocated to the partner best able to manage it, in order to avoid or eliminate the source of the risk or – should it materialize – reduce the likelihood of a bad outcome. This typically implies that project-specific risks are allocated to private partners while the government carries (most of) the exogenous risks. For example, a private company responsible for design, construction and operation of a highway should carry full responsibility for the performance of the asset. Table 1 gives an overview of selected project risks for highway PPPs and how they are typically allocated.

A crucial component is the allocation of *demand risks*. Most factors that impact the demand for highways such as income (or GDP per capita) levels or fuel prices are beyond the control of private highway operators.[4] If most of the risk is still allocated to private partners, the project will most likely not succeed in attracting private partners, or – even worse – might encourage firms to bid on very optimistic expectations, knowing that the incomplete nature of PPP contracts will give them a strong bargaining position in the (likely) event of renegotiations with high additional costs to the society. Hence, a realistic and credible project design requires that a significant part of demand risk is carried by public partners. For example, the state might guarantee a minimum income for private partners in the event that traffic falls below expected levels. In this way, the main part of demand risk is taken over by the public partner, while private firms still have incentives to seek for high traffic flows as this will generate them higher income. Another alternative to mitigate private exposure to demand risk is using the LPVR mechanism, where the firm bids for the lowest present value of revenues it requires to cover all costs. Hence, the duration of a PPP agreement is flexible and will terminate not before the private partner has received all necessary revenue.

Table 1

Typical infrastructure PPP project risks and hypothetical allocation

Risk category	Example	Partner best-suited to manage risk
Force Majeure	Loss from natural disasters	Public
Political risk	Delay in project approvals, land acquisition, changes in law affecting revenue	Public
Revenue/demand risk	Deficient revenue due to low traffic volume or lower price due to demand elasticity	Mostly public – some private
Design/technical risk	Engineering or design failures	Private
Construction risk	Cost escalation due to delay of faulty techniques	Private
Operating risk	Costly operation and life-cycle maintenance	Private
Environmental risk	Damage and liability/mitigation costs from adverse environmental events	Private
Financial risk	Cost of inadequate revenue hedging and debt management	Mostly private – some public
Project default risk	Project bankruptcy from any/all the factors above	Shared public/private

Source: Virtuosity Consulting (2005). Successful Examples of Public-Private Partnerships and Private Sector Involvement in Transport Infrastructure Development. Final report for OECD/ECMT Transport Research Centre.

Another important aspect is *political risk*. The standard instrument to mitigate this type of risk is to provide an explicit state guarantee. While this demonstrates strong public commitment, it also

[4] While both factors can be rather safely forecased in developed economies, predicting income developments over a period of 10-20 years or beyond in an emerging market is merely impossible.

increases the likelihood of a '*white elephant*', that is a prestigious project with low commercial value. Moreover, a state guarantee imposes commitments on future budgets, which are typically difficult to assess. Hence, most Finance Ministries are reluctant to offer such guarantees in order to secure future stability.

However, this does not mean that policy risks can not be mitigated. After all, both sides of a PPP contract are typically locked-in due to specific conditions: private partners need to have their expenses reimbursed and their profits secured, while the public partner requires well-managed infrastructure assets. Moreover, in developed and in particular in emerging economies, which try to attract foreign investors, the visible bankruptcy of a concession company adversely affects the country's reputation, which again weakens the public sector in renegotiations. Hence, mitigating policy risks does not primarily require explicit guarantees, but rather well-balanced bargaining positions between all partners. Once this is realized, other instruments can be employed, for example a clear determination of the rules for renegotiations, or conciliation and arbitration processes. In this context, transparency is important. For example, the LPVR mechanism (see above) allows for a straightforward assessment of the current value of the project to the private partner. Hence, while this does not reduce policy risks as such, it helps avoiding incomprehensible argumentations and intransparent disputes when it comes to determining compensation payments in the event that a contract should be terminated earlier.

In summary, this discussion shows that various types of project risks can be allocated to different partners and managed by different instruments, which typically have strong implications of one another. However, no single instrument is superior to others and can be identified as universal solution. In practice, this requires specifying an appropriate mix of different instruments, where all possibilities from explicit state guarantees to market-based auction mechanisms like LPVR should be considered.

2.5 Quality regulation

Since private partners typically seek to minimize their costs of operation and maintenance, PPPs also require sufficient regulation of the quality of services. Otherwise, private companies will have strong incentives to cut costs and increase profits by compromising on quality. To avoid this, a PPP contract must specify quality-related performance criteria and lay out how they will be measured and by whom. For the case of highways, typical performance criteria include road availability, physical quality (e.g. the roads smoothness), or environmental and safety standards. To ensure that standards are met, payments should be based on quality performance. E.g., a bonus/malus scheme can determine extra payments for high performance as well as fines or payment reductions for low performance.

2.6 Private financing

Outsourcing of financing to the private partner is common but not necessary. The main problem of sourcing out the financing is that private firms usually face higher capital costs than public partners. On the other hand, if private partners provide up-front investment and get reimbursed during the operation phase of the project, they have stronger incentives to stick to the partnership agreement as they will otherwise face higher losses. To some extent, this can compensate for bargaining advantages that private partners enjoy due to the incomplete nature of contracts.

2.7 Remuneration

Typically, remuneration to private partners of a highway PPP is either based on user fees (direct tolls) which private firms directly collect from infrastructure users, or by state payments to the private partners, which can be based on actual traffic volumes (shadow tolls) or availability of infrastructure assets (availability payments). In principle, each alternative has its own advantages and drawbacks. While e.g. direct tolls can stimulate an efficient use of infrastructure, they can also divert traffic flows to bypass roads (if they exist), thereby creating additional costs through congestion. Moreover, if demand developments are uncertain, direct tolling systems might be unable to attract private investors. Alternatively, purely capacity-based payments might be rather

expensive for public partners and do not provide incentives to private firms for offering high-quality services, e.g. with respect to availability. Hence, the remuneration scheme should be determined in accordance with the specific risk profile of the project, and consistently with other relevant criteria such as the auctioning mechanism.

3 Highway PPPs in Ukraine

Despite several attempts in recent years, no PPP highway project has been implemented in Ukraine thus far. It is often argued that this is due to the lack of legislation necessary to protect private investors. Against this background, a new strategy for developing the PPP market and a new law on PPPs are currently drafted. However, key legislation on highway concessions[5] has been in place for several years and provides the necessary background, such as main principles for concession agreements, legal existence of all respective partners, including their rights and duties, as well as terms of tendering and contracting procedures. Hence, arguing that the absence of highway PPPs in Ukraine is generally due to a lack of an appropriate legal framework seems to be too simple.[6] Instead, the specific PPP framework seems to suffer from a number of other flaws which we briefly discuss in this section.

Legally, each (central or regional) public institution is allowed to give an asset which it controls into a PPP, provided it is generally allowed to give the respective type of asset in such an agreement. To do so, the public institution is entitled to perform all subsequent tasks, including procurement and regulation, while main decisions such as selection of private partners or payment specifications have to be approved by the main authority, mostly the central or regional government. While it is straightforward that a public institution which controls the asset is also stakeholder in a PPP agreement, the current practice leaves state activities towards PPPs uncoordinated. As a consequence, public institutions do not systematically learn and accumulate the skills necessary to develop, implement and regulate PPP projects. Also, possible synergies across different projects, such as using the experiences obtained from a seaport PPP in developing a highway project, can not be utilized. As several international examples demonstrate, the accumulation of experiences and institutional capacity on PPPs is important for gaining credibility and accountability by private partners. The strongest examples are the UK, where almost 700 contracts with a total volume of almost EUR 60 bn have been completed since 1992, or Chile, where highway concessions worth about USD 5.4 bn have been awarded since 1990.[7]

For the case of Ukrainian highways, Ukravtodor carries all responsibilities and thus, also serves as procurement authority and regulator. In addition to lost synergy effects, this also leads to serious conflicts of interest since Ukravtodor owns other companies which provide road construction and maintenance services and are in turn interested in participating as private partners. Under this condition, competitive tenders cannot be hold. As e.g. the problem of notorious cost overruns in road construction suggests, firms indeed bid at very low prices in order to win the tender, knowing that their costs can be renegotiated with Ukravtodor (their owner) once the contract has been awarded.

Finally, decision processes are very bureaucratic and thus, take very long time. It is for example not obvious that main contract decisions have to be approved by the full Cabinet of Ministers, rather than just by the respective Minister in charge. Instead, it would be more effective if only the directly affected Ministries are required to decide, while providing sufficient transparency to

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[5] Laws of Ukraine "On Concessions" from January 10, 2002 (incl. later amendments and supplements) and "On Concessions for Building and Operating Highways" from April 3, 2003.

[6] However, the continuous discussions and amendments on laws on PPPs and different types of road operation do indeed create a certain degree of uncertainty.

[7] See e.g. for the UK: Leahy, P. (2005). *Lessons from the Private Finance Initiative in the United Kingdom*, EIB Papers, Volume 10, No.2.; or for Chile: Vassallo, J.M. (2006). *Traffic Risk Mitigation in Highway Concession Projects. The Experience of Chile*. Journal of Transport Economics and Policy, Volume 40, Part 3, September 2006.

the public. Likewise, the interest of the remaining public institutions should not be to have a say on the agreement as such, but to make sure that all relevant information is published.

4 Summary and policy recommendation

In summary, PPPs require highly complex, contract-based relationships which provide incentives and allocate risks to different partners. As the discussion of key success factors demonstrates, a universal blueprint for such contracts does not exist. Rather, a successful PPP requires tailor-made contract solutions which reflect relevant sector-specific as well as country-specific factors. In turn, the legal framework needs to be explicit enough to define existence, rights and duties of public and private partners, but still flexible enough to allow for a wide range of possible specifications. Ultimately, attracting private firms for PPPs requires the state to accumulate sufficient intellectual capacity, as well as to develop a strong reputation as a predictable and competent partner.

In Ukraine, the PPP market does not simply suffer from the lack of a sufficient legal framework. Instead, all offered PPPs have so far been insufficiently specified, and uncoordinated, sector-specific proceedings have not allowed for accumulating the relevant capacity and reputation. Furthermore, the sector-specific tendering procedures, which were e.g. used for all types of construction projects, have given rise to significant conflicts of interest, uncompetitive practices and rent-seeking behavior. Hence, as long as this institutional structure remains unchanged, any new attempt to improve Ukraine's legal PPP framework is unlikely to succeed. Therefore, the most relevant policy recommendation is:

- **Initiate a specific PPP unit to bundle state capacities and accumulate the necessary competence and reputation.**

Essentially, such a specific PPP unit has been a central to most PPP success stories in emerging markets, where the government needed to demonstrate competence, consistency and reliability against the background of rather high country-specific risks. In Hungary, for example, an interdepartmental committee comprising of representatives from the Ministries of Economy and Transport, Justice and Finance, as well as the Prime Minister's Office reviewed all PPP plans of the government and were responsible for there implementation. Their work was supported by a special PPP Secretariat within the Ministry of Economy and Transportation. In Chile, the Ministry of Public Works was responsible for implementing the Chilean infrastructure concession program and developed a capacity and reputation for developing innovative, incentive-compatible tendering mechanisms which also mitigated demand risks.[8]

Setting up an independent PPP unit would enable the Ukrainian government to effectively develop a sound understanding of PPP contracts together with strong legal and economic capacity and experience. The unit should therefore be responsible for designing all relevant aspects of PPP contracts, including tendering procedures, risk allocation, regulation and conflict resolution procedures. To concentrate the focus on PPP capacity and competence, the unit should be independent from all existing administrators of public assets such as Ministries and state-run organizations like Ukravtodor or Ukrsalisnitza. In essence, this is similar to the institutional proceeding for privatization, where the State Property Fund, rather than the respective state authority in charge, bears the full responsibility for selling public assets.

Ideally, the PPP unit would start working on first PPPs for e.g. highway projects, were it can be expected that interested private partners can be found. Over time, the unit would have to expand its responsibility for all PPP agreements with a value above a certain minimum threshold, including PPPs in transport infrastructure (including air- and seaports), the energy sector, the postal sector, the social sector (e.g. hospitals) etc.

[8] See e.g. DLA Piper. *European PPP Report 2007*; and Vassallo, J.M. (2006).

For each project, the PPP agreement would be developed, procured and regulated by a joint team consisting of the PPP unit and representatives of the respective public administrator in charge (e.g. the Ministry of Transportation for a highway PPP). However, the terms of cooperation must be clearly determined with full responsibility for the commercial part of the project (including tender procedures, risk allocation schemes, regulation, conflict resolution schemes etc.) being allocated to the PPP unit.

Finally, the work of the unit should be incentivised to generate positive results. For example, institutional funding as well as individual bonus payments should depend on the results achieved in the various PPP projects.

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