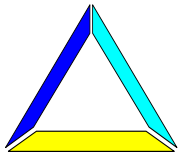
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How to determine concession fees? Current methodology cannot be improved without changes in attitude to concession bidding

Executive summary

Governments of increasing number of countries pursue deregulation and private sector involvement as a measure to increase efficiency of infrastructure industries. However, exclusively private project financing has failed as an instrument of infrastructure development. New ways of public-private partnership (PPP) has developed into a very wide variety of forms – service contracts, management contracts, lease agreements, concession contracts, Build-Operate-Transfer contracts, Build-Operate-Own contracts, and finally divestiture. Forms of PPP vary depending on a sector and a country, but the most widespread forms are management contracts, lease agreements and concession contracts. At the same time concession contracts lead in number in water supply and road sectors. Concession contracts provision investment commitment of a concessionaire in exchange for the right to posses profit generated by the concession. Under this arrangement an object of the concession remains in state ownership.

Ukrainian government, following positive experience of PPP in the form of concession, has proposed for concession a number of highways construction projects along international transportation corridors as well as a number of water supply construction and rehabilitation projects. However, no projects have been implemented in Ukraine so far (not taking into account one project started in road sector before current legislation adoption). At the same time, in Ukraine foreign investors and international financial institutions seek for water and road rehabilitation projects in the form of service and management contracts (Kherson, Mariupol). In the latter cases the government bears operational and investment risks, failing to shift them to private investors.

It is understandable that the major impediment to investments into concession projects in Ukraine is unstable macroeconomic and regulatory environment, which increases political risks. **However, an additional negative impact produces incomplete legislation on concessions.** Notwithstanding the adopted Laws "On Concessions", "Concessions for Roads" and a number of the Cabinet of Ministers decrees, which develop the regulations of the Laws, it can be concluded that there is still much to be done. In particular, **current legislation fails to create competition for the market through concession bidding**. The legislation does not oblige the government to prepare a project proposal for a concession and further to organize concession bidding for it.

Among other issues of concession bidding the paper discusses mainly the issue of concession fees, because it most adequately reflects fallacies of the current approach to concessions in Ukraine. In particular, the legislation requires the concession fee to be obligatory paid by every concessionaire (with exception of unprofitable projects). Besides, current Methodology of concession fee determination adopted by the Cabinet of Minister fixes the fee depending on

the value of underlying fixed capital stock. In contrast, **in other countries concession fees are determined as a result of concession bidding**, when the basis of the bidding is the largest concession fee. By doing so a **concession fee operates also as an instrument of regulation by forming incentives for costs reduction**.

Thus, major improvement of Ukrainian legislation on concessions can be proper regulation of concession bidding. This includes clear definition of purposes of the government, corresponding design of concession contracts and determination of a simple and transparent basis for bidding. In order to avoid possible rent seeking options of a concession design should be clearly defined in the legislation.

First, **a concession designer should be required to do preparatory work before a concession project is announced**. As a rule it is an expensive and a risky part of a concession design, which is a public good for all potential concession competitors. Therefore,

- a market demand for a concession service under different prices should be studied and announced before concession bidding;
- a concessionaire's investment commitment should be estimated and announced before concession bidding. Procedures of the value of fixed capital stock estimation fixed in the current Methodology can be used for that purpose. However, it should be taken into account that existing fixed capital stock can be inefficient and may require adjustment;
- quality of concession services should be regulated before concession bidding to guarantee services quality and environment protection standards.

Second, having defined major parameters of the concession a concession contract designer should choose the basis for concession bidding. **A concession fee is one of possible, but not the only approach to choose the winning concessionaire**. Bidding bases usually depend on purposes of the government and can vary depending on a project. Except the highest concession fee as a basis for concession bidding there should be provisioned the lowest tariff for services, the lowest subsidy for a unit of service, the least present value of concession revenue. Therefore,

- definition of a concession in Ukrainian legislation should not impose requirements on concession fee and a fixed term of contract. Instead, these issues should be given at discretion of a concession contract designer;
- it should be provisioned in the legislation that a concession is awarded to a company, which wins a concession bidding according to a defined bidding criterion. The legislation can predetermine several criteria options, including the highest concession fee;
- concession bidding should be coordinated with corresponding government regulatory bodies. This is especially important in case of bidding for the lowest tariff in case of tariffs regulation. As it can be shown tariff cap can effectively expand concession bidding to increase consumers' welfare.

Under the circumstances of no competition for the concession it can be given to the only bidder. Then, it could be required additionally to introduce tariff cap regulation for concession services. Tariff cap regulation is an effective instrument of social welfare improvement. However, such regulation requires comprehensive knowledge of technologies currently available for the concessionaire for not to set the cap too low. A comparison can be made to companies operating in the same sectors in foreign regulated markets.

Taking into account the fact that the government has revealed in the current legislation that its major concern is compensation for the value of the underlying fixed capital stock, more fixed capital stock should be proposed for leasing instead of concessions. According to a rent or a lease agreement a company does not have any investment commitments (carries no investment risk), therefore, it may be more willing to participate.

I. Legislation on concessions in Ukraine is still to be developed

Governments of increasing number of countries pursue deregulation and private sector involvement as a measure to increase efficiency of infrastructure industries. As it is believed private sector has to substantially improve quality and/or to reduce tariffs for infrastructure services. However, exclusively private project financing has failed as an instrument of infrastructure development. It was partly due to possible inefficiency and consumers' discrimination by a monopoly, which the governments were not prepared to carefully regulate. On the other hand infrastructure projects are too sensitive to political risks to be implemented in developing or transition economies. Therefore, new ways of public-private partnership had to be developed to overcome the investment blockade in infrastructure.

Public-private partnership (PPP) in infrastructure has developed into a very wide variety of forms – service contracts, management contracts, lease agreements, concession contracts, Build-Operate-Transfer contracts, Build-Operate-Own contracts, and finally divestiture. Forms of PPP vary depending on a sector and a country, but the most widespread forms are management contracts, lease agreements and concession contracts, when concession contracts are leaders in number in water supply and road sectors.

Ukrainian government, following positive experience of PPP in the form of concession, has proposed for concession a number of highways construction projects along international transportation corridors as well as a number of water supply construction and rehabilitation projects. However, no concession projects have been implemented in Ukraine so far (not taking into account one project started in road sector before current legislation adoption). At the same time, in Ukraine foreign investors and international financial institutions seek for water and road rehabilitation projects in the form of service and management contracts. In the latter cases the government bears operational and investment risks, failing to shift them to private investors.

Notwithstanding the adopted Laws "On Concessions", "Concessions for Roads" and a number of the Cabinet of Ministers decrees, which develop the regulations of the Laws it can be concluded that there still much to be done. Insufficient regulation of concession bidding is one of the major factors blocking potential investments. In the paper we concentrate on one issue – determining concession fees. However, if we succeed in formation of consensus within the government over this issue, this will allow introducing fundamental improvements to the whole system of concessions regulation in Ukraine.

Improvements to legislation on concessions are important to bring the legislation in line with internationally accepted principles. Concession projects are very sensitive to political risks. Since concession agreements are long-term (minimum 10 years in Ukraine) and needed investments are significant, it makes an investor very sensitive to the terms of a concession agreement as well as to the institutional environment in general. For new economies, as is Ukraine, this issue is very important and requires additional efforts from the government to guarantee favorable concession agreement terms as well as implementation of the terms.

After an overview of approaches to concession agreements design and allocation in other countries we will present an overview of corresponding issues in Ukrainian legislation. Based on that we will draw our conclusions and recommendations.

II. Concession bidding is an instrument of regulation

Concession is a right to provide a particular service under conditions of significant market power. Concessions are usually implemented in natural monopoly markets, since they are used to create competition for a market, when competition in the market is not operating. A concession in a narrow sense is characterized with high degree of private sector participation

as well as with *concessionaire's investment commitment*[1]. At the same time concessions may be given to state enterprises and a concession can be defined as a right to operate in some market even if the market is not monopolistic. In this paper we will use the term *concession* in a narrow sense, which is much more common worldwide.

A concession needs to be distinguished from a management contract or a lease agreement and a rent agreement. We will overview the major differences shortly, since it is important for further recommendations development. According to a management contract a managing company receives payments depending on financial results of activity of a managed company; therefore, it bears only a part of operating risk. According to a rent or a leasing agreement operating risk is fully transferred to the company and a lessor receives a payment. We will not go into details on the difference between rent and lease agreements in Ukraine, but we will just stress the difference between those agreements and a concession agreement. *According to a rent or a lease agreement a company does not have any investment responsibilities and, therefore, carries only operating risks and no investment risks, which is typical for concession agreements*. In addition, and object of renting or leasing usually is not used in activity in natural monopoly markets[2].

In addition to its fiscal functions a concession is regarded as an effective instrument of regulation, since production cost minimization is motivated to be achieved at low cost[3]. The higher is the production efficiency of a company, the lower level of average cost will be achieved and the lower tariffs (higher fees) can be proposed by a concessionaire. Simultaneously two goals are pursued – consumers' welfare maximization and improvement of production efficiency. Of course, at the same time *the government should regulate quality of services provided,* since tariffs can be reduced at the expense of quality. Besides, *all costs of production should be regulated to be taken into account*, as environment protection and waste utilization, which is not always done in Ukraine.

2.1 Concession fee should be determined in result of concession bidding

As we have already mentioned a purpose of a concession is to create competition for a market, when competition in the market is not operating. The major role in that is played by concession auctions[4]. The idea is to give concession to a bidder, who is ready to propose the lowest tariff for his or her services. In theory under competition between potential concessionaires they will propose a tariff at a level, when average cost of services provision will be equal to the price consumers are ready to pay. As a variation of the idea a winning bidder proposes the highest concession fee.

In practice it is impossible to achieve an optimal level of production and tariffs as described in theory. And this is particular difficult when there is no competition among potential concessionaires[5]. A concessionaire, which is more efficient than a government monopoly, can be chosen through a concession bidding. A concession should be awarded when a bidder proposes a higher concession fee or, as an alternative approach, a lower tariff, than could be achieved by a state monopolist. It should be stressed that, competition among potential

[1] Crampes C. and Estache A. (1997). Regulatory trade-offs in the design of concession contracts. World Bank Working Paper.
[2] Concessions for infrastructure: a guide to their design and award/ Michel Kerf et. al. World Bank technical papers, no. 399, 1998.
[3] Demsetz H. (1968). Why regulate utilities? Journal of Law and Economics, Vol.11 pp. 55-65.
[4] The idea of franchising was first proposed by Edwin Chadwick. Chadwick, E. (1859). Results of different principles of legislation in Europe: of competition for the field, as compared with competition within the field, or service. Journal of the Royal Statistics Society, 22 (September), pp. 381-420.
[5] The model can be found in Dnes A. (1993). Franchising passenger rail. Scottish Journal of Political Economy, Vol. 40, No. 4.

concessionaires is crucial to make them paying high concession fees or supplying low tariffs thereby extracting their profits[6].

If competition does not exist then additional non-concession-bidding instruments can be used. A price cap regulation is an effective instrument to increase consumers' welfare through tariffs reduction and production increase[7]. Second instrument – a concession payment determination related to costs – is not effective as an instrument of regulation. It does not stimulate an increase of production level or does not provide incentives for a cost reduction; it serves only purposes of monopolistic profit redistribution. In the section below we will see that Ukrainian legislation provisions application of the latter instrument.

Disadvantage of both non-concession-bidding instruments is that exact information on cost of production and market demand is needed[8]. Otherwise price cap may be set too low or concession payment may be set too high. *A concession payment related to cost, which becomes a cost item, can be substantially higher than the profit generated by the monopoly*. As a result a concession project may turn out to be unprofitable or profit will be quite low. Simultaneous usage of price cap regulation and concession payment instrument, which is what fixed in Ukrainian legislation, increases probability of low profitability of a concession project.

Infrastructure projects with low profitability have very small chances to be implemented especially in situation of high political risks (unstable legislative environment and weak contract enforcement), because an investor always estimates profitability against risks. Concession agreements are more political risks dependent than other kind of investment contracts because of their long-term nature and absence of collateral, since fixed capital assets are in the ownership of the state or local communities. A political risk is what an investor cannot control and what totally depends on the government.

2.2 Concession fee is not the only possible winning bidder criterion

A winning bidder criterion should be as simple as possible to make the process of bids comparison transparent and, therefore, easy. Therefore, a government should leave one variable as a basis for concession bidding while fixing other variables constant. There are several major variables in a project – investment commitment, tariffs, and a concession fee or a subsidy. The set of variables is determined by the idea of concession bidding. Investment commitment regulation influences costs. Tariff regulation influences revenues. A concession fee or a subsidy is related to profit or losses correspondingly. A lot depends on government goals - consumer's welfare or budget revenues maximization. Selection of the bidding basis also depends on such factors as new construction or old assets exploitation, risks sharing among the a private investor and a government, planned further privatization of fixed capital stock etc.

The government cannot achieve simultaneously two goals as maximum budget revenues and maximum consumers welfare[9]. Maximization of budget revenues through concession bidding

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[6] To guarantee competition between potential concessionaires corresponding conditions should be created, in particular to prevent collusion between them. A lot depends on the way a concession bidding is organized. This is not an issue to be discussed in this paper, since it has to be a separate detailed discussion. We will just mention that there are for kinds of auction bidding – open auction bids procedures as English and Dutch auctions, and sealed bids procedures as first-price and second-price auctions. As a rule concession bidding includes two stages – first, prequalification based on technical and financial criteria, then, an auction itself.

[7] Law "On Prices and Price Formation", December 3, 1990. Law "On Natural Monopolies", April 20, 2000.

[8] The tariff can be best determined using information on the available technologies and costs for similar concessions in countries, which already have tariff and profit regulations (of course, taking into account price differences). If this information is still unavailable the tariff cap may be at the level of the lowest possible tariff by the state monopoly. All costs of the monopoly should be taken into account, including capital depreciation, environment protection and waste utilization, which is not always done in Ukraine.

[9] However, in some extreme cases, when a state company is very inefficient, it is possible.

can be achieved if concession bidding is based on the highest concession fee; consumers' welfare can be maximized through concession bidding based on the lowest tariff for consumers.

The largest concession payment or the lowest tariff is the most common bases of bidding. Both approaches are usually applied when there is a full concession but no further sale of assets. The first approach is considered to be preferable to achieve fiscal purposes of the government, while the second approach is better in improving consumers' welfare. It should be stressed that in both cases *the government fixes investments requirement commitment and quality of services provided prior to concession bidding*.

- A concession fee may take a form of a one-time or an annual concession payment. In the latter case a discount rate for translating payments from future to present value.
- The lowest tariff is a simpler criterion than above in terms of implementation. We could see that during the discussion of the model above. In this case a concession fee is not collected by the government. To disadvantage of this approach it is more vulnerable to revisions.

When a government purpose is to increase the value of assets in a further privatized company, the criterion should be the largest investment commitment. This approach is used, when a government is concerned with a value of assets to be privatized. In Ukraine such an approach could be implemented, for example, before Ukrtelecom privatization. The disadvantages of the approach are, first, possible economically unjustified investments, second, the investments will be difficult to adjust to market circumstances since it is a sunk cost, and third, it is difficult to enforce the concessionaire's investment commitments.

In projects, which involve considerable market risk, during recent years it was implemented a bidding based on the net present value of the future revenue stream. A concession term varies depending on the demand for the concession services to guarantee a concessionaire fair profit. An example of such an approach is toll roads in Chile. In Ukraine such a criterion could be applied for toll roads as well, if corresponding changes to the legislation would be introduced.

In Ukraine as in most other countries utility services are loss making. In such a case a concession bidding is conducted where the basis of concession bidding is the lowest subsidy for each unit of the service produced. Under competition among potential concessionaires the best the government can achieve is to minimize subsidies to a concessionaire. In the worst case (no competition) the subsidy will not be reduced. It may be received by a concessionaire as profit without any impact on consumers' welfare. Then, consumers' welfare can still be improved through tariff cap regulation. An approach of utility services subsidisation is preferable to tax or concession fee privileges approach, fixed in Ukrainian legislation, due to its transparency and possibility to use subsidies as an instrument of regulation.

III. A concession fee in Ukraine is a fiscal instrument instead of being an instrument of regulation

According to the Law "On Concessions" a concession is a right to build (to operate) an object of concession. This right is constrained in time and it is required to pay a concessionaire fee. Also, the right is conditioned to concessionaire's commitment to build (to operate) an object of concession as well as to bear investment and financial risks. Fixed capital stock created or improved under the concession agreement from the concessionaire funds remains in ownership of the state or a local community. Investments of the concessionaire are compensated from the profit made by a concessionaire[10]. The definition of a concession in

[10] Law "On Concessions", July 16, 1999.

Ukrainian legislation with regard to investment commitment and a way of investments compensation corresponds to a common definition of a concession in narrow sense presented in the chapter above. However, this definition imposes constraints on concession agreements in Ukraine as definite time of concession and a concession fee[11]. This inflexibility of Ukrainian legislation turns to be especially harmful for concession contracts in road industry; experience of Chile (see above) is, therefore, inapplicable in Ukraine.

According to the Law the Cabinet of Ministers develops a methodology to determine concession fees and concession subsidies. The Methodology[12] provisions that concession fee depends on the value of assets, the relative profitability of the industry and a "correction coefficient" of 0.07. Regardless of interpretation of the correction coefficient *a concession fee is a cost item increasing cost for a concessionaire by seven percent on average, depending on an industry*. The concession fee is regulated to be not higher than 10 percent of fixed capital stock value. Capital stock value is determined through an expert estimation. By expertise it is also regulated to estimate the value of unfinished fixed capital stock and the value of capital stock still to be built.

An alternative Procedure[13] was developed to determine a concession fee for electricity generating stations. Monthly concession fee is determined as a fraction of company revenue, while the fee cannot be lower than 3 percent and higher than 6 percent of revenue. *In this case the concession fee is equivalent to a revenue tax up to six percent*.

A major problem of these approaches is that market value of a concession is in fact not taken into account, as it is in result of a concession bidding. First, it is very difficult to determine capital productivity of and, consequently, its value through expert estimations. Second, for the value of a concession fixed capital stock value or revenues are much less important than profit. It can be expected that under the approach above in most cases concession fees will be estimated incorrectly and will be subject to numerous revisions. And the concession agreement signing will be rescheduled as a result.

To summarize we can state that concession fees determination according to Ukrainian legislation is not profit oriented and is determined ex ante, in contrast to international experience. Therefore, concession fee determination procedures should be improved and be based on concession bidding. Although a possible bidding bases should be provisioned in legislation they should be given at discretion of a concession contract designer rather then to be an obligation.

IV. Recommended approaches to determination of concession fees

Ukrainian government bases concession fees determination on the value of underlying fixed capital stock. At the same time according to international practice a concession fee is usually determined ex post, as the highest concession bid. Moreover, a concession fee is also an instrument of regulation, since it creates incentives for cost reduction. A concession payment instrument as it is in the Ukrainian legislation does not perform any regulatory functions, except it imposes an additional cost on a project and constrains profitability of a project. Therefore, concession payment should be determined exclusively in result of a concession bidding.

[11] This concerns both Law "On concessions" and Law "On concessions for Highways"

[12] Decree of the Cabinet of Ministers, April 12, 2000. №639 "On Methodology of Concession Bids Determination"

[13] Decree of the Cabinet of Ministers, July 26, 2001. №868 "On Amendments to the Decree of the Cabinet of Ministers, April 12, 2000. №639 "On Methodology of Concession Bids Determination".

Ukraine should follow international practice and rely on concession fee as an instrument of regulation and not only as a fiscal instrument. Under the highest concession fee bidding it makes sense for the government to give fixed capital assets for concession, when the fee will be higher that the maximum profit of the state monopoly plus costs of regulation. A concession fee may take a form of a one-time or an annual concession payment. In the latter case a discount rate for translating payments from future to present value should be fixed.

By fixing a concession fee in current legislation the Ukrainian government has revealed a preference for budget revenues collection. That is why the highest concession fee would be recommended to be a major bidding basis for concessions. At the same time there are alternative criteria for a winning concession bidder selection. Among them are the lowest tariff for consumers, the largest investment commitment and the least present value of the revenues flow. The lowest tariff as a basis for concession bidding is preferable to others due to its simplicity in application and control. The bidding criteria depend on purposes of the government and their applicability should be studied in each individual case. Thus, **legislation for concessions should provision possibilities of alternative bidding criteria application**.

When a concession is loss making the lowest subsidy should be a basis for concession instead of tax and concession fee privileges. This would make subsidization transparent and would prevent regulations abuse thereby reducing the total amount of subsidies for the concession.

Additional to concession fee regulations Ukrainian legislation should be extended with **detailed bidding procedure regulation, regulation of investment commitments, and regulation of services quality**.

1. **The bidding procedure regulation should guarantee competition between potential concessionaires.** In particular the auctioning procedure should prevent collusion between the bidders. This will allow extracting a significant share of their profit as a concession fee.

2. **Expert estimations provisioned in current Methodology of concession fee determination can be used for determining investment commitment of a concessionaire**. Then, the value of state owned fixed capital can be maintained for the period of concession. For a concessionaire it will be a part of cost, which he or she should know already before concession bidding. While determining the commitment it should be taken into account that existing fixed capital stock can be inefficient and may require adjustment. The major concern is that the market value of the capital after a concession agreement termination should be not lower than that at time of the agreement signing.

3. **Quality of services should be transparently regulated before a concession bidding.** This is important to prevent unfair competition, when a concessionaire would make better proposal saving on consumers' safety or the environment protection.

Under the circumstances of no competition for the concession a concession can be given to the only bidder. Then, **it would be recommended additionally to introduce tariff cap regulation for concession services**. As natural monopolies, concessions fall under regulation of the corresponding Ukrainian legislation. On one hand this may introduce additional constraints on revenues and, therefore, financial viability of natural monopolies. On the other hand this constrains possibilities of using tariffs as bidding basis or as an instrument supplementary to concession bidding if there is no competition for the market. However, such regulation requires comprehensive knowledge of technologies currently available for the concessionaire for not to set the cap too low. Concession bidding based on tariffs should be coordinated with corresponding government regulatory bodies.

Analysis of goals of the government in current concession bidding legislation shows that the procedure of concession payment determination is very close to leasing agreement payments determination in Ukraine. Therefore, **some fixed capital stock in fact should be proposed**

for leasing instead of concessions, especially when it does not have natural monopolies characteristics. However, it should be remembered that concession bidding is always preferable to leasing, since it provisions investments commitment to maintain assets and creates incentives for cost reduction.

In conclusion it should be stressed that without improvement in general institutional, regulatory and investment environment in order to reduce political risks in Ukraine any improvements of concession legislation will not be able to extend concessions application as a form of public private partnership in Ukraine.

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