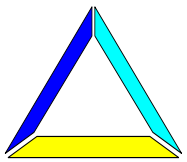
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Public Private Partnership as Alternative to Privatization, With an Application to OJSC "Ukrtelecom"

Executive summary

The frequent **failure of large-scale privatization** in Ukraine can only in part be explained by the global economic downturn. Rather, low demand for state-owned assets by foreign investors is caused by high, country- and company-specific uncertainty (due to unstable regulatory environment, low government commitment to a particular policy, low financial transparency of state-owned enterprises, uncertain relations with suppliers etc.).

To reduce such uncertainty we suggest **replacing immediate privatization by a two-stage procedure**: In the first—an "initial trial" period—a potential investor participates in a (temporarily limited) **Public Private Partnership** (PPP) agreement and operates a state-owned firm/asset to asses "true" risks and "true" profitability without having to make any definite long-term financial commitments. Given that the experiences turn out to be positive, the second phase—regular privatization—then allows the investor to purchase the firm or asset at conditions, which are more beneficial for both sides.

Because **contract design of PPP** arrangements has proven to be crucial for their success, we discuss the main components and types. First, PPPs differ by the extent to which responsibilities and risks of operating a joint project are allocated between public and private partners. Further crucial components are those of regulation and bidding procedures. While discussing them in detail we also stress that they must be combined in a well-elaborated way, which depends on the overall purpose of the PPP.

Finally, to demonstrate the applicability of our suggestion we discuss how **OJSC "Ukrtelecom"** could be operated in a partnership between the state and a private investor. As we suggest, such a proceeding would—provided the agreement is set up in a proper way—reduce uncertainty for the investor thus stimulating interest in the privatization of **"Ukrtelecom"** in the second phase.

1. Introduction

Large-scale privatization in Ukraine has not yet been very successful. For example, privatization receipts for the last three years have only constituted to about 32% of their targeted level. In fact, well-known problems such as frequent cancellations of privatization tenders in the absence of interested investors, the Presidential moratorium on the privatization of regional power distributing companies (Oblenergos), and delays with the partial privatization of OJSC "Ukrtelecom" are to a large extent the results of a low demand of investors for Ukrainian state-owned enterprises. Besides external reasons such as the global economic downturn with its corresponding consequences, the low level of demand is especially due to the high uncertainty and in-transparency in the country, which makes it difficult for investors to reveal the "true" profitability of a particular firm/asset.

To offer a new perspective for—so far unsuccessful—privatization attempts, we promote an alternative two-phase procedure. In the first—an "initial trial" period—a potential investor participates in a (temporarily limited) Public Private Partnership (PPP) agreement and operates a previously state-owned firm/asset to asses "true" risks and "true" profitability without having to make any definite long-term financial commitments. Given that the experiences turn out to be positive, the second phase—regular privatization—then allows the investor to purchase the firm or asset at conditions, which are more beneficial for both sides.

Our paper follows two intentions. First, we show that using PPP arrangements before privatization can—under significant uncertainty—be beneficial for all sides, consumers, the government as well as investors, provided the arrangement is properly designed. Consequently, our second intention is to provide some guidelines for such proper designs by discussing different types of arrangements and their relevant interactions. We proceed in four parts. In the next, we present a definition of PPP, explain the rationale of using PPPs in the first phase, and discuss possible types of PPP arrangements and their interactions. The third section presents an application of our discussion for the case of OJSC "Ukrtelecom" where we demonstrate advantages and disadvantages of alternative specifications. In the last part we conclude.

2. Public Private Partnerships

2.1 Definition

PPP is generally understood as an instrument of introducing efficient private management into a project that—for some reasons—requires public participation/interference.[1] Traditionally, PPPs are used for natural monopoly markets when setup costs are high and where competition is not feasible (for example because of presence of scale economies, network effects, small market size etc). Under such conditions, the competitive awarding procedure of PPPs allows to still realize efficiency gains from competition as *competition on the market* is replaced by *competition for the market*. The novelty of our suggestion now is that we propose using a PPP as "screening" device to reduce uncertainty at relatively low initial costs for investors.

2.2 Rationale for PPP as alternative to full-scale privatization

For the case of Ukraine, future expectations on profits and return to investment are highly uncertain, so that both parties (government and investor) do not know whether a company at stake is a "peach" or "lemon". This uncertainty consists of country- and company-specific risks. Causes of country-specific risks include:

- Poor protection of property rights,
- Poor and unstable regulatory environment,
- High volatility of asset prices (because stock markets are underdeveloped and thus, capital assets are illiquid).

[1] A thorough discussion of PPP theory and applications can be found in Kerf, M. et al. 1998. Concessions for Infrastructure: A Guide to Their Design and Award. *World Bank Technical Paper* No. 399. The World Bank, Washington, D.C.; Akimova, I., Sugolov, P., and Scherbakov, A. 2002. Analysis of International Experience Regarding The Determination of Fees for The Right to Manage (State-Owned) Assets Under a Concession Agreement. Institute for Economic Research and Policy Consulting / Support for Economic and Fiscal Reform Project, Kyiv, Ukraine; Institute for Economic Research and Policy Consulting. 2002. How to Determine Concession Fees? Current Methodology Cannot Be Improved Without Changes in Attitude to Concession Bidding. Q19, Kyiv, Ukraine.

There are also significant company-specific risks, because assessment of Ukrainian enterprises performance and profitability is difficult due to:

- Stock market fails to provide information about companies' performance,
- Accounting standards do not reveal companies' performance,
- In-transparent debt structure (due to significant mutual payables and receivables),
- Very often, private investor can extract company-specific information only by operating it, experimenting and learning-by-doing (e.g., studying consumer's behavior by varying market strategy).

Finally, evaluation of state-owned companies is particularly difficult, because:

- A state-owned business unit often has other targets than profit maximization (e.g., retaining of employment, subsidizing consumers, creating positive externalities by infrastructure development etc.). Hence, indicators of past and current company performance (e.g. cash flows) may be uninformative about its potential profitability.
- Managers are often inefficient (lack of incentive payments is one of the reasons), and thus undermine potential financial results.
- Financial accounting (in particular, debt structure) and technical efficiency information is often inaccurate and non-transparent.
- Imperfect design of privatization contracts often stipulates unattractive provisions (e.g., retaining of employment, mandatory investments, requirement to secure provision of services and products to the privileged categories of consumers etc.). This reduces potential for restructuring and thus, profit gains without that the extent of such losses can be quantified.

Consequently, a private investor requires a high risk-premium to bid for a privatization tender, which in turn reduces the maximum price he is willing to pay.

In this case, the "trial period" within a PPP allows investors to assess risks more accurately, while their commitment to the project is only limited, because the bulk of private investment payments is postponed to the time of subsequent privatization. Thus, most of the initial company-specific risk can already be revealed in the PPP phase. Some of the country and sector-specific risks (e.g. government's commitment to its policy, industry-specific regulations) are also evaluated more accurately. The risks are allocated between parties according to specific arrangement prescribed in PPP contract.[2]

If the company turns out to be profitable, then information revelation through PPP will make both parties better off: the private investor benefits from lower uncertainty and limited potential losses, while the government may receive higher revenues from privatization in the second phase, and—provided that the PPP arrangement has been efficiently designed—not less for the trial period than what it would have received from privatization within the same period. On the contrary, if the company proves to be non-profitable, then the private investor will step out at the end of the PPP trial period. It is very unlikely that the government would be better off rejecting the PPP opportunity in this case and opting for privatization instead:

[2] Because of efficiency considerations, each type of risk should be allocated to the party that is responsible for its creation. For example, the private investor shares initial company-specific risk with the public party in only limited way, due to investor's temporary commitment to PPP project. This is an efficient solution given that investors are unable to manage and are not responsible for initial company risk, moreover, they can not even assess it correctly because of above-mentioned problems. According to the opposite logic, operating risk should be allocated to the private party. Certainly, country risk does not have to be shared because it is created entirely by the government. However, since the commitment of investors is only limited, they are ready to accept some of the country risk during a "trial period".

the government will either request a too-high price so that no investor steps in,[3] or government and investor will agree upon a price that reflects the investor's high risk, and thus is fairly low because future profits are discounted at a large factor.[4] In other words, investors will hardly underestimate the risks and overpay for the company, and the government's strategy to privatize a "lemon" and receive an uneconomic high price is unlikely to work.

In addition, an enterprise managed by a private party for a certain period is likely to be restructured in a more efficient way than under state ownership. Thus, successful and cost-efficient pre-privatization restructuring and re-engineering will be conducted, which in turn will positively affect bid-prices in forthcoming privatization attempts. Also—in our case—investments can be postponed till the time when global (and domestic) economic conditions are more favorable to potential investors. In particular, the current economic slowdown (e.g., the burst of the hi-tech-market bubble and reported financial distress of some of the world largest telecommunication companies) reduces resources of potential investors. Finally, immediate full-scale privatization may not be politically feasible for some companies, while PPP formally leaves the ownership rights in the hands of government.

2.3 Types of PPP arrangements

As broad international experience (Box 1) has revealed, PPPs have not always been successful. Rather, in order to achieve realistic (!) goals it requires a sound economic evaluation, clear specification of the intentions of all partners, and the choice of the corresponding contract type in accordance with those intentions. Thus, success or failure of a PPP is mainly determined by sound and careful preparation of the corresponding contracts. In this section we will present the main types and components of PPP contracts and discuss how they should be interconnected in order to achieve pre-specified intentions.

In general PPPs should be designed to achieve *maximum social welfare*, the sum of consumer and producer surplus. Thus, efficiency gains from PPPs (reduction in production costs) can be distributed to either consumer welfare (consumer surplus) through price reduction or to producer profits (producer surplus) through cost reduction at constant prices.[5] In the latter case, gains are in part further redistributed to the state budget through competitive bidding fees (in the ideal case of a fully competitive bidding procedure, gains are fully redistributed). While the decision on how to distribute efficiency gains between consumer and producer surplus (and the state budget, respectively) is a political one—and therefore beyond the scope of this paper—the design of a PPP contract depends crucially on the outcome of this political decision. In general, PPP contracts consist of three main components: risk-sharing agreements, regulation agreements and bidding procedures.

[3] Overvaluation of the companies' assets by State Property Fund is common in Ukraine. The main reason is the usage of book value of assets rather than net present value of cash flows for determining the ask price. As a result, during the privatization process it was not unusual for the SPFU to cut ask price several times.

[4] In this case, a firm's willingness to pay for privatization is primarily based on expected short-term revenues (discounted long-term revenues are almost zero for a large discount factor) and thus, approximately equals the firm's willingness to pay for a PPP arrangement that delivers the same short-term revenue.

[5] Furthermore, minimization of investors' risk or maximization of investments might be chosen as alternative objectives. The latter, however, is an alternative target only if desired investments are above the efficient level.

Box 1. International PPP experiences

Western European countries have large and successful experiences with road concessions. For instance, 33% of all motorways were operated within concession contracts in 1999 (about 27% of which by private companies).[a] However, global experiences are not only positive. Rather, they demonstrate that accurate and sound PPP arrangements are essential for achieving the proposed goals.

In order to improve the quality of service and ensure necessary capital investments, the Sao Paulo's (Brazil) municipal authority and the state government initiated an 8-years metropolitan bus-concession project (with tariffs set and minimal quality standards controlled by the government). Despite a successful bidding process, the program failed to materialize because of high investment and operating risks. Private bus operators did not manage to attract funding from private lenders (in part due to government-imposed tariff mechanisms, concession contracts or operating revenues could not be easily used as collaterals). Furthermore, the Sao Paulo municipality failed to undertake a detailed economic evaluation. Nevertheless, state-level authorities learned from their mistakes and successfully implemented a concession contract for the Sao Mateus-Jabaquara bus corridor.[b]

In 1997, the Bolivian government awarded a 30-years concession for water and sewer services in La Paz-El Alto to a private consortium (with a tariff renegotiation every 5 years based on projected operation and investments expenses). The motivation was to expand the supply to low-income households. Key factors that have affected the generally successful outcome so far include: clearness and soundness of the contract, easiness to measure contract objectives, and consistent financial incentives. On the other hand, provisions that reduce service options (e.g. requirement to eliminate all alternatives to in-house connections) or restrict the emergence of new service providers seem to produce more harm than good.[c]

Among countries in transition, Kazakhstan is known for its extensive practice of PPPs on energy markets. In 1999, the major U.S. energy company AES was awarded the management rights for the Ust-Kamenogorsk and Semipalatinsk electricity distribution companies. It also holds a 20-year concession on two hydroelectric power stations, as well as on four combined heating and power stations. Altogether, AES has invested more than $60 million in Kazakhstan since 1998. However, not all experiences with PPPs in Kazakhstan are positive. For example, the long-term concession contracts for regional natural gas distribution systems awarded to Tractebel (Belgium) in 1996-1997 eventually failed in 2000, as well as the management contract for Pavlodar oil refinery, which was awarded to the U.S. company CCL Oil in 1997, caused by unexpected changes in general conditions and/or the failure of a contract partner to fulfill conditions and pledges made in the contract (e.g. concerning depreciation and pricing rules, tax privileges, public investment efforts).[d,e]

The main lessons to be learnt from this global experience are that PPP contracts need to be awarded within open and transparent procedures, that a sound economic evaluation, appropriate incentives, precise risk assessment and well-specified risk management (with respect to changes in general conditions and clear rules on possible changes of contract terms) are crucial for both parties, and that independent auditing is necessary for regular assessments of the partnership, which also forms the basis for further negotiations on contract terms.

[a] Bousquet, F., And Fayard, A. 2001. Road Infrastructure Concession Practice in Europe. Working Paper 2675. The World Bank, Washington, D.C.

[b] For a more detailed story see Rebelo, J., and Benvenuto, P. 1995. Concessions of Busways to the Private Sector: The Sao Paulo Metropolitan Region Experience. Policy Research Working Paper 1546. The World Bank; Rebelo, J., and Benvenuto, P. 1997. Lessons from Sao Paulo's Metropolitan Busway Concessions Program. Working Paper 1859. The World Bank.

[c] This experience is described in Komives K. 1999. Designing Pro-Poor Water and Sewer Concessions: Early Lessons from Bolivia. Working Paper 2243. The World Bank, Washington, D.C.

[d] Energy Information Administration. 2002. Kazakhstan: Energy Market Privatization. URL: http://www.eia.doe.gov/emeu/cabs/kazapriv.html.

[e] German Advisory Group. 2000. Vollgas! Zur wirtschaftlichen Zukunft der ukrainischen Gastransitpipeline. N28, Kyiv, Ukraine.

Risk-Sharing Agreements

The main characteristic of different PPP agreements is the extent to which various responsibilities and risks of operating a joint project are allocated between public and private partners. We distinguish three general types:

- **Management contracts** with incentive payments where part of operating decisions and corresponding risks[6,7] are transferred to investor/operator, and investment decisions and respective risks remain state tasks;
- **Lease contracts** where the investor/operator fully decides on operative issues and bears full operating risk, but the government still decides on investments and thus, also holds investment risk;
- **Concession contracts** (Build-Operate-Transfer, Rehabilitate-Operate-Transfer) where responsibility as well as risk for both operation and investment are (at least partially) transferred to the investor/operator.

PPP Regulation

The second important component is the arrangement of PPP regulation, which specifies the terms of operation of the joint project. As in the general case of monopoly regulation, we distinguish 2 different types of regulation. Each of those types requires a specific regulatory design and emphasizes a particular advantage (in practice, some hybrid options are often preferred).

Price Cap Regulation:	Pre-determined formula for price (tariff) dynamics, implying regular adjustment of prices for expected inflation, efficiency gains etc.
Advantages:	Incentive for investors to increase productivity and reduce costs beyond pre-specified levels.
Disadvantages:	(a) high risks for investors, (b) incentives to decrease costs by reducing quality, (c) difficult to predict future levels of inflation and efficiency growth.[8]
Rate of Return (ROR) Regulation:	Pre-determined ROR on invested capital[9]
Advantages:	Low risks for investors.
Disadvantages:	(a) weak incentives to improve efficiency (only due to a lag between cost reduction and price adjustment), (b) possibility of over-investment in the rate base on the contrast to other investment alternatives (usually overcapitalization).

"Sliding-scale" regulation, a mixture of Price Cap/ROR and profit-sharing, is used increasingly as a compromise between high-powered (higher profit share – and, correspondingly, risk - for investor) and low-powered (lower profit and risk share) incentive schemes. For a Price Cap, sliding scale plan adjusts tariffs downward (upward) when investor's profit exceeds (falls short of) the target level, but the adjustment is only partial so that the investor keeps a part of the realized profit (loss) difference. For ROR, sliding scale rule implies that profits above or losses below some predetermined ROR are shared with the government.

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[6] Note that we understand operating risks in a broad sense, including demand-side risks.

[7] To the extent of private party participation in profit sharing.

[8] Another variant, Revenue Cap rather than Price Cap, is usually used when most of the costs are fixed. It eliminates the incentives to maximize sales (which would be the case under a Price Cap) that is undesirable when negative externalities (e.g., pollution) are present, and their pricing is lower than socially optimal.

[9] Prices are adjusted in line with costs (operating expenses, depreciation of capital (rate base), taxes) plus ROR on invested capital, usually a weighted average of the cost of debt and the cost of equity.

Additional features of PPP regulation include flexibility and dynamic evolution of the contract. Contract should be valid for a pre-specified period of time after which renegotiation and revision of its parameters is possible.[10] Moreover, type of PPP regulation can also change over time, say migrate from less risky (closer to ROR) to more efficient (closer to Price Cap) arrangements (certainly, this should be pre-specified in the contract).

Ideally, an appropriate PPP regulation reduces government interference to the control over/monitoring contract execution[11]. In practice, however, additional provisions, explicit performance targets, are often required. For example, if output is of heterogeneous quality, then a Price Cap PPP arrangement also requires quality regulation. Also, concrete investment targets may bring more political support to PPP projects even though they are likely to be realized without such explicit regulations (due to their commercial soundness). Most commonly, performance targets regulate:

- Construction time
- Coverage ratios (number of new connections, length of new lines/pipes)
- Minimum investments
- Output quality (some precise technical criteria should be defined to allow verification)
- Output quantity
- Payments collection ratios
- Safety and health standards

Bidding Procedure

The third component of PPP contracts is the process of selecting the optimal private partner. This process should be organized as a transparent and competitive bidding procedure in order to meet two targets: first, the selection of the most efficient operator (*competition for the market*) and second, maximization of consumer welfare, government's revenue or other social targets. In order to participate in the bidding procedure, investors have to submit technical and financial proposals on the basis of which the most efficient partner is selected.[12] Possible selection criteria—which have to be specified in a transparent procedure according to intended PPP regulation—are:

- The **lowest tariff** for consumers – maximizes consumer welfare (usually used for PPP in existing service and without sale of assets).
- The **highest price or fee** (one-time or annual) – maximizes government's revenue (e.g., frequently used for the case of concession agreement without sale of assets).
- The **lowest costs** for constructing or operating facilities or services – maximizes efficiency gains that can be passed on to consumers (which requires additional provisions).[13]
- The **largest investments**, maximum coverage – in order to increase investments into company to subsidize consumers at expense of the private party or in the presence of positive externalities that are not internalized in other way (e.g., spillovers from

[10] Importantly, revision of Price Cap parameters (this especially concerns expected efficiency gain parameter) should not retrospectively extract "excess" profits made during the previous period, because this would discourage future efforts to improve efficiency.

[11] In this case, optimal behavior of a private party is secured completely by the conditions of the contract.

[12] Since it is hard to weight their relative importance, in most cases award procedure implies pre-selection of candidates according to technical proposals (very often technical criteria are the same for all bidders and set by the government), and final choice is based on financial proposals solely.

[13] Also, the lowest subsidy for operating a loss-making service can be a criterion. However, direct income transfers are usually preferable to price subsidization.

infrastructure development). Potential problems are: inflexibility with respect to changing market (demand) circumstances; enforcement is difficult; excessive investments may be undertaken.

- The **lowest net present value** of the project required by the investor if concession period is not fixed in length (until the NPV is received) – when risks (e.g., risks of demand predictions) are high.
- **Shortest duration** of PPP contract.

In addition to those criteria, so-called "incentive contracts" can also be used. This arrangement combines decisions about PPP regulation type and bidding structure. It requires bidders to propose their preferred combination of fixed fee and profit-sharing agreement (in practice, government can fix or limit from below either the profit share or the lump-sum fee). Award of a contract will then be given to investor with the highest bid, which equals present value of government's profit share plus a fixed fee offered. This will also bring the most efficient operator.

Interaction of Regulation and Bidding Procedure

As mentioned above, the combination of PPP regulation and bidding structure is crucial for success of PPP agreements. Desired outcomes (consumer welfare, government revenues, productive efficiency, amount of investments to be undertaken, minimization of investors' risk) may be reached using the following combinations (also, see Table 1):

- ***Consumers welfare*** and ***productive efficiency*** can be maximized using Price Cap regulation with a minimum-tariffs-bidding structure and minimum-quality-standards performance target. Note that government revenues are fully redistributed to consumers.
- ***Government revenue*** is maximized under a Price Cap regulation with highest-concession-fee-bidding structure. In this case revenue equals the present discounted value of (above-normal) profit flows, which equal expected sales less costs.
- Maximization of ***productive efficiency*** and ***government revenues*** can be reached by Price Cap regulation with highest-concession-fee bidding structure and minimum-quality standards as a performance target. In particular, the investor cannot—as it is possible in the previous point without such quality standards—obtain higher revenue by reducing product quality.
- ***Maximum investments*** can be achieved under ROR regulation with maximum-investments bid structure (if precise ROR is not pre-set by government, then both criteria should be used), but review of investments undertaken through pre-specified prudence tests would be desirable to guarantee their efficiency.
- In general, ***minimization of investor's risk*** is reached by ROR regulation and without any performance targets.

Finally, it is important to note that the finite duration of a PPP contract inevitably reduces incentives of private partners for long-term investments beyond this period. Hence, government's interference into investment policy is—to some extent—necessary even in the most efficient PPP arrangements.

Table 1. Economic outcomes of some of PPP regulations and bidding structures

	Maximum concession fee	Minimum consumers tariff	Maximum investments

Rate Of Return regulation	• Minimum risks for investor • Government receives fee equal to NPV of ROR in a contract minus market ROR • Consumers welfare is not maximized	Not feasible, since prices are endogenously adjusted to ensure ROR	• Minimum risks for investor • Maximum investments (overinvestment in the rate base) • Government revenues are not maximized
Price Cap regulation	(given minimum quality standards) • Maximum productive efficiency • Maximum government revenue • Steady increase in consumer welfare	(given minimum quality standards) • Maximum productive efficiency • Government revenues are not maximized • Maximum consumers welfare	Not feasible, since investments are endogenously determined

3. Applying PPPs: the Case of OJSC "Ukrtelecom"

Having discussed potential advantages of using a PPP as "screening" device in general, we now demonstrate its specific application for the case of OJSC "Ukrtelecom". As the intention of our paper is to promote the replacement of immediate—and mostly unsuccessful—full-scale privatization by a two-stage procedure where the investor reduces uncertainties and explores risks during an initial "PPP trial" period to be followed by full-scale privatization in the second period, we demonstrate the main principles of possible types of PPPs for the case of "Ukrtelecom". Based on advantages and disadvantages of those types we also present preliminary recommendations. Nevertheless, a more detailed elaboration would require deeper insights into the complex cost and tariff structure of "Ukrtelecom" and is thus beyond the scope of the present paper.

We start with a brief description of the company and its privatization attempts. Initially after declaration of independence, the telecommunications industry in Ukraine, just like in other FSU countries, lagged far behind the standards in developed countries for technical equipment and quality levels of telecommunications services. The vast majority of trunk lines were analogue and in the level of telecommunications indicators development Ukraine took the sixth place among other former USSR countries. In 1991 the density of phone numbers per 100 households was 14.6.[14]

Since November 2000, when the Cabinet of Ministers approved the decision on the beginning of Ukrtelecom privatization,[15] only marginal progress was achieved. In particular, the preferential subscription for Ukrtelecom shares, which started on October 1st 2001, was prolonged till February 1st 2002 in order to assure a higher level of private ownership.

[14] Currently this ratio is about 19.8 (Ukrtelecom web-site, section "History of the company").

[15] In 1993 the Ministry of communications in Ukraine divided communication system into two corporations: (1) Ukrposhta was made responsible for the provision of post services and (2) Ukrelectrozviazok (since 1994 "Ukrtelecom") undertook responsibility for the telecommunications services. In 1998 Corporation of State Telecommunications Enterprises "Ukrtelecom" was reorganized into the single enterprise Ukrainian State Telecommunication Enterprise "Ukrtelecom". Next year the enterprise was transformed into OJSC "Ukrtelecom". On July 13, 2000, Verkhovna Rada of Ukraine adopted the Law "On the peculiarities of privatization of the open joint stock company "Ukrtelecom".

Eventually, out of the 13% of stocks offered for sale only about 7.14% were purchased.[16] According to the privatization scheme, government would retain 50%+1 share in its ownership, although there is a possibility that up to 25% of the government shares will be transferred to be managed by the private investor. Privatization of the remaining 42.86% of the company's stock (=37%+5.86%) is now hibernated.

As mentioned before, the two main reasons for the failure of the 2000-2002 privatization program are the high level of perceived risks for investments in Ukraine, and the slowdown of the World economy. Both fit perfectly the case of Ukrtelecom. For example, the buy-out of Utel's remaining 10% share—a provider of long-distance international telephone services owned by Ukrtelecom—by the Ukrainian government from "Brokbiznesbank" as well as poor regulatory environment in the sector have certainly boosted risks associated with telecommunications projects in Ukraine. On the other hand, the global telecommunication industry is experiencing a general slowdown in its development and many companies suffer from financial losses.

These conditions leave the Ukrainian government in an apparently fundamental dilemma. Either they sacrifice a significant amount of budgetary revenues by reducing the ask price for the company (now and forever) which in turn may raise consumer and/or producer surplus through increased efficiency, or they (temporarily) refrain from privatization (and thus, keep the possibility to earn high revenues for the future). However, the latter option also amounts to continue with inefficient state-controlled management. In this situation, our proposed suggestion provides an alternative option under which the government does not have to forgo potential privatization revenue but at the same, efficiency gains can be realized through (private) competition for the market within a PPP arrangement.

3.1 Preliminary measures in the telecommunications sector

The Ukrainian government seeks to substitute direct ownership control over telecommunications sector, which has natural monopoly features, by regulation of privately owned company.[17] To achieve this, several preliminary measures directed towards market structure need to be undertaken in order to create the necessary background for most-efficient regulation.

Unbundling of the potentially competitive units

Because Ukrtelecom mostly operates in the natural monopoly segment of local fixed-line telephone services with a market share of about 80%, it is rational to disintegrate the company vertically as well as horizontally in order to allow for effective and transparent regulation, to avoid efficiency losses, the abuse of market power and to enhance competition. In particular, the following services should be separated:

1. Long-distance domestic telephone services (subdivision of Ukrtelecom)
2. Long-distance international telephone services (company Utel owned by Ukrtelecom)
3. ISP services (subdivision of Ukrtelecom)
4. Mobile telephone service (company UMC, where Ukrtelecom is a shareholder)

Thus, after the split-offs, Ukrtelecom will mainly provide local (rural and urban) telephone services.

[16] 98.9% of the company's employees, 99.9% of its managers, and about 59.3% of the company's pensioners executed their rights under the preferential terms.

[17] As stated in e.g. the Law "On natural monopolies" (April 2000) or the Law "On the peculiarities of privatization of the open joint stock company "Ukrtelecom" (July 2000).

Introduction of a proper regulatory environment in the sector

Any type of PPP arrangement requires careful monitoring and a proper regulatory system in place to avoid possible abuses of monopoly power by the management. Besides, such issues as investments, quality of services, access to the networks, etc. should be secured by the regulator. In this respect we propose the following measures

1. Establishment of the independent regulator in the sector of telecommunications (National commission) as it is stipulated in the Law of Ukraine "On natural monopolies" as of 20.04.2000.
2. Amendments to the legislation on interconnection, including tariffs setting procedure. Particularly important is establishing transparency concerning cross-subsidization issues (rural private consumers at expense of urban and industrial consumers).
3. Amendments to the Law "On the peculiarities of privatization of the open joint stock company "Ukrtelecom" concerning privileged provision of services[18].

3.2 Possible PPP arrangements for Ukrtelecom

We consider two alternative arrangements of PPP as realistic options:

(1) Concession of the company for a finite time period, followed by full-scale privatization[19]

(2) Management contract for Ukrtelecom for a short time period, followed by full-scale privatization

Concession of Ukrtelecom requires a transfer of management rights and at least part of investment decisions from government to a private party, which bears most operational and some investment risks. Having in mind fast paces of technological development in the sector the timing of concession should be assigned carefully. Depending on the specified objectives, three possible arrangements can be distinguished:

- Price Cap regulation accompanied by a maximum concession fee criterion for winner of the tender in order to sustain budget revenues as well as a constant increase in consumer welfare as a result of decreasing prices. To guarantee that benefits from the technological development are distributed to consumers, Price Cap regulation should incorporate some X-factor, which stipulates the decrease in average tariff following projected technological advance. Taking into account the high pace of technological development in the sector, the possibility of X-factor revisions should be incorporated into the contract. Investment decisions in this case are non-optimal due to the finite lifetime of the concession. Government revenues are maximized, which partially fulfills one of the privatization objectives.
- Presence of cross-subsidization and significant amount of privileged consumers in the sector suggests more emphasis on consumer welfare maximization. In this case, it would be rational to employ above-mentioned arrangements (Price Cap regulation) with minimal tariff bidding procedure.

[18] Particularly, article 14 of the law "On the peculiarities of privatization of the open joint stock company "Ukrtelecom" states that services to the privileged consumers should be provided independently on the situation with respect to the governmental compensation of the costs of such services. In this respect, legal guarantees of the governmental compensation of the losses related to the provision of services to the privileged consumers should increase certainty of private investor in the company's profits. An even superior measure of course would be to cancel this article from the law completely.

[19] The possibility of consecutive concessions is not considered here because rapid paces of technological development make such arrangements highly inflexible (usual timing of the concessions is about 20-30 years).

- Rate of Return regulation implies the lowest possible risks for investors. However, this option is not considered as appropriate scheme in the Ukrtelecom case since for a short and medium term period it is more complex to implement and control, and may lead to undesirable outcomes like lack of incentives to enhance productive efficiency[20], overinvestments[21], too high tariffs for consumers, etc. Instead, it is suggested to consider management contract scheme as outlined below.

Management contract arrangements may be more preferable to concession for the following reasons. First, management contract are less risky for the private party, since only some part of operational risk is transferred from the government to the private party. Second, quick technological development in the telecommunication sector (for instance development of CDMA technology) reduces attractiveness of long-term PPP schemes. Third, timing of management contract is generally shorter than that of concession, which makes the contract lock-in features shorter and easier to avoid abnormal losses in case of ineffectively designed contract. And finally, since the management contract requires only marginal investment activities by the private party, it requires less financial resources to be spent, which is of particular importance taking into account the financially distressed situation of most multinational telecommunications companies.

Under management contract, a Price Cap tariff setting procedure is an obvious regulatory scheme. The only condition is that it should be fixed and pre-specified before a private party steps in. For the case of Ukrtelecom, different types of management contract's award procedure can be considered:

- Management contract may be granted in accordance to the highest lump sum fee suggested by private party under pre-specified (by government) profit sharing scheme and tariff-setting procedure.
- Another option is to fix lump sum payment and select the candidate, who offers to receive the lowest profit participation rate.
- Finally, a combination of previous settings can be applied, which would stipulate a kind of incentive contract, where private party suggests both profit sharing scheme and the volume of lump sum payment. In this case candidates are discriminated on the basis of present value of suggested arrangements.

The final choice of the PPP arrangement for Ukrtelecom remains up to the government decision depending on objectives chosen. At the same time, we recommend to apply a relatively short-term (about 5-years long) management contract with incentive contract arrangement that guarantees:

(1) Introduction of an efficient owner, who performs pre-privatization restructuring of the company, without formal give up of public ownership of Ukrtelecom

(2) Considerable and fair revenues to the government

(3) Sufficient flexibility of the arrangement with respect to the technological changes in the sector

(4) Low risks for investors that would get an opportunity to learn more about the company

Given the scope of this paper, a more detailed discussion of the PPP arrangements for OJSC Ukrtelecom is not possible. However, it is important to emphasize that selection of arrangement is a challenging task. As it was mentioned above, poor contract design may undermine estimated gains from a suggested scheme of Ukrtelecom privatization or, just as it has been the case with privatization attempts so far, will simply not attract potential investors.

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[20] Although this problem can be solved by implementation of a sliding scale rule rather than fixed ROR.

[21] Undesirable investments can be eliminated if prudence tests, i.e. review of investments undertaken, are stipulated in ROR contract.

4. Conclusions

In this paper we present an alternative to standard large-scale privatization attempts. In particular, given the main causes for the failure of such programs in Ukraine (high uncertainty about business environment and companies' performance, and the global economic downturn) we argue that our suggestion is beneficial for all sides, consumers, the government as well as investors.

We propose using Public-Private Partnerships as an initial "screening" device for a limited period in order to decrease uncertainty of an investment project. Since PPPs do not necessarily require long-term commitments, initial costs for the investor are relatively low. In addition, PPPs implement efficient restructuring efforts prior to privatization and, in some cases, they might be politically more feasible than immediate full-scale privatization. As we discuss, flexibility in design of PPP arrangement permits to distribute its benefits in accordance to current social priorities, such as productive efficiency, consumer welfare, government revenues etc. Following such a PPP period standard privatization procedure can be applied.

For the case of OJSC "Ukrtelecom" we discuss why conventional privatization schemes have not yet produced positive results and demonstrate how implementation of several types of PPP arrangements can be beneficial. Taking into account all specificities of the telecommunications sector, we finally recommend using a short-term (e.g., 5-years long) management contract where part of operating decisions and corresponding risks are transferred to the private partner while investment decisions and respective risks remain state tasks. Price Cap regulation seems to be the most appropriate scheme for tariff-setting procedure due to the simplicity of its application even in the non-perfect regulatory environment of Ukraine. The contract should pre-determine a lump-sum fee to the government plus a sharing agreement for profits between the partners. Selection of a private partner should be determined within a competitive bidding procedure where the bidder, who either offers the highest lump-sum fee (given pre-set profit-share), the lowest own profit share (given fixed lump-sum fee), or both simultaneously, is chosen. Our rationale is that, first, relatively short contract period of a management contract for about 4-6 years is especially important in the dynamic hi-tech industry. Second, no significant investments are required from the private partner, which should be important taking into account weak financial position of major international operators. Third, the investor's risks are reasonably low, and they would not realize in the form of excessive risk premium. Fourth, flexibility with respect to tariff re-adjustment is relatively high, which further reduces potential losses in case of a wrongly specified contract. At the same time, sufficient incentives for efficiency improvements are provided by a Price Cap regulation and profit sharing agreement, and reasonable government revenues are also generated.

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