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## Regulatory choices and commitment: challenges for electricity market regulation in Kosovo

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**Kiel Working Paper No. 1114**

**Regulatory Choices and Commitment –  
Challenges for Electricity Market  
Regulation in Kosovo**

by

**Lars Kumkar**

June 2002

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# **Regulatory Choices and Commitment – Challenges for Electricity Market Regulation in Kosovo\***

## *Abstract*

This paper aims at describing the choices to be made in selecting and implementing a reform model for the electricity industry and to derive some implications for the situation in Kosovo. The paper argues that the appropriate reform model depends on the circumstances in the considered jurisdiction. Especially in small and less developed electricity systems a dilemma may emerge: the technical circumstances suggest the implementation of a model with few competitive elements, whereas political circumstances urge for a competition-oriented model. Hence, especially in small systems, a delicate trade-off emerges that significantly complicates the decisions to be made. This is obviously relevant for Kosovo. An international opening of Kosovo's electricity market may provide a solution to the dilemma. This international opening encompasses a reduction of state sovereignty for electricity regulation and a wide-reaching market opening for private investors and electricity traders.

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*“The Kosovo Electricity Company (KEK) has major engineering and management problems. Its two thermal generators are old and prone to failure. About one-third of total electricity generated by the company is lost due to technical problems or theft, and less than half of the remaining output is paid by consumers. With about 10,000 employees, the company is overstaffed. As a result, KEK has been a drain on the budget. Emergency repairs and stricter oversight by UNMIK have improved performance somewhat. However, KEK is still not able to generate enough electricity to meet domestic needs, and blackouts are frequent.”*

– Demekas et al. (2002 : 11)

## **I Introduction**

Reform and privatization of electricity companies is not an easy task. Even in developed market economies, such as the Western European countries or the United States, reform often faces obstacles, failures, and unexpected difficulties. It is an even more difficult task in former socialist countries that have to build entirely new institutional arrangements, for example, a system of private property rights and a new contract law. It seems a yet more difficult task in Kosovo, considering the uncertain political status and considering that Kosovo is still in the beginning of the transformation process.

This paper aims at describing the fundamental choices to be made in selecting and implementing a reform model for the electricity industry and to derive some implications for the situation in Kosovo. It will be argued that the technical characteristics of every electricity system imply some general economic and regulatory peculiarities, which distinguish this sector from most other sectors. It will further be argued that the appropriate reform model depends in a quite sensitive manner on the particular circumstances in the considered jurisdiction. Important technical factors are market size and network density. One additional and important determinant is political stability. Complementarities between an appropriate reform model and the stability of the institutional environment imply that a model that works effectively in one jurisdiction can end in a disaster in another jurisdiction; and vice versa.

Especially in small and less developed countries, e.g., in most transition countries, a dilemma may emerge: the technical circumstances suggest the implementation of a model with few competitive elements; the political circumstances often suggest a more competition-oriented model. Hence, especially in small developing systems a delicate trade-off emerges, which significantly complicates the decisions to be made. This argument obviously holds for Kosovo. The arguments presented in this paper lead to a quite robust conclusion: a substantial international opening of Kosovo's electricity market may provide a solution to the dilemma. This international opening encompasses a more or less distinct abandonment of state sovereignty for electricity regulation and a wide-reaching market opening for private investors and electricity traders.

This paper is structured as follows: first, the paper introduces on a rather abstract level the basic analytical concepts used and derives general implications for regulation (Chapter II). Against this backdrop, the paper discusses the main issues of regulation within the power sector (Chapter III). On this basis, Chapter IV provides some thoughts on the situation in Kosovo. Chapter V concludes with a recommendation for Kosovo's electricity reform.

## II Institutional Economics of Regulation: General Implications

### 1. The New Institutional Economics Paradigm

The purpose of the following discussion is to describe the basics of New Institutional Economics (NIE) in the area of regulation and to assess their implications for economic policy-making.<sup>1</sup> The core of NIE is the Coase theorem (Coase 1960): in a hypothetical world with no costs of concluding and enforcing contracts all potential gains from trade would be realized irrespective of the distribution of property rights and institutional arrangements. In the real world, however, carrying out transactions is associated with costs, irrespective of the question whether private, public, or both types of agents are involved.

Transaction costs arise especially because of contractual hazards of trade between individuals acting opportunistically under uncertainty. To realize (most of) the potential gains from trade, the parties involved have to cooperate. Their actions have to be coordinated and they must be motivated to comply with their contractual duties. Because of individuals' opportunism ("self-interest seeking with guile", Williamson 1985: 47), mere promises may not be enough to (self-) enforce the agreements made, to solve the coordination and motivation problems, and to protect trading partners from the hazards associated with exchange.<sup>2</sup> The contractual relationship must be carefully designed and governed. Thus, institutions, that is, rules and instruments to enforce these rules (North 1990, Davis and North 1971), impact on the efficiency of contracting.

Information impactedness and asset specificity are the two most important conditions under which transactions may cause especially severe contractual hazards. 'Information impactedness' refers to a situation either where information is asymmetrically distributed between transacting parties and can be equalized only at great costs, or where it is costly to apprise an arbiter of the true information condition should a dispute arise between contracting parties with identical knowledge of the underlying circumstances. In such situations, individuals acting opportunistically may disclose information in a selective and distorted way. This entails incentives to misrepresent information to obtain more favorable contract terms (adverse selection) or to not comply with the agreement (moral hazard).

'Asset specificity' generally refers to a durable investment undertaken in support of particular transactions, with the value of the investment being much lower in the best alternative use should the original transaction be terminated prematurely. The realization of cost economies often requires investments in relationship-specific assets that 'isolate' the transactors from market alternatives and from the protection they can provide (Masten 1999: 40). Once specific investments have been made, that is, when the costs associated with the investments are sunk, they effectively lock the buyer and seller into a bilateral trading relationship, even if both contract parties were in competition prior to the investment.

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<sup>1</sup> For a more in-depth NIE-based survey on antitrust and regulation, see Bickenbach et al. (2002); for a comprehensive overview of NIE, see Furubotn and Richter (1997) and Erlei et al. (1999); for a NIE-based analysis of the electricity industry, Kumkar (2000). The theoretical and methodological basis provided by New Institutional Economics appears to be particularly well suited for analyzing the economics of complex coordination problems that characterize electricity supply and other network industries. NIE comprises transaction cost economics, property rights theory, and principal-agent theory. Despite important differences between these approaches, they complement one another to a large degree. They are all based on the assumption that institutions matter and can be subjected to economic analysis.

<sup>2</sup> In general terms, transaction costs include both the direct costs of carrying out a transaction and the opportunity costs incurred when an efficiency-enhancing transaction is not realized (Milgrom and Roberts 1992: 604). Thus, transaction costs may be interpreted as the difference between total costs of supply (including cost of regulation and antitrust) and the minimum production costs in the hypothetical 'first best' case.

This may give rise to a hold-up problem: the party undertaking a relationship-specific investment is vulnerable to the threat made by the other party, aiming at obtaining better terms than initially agreed, to terminate that relationship. Hence, without some specific safeguard against appropriation (such as a binding long-term contract or integration, that is, joint ownership of assets), parties may be reluctant to invest in relationship-specific assets despite the potential gains in doing so. In a world of positive transaction costs, contractual or institutional arrangements are both costly and imperfect. Therefore, measured against the standard neoclassical first-best, not all potential gains from trade can be realized. In many cases, complete (neoclassical) contracts are not feasible; incomplete contracts (or vertical integration) are the appropriate choice.<sup>3</sup> Incomplete contracts allow parties to respond flexibly to unforeseen (or unforeseeable) events, but for the same reason they also imply problems of imperfect commitment by the contracting parties and the danger of ex-post opportunistic behavior.

Thus, in choosing between more or less incomplete contracts, and in designing these contracts, there is generally a trade-off between the protection against opportunistic behavior on the one hand and the ability to flexibly adjust to unforeseen or changing contingencies on the other. Some arrangements, however, are associated with lower transaction costs than others, whereby the choice of governance structures influences efficiency. The comparative efficiency and thus the (actual and/or appropriate) choice of a particular governance structure is influenced by the institutional environment, that is, the basic political, legal and social rules of the game that define the context in which economic activity is taking place. The institutional environment influences both the set of governance structures that can actually be chosen, and their comparative efficiency. This holds true for both private choices, such as the make-or-buy decisions of a firm,<sup>4</sup> and public choices with respect to antitrust and regulation, for example, the design of competences for a regulatory agency or the choice between alternative substantive regulatory models for the electricity industry.

## 2. Implications for Regulation

In some industries private contracts may be unable to ascertain specific contractual objectives on the basis of general contract law and general court enforcement. In this case, it may be worthwhile considering specific laws or regulatory rules and their enforcement by a public ‘regulator’ (antitrust or regulatory agency).<sup>5</sup> In analyzing these options, it is useful to conceive of antitrust and regulation as an (at least partly) implicit long-term, collective contractual relationship between firms and consumers. A regulator – as an agent of all or some of the contracting parties – is made (at least partly) responsible for the ‘administration’ of the contract, that is, for its design, execution, interpretation, revision, adaptation, and enforcement (Goldberg 1976). Antitrust and regulation may increase confidence and the expectation of being treated fairly and may thus help contain transaction costs more effectively than private agreements on the basis of contract law and court enforcement alone.

Note that the theoretical identification of a potential market power and market failure problem does not in itself imply that antitrust and regulation would ensure an increase in efficiency: a

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<sup>3</sup> Grossman and Hart (1986); Hart and Moore (1990). For a discussion of the methodological foundations and problems of the incomplete contracts approach of the new property rights theory, see Tirole (1999), Maskin and Tirole (1999a, 1999b), and Hart and Moore (1999).

<sup>4</sup> For a discussion of general NIE implications for industrial organization see Bickenbach et al. (2002: 189-192) and Joskow (1991). For surveys of the empirical evidence see Joskow (1991), Crocker and Masten (1996), Lyons (1996), and Shelanski and Klein (1999).

<sup>5</sup> We disregard for a moment the possibility of public ownership as a governance structure. See the discussion in Chapter IV.



pure laissez-faire attitude may still be the best solution; before regulating, an assessment of the empirical relevance (existence and magnitude) of the problem is necessary. In addition, there are, of course, transaction cost problems under antitrust and regulation as well. Because of information asymmetries both between regulator and firms and between regulator and consumers and because of commitment problems, even a benevolent regulator could not perfectly solve the contracting problems of the private parties; and non-benevolence of the regulator could give rise to additional inefficiencies.

Thus, the counterpart of ‘market failure’ is ‘regulatory failure’; the counterpart of ‘market power’ is ‘regulatory opportunism’. Comparing ‘unregulated’ markets and competition (or integration) based on general contract law on the one hand and specific laws such as antitrust and regulation on the other is, therefore, at best a comparison of constrained (second-best) efficient institutional alternatives. Antitrust and regulation could be (but need not necessarily be) a cost-effective device for private exchange relations in industries with complex coordination problems. From a normative point of view, the choice between general contract law and antitrust or (more specific) regulation becomes largely a question of whether court enforcement or administration by antitrust or regulation agencies is the more effective means of governing those relations.<sup>6</sup>

*a) The Search for ‘Optimal’ Regulatory Rules*

Network industries, for example, the transport, energy and telecommunications industries, are characterized by particularly complex contracting problems. These industries thus have traditionally been considered to be examples of industries where regulation is necessary to achieve efficiency.

The electricity industry is a conspicuous case in point. It is an example of an industry where the liberalization of potentially competitive segments and the regulation of network access are particularly difficult to implement. The production of the final product (delivered electric power) requires the coordinated supply of generation and transport. Every stage of the supply chain is characterized by a high degree of capital intensity and a high longevity of highly specific assets. There are substantial vertical and horizontal complementarities, both in operation and in investment planning, and both between and within the different stages of the supply chain (Joskow and Schmalensee 1986; Kumkar 2000).

The complementarities stem from three technical peculiarities: First, electricity cannot be economically stored but must be simultaneously produced with consumption. Second, the efficient supply of electricity to customers generally requires the use of grids, that is, a complex system of transmission and distribution cables. These grids typically connect many power stations with a large number of customers and show economies of density, scale, and scope. Third, the costs of generating electricity vary substantially in the short run. Taken together, the operation of the several parts of an electricity system must be coordinated tightly within and between different stages to avoid system instability and to provide electricity at low cost. The complex coordination problems may give rise to particularly acute hazards of opportunism between parties on the supply side that can hardly be contained by governance structures based on discrete market transactions alone.

Against this background, (contractual) safeguards are necessary to limit opportunistic behavior of the different agents in supply and demand. This may explain why hierarchical or hybrid governance structures have traditionally been dominant in electricity supply (and other network industries). These comprehensively integrated or cartelized industry structures, however, may lead to increased problems of opportunistic behavior of the monopolistic (dominant) firm(s) vis-

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<sup>6</sup> Compare Crocker and Masten (1996: 12); Schmidtchen (1994: 162); Kirchner (1997). For a sketch of a NIE-based perspective on some of the standard issues of antitrust policy, namely cartels, mergers and complex long-term contracts, see Bickenbach et al. (2002: 195-197) and Joskow (2002).

à-vis consumers. Hence, the specific contractual problems of the electricity industry may entail a 'competition failure' and, thus, a potential justification of a sector-specific regulation. There is no fundamental difference on this matter between developed market economies and transition countries. The differences are mainly due to the degree of political and legal instability that complicates the design and enforcement of safeguards.

In the case of the electricity industry, regulation may help overcome private parties' contracting problems in two quite different ways. Regulation may serve predominantly as a substitute or as a precondition for competition. Traditional industrial and regulatory structures in the electricity industry substitute a combination of private hierarchy and public regulation (or public ownership) for market and competition. According to this approach, permitting or even fostering integration is considered an efficient solution to the opportunism problems on the supply side. Legal entry barriers may be useful in fostering investments in specific assets (for example, grid infrastructure) by protecting quasi-rents from being eroded too quickly. Opportunism problems between the (public or private) monopolist and consumers that are aggravated by integration should, according to this regulatory approach, be limited by means of regulating the (pricing) behavior of the monopolist. Restricting the options of both producers and consumers serves to protect specific investments of suppliers (by securing the "producer's right to serve", Goldberg 1976: 432) and shelter consumers from the abuse of market power (thus securing the "consumer's right to be served", *ibid*: 439). Thus, considering regulatory contracts in their entirety yields a plausible explanation and potential justification for the traditional form of regulation.

Recent empirical evidence gathered in more competitive institutional settings (liberalization and re-regulation) in the network industries, however, seems to suggest that there is an efficiency-enhancing role for increased competition in at least some stages. It may, thus, be appropriate to focus on the role of regulation as a precondition for establishing and sustaining effective competition in at least some stages of the network industries. Regulation may help establish competition if it replaces integration in its role of limiting potential hold-up situations between (independent) firms active in or on the brink of entering the industry. Consider the example of a potential independent power generator who is thinking about entering a market. Generally, the entrant will have to rely on the (technical and economical) interconnection with the existing network(s). The difficulties in *ex ante* excluding *ex post* opportunism of the incumbent network operator(s) by private contracts may be a substantive barrier to entry. The incumbent utility may simply refuse the interconnection or demand prohibitive payments for network use. Regulating the conditions of network use may help mitigate hold-up problems and other forms of opportunism of (previously) monopolistic suppliers vis-à-vis newcomers and, thus, reduce entry barriers. At the same time, access regulation provides a potentially efficient alternative to integration in that industry.

Thus, "regulation can serve to infuse trading confidence into otherwise problematic trading relations" (Williamson 1996: 268, see also Schenk 1997: 145). Provided that the regulation in question is 'appropriate', it may foster competition and improve incentives to invest in specific assets. Thus the question arises as to what the 'appropriateness' or 'optimality' of regulatory rules might mean and how to choose and implement such rules. There is, of course, an intense discussion in politics and academia on the 'optimality' of specific regulatory rules, for example, the UK-style price cap regulation, the ECP-rule for access price regulation, or the mandatory separation of bottleneck facilities.

It has been repeatedly proposed that *price-cap regulation* is an optimal rule for regulating the prices of a monopoly supplier that should be substituted for traditional rate-of-return regulation.<sup>7</sup> Proponents of price-cap regulation correctly argue that it gives the firm high-powered incentives to actively search for cost-reducing measures (thus enhancing productive efficiency). This is because under price-cap regulation, price-caps are at least in principle predetermined irrespective of endogenous changes of the firm's costs. In contrast, rate-of-return regulation calls for prices to roughly reflect costs at any point in time. This entails a high degree of allocative efficiency and does not allow the firm to realize monopoly rents – although at the cost of weakening the firm's incentives to reduce costs. Thus, there is clearly a trade-off in the choice between the two rules. The New Economics of Regulation shows that, apart from special cases, optimal price regulation requires an 'incentive contract' comprising elements of both rate-of-return and price-cap regulation with exogenous indicators determining the extent to which costs could be passed on (see Laffont 1994; Laffont and Tirole 1993: 153). The New Economics of Regulation has not (yet) been able, however, to derive implementable rules that are optimal under a broad range of circumstances. Even under strict assumptions, optimal incentive contracts depend in a sensitive and complex way on all kinds of information the regulator has, for example, about demand conditions, monetary and non-monetary costs of efficiency-enhancing measures of the firm, and the probability of different values of the cost parameters. In practice, recognition of regulatory opportunism further adds to the complexity (see next section on governance of regulation). The institutional environment thus largely determines the appropriate regulatory rule, because its stability determines the credibility of the regulator and the credibility of regulation in general.

One of the most important but also one of the most controversial questions in regulated network industries is the '*access pricing problem*', e.g., the problem of getting the grid-use (transport) prices right. Although the economic literature on alternative rules for the regulation of access to the bottleneck facilities of vertically integrated (network and service) providers has developed significantly in recent years, it has not, as yet, led to clear-cut and readily usable results that – together with empirical information – could help define optimal regulatory measures (see Valetti and Estache 1999; Bickenbach 1999; Laffont and Tirole 1994). The complexity of the access problem largely stems from the fact that, in practice, regulators generally have to pursue multiple goals and act under multiple constraints. Optimal access regulation, however, is highly sensitive to the regulatory objectives and the details of the (technological and informational) regulatory environment. It crucially depends on the weighting of different (partial) objectives of regulation, on the instruments available to the regulator and, in particular, on the nature of competition and regulation on the final product markets. Only under very specific conditions (see Laffont and Tirole 1996: 242), does the 'optimal' access rule, correspond to, for example, the efficient component pricing rule (ECP-rule),<sup>8</sup> which has often been proposed as a general solution to the access problem (see, e.g., Baumol et al., 1997).

Measures of *structural regulation* are often proposed to remove bottleneck (network) facilities from potentially competitive parts of a comprehensively integrated and regulated industry (see, for example, Kruse 1997). An example would be the mandatory separation of electricity transmission from all other activities (generation, distribution, trade) in the electricity industry. A mandatory separation of ownership is considered a complementary or even substitute measure

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<sup>7</sup> The major difference between the two is the extent to which changes in the costs of production can or should be passed on to consumers via prices. For details on the discussion on rate-of-return regulation and price-cap regulation see Liston (1993), Kumkar (2000: 129-138).

<sup>8</sup> According to the ECPR, the access price should be set to equate the direct incremental cost of access to the bottleneck plus the incremental opportunity costs of the bottleneck provider of granting access (e.g., lost profits from own use of the bottleneck).

for access regulation. Generally, however, such a separation does not render obsolete access price regulation because of the remaining market power of the (now separated) bottleneck owner. The importance of such a regulation for establishing effective competition may decline, though, since the incentives of the network monopolist to discriminate between competing service firms will be reduced. Under separation, access regulation may also become easier because of the greater symmetry of competitors on the service market and because information asymmetries between the regulator and the firms may decline. Any improvement of access regulation (and the benefits of a higher intensity of competition in the service market) has to be weighed against losses in efficiency due to a non-realization of (potential) economies of scope, however. The extent of these losses depends on the actual importance of these economies of scope in the respective industry, and on the extent to which these economies can be realized under alternative institutional arrangements – such as a complete separation of ownership in combination with (possibly regulated) long-term contracts or a mere separation in terms of accounting or organization. In addition, the benefits of separation depend on whether and to what extent these forms of separation will actually help improve regulation. Thus, there is a plethora of relevant factors and causalities that render the analysis of optimal structural regulation and of the relations between conduct regulation and structural regulation extraordinarily complex. The question of whether a mandatory separation of vertically integrated firms in network industries is warranted can hardly be decided on the basis of abstract reasoning alone.<sup>9</sup> What seems evident, nevertheless, is that separation is no panacea for the problems of regulation in network industries.

Appropriate regulation is thus highly sensitive to the particular circumstances of the industry under consideration and the weighting of different (partial) objectives of regulation (for example, allocative and productive efficiency). The selective discussion of regulatory rules suggests that there is no such thing as an ‘ideal regulatory rule’. Tying regulation to strict rules is hardly sensible given the rather unsatisfactory state of normative regulatory theory and, moreover, the extremely rapid changes in some of the network industries. Technical progress and the evolving liberalization in these industries will trigger further, largely unforeseeable, changes in the technological and market conditions to which policy will have to react. These insights suggest that the regulator should have considerable discretion as to the choice and concrete implementation of regulatory rules and instruments.

This may be a dangerous strategy, though, if the hazards of opportunism of the regulator vis-à-vis firms or consumers are taken into account. Thus, a trade-off arises between the need for a flexible response of regulation to a changing environment on the one hand and the need for containing the risk of opportunistic behavior of the regulator on the other. This trade-off is not only influenced by substantive regulatory restrictions (on the availability of regulatory instruments or the respective rules) but also by the governance of regulatory policy.

#### *b) Hazards of Regulatory Opportunism*

Analysis and design of different ‘political governance structures’ have to take into account the hazards of regulatory opportunism. Regulatory opportunism originates from the incompleteness of (explicit or implicit) contracts between firms and antitrust or regulation agencies. The same factors that generally impede the writing and enforcing of private complete contracts also impede the writing and enforcing of complete contracts between the public agents and the firm(s) and/or consumers. The incompleteness of regulatory contracts inevitably creates discretionary power on

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<sup>9</sup> However, it goes without saying that ‘unbundling’ of integrated firms is necessary if competition in at least some segments of the industry is strived for, and regulation of bottleneck access is considered necessary. However, unbundling is not identical to structural separation in ownership terms but may mean a mere organizational separation or separation in accounting terms to facilitate the regulation of bottleneck services.

the part of the public agents in antitrust and regulatory agencies. Generally, the hazards of opportunistic behavior by public agents increase with the extent of information asymmetries between the different agents (firms, public agents, consumers and taxpayers). Thus, in analyzing the institutional design of antitrust and regulation, NIE takes as its point of departure the idea that antitrust and regulation policies are inevitably defined and enforced by individuals who are neither omniscient nor omnipotent nor benevolent (Dixit 1996: 8).

Several forms of regulatory opportunism exist. First, there may be problems of adverse selection and moral hazard (on the side of the regulator), and second, if the appropriate incentives arise, public officials may be influenced by the regulated firms to help them pursue their specific interests ('capturing'). Third, public officials may help consumers to hold up the regulated firms and appropriate the quasi-rents stemming from their specific assets. Every type of opportunism has its costs. For example, the last problem, if anticipated, may hinder investments by the utility in question. Needed power stations will not be built and the system may be characterized by an increasing number of blackouts.<sup>10</sup>

Note that even in the case of a benevolent regulator, there may be important problems of regulatory opportunism. The ex post modification (renegotiation or unilateral change by the public agency) of the contract between the agency in question and the firms may be short term (or ex post) efficient, but long term (or ex ante) inefficient, that is, a time inconsistency can arise. A case in point is renegotiation in the form of a 'bail-out' of a struggling electricity enterprise; while such a bail-out may be in the ex post interest of both the firm and the consumers (because it sustains the electricity in the short term, not necessary in the medium to long term), it may – if anticipated – impair the ex ante incentives of the firm. This is an example of a problem that is often associated with a so-called soft budget constraint.

In the real world, 'the' regulator is no single agent; a unified government body or agency governing the whole industry does not exist. Typically, there is, for example, a hierarchy of regulators. Politicians in the legislative or the executive, as the 'upstream regulator', establish by means of an incomplete contract (law or decree) the basic regulatory principles and competences of regulatory agencies and/or courts as the 'downstream regulator', and this in turn establishes and enforces the more detailed regulatory rules for the private agents.

This hierarchy of regulators (and any separation of regulatory competences more generally) is a source of regulatory opportunism but may also be part of its solution. It contributes to the emergence of regulatory opportunism on the side of downstream officials, but may also contribute to the reduction of regulatory opportunism on the side of upstream officials. The general problem of regulatory opportunism exists on each political and administrative level of antitrust and regulation. Even if the upstream regulator were benevolent, the problem of information impactedness would prevent the writing and enforcing of complete contracts with the bureaucrats in antitrust and regulation agencies.

Because of these contracting problems, antitrust and regulation may entail problems similar to those of complex private governance structures. In particular, there is the risk of sub-optimal effort or investment (e.g., in information acquisition) on the part of the downstream regulator. Even if it were possible to limit the discretionary powers of bureaucrats in specific cases by writing a comparatively complete or comprehensive contract between upstream regulators and downstream antitrust and regulatory agencies, there would still be the problem of regulatory opportunism of politicians, which would not be limited by way of delegation through almost complete contracts.

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A remarkable example is provided if the state does not offer (legal) means for collecting payments, i.e. for enforcing delivery contracts between an electricity company and their customers. See section IV.1 on low payment rates in Kosovo.

Establishing appropriate governance structures might mitigate the contracting problem between the politicians (or the electorate) and the bureaucrats in antitrust and regulatory agencies and thus also the problem of regulatory opportunism. To achieve this, political governance structures (or regulatory agencies and processes) should be designed according to three complementary principles: independence, accountability, and transparency (Neven et al. 1993, Seabright 1994).

*Independence.* Independence of an agency – defined as the existence of discretionary powers to pursue (clearly defined) specific goals that differ from the more complex goal of nurturing the ‘public interest’ – may help to supervise the activities of the agency and, thus, to increase its accountability. Installing a downstream institution with explicit discretionary powers – and specific interests and information – may help the upstream regulator to credibly commit to not interfering (arbitrarily) with the process of day-to-day regulation. This commitment would be desirable as it may help to contain regulatory opportunism.

*Accountability.* If self-interested (downstream) regulatory agents have discretion, it is necessary to contain their incentives to act opportunistically. To do so, regulatory agents should be held accountable to the general public through the political process. The incentives of the officials to behave opportunistically may be limited by establishing review procedures and instruments for disciplinary action as safeguards. To be compatible with independence, reviews should take place at regular intervals and on the basis of clearly (pre-)specified criteria. Restricting the exercise of influence to infrequent and predetermined intervals may also help to reduce regulatory capture as the ability to exercise influence at such intervals may be more equally distributed between different interest groups than is the ability to exercise day-to-day influence (Neven et al. 1993: 173).

*Transparency.* Downstream agencies should be obliged to make public the information and reasoning upon which their decisions and actions are based. This helps to reduce informational deficiencies and asymmetries, which are important sources of regulatory transaction costs.

In order to help to implement these principles, an explicit institutional separation of competences may (often) be helpful.<sup>11</sup> Separating regulatory competences, that is, giving specific competences to regulate or monitor a single firm or industry to two or more different agencies may entail conflicting and, hence, inefficient decisions.<sup>12</sup> At the same time, however, it may lead to – or help strengthen – an efficient system of checks and balances in which (at each horizontal level of regulation) different institutions of regulation in legislation, executive, and judiciary monitor one another. This may, e.g., make it more difficult for interest groups to exert influence on distinct regulatory institutions or to capture regulation. Overall efficiency

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<sup>11</sup> The options to implement these principles do not only depend on the specific characteristics of the industry in question but also on the wide institutional environment (particularly the legislative, executive and judicial institutions), in which the antitrust and regulation agencies operate. The institutional environment influences the trade-off between credibility and flexibility. This helps to understand why in some countries (e.g., the U.S.) the formal rules governing the competences of antitrust and regulation agencies can be extremely incomplete (particularly as to the substantive rules of regulation); while in others (e.g., the U.K.) regulators are bound by private contracts with the regulated firms. The options for modifying or renegotiating the original regulatory contract vary substantially. In the U.K., the sector-specific agencies generally cannot modify the contract without the (explicit) agreement of the regulated firms (with other agencies, such as the Competition Commission or a Secretary of State getting involved in the case of a dispute). In the U.S., regulatory commissions are given substantial scope for unilateral change of regulatory provisions (the regulatory commissions typically have executive, and quasi-judiciary powers with the decisions of the regulatory commissions being monitored by the courts). For an analysis of these examples, see Spiller (1996), Spiller and Vogelsang (1997).

<sup>12</sup> For instance, general antitrust authorities typically are to monitor each industry with the explicit goal of enhancing or stabilizing competition, while regulatory agencies are to regulate firms with market power and may even have the authority to grant exclusive concessions.

may be enhanced, although the introduction of additional regulators will entail externalities and thus inefficiencies between the individual players.

### **III Regulatory Models for the Electricity Industry: More Specific Insights**

In the last two decades a drastic restructuring of both regulation and industry structures has taken place in most traditional network industries. At the level of the European Community, the process started with the liberalization of the markets for telecommunications terminal equipment. Since then, the EC has become an engine for the liberalization of traditionally comprehensively regulated national markets. This is an ongoing process. The telecommunication markets and other network infrastructures have successively been opened to competition. In some industries, particularly in the energy sector, the liberalization has only begun recently. Important questions remain open, both at a political as well as at an academic level.

In most transition countries, the tasks are even harder. Not only regulation of the enterprises has to be reformed. In most cases, the whole economic and political system must be rebuilt from scratch. Not surprisingly, the results of the privatization and reform process in the electricity sectors are mixed and progress is slow in Central and Eastern Europe.

#### **1. The Traditional Answer: Monopolization and Comprehensive Regulation and/or Public Ownership**

The political and economic answer to the contractual problems in the electricity supply industry has been a twofold approach. On the one hand, competition, *ex ante* and *ex post*, has been effectively ruled out and national or at least regional monopolies established, these holding exclusive rights to serve all customers in their respective franchise areas. Either the vertical and horizontal integration of formerly autonomous firms has been actively promoted (e.g., in the UK or France), or the formation of tight cartels has been approved or even enforced (e.g., in Germany). On the other hand, the corollary of this industry structure was a comprehensive regulation of monopolies. The extreme case was marked by nationalization in several countries. Beside the then socialist countries, France and the United Kingdom are to be mentioned as examples. Typically, regulation comprised of a supply obligation in the respective franchise area, complemented by the regulation of investment and pricing behavior. Moreover, a multitude of other goals such as environmental, regional, structural, and social objectives were defined in the political process and implemented by regulation.

#### **2. Reform of Regulation of Network Industries**

Beginning in the early 1990s, growing political dissatisfaction with the traditional regulatory structures in the Western electricity industries (and in particular with high electricity prices) and the radical changes in the former socialist countries entailed political action. In Western Europe, the former state-owned British system was the first electricity system to be fundamentally restructured in 1990; several other countries followed suit (see Kumkar and Neu 1997, Midttun 1997). According to the European electricity directive of 1996, all member countries of the EU had to open their electricity markets for competition at least for large customers. In Germany, a new electricity law complying with the directive came into effect in April 1998. Further steps at the European level are currently being discussed.

#### **3. Regulatory Models and their Comparative Advantages**

Generalizing from the details, the regulatory structures in jurisdictions where electricity reforms have already been implemented have one common feature: the stages of transmission and distribution are subject to ongoing regulatory surveillance and control. Where the various reform approaches mainly differ is in the regulation of electricity generation, and trade at the wholesale

Table 1: Comparative Evaluation of Reform Models with Respect to Transaction Costs

Criteria <sup>a</sup>		Single-buyer	Wheeling	Pool	Common-Carrier
Low market size, Low network density	I	+	0	0	-
	II	+	+	-	-
	III	+	-	+	-
	IV	+	0	+	-
Medium market size, Medium network density	I	-	+	+	-
	II	0	0	0	0
	III	0	0	0	0
	IV	0	0	0	0
High market size, High network density	I	-	0	0	+
	II	-	-	+	+
	III	-	0	-	+
	IV	-	0	-	+
Low stability of the institutional environment		-	0	0	+
High stability of the institutional environment		0	0	0	0
+ : low transaction cost    0 : medium transaction costs (or undefined)    - : high transaction costs					
<sup>a</sup> I: safeguarding specific assets — II: potential for establishing efficient price structures — III: potential for efficient separation of the balancing market — IV: potential for competition between several institutional arrangements in power trade.					

Source: Kumkar 2000.

and the retail level. The scope of regulatory models spans from the single-buyer model to the common-carrier model (Table 1)<sup>13</sup>:

The *single-buyer model* has been applied in numerous US states and is mentioned in the European directive of 1996. Hungary, Slovakia, Bulgaria, and Latvia provide examples for actual or planned implementation in former socialist countries. The model encompasses partial deregulation of the generation stage and of wholesale trade; all other activities in the electricity industry continue to be strictly regulated, the single-buyer is a monopsonist upstream, and a monopolist downstream.

The *wheeling model* is likewise recognized in the European directive (in particular as ‘negotiated, or regulated, third-party access’), and has been implemented at the federal level in the United States. It provides some customers with wheeling rights, i.e., with rights to use grids owned by others. In this respect, it implies a partial deregulation either of wholesale trade (the US and old UK approach) or of retail trade (the approach of the EU directive) or a combination of both (the German approach). In either case, however, the owners of grids still have the (*de jure* or *de facto*) right to use their own grids with priority. The transport prices may be regulated ex ante (sometimes called ‘regulated’ access prices) or regulated ex post (sometimes called ‘negotiated’ access prices).

<sup>13</sup> Compare Kumkar (2000) for details of the stylized models, Hirschhausen und Opitz (2001: Table 3) for implementation details in East European and CIS Transformation Countries. See also Hunt and Shuttleworth (1996) for a related discussion of alternative reform models.



The *pool model*, implemented in England and Wales in 1990, provides a strict regulation of electricity trade at the wholesale level in form of a mandatory participation of all generators at the central power exchange (the Pool). At the same time, the pool model deregulates retail trade. It allows competition in generation and retail trade.

The *common-carrier model* (general access model, market model), blueprint of the Norwegian, Swedish, and Finnish as well as the (originally planned and meanwhile abandoned) Californian reforms, permits the evolution of alternative trade institutions (both at the wholesale and at the retail level). This is supported by a strict implementation of a non-discrimination rule in electricity transmission and distribution. In the common-carrier model, as in the wheeling model, transport prices may be regulated *ex ante* or *ex post*. In several countries an initially chosen wheeling model is currently evolving into a common-carrier model.<sup>14</sup>

Often, both the academic and the political discussion on the appropriate regulatory structure for the electricity industry is about identifying the ‘optimal’ or ‘ideal’ regulatory model. NIE contests that such a model exists. From an NIE perspective, the appropriate question is, rather, how well one particular model performs relative to other models under a specific set of circumstances (see also Joskow 1996). An analysis aiming at identifying an appropriate regulatory structure for a specific industry in specific circumstances must begin with the identification of the properties that distinguish institutional alternatives (regulatory models) from one another. It then has to identify the (transaction) costs associated with governing exchange under each regulatory model, and, finally, it must relate the incidence of those costs to observable dimensions of the transaction in a discriminatory way.

The overall transaction costs associated with the four above mentioned regulatory models are determined mainly by three criteria of the specific industry and political framework (Kumkar 2000): market size; scope and quality of the transmission and distribution network(s); and stability of the institutional (political) environment and its ability to control regulatory opportunism.

It can be shown that large systems should be regulated in a fundamentally different way than smaller systems, and that efficiency of electricity markets in developed countries requires other regulatory approaches than efficiency of the electricity sectors in less developed countries. For example, efficient competition between several electricity trade institutions (e.g., between bilateral contracts and power exchanges) is only to be expected if the market is of sufficient size and the grids are of good quality. More specifically, the single-buyer model has a comparative advantage in less developed systems, while especially in highly industrialized and rather large systems, the common-carrier model has a comparative advantage concerning the costs of safeguarding specific assets in generation and consumption against regulatory hold-ups, the potential for establishing efficient price structures (in time and in space), the efficiency of regulating transport prices, as well as the potential for competition between alternative institutional arrangements in power trade. The two other models possess comparative advantages mainly in medium-sized electricity markets. They may serve also as transitional models on the way to a common-carrier model in cases of initially highly concentrated generation markets.

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<sup>14</sup> It may worth emphasizing that the main difference between the wheeling model and the common-carrier model is due to different grid-use (access) rights, i.e. the question, whether a non-discrimination rule is strictly designed and *enforced*. If, e.g., significant advantages for incumbents exist (in form of *de jure* or *de facto* priorities), a wheeling model exists, irrespective of the question, whether a ‘negotiated’ or ‘regulated’ access model is formally chosen.

#### 4. A Dilemma

However, reasoning so far has ignored the stability of the institutional environment as an important determinant of efficiency of the various reform models. In an unstable institutional environment, transaction costs and thus efficiency depends crucially upon the discretionary powers of the regulator. The wider the regulatory scope, i.e., the wider the competences and the fields of action of the regulator, and the wider the degree of vertical integration of the electricity sector, the greater is the risk of regulatory opportunism. If an appropriate system of institutional checks and balances is missing, a policy limiting the regulatory scope is a measure of reducing the risks of regulatory opportunism. Considering this aspect, the common-carrier model has the highest efficiency. In contrast, the single-buyer model is most exposed to regulatory opportunism, stemming from the wide definition of regulatory competences and the high degree of vertical integration.

When applied to transition countries, this transaction-cost based evaluation of reform models reveals a dilemma: the markets often are rather small and the grids are not well developed. This would suggest the implementation of a single-buyer model. The substantial (political) institutional instability would, on the other hand, suggest the implementation of a common-carrier model.

Indeed, experience so far has shown that reform and restructuring of the electricity sector even in developed market economies is not an easy task. Instead, even in the United States utility reform has failed (as in California)<sup>15</sup> or has stopped (as in several others states). Causes for the failures are in part of political nature, in part stemming from a lack of knowledge of appropriate reform models in particular circumstances.

In several transformation countries, reforms with similar aims and more or less radical measures have been started (see Hirschhausen and Opitz 2001 for a survey; see also Kennedy 1999, Stern and Davis 1998, and Voigt and Engerer 2002). Experience with electricity reform in these countries has shown that ambitious plans might fail, that less ambitious plans may also fail, and that appropriate regulation models depend to a large extent on the political stability and the wide institutional environment, in which both regulators and firms are operating. Evidence so far has supported the above-mentioned reasoning that there is no such thing as an 'ideal regulatory rule'. In other words: credibility and consistency of reform seem much more important than the exact design of the implemented regulatory rules and instruments (see Hirschhausen 2001 for the case of East European Transition Countries; see also Voigt and Engerer 2002).

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<sup>15</sup> The irritations, political faults, and risks for the liberalization approach as a whole observable here make clear how many pitfalls might exist in the transition to a competition-oriented electricity industry. The Californian transition experiment has failed, despite its *prima facie* attractiveness for the many economists positively and constructively accompanying the reforms since 1995/1996 (Kumkar 2002b). See also Joskow (2001).

## IV Some Further Thoughts on the Situation in Kosovo

Bad news for Kosovo? Does a solution exist for the problems in Kosovo's electricity supply industry that may solve the dilemma? An answer to this question obviously demands a closer look at the current situation.

### 1. Current Situation

According to available information, the situation in Kosovo's electricity sector is bad.<sup>16</sup> It is true that the nominal capacity of Kosovo's power stations amounts to 1,495 MW, provided by two large lignite-fired thermal power plants near Prishtina (Kosovo A and Kosovo B, using coal from open-cast mines nearby)<sup>17</sup> and one small hydropower plant at Gazivode (European Commission/World Bank 1999: 127). At first sight, this appears to be comfortably sufficient since maximum (peak) demand in Kosovo amounts to around 550 - 650 MW.<sup>18</sup>

Nevertheless, the situation is marked by sudden power failures and rolling blackouts. What is the secret behind this puzzle? According to the 1999 European Commission/World Bank Program for Reconstruction and Recovery in Kosovo, the Kosovo A thermal power plant has five units with a total installed capacity of 800 MW (1x65 MW, 1x125 MW, 2x200 MW and 1x210 MW) and the Kosovo B thermal power plant has two units with an installed capacity of 660 MW (2x330 MW).

Even in the pre-conflict period, the thermal power plants were apparently in poor condition and the actual available capacity was significantly less. Kosovo A is over 30 years old and thus is approaching the end of its useful economic life. The second, Kosovo B, is 15 years old and apparently has good rehabilitation potential. Nevertheless, both stations are run-down<sup>19</sup> and were further damaged during the 1999 conflict. The mines, which have huge coal reserves (over 100 years), have also suffered from neglect and are unable to deliver the quantity of coal required for full power generation (Commission 2001a: 12). According to the recent European Commission's Draft Annual Programme 2002 (2002a: 9), Kosovo's current capacity limit is at 700-800 MW. This figure is roughly consistent (however, obviously slightly more realistic) with the earlier statement of the United Nations Interim Administration in Kosovo (UNMIK 2000: 111) that Kosovo A has a nominal capacity of 200 MW, and Kosovo B of 660 MW. Actually, the available generation capacity seems to be still smaller. According to the above-mentioned Programme 2002, the maximum design capacity of Kosovo A and B is insufficient to meet peak winter demand.<sup>20</sup>

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<sup>16</sup> Reliable statistics for Kosovo do not exist. The following discussion is thus based on some scattered information published in statements by authorities currently engaged in Kosovo (UNMIK, EU, World Bank,...). In addition, a 1998 research report by Riinvest has provided useful background information on pre-war Kosovo and its economy (Riinvest 1998).

<sup>17</sup> The stations were originally designed to feed base-load energy into the ex-Yugoslavian grid system, explaining Kosovo's high share (7,0%) of produced electricity (and a corresponding high export ratio of 50%) in former Yugoslavia in 1988 (Riinvest 1998: 30, 32, 41).

<sup>18</sup> According to an UNMIK-target, the peak demand amounts to 605 MW, see Commission (2001a: 12); another figure provided in the Program for Reconstruction and Recovery in Kosovo prepared by the European Commission and the World Bank amounts to 546 MW (European Commission/World Bank 1999: 127); see also Commission (2002a: 9), which defines 700-800 MW as a capacity that should be sufficient both to meet peak demand and to provide some exports to other parts of the FRY and the Balkans.

<sup>19</sup> Lack of investments has been acute in particular since 1989. Kosovo's generation of electricity in the period 1989-1995 shrank by 57,2 %.

<sup>20</sup> See Commission (2002a: 13). Winter peak demand is comparably high because electricity presently provides around 50% of heating energy.

The grids are in a weak condition, too. In the former Yugoslavian system, distribution grids were controlled by decentralized distribution companies and divided into seven areas: Ferizaji, Gjakova, Gjilani, Mitrovica, Peja, Prishtina and Prizreni. The total number of consumers was about 360,000. The total length of transmission lines (110 kV and higher) was 1,085 km, and of the distribution lines (35 kV and lower) about 29,000 km. Transmission and distribution transformer capacity was about 4,600 MVA. The backbone of the interconnected transmission system is a 400 kV network, which is interconnected with the Federal Republic of Yugoslavia and the former Yugoslavian Republic of Macedonia. There is also a 220 kV interconnection with the former Yugoslavian Republic of Macedonia, Serbia, and Albania (European Commission/World Bank, 1999: 127). According to the European Commission, the electricity grid system in Kosovo still remains weak and unreliable. The grid as a whole system suffered damage in the conflict, making worse the effects of a history of poor maintenance (Commission 2002a: 10).<sup>21</sup>

Apart from the heritage of run-down physical assets in generation and transport, current management, engineering, and operation seem to be a significant problem. Not least because the entire (Serb) management and many skilled workers fled Kosovo in 1999, the current management of the Kosovo Electricity Company (KEK, Korporata ElektroEnergjetike e Kosovës) include many individuals who had been out of the system for the ten-year period of exclusion up to 1999 (Commission 2002a: 10). And although substantial money from donors has flown into both management and physical assets,<sup>22</sup> the present situation still seems to be characterized by underutilization of power stations, blackouts, overstaffing, and huge deficits.<sup>23</sup> For example, figures for the payment rate run between just over 30% (Commission 2002a: 10; Ismaili 2002) and 50 % (Demekas et al. 2002: 11) of the gross electricity available through the grid. Although this figure is improving on the former 15-18% that applied in 2000, a financially self-sustaining Kosovo Electricity Company today appears to be a pie in the sky. To fill the gap between demand and supply, Kosovo imports electricity from the neighboring countries, in most cases on an emergency basis, neither on the basis of long-term contracts nor on the basis of competitively negotiated power trades.

To sum up, the energy sector suffers from years of neglect in investment in physical and human capital, and from the armed conflict between NATO and the Yugoslavian forces. Substantial parts of the whole (generating and transport) system seem to be obsolete, several facilities are at the end of their useful life and outdated. The institutional structures, i.e., the governance structures do not seem adequate. This concerns the financing and operation on the supply side and also the demand side. Neither appropriate price structures, nor necessary gauges, i.e., meters as precondition for efficient rationing and financing, are installed. Thus, system instabilities are the result of history, and of failing present governance structures both on the

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<sup>21</sup> According to Riinvest (2000), in 2000 the 400 kV-grid was totally out of operation, the 200 kV-grid operated at 60% level, and the 100 kV-grid at 70% level. The distribution grid operated at a 70% level.

<sup>22</sup> In total, € 450 Million has been provided since 1999. Main donors are the EU, EU member states, and the UN. For example, the EU alone provided some € 70 Million in 2000 for the energy sector and an additional € 28 Million for electricity imports (Commission 2002a: Attachment 1). In total, the European Union, via the European Agency for Reconstruction, has poured € 273.5 Million into Kosovo's energy sector since 1999 (<http://www.unmikonline.org/pub/focuskos/feb02/focuskeco4.htm>); € 121 million have been spent on the overhaul of Kosovo B (see Commission 2002b). For details of a consultancy contract, see, e.g., [http://www.mottmac.com/html/05/05\\_01\\_Details.cfm?NewsHeaderID=276](http://www.mottmac.com/html/05/05_01_Details.cfm?NewsHeaderID=276).

<sup>23</sup> Apparently, KEK almost collapsed financially this winter ([www.medioclub.cg.yu/eng/news/archive/2002/januar/14kosovo.htm](http://www.medioclub.cg.yu/eng/news/archive/2002/januar/14kosovo.htm)). In addition, rumors concerning possible corruption at KEK have been recently confirmed at least indirectly by Deputy Special Representative of the Secretary-General Andy Bearpark (<http://www.unmikonline.org/press/2002/pressr/pr723.htm>).

supply side and on the demand side, and a lack of coordination between supply and demand. In addition, the starting position for a reform in Kosovo is, at least in one particular respect, worse than in most other former socialist countries: there, at least the sovereignty of the state is undisputed. In Kosovo, the political future is open.

## 2. Immediate Answer

What are the regulatory consequences of the current technical and institutional characteristics? It is certain that some immediate repairs of power stations and grids must be done to stabilize the system on a short-term basis. Work on this matter has been initiated by UNMIK from the beginning on. As already mentioned, substantial funds have been raised and spent.<sup>24</sup>

But this is not the point here. The question to be discussed here is the question of which regulatory model should be strived for in the medium or long term. This choice of course does have impacts on short-term decisions. New investors or contractors will take this choice (and its credibility!) into account when making decisions. In addition, donors will be increasingly reluctant to provide funds for reconstruction if the targets are not clearly defined. Hence, getting the institutions right will be of utmost importance. A credible framework has to be designed for the significant investments needed, particularly in transmission and distribution.

## 3. Two Approaches to Solve the Dilemma

The dilemma mentioned faced by several transition countries is of particular importance in Kosovo: first, the stability of the institutional environment is – at best – fragile, resulting *inter alia* from the uncertain political status of the province and the related answer to the question of if and when a self-sustaining domestic political system will emerge; second, the market size in Kosovo is small (to say the least), the network density and quality are low. Thus, neither a common-carrier model nor a single-buyer model (nor the two other regulatory models) will do the trick to improve efficiency in Kosovo's electricity industry.

Two approaches come to mind to help solve or alleviate the dilemma. First, an improvement of institutional stability may be considered, i.e. an improvement of the institutional environment. This would improve the conditions for a successful implementation of a single-buyer model. Second, an improvement of grid density and quality may solve or ease the dilemma, particularly if supplemented by a wide-reaching market opening for foreign investors and foreign electricity traders. This would improve the conditions for success implementation of a common-carrier model.

### a) *Improvement of Institutional Stability*

To begin with, an improvement of institutional stability is obviously not an easy task. The new regulatory framework for the electricity industry has to be implemented under continuing uncertainty regarding Kosovo's final political status. The uncertainty complicates the establishment of property rights. However, the establishment of a stable institutional environment and of a stable system of property rights and contract law is of utmost importance in attracting capital for necessary investments in physical and human assets. The perceived political risk largely depends on the reputation and the credibility of public agents and organizations. Extraordinary longevity and high specificity of the assets within the electricity industry demands stability not for few months or years, but rather for the next decade at least. Thus, even if Kosovo's "economic policy today is effectively independent" (Demekas et. al 2002: 1; 3), this does not imply that the perceived risk is nil. Recognizing the importance of a

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<sup>24</sup> Some problems stemming from foreign financing and state ownership will be mentioned below. See the following section (and also Fn. 23 above).

credible regulatory framework, the formal choice of one of the regulatory models will be of little help, if a minimum level of credibility is not attainable.

Two main instruments for containing regulatory opportunism should be mentioned: on the one hand, the entry of large foreign corporations may help stabilize the situation. If entry happens, the resulting situation might be characterized by a balance of power between large firms and a state, whatever exact meaning this may have in Kosovo in the future. The perceived risk of a 'regulatory hold-up' would most probably be smaller, e.g., for the French EdF or the German RWE as compared to the perceived risk for a comparably small Kosovanian enterprise.<sup>25</sup> The result would be fourfold: first, the engagement of large corporations may lessen regulatory risk because of the 'countervailing power' of the large foreign firms. Second, the countries, from which the foreign firms come, will have an eye on the regulation policy in Kosovo. Both effects may decrease the risk of regulatory hold-up, i.e., decrease risk mainly induced by the demand side. Third, a large foreign firm also has to lose a lot: its own reputation, important for its planned activities in other jurisdictions. This helps containing regulatory risk stemming from potential capturing of the regulatory agency by the foreign firm. Fourth, the larger portfolio diversification of large foreign corporations would lessen the adverse impact of given regulatory risk on the investment willingness.

On the other hand, some direct form of 'stability import' may help. Today, it is not clear how power sharing between Kosovo's government and UNMIK will work out.<sup>26</sup> Thus, it is, at least in my understanding, not clear who owns responsibility and competences to define and enforce the basic institutional framework both for regulation and for operation of the utilities (be they private or public). But consider a credible assignment of some regulatory competences for Kosovo's electricity industry to foreign or international organizations, e.g., to the EU, the OECD, the OSCE, the World Bank, or some regional electricity authority.

This assignment has to be credible in the sense that a change in the general political status of the Kosovo in itself must not challenge this assignment of competences. In some sense, this assignment would secure the independence of the regulatory authority, whoever that authority may be; in addition, it would improve upon current transparency of regulation, and it would hopefully improve accountability of regulation. Such transfer of regulatory competences would thus improve the credibility of regulatory policy by 'borrowing' credibility and reputation from abroad, acting as a commitment device. This may appear as erroneous advice, incompatible with the sovereignty of Kosovo or Serbia. But experiences, e.g., in monetary policy, may suggest otherwise. Historically, several countries have given up monetary sovereignty in favor of a (*de facto* or *de jure*) common currency managed by multinational or foreign authorities. Kosovo's

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<sup>25</sup> As another way to enhance regulatory stability, Levy and Spiller (1994: 235) discuss particular privatization programs, which distribute ownership among as broad a share of the domestic population as possible. In this case, the broad ownership creates a large constituency in favor of stabilizing property rights and thus may act as a commitment device. Regarding the need for substantial investments in Kosovo's electricity industry, however, pure domestic ownership does not seem to be a sufficient solution.

<sup>26</sup> According to Chapter 5 of the 'Constitutional Framework for Provisional Self-Government' (UNMIK 2001), the new domestic provisional (sic!) institutions shall have responsibilities, *inter alia*, in the fields of economic and financial policy. The Special Representative of the Secretary-General (SRDG), however, has "certain reserved powers and responsibilities" to which belong (according to Chapter 8) *inter alia*, the "authority to administer public, state and socially-owned property in accordance with the relevant UNMIK legislation in force, in cooperation with the Provisional Institutions of Self-Government"; and „Regulation of public and socially-owned enterprises after having consulted the Economic and Fiscal Council and the Provisional Institutions of Self-Government“.

use of the DM or the Euro is a case in point, pointing to the potential efficiencies of such an arrangement.<sup>27</sup>

The lasting transfer of regulatory competences may be comprehensive, or, it may be only partial: the establishment of arbitration services and/or the establishment of a supranational court of arbitration may deliver the desired stability. The respective authorities would serve as an upstream regulator of last resort in case of disputes between the domestic (downstream) regulatory agency and the electricity firms or the consumers. In both cases, at least an improvement on the status quo may be realized. Private participation in investment and management combined with credible regulation can induce better coordination on the supply side (via hard budget constraints), on the demand side (through enforcement of payments as a rationing device and appropriate price structures in general), and better coordination between supply and demand (less blackouts, better investment performance).

Successful stabilization of the institutional environment may even allow the introduction of some elements of competition in electricity supply, i.e. the implementation of a single-buyer model. However, the scope for competition is certainly rather small. This is because of the small size of the market in Kosovo. Nevertheless, some competition in generation and trade is conceivable, at least concerning the planning, construction, and management of new power stations.

In this respect, the recent establishment of the Public Utilities Regulatory Authority of Kosovo (PURK) within the EU pillar ‘Economic Reconstruction’ may be the first step on the way to an internationally backed and independent regulator in Kosovo. However, it is important to note that this is an assignment of regulatory competences, which at present appears as a highly provisional measure. Even if the formation of PURK seems to be an improvement upon the present situation, and even if the formation of PURK will improve transparency and independency of regulation in Kosovo, it does not solve the current problems of diverging time horizons between regulation and investments. What is needed is protection of investments in assets that have a very long economic life (usually at least 20 years). Hence, the establishment of PURK presumably has to be complemented by additional guarantees for investors that their investments and revenue requirements will be respected for a longer time span.

A possible solution may consist in some kind of explicit regulatory contracts between PURK and the investing companies, backed by an explicit guarantee, e.g., provided by the EU. This would also leave open the possibility of a future transfer of regulatory powers from UNMIK to domestic authorities (whoever that may be) without the risk of unilateral termination of regulatory contracts (at least concerning the risk faced by the enterprises). In effect, the administration of the regulatory contracts would be assigned to PURK or its successor organization, supervised by another authority, to some extent irrespective of the future status of Kosovo. These regulatory contracts may take the form of concessions or licenses with a contract period of, say, 15 or 20 years, not necessarily designed as exclusive franchises but with assurances of fair execution in the future. In case of power generation licenses this may take the form of assurances for, e.g., either reasonable prices for generated power or non-discriminatory and reasonable grid-use prices for delivering power to domestic or foreign consumers. Obviously, in case of transmission or distribution licenses the regulatory contracts also have to encompass some form of assurances for reasonable grid-use prices, i.e., should provide some safeguards against ‘too low’ grid-use prices.

It should be obvious that if a lasting stabilization of the institutional environment is not achievable, private investments cannot be expected. Thus, the institutional change and the

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<sup>27</sup> Levy and Spiller (1994: 236) discuss international substitutes for missing national foundations in telecommunication regulation. They cite, *inter alia*, Jamaica’s judicial system that continues to recognize the Privy Council in London as the final arbiter, “conferring continued credibility on its own regulatory system”.

establishment of the rules of the game are the centerpiece of the reform enterprise. If this is not recognized, both the possible future privatization of KEK (in whichever form: full privatization, buy-outs, spin-offs, ...) <sup>28</sup> and the entry of new firms in Kosovo's electricity industry were not feasible. Obstacles to both regulatory reform and privatization are institutional, not financial: the electricity sector is in principle a highly profitable sector. Thus, the establishment of commercially viable electricity companies that can finance their investment requirements without recourse to foreign transfers is no problem stemming from peculiarities of the electricity industry but from political peculiarities in Kosovo. <sup>29</sup>

Of course, continued state ownership may be the only feasible solution if the contractual problems between private investors and the state or between investors and the customers cannot be solved. <sup>30</sup> Continuing state ownership of KEK and investments only by KEK is, however, not a good solution either: incentive problems will be most probably overwhelming. <sup>31</sup> In addition, that until today foreign donors have provided a substantial part of the financial means implies that unified state governance cannot be reached if regulation is provided by domestic agencies, and the costs of regulation are borne by other countries. This arrangement provides for some delicate form of a soft budget constraint. In any case, it involves the participation of foreign authorities. If this participation is not disputed, the reasoning mentioned above would suggest continuing regulation at least partially by foreign authorities. But in this case, the foreign participation may be used for stabilization of the regulatory environment, hence for improving the conditions for privatization and/or the entry of new companies.

And if the conditions for foreign market entry into generation, transport and retail sales are established, even the (political and legal problematic) issue of privatization of KEK would be of smaller importance: other companies can undertake investments in needed transport and generation facilities if technical and organizational interfaces between KEK and other companies are defined. In other words, if credible regulation is in place and a regime of stable property rights is defined and enforced.

*b) Improvement of Grid Density and Quality, and Market Opening*

As mentioned above, an improvement of grid density and quality may alleviate the dilemma. If grids are of high density and of high quality, both local market power and global market power are of less concern; grid reinforcement is thus a way to alleviate market power problems. In

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<sup>28</sup> On 13th June 2002 (after two years of intensive discussions) Special Representative of the Secretary General, Michael Steiner, signed two regulations that shall pave the way for privatization of socially owned enterprises in Kosovo. However, the electric utility KEK is classified not as a socially owned enterprise, but as a publicly owned enterprise. Hence, privatization of KEK is currently not an option. An earlier privatization plan suggested by UNMIK has raised a number of legal and political issues (see Demekas 2002: 19; see also Hashi 2001 for a comparative analysis of privatization in other transition countries). Apparently, it is not entirely clear whether the UNMIK has sufficient competences to make any change to the ownership status of publicly owned enterprises.

<sup>29</sup> Spiller (1996: 426) cites the Colombian 'regulation' of network companies, which specifically stipulate that the government cannot regulate their prices and that exclusivity provisions are banned. In this particular case, the (credible) lack of regulation is apparently the chosen way to alleviate the problems of regulatory opportunism.

<sup>30</sup> An example of the latter problem is provided by the notorious non-payment of electricity bills in Kosovo. A solution to this problem of revenue collection should have high priority. For a transaction-cost-based analysis of contractual problems between public agents (government, regulator) and firms as a cause for nationalizing network infrastructures, see Spiller (1993) and Levy and Spiller (1994). For a survey of formal contract-theoretic models for a comparative analysis of public and private ownership of firms, see Schmidt (1996).

<sup>31</sup> This is despite state ownership is a form of uniform governance in the sense that different parts of the electricity supply (generation, transport, and demand) are vertically integrated and contractual problems thus might be of smaller importance. The evidence on electricity reform in East European transition countries so far has supported this argument in favor of privatization. See Hirschhausen (2001) and Hashi (2001) for surveys.



general, grid enforcement provides the basis for an enlargement of the relevant market. Particularly if supplemented by a wide-reaching market opening for foreign and domestic investors, and electricity traders, the number of potential and active competitors would increase.<sup>32</sup> If substantial electricity imports are legally allowed and technically possible, domestic electricity companies are of less importance for network stability and general efficiency. To some extent, regulation would become less important.

There is more to it: if substantial electricity exports are allowed and possible, the domestic firms may partly exit the bilateral relationship with Kosovo's regulator. Perceived regulatory risk would be reduced; in addition, the efficiency of domestic regulation would probably be enhanced and, thus, the regulatory risk even further reduced. In the medium to long term, this market opening could lead to a large integrated market, thus to market-driven safeguarding of investments in electricity generation, to appropriate price structures for electricity usage, to appropriate price signals in electricity transport, and to competition between alternative institutional arrangements (i.e., bilateral contracts and power exchanges) in power trade. Market opening may thus reduce the regulatory scope substantially. In other words, a common-carrier model may be within reach.

## V Concluding Remarks

A substantial international opening of Kosovo's electricity market may provide a solution to the dilemma faced by Kosovo's regulation policy for the electricity sector. This international market opening encompasses a lasting, more or less distinct, abandonment of (some) state sovereignty for electricity regulation, i.e., some sort of internationalization of regulation, and a wide-reaching market opening for foreign and domestic investors, and for electricity traders.

Of course, this policy presupposes – at least to some extent – cooperation with neighboring jurisdictions. There is no way of enhancing effective competition if neighboring jurisdictions prohibit trans-frontier electricity trade. A further caveat: there would be only small scope for actual competition if capacities in generation and transportation were in short supply in the whole region. At least concerning generation, this does not seem to be the case: according to recent data provided by UCTE (2002: Fig. 1A, 1B, 1C), there are no large differences between expected reserve margins in the main UCTE region and the southern region encompassing Kosovo. In addition, first steps towards a regional (South-East European) electricity market have apparently been made. The countries of the region have committed themselves formally to establishing such a market by the end of 2006.<sup>33</sup> In this respect, the (re)interconnection and synchronization of grids within the region and with the large European electrical interconnected network (UCTE) seems necessary not only for Kosovo but for some other neighboring transition states, too (Bosnia-Herzegovina, Serbia, Montenegro, Romania, and Bulgaria) and not least for EU member state Greece, which has also been largely isolated from the main UCTE-grid since

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<sup>32</sup> Of course, competition would presuppose the installment of appropriate meters which today often are missing and/or are ignored by the consumers. However, this enforcement of payments would be necessary anyway to finance the costs of supply. It does not seem sustainable to finance a large part of the supply of electricity through payments by the EU (or by Kosovo's taxpayers).

<sup>33</sup> Commission 2001b: 18, see also the September 1999 newsletter of the Black Sea Regional Electricity centre: <http://www.bsrec.bg/newsletter/sept99> and the recent presentation by Maria Manicuta at the 3rd Southeast Europe Energy Regulatory Forum. April 23, 2002 (Manicuta 2002). In addition, at least in Croatia, Bulgaria and Romania reforms on the line of the EU Directives are underway (Commission 2001b: 20). In this respect, the Electricity Liberalization Directive represents “both an opportunity and a challenge” (Stern and Davis 1998: 457) for the European transition countries. The same argument may hold for Kosovo: The related prospect of a reintegration into the larger European economy may serve as a further commitment device for Kosovo's regulator (whoever that may be) for credible reform and liberalization. Therefore, explicit implementation of the EU electricity directive should be considered in Kosovo.

the beginning of the Yugoslavian conflicts. According to the UCTE (2002), re-connection is currently expected for 2003, widening the scope for regional and interregional power trade, thus widening the scope for more efficiency and improved system stability.

Over and above that, it is to be questioned whether Kosovo should aim at designing a complete and separate regulatory framework. Some arguments speak for a supplementary regional approach, which may further enhance Kosovo's policy credibility. A more or less distinct interregional cooperation would indeed open further possibilities for enhancing efficiency, both in individual states (i.e., province, in the case of Kosovo) and in the greater region as a whole. Therefore, the design of a regional regulatory framework should be high on the agenda. This regionalization of regulation may, to some extent, complement or substitute other forms of internationalization of Kosovo's regulation policy for the electricity sector. In this respect, a complete uniformity of regulatory rules and procedures should presumably not be strived for. This is because at least a minimum level of competition between alternative regulatory rules and, therefore, a minimum of decentralized regulatory competences help to contain regulatory opportunism and facilitate the discovery of appropriate regulatory policies. In addition, decentralized regulatory competences facilitate the consideration of differences between the states (or provinces) concerning 'technical' characteristics, political characteristics, and preferences (public service obligations; e.g., Kumkar 2002a).

To sum up, strengthening Kosovo's electricity transport infrastructure seems to be of utmost importance. Significant investments are definitely warranted. The decline in foreign transfers implies that fostering private investments in electricity infrastructure should be high on the agenda. However, foreign and domestic private investors are unlikely to undertake major projects as long as uncertainty about the province's final political status persists. The prospect of rapidly declining foreign transfers (Demakas et al. 2002: 14) does not help. Thus, the policy goal must be to establish political, judicial and economical structures as stable and credible as possible. One of the main elements should be a strengthening of the integration of Kosovo's economy into that of the encompassing region and the rest of Europe. This would help in building confidence in regulation policy and it would help enlarging the market, thereby widening scope for competition and enhanced efficiency.

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