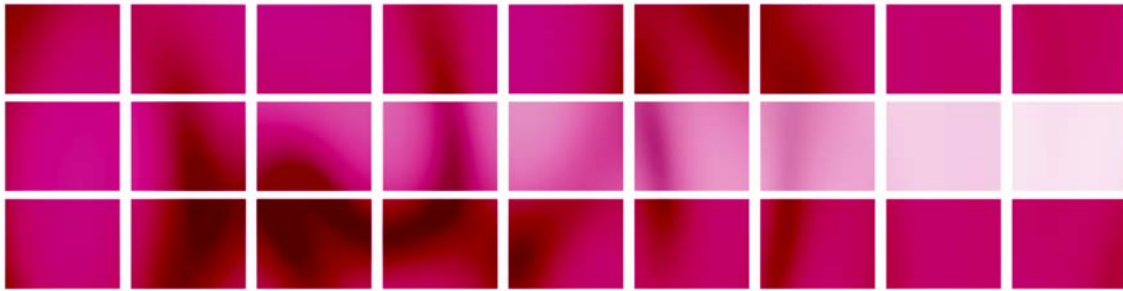


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**PRIVATISATION OF PUBLIC SERVICES AND THE IMPACT ON  
QUALITY, EMPLOYMENT AND PRODUCTIVITY (PIQUE)**

## ***Liberalisation, privatisation and regulation in the Swedish electricity sector***

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Country report on liberalisation and privatisation processes and forms of  
regulation

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## 1. MARKET STRUCTURE

### 1.1. *Market structure before the liberalization and privatization process*<sup>1</sup>

The so-called Swedish Model of industrial relations is a well known concept far beyond the Swedish borders. Less known, however, is that there was for long also a Swedish model of economic infrastructure. The liberalization of the markets for railroads, electricity, telecommunications, aviations etc., were to a large extent parts of the same process and occurred from similar political instigations. The most distinguished case was the electricity sector.

The idea of a Swedish infrastructural model analogous with the well-known Swedish model for industrial relations was systematically developed in scholarly research by Arne Kaijser (1994; cf. Jakobsson 1996: 66-68). The unique, or at least diverging features were, according to Kaijser, the shared responsibility between governmental bodies on the one hand and municipal and private interested parties on the other. The governmental bodies took responsibility for the national, overall connections needed within the system, while the local parties took charge of the regional applications of the systems. The contacts between the governmental bodies and the local interested parties were often very informal and there were no public control bodies. The development of this Swedish model of infrastructure took off in the late nineteenth century, about half a century before the foundation of the better-known Swedish model of industrial relations.

The most illuminating example of how the model worked in practice is the Swedish public hydroelectric power system and how it came into existence. Around the turn of the last century, the Swedish government 'owned' waterfalls, that is, waterfalls were public property. Further, already existing public-owned systems such as the railroads and the telegraphs worked well and thus functioned as positive examples. Third, the railroads did not only work as a model for government-managed activities; the still expanding railroad system was further in great need of guarantees for a continuous supply of the 'new' power, electricity. And fourth, the railroads were not alone in this need: the private-owned industries were dependant on cheap energy too to develop (Kaijser 1994: 166-80; Jakobsson 1996: 74-76).

The mutuality between the Swedish state and private companies also showed in the generous governmental support of 'national champions'. Developing nation-wide

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<sup>1</sup> In the following, we do not make any sharp distinction between 'privatization' and 'liberalization', since the processes overlapped to a large extent, both in reality and in political discourse. At large we do however of course concur with the definition made in the PIQUE guidelines presented by Verhoest and Sys (2006), i.e. that liberalization is 'the opening-up of markets for competing providers regardless of who owns the competing companies', while privatization is 'the existence of some privately owned shares in public service providers'.

technological infrastructures was a far too complex and costly problem for a single company to handle. Yet, the technical competence existed in private-owned enterprises, in the Swedish case mainly in the so-called ‘genius firms’ (*snilleföretag*), i.e. relatively small firms based on single technical inventions or innovations. Therefore the Swedish state filled the order-books of some leading innovative companies and by that gave them the opportunity to develop products at their own pace, sheltered from free-market competition.

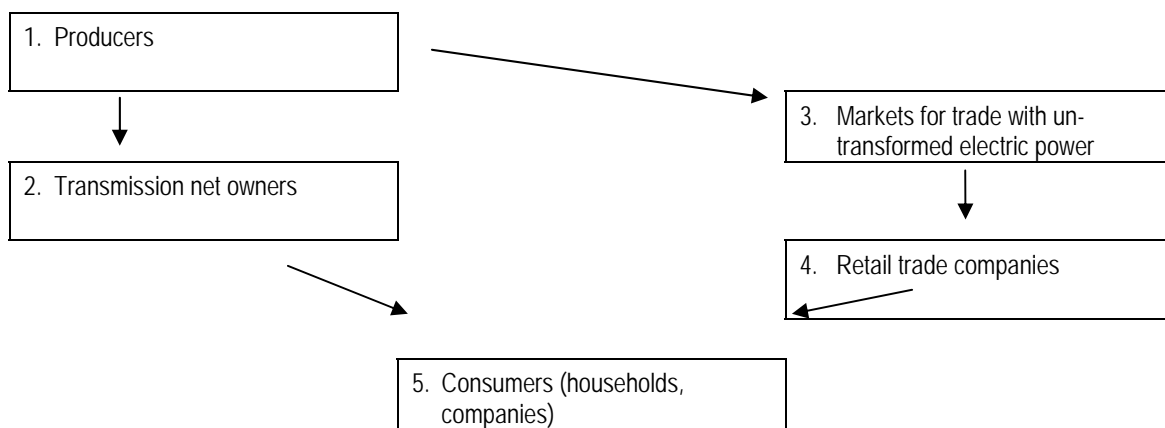
A salient example of this symbiotic relation is the cooperation between the state-owned company, or perhaps more correctly, the governmental authority, *Vattenfallsverket* and ASEA, the Swedish predecessor to ABB. The buyer, *Vattenfallsverket*, was in great need for better technology to make the electricity system profitable and therefore ordered technology from ASEA, technology that was not yet existing, but which ASEA had the competence to develop if the company’s engineers were allowed to work in a long-term perspective, and thus under financial circumstances that no private-owned company could have guaranteed. According to Mats Fridlund (1993; 1994), already the founding of ASEA in 1890 was promoted by the Swedish state as a means to harness hydro-power development. ASEA and the state became a ‘development pair’ in Fridlund’s terminology, a development pair that together with other such pairs later became one important reason why Sweden could take a ‘middle way’ between planned and free-market economies.

Over time the ownership of electricity production and distribution got more and more centralized. This was to a large extent a result of the described ‘Swedish model’, or rather the regulation of it (see further section 2 below). One feature of the Swedish model for infrastructural development was that the markets, in this case the electricity market, should be regulated by ‘self governance’ in more or less the same way as the labour market. Regarding electricity, the means for self governance was the so-called ‘clubs’ (*klubbar*). These clubs were voluntary associations of companies that were in one way or another engaged in the production and/or distribution of electricity. The premise was that the co-operation should aim at promoting ‘collective utilities’ and *Vattenfallsverket* held the chair in every single club. Still, also the small-scale entrepreneurs had a say on the development and could further benefit from the sheltered position, and therefore willingly accepted the clubs’ self-imposed responsibilities for regulation and development. The two biggest clubs were *Stamnätsklubben* (the national transmission mains club) and *Samkörningsklubben* (the linking and matching club). These two clubs had an embracing responsibility for the overall, national functioning of both transmission and distribution of electricity (Hjalmarsson and Viederpass 1992). According to the legislation, the clubs should also guarantee that all suppliers of electricity should meet some efficiency benchmarks, which got harder to meet the more technology and competition developed. Hence, the number of actors continuously decreased from about 1,500 in the mid-1950s to about 100 producers and 270 mains owners at the time for the deregulation in 1992. The three largest producers held nearly 90 per cent of the production; the state-owned *Vattenfallsverket* alone for more than 50 per cent (SOU 2005 # 4: 160-61).

## 1.2. Market structure after liberalization and privatization process

The concentration of capital and ownership has increased from 1996 onwards. Small and medium-sized producers, network companies and firms in retail trade have been bought up by the biggest companies. As mentioned in sub-section 1.1, this had however already been an ongoing process for half a century and was thus not a direct consequence of liberalization. The self-imposed regulatory role of the clubs has today disappeared and been replaced by governmental authorities (see further section 2 below). Regarding the actors in the deregulated electricity market after 1996, the production chain and its ownership relations may be described as in figure 1.

Figure 1: The Swedish electricity market after the liberalization reform in 1996.



Source: Regelutredningen, SOU 2005 # 4: 171, slightly revised by the authors.

If we start with box 1, the producers are those who own the production plants that generate electricity and sell the ‘raw power’, i.e. the high voltage electricity, to firms that transform the energy to make it possible to use for the final consumers. In 2003, three producers, *Vattenfall*, *Fortum* and *Sydkraft*, together generated about 85 per cent of all electricity produced in Sweden, which is a stronger concentration than before the liberalization. What is new, however, is that there are strong foreign stockholders, in particular Norwegian, Finnish (*Fortum*) and German companies.

The transmission net owners (box 2) transform and transport electricity from the producers to the consumers. All net owners are affiliated to the governmental company *Svenska Kraftnät* (Swedish Power Mains) and the net owners must get an authority from the governmental body *Energimyndigheten* (the Energy Authority) to build, run or develop networks and this segment of the market is accordingly still highly monopolized. The monopolies are however regional; they cover different geographical parts of Sweden. Paradoxically this means that three of the main companies are *Vattenfall*, *Fortum* and *Sydkraft*, that is, the same competitors as in the production of electricity; yet, when it comes to transmission, they each have their own regional monopoly instead of competing with each other. Besides these three actors, there are a few municipalities and industries that own considerable parts of the regional

transmission mains. Svenska Kraftnät is the follower to Stamnätsklubben and has the official, overarching responsibility for safe distribution of electricity (and gas) to all parts of Sweden, but in practice the regional net owners have to take over many of these obligations. For example, Svenska Kraftnät itself has only about 290 employees in the whole of Sweden and thus only handles administrative and coordinating issues (Svenska Kraftnät, homepage, www.svk.se, Jan. 2007).

In box 3 we find the large-scale traders, i.e. those who buy electric power from the producers, transform it and sell it on to the retail trade companies (box 4). The actors in box 3 do however also sell electricity directly to big companies, either through the Nordic co-operation *Nord Pool* or through bilateral agreements. The concentration of traders has not notably decreased since 1996; yet, as in the case with the producers, the foreign ownership has increased. This is not particularly surprising, since the three main producers are also very important sellers of electricity, and the German *E.On*, the Norwegian *Statskraft* and the Finnish-owned Fortum hold big market shares. In total, the share of Swedish costumers who buy ‘foreign-owned’ electricity has increased from 10 per cent in 1996 to 40 per cent in 2003. In box 5, finally, we find the individual consumer. Svenska Kraftnät is responsible for the physical balance and functioning of the system, but has also some responsibility for the economic balance between demand and supply.

### 1.3. *Steps and processes of liberalization and privatization*

The electricity sector was vertically integrated before the liberalization. In 1996, this vertical integration was split up into three segments: generation/production, transmission, and retail trade directed to individual customers including households.<sup>2</sup> Transmission was officially unbundled, but in practice it remained a regulated, monopoly market. Both generation and retail trade were competition-exposed, though. The reason why transmission remained sheltered from competition was that its three geographical levels, i.e. national, regional and local, together formed a ‘natural’ monopoly, with little to gain from privatization or market competition. The governmental body Vattenfallsverket has maintained much of its leading role also after the liberalization, yet as the unbundled, officially competition-exposed company *Vattenfall AB*, a state-owned company formed after a merger of different governmental bodies, decided by the Swedish parliament in January 1992. The targets for the transformation of the electricity sector were however not totally clear, but were discussed and clarified all through the year 1992.

Even though capital and ownership got more concentrated, the *number* of actors in the overall electricity market increased considerably after 1996. In 1987, 238 companies were active in electricity, to be compared with 338 companies in 2002, an increase with

<sup>2</sup> The parliamentary decision was taken in 1992, under the centre-right government 1991-94, accordingly it was just an effectuation of the decision that took place in 1996. Yet, the social democratic government that came in office in 1994 did nothing to reverse the decision.

42 per cent (SOU 2005 # 4: 50, 168-70). An important reason for the increase in the number of companies in the mid-1990s was the opening up of local and regional markets in generation and retail trade for actors from the other Nordic countries. The intention from the Swedish government was to integrate the Nordic electricity generation markets, an intention supported by the government in Finland, Denmark and Norway. Such integration has however never materialized. The key to the integration was supposed to be a harmonization between the Nordic supervisory authorities, and with that a harmonization of the regulatory framework in order to strengthen the monitoring of competition in the Nordic electricity markets. The co-operation between the four Nordic supervisory authorities is still (2005) very sparse, though.

In conclusion, the changes in the Swedish electricity market(s) structure can be summarized as in table 1. The latest reliable data available are from 2004, both regarding generation and retail sales. Since then, the concentration of both branches have increased considerably, and in the public debate, figures of over 90 per cent for the three big companies in both generation and retail sales are often heard. Since those figures are however still not published or accepted by any governmental regulating authorities, and some of them draws from amalgamations to come, we do not use them here.

**Table 1: The Swedish electricity market before and after the liberalization and privatization**

	Before the process of liberalization	After the process of liberalization (generation data from 2004; percentage of Swedish production in brackets)
<b>Generation</b>	Vattenfallsverket (a governmental authority) + private- or municipality-owned so-called clubs under governmental influence.	Vattenfall AB, state-owned: 70.0 TWh (49.3 %); Sydkraft (E.On), private-owned: 33.9 TWh (23.8 %); Fortum, private-owned: 24.0 TWh (16.9 %); Skellefteå Kraft, municipality-owned: 3.1 TWh (2.2 %); Others: 11.1 TWh (7.8 %).
<b>Transmission</b>	Stamnätsklubben (A government-run club with private members).	Svenska Kraftnät (A governmental company with private- and municipality-owned affiliates, of which the most important are Vattenfall, Fortum and Sydkraft).
<b>Supply/sales</b>	Vattenfallsverket + the clubs	Vattenfall AB, state-owned, 22.7 % of Swedish market; E.On (Sydkraft), private-owned, 17.3 % of Swedish market; Fortum, private-owned, 17.3 % of Swedish market; Others, 42.7 % of Swedish market.

Sources: Energimyndigheten, homepage, [www.stem.se](http://www.stem.se) (generation); Energimarknadsinspektionen; homepage, [www.energimarknadsinspektionen.se](http://www.energimarknadsinspektionen.se) (supply/sales).

## 2. REGULATION

### 2.1. Instruments of regulation

The governmental role in the regulation before the 1990s was largely indirect; the control was carried out through the dominating market role of Vattenfallsverket. The reason for this has already been explained; there was a ‘Swedish model’ for infrastructural development as well as it was for the labour market regulation, and accordingly the electricity market should be regulated by ‘self governance’ in more or less the same way as the labour market. In the case of electricity, the means for self governance was the mentioned ‘clubs’. The small-scale entrepreneurs had had a say on the development and could further benefit from the sheltered position, and had therefore willingly accepted the clubs’ self-imposed responsibilities for regulation and development. Therefore, they were neither any important driver in the privatization process; they had little to gain from a total opening of the market(s). When it came to price-setting there was a legislative regulation too, assuring the consumers that the prices of electricity should cover the producers’ costs, but were not allowed to maximize their profits (Hjalmarsson and Viederpass 1992; SOU 2005 # 4: 157-59).

After the deregulation, the regulating instruments are more strictly regulated by law and decrees, and not by the old ‘Swedish model of cooperation’. The regulating governmental authority, Energimyndigheten, receives its obligations from the Swedish government through annual so-called regulating letters, *Regleringsbrev* (cf. the PIQUE report on the Swedish postal services). The regleringsbrev are very detailed and do not only regulate issues of competition and security, but also how to support research and the introduction/diffusion of alternative power sources, especially wind power stations. All EU laws and decrees have been inaugurated into the national Swedish legislation and are thus also covered in the regulating letters.

Table 2: The fields for regulation in the Swedish electricity market before and after the liberalization

	Before the process of liberalization	After the process of liberalization
All three levels	Regulation by the state in cooperation with ‘clubs’ with self-imposed regulatory responsibility.	Regulation through regulating letters from the government to the governmental authority Energimyndigheten, which in turn can delegate some responsibilities to affiliated bodies.

### 2.2. Regulatory actors

When the clubs’ regulating role was discontinued, Energimyndigheten became the new authority to control the market(s). As described above, Energimyndigheten’s control of the transmission means is carried out through Svenska Kraftnät. In the other,

competition-exposed markets some control authorities are delegated to another body within Energimyndigheten, *Energimarknadsinspektionen* (the Energy Markets Inspectorate). In its own words, Energimarknadsinspektionen:

*is an expert authority that ensures that the Swedish network operation on the Swedish electricity and natural gas markets is run efficiently, that network tariffs are reasonable and that the network operators comply with the laws and regulations issued in the field. More about us and the other tasks that we have, you can find out on these pages* (Energimarknadsinspektionen, homepage, January 2007).

Another of Energimarknadsinspektionen's tasks is to facilitate the integration of the Nordic electricity markets, a process that has been going on ever since the liberalization of the Nordic countries' internal markets in the 1990s. Still regulation is strictly national, though. Yet, the importance of the strive for Nordic integration must not be underestimated. According to Berg (1999) there were mainly three driving forces behind the liberalization of the Swedish electricity market: the wish to adapt to the free-market policies within the EFTA and the EU; the opening up of the other Nordic countries' markets, in particular the Norwegian liberalization in 1991; and a 'strong political desire' to liberalize and privatize public-owned properties. The last factor is likely the most important one and discussed further in section 4 below. Of the other two, the urge to create a Nordic common market for electricity has, at least in practice, no doubt been a stronger driving force than the strive for an adaptation to EU policies.

### 3. OWNERSHIP RELATIONS

As we have seen, there have been three totally dominating owners after the opening-up of the sheltered electricity market in the mid-1990s: Vattenfall, E.On (Sydkraft) and Fortum. As mentioned, the most influential company, Vattenfall, is a public-owned joint-stock company. This means that the Swedish state still owns all shares, but that the company shall be run and regulated in line with how private-owned enterprises are run, not as a governmental authority.

E.On/Sydkraft is since 2001 a subsidiary to the German-led E.On group, i.e. registered for stock exchange in Frankfurt and New York and with its headquarters in Düsseldorf (just as the Hans Böckler Stiftung). It is therefore difficult to tell the exact figures for the ownership of E.On Sweden, but on the other hand, it is neither particularly important in this case. The Swedish government does not own any stocks in the company, nor does any important Swedish investment groups.

The third important owner, Fortum, is today the biggest overall company in electricity in the Nordic countries. The headquarters is in Espoo, Finland where it is listed on the Helsinki Stock Exchange. Neither in this case is it possible to tell the exact ownership figures for the activities in Sweden. Yet, among the Swedish subsidiaries, there are one state-owned company (*Svensk Naturgas*) and one joint corporation with the City of

Stockholm (*AB Fortum Värme*). None of these companies can however be said to have any important influence on the overall actions of Fortum in Sweden.

#### 4. *ROLE OF GOVERNMENT AND STAKEHOLDERS*

Despite the impact of big foreign companies and the governments of the other Nordic countries, it is barely correct to say that those interest groups had any important influence on the liberalization *process*. All important stakeholders in process in the 1990s belonged to the political establishment and the big political parties. As in the opening-up of the other sheltered markets, the Swedish Employers' Confederation (SAF, from 2000 the Swedish Confederation of Enterprise, SN) was as always in favour of the liberalization of the electricity market(s), but there were no strong lobbying for the transformation; neither was it necessary, due to the political consensus. Neither were there any serious protests heard from trade unions or other social movements.

The idea of an opening of the sheltered markets for competition was first brought up in the 1980s, under a social democratic government. Yet, the idea was not really put into practice until a new, centre-right government came in office in 1991. The ideological foundation for the marketization was the bourgeois<sup>3</sup> parties' joint campaign programme before the general election 1991. The programme was strongly influenced by neo-liberal thoughts and the whole campaign was carried through holding out the bright prospects of a new, liberal society based on individual freedom, private entrepreneurship and low taxes. All remains of the classical Swedish welfare state were declared outmoded by the bourgeois parties and therefore obstacles to renewal and vitalization. When the bourgeois coalition won the election there was consequently a well paved road for the privatization of public property. It must however be kept in mind that when the Social Democratic Party got back in office three years later, after the general election in 1994, the new government did nothing to reverse the process (Lindvall 2004).

Still, a recent so-called public investigation of the effects of the liberalization on prices, *Regelutredningen*, has argued that the process was also to a very large extent characterized by many small changes which step by step transformed the infrastructural markets; it is, according to the investigation, not correct to knit the changes together solely with the 1991-94. Government and there are no actual government bills or parliamentary decisions that can be pin-pointed as the start for the liberalization; the reforms were rather 'muddling through' the old system little by little (SOU 2005 # 4: 150-52). Furthermore, the reforms also took off during the biggest economic crisis in Swedish post-war history and *Regelutredningen* emphasized the crisis as a main driving force behind the reforms, a force more important than ideology. When the reforms were launched in the early 1990s, Sweden had, *Regelutredningen* argued, for more than a

<sup>3</sup> It is usual that the centre-right parties, which all refer to themselves as 'bourgeois' (*borgerliga*) form a joint coalition in the election campaigns. The parties are the Conservatives (*Moderaterna*), the Liberals (*Folkpartiet*), the Agrarians (*Centern*) and the Christian-Democrats (*Kristdemokraterna*). It must be emphasized that while the term 'bourgeois' in some countries might be politically charged, i.e. thought of as a part of Marxist jargon, the Swedish direct translation '*borgerlig*' is totally neutral and only descriptive, used by followers as well as political opponents.

decade suffered from high inflation, low economic growth, low productivity and low national savings. The reasons for a reformation were therefore more pragmatic than ideological (SOU 2005 # 4: 152-54).

Be that as it may, all reforms *did* actually take off during the bourgeois government in the early 1990s. Even the 'pragmatism' pointed out by Regelutredningen had its ideological roots; it was still a highly ideological statement that the best solution of the problem was liberalization and privatization. The idea of the self-regulating market is not an unquestionable empirical finding, it is a statement impregnated with ideological values based on neo-classical, microeconomic theory which in turn is a precondition for neo-liberal politics (cf. Keen 2004). Such a politics was driven by the bourgeois government 1991-94, but had been more difficult for a Social Democratic government to carry through, no matter if the Social Democrats had liked it or not.

The growing costs for public services had been noted as a problem ever since the oil crises in the 1970s, but the problem got more vividly discussed in the 1980s, when the Swedish economy obviously suffered from decreasing productivity. In the words of Lars Pålsson Syll (2001: 76-78), the mid-1970s was an important historical turning-point, since economists successively replaced politicians, social workers, medical service experts etc. as the dominating agents in the public welfare discourse. Based on neo-classical microeconomics, those economists began arguing that the public sector should be run after the same principles as a company is run, and that former 'clients' or 'patients' should instead be treated as well-informed 'customers'. These ideas spread rapidly and in 1989 the Social Democratic government launched a public investigation of the weak productivity, an investigation that was finished two years later. The main task for the investigation group, led by the right-wing neo-classical economist Assar Lindbeck, was to analyze manufacturing and services in the private sector, but public services were also discussed (SOU 1991 # 82). Ever since, this so-called 'productivity investigation' has been highly influential for the political debate in Sweden, and it is also a very salient feature of the take-over of the public welfare discourse by economists, pointed out by Pålsson Syll. Theoretically it was so deeply rooted in neo-classic microeconomics that it denied any fundamental differences between manufacturing and services; measures to increase productivity in private-owned manufacturing companies should also be applicable to public sector services.

The investigation therefore pin-pointed the public ownership itself, too strong reliance on tax funding, outmoded hierarchic management organizations, and most of all, lack of competition as the main hindrances to productivity increases in the public sector in general and in health care in particular. To turn the productivity back on track again, it recommended cost cuttings and exposure of sheltered businesses to competition as the best measures (SOU 1991 # 82: 335-42). Many of the fundamental ideas of the public investigation were repeated three years later in a special investigation from the ministry of finance of the long-term productivity development in the Swedish public sector (*Finansdepartementet* 1994). In the case of the electricity industry, retail prices have increased since the opening-up of the market, while employment has decreased and the produced volume has remained at approximately the same level as before (SOU 2005 # 4: 48). Seemingly there is also a trend towards stronger concentration of ownership and market shares. If liberalization and privatization is the answer to problems in the public sector, the electricity industry still has a lot to prove.

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