

REFORM IN THE RAIL AND ELECTRICITY SECTORS IN RUSSIA: RESTRUCTURING, COMPETITION AND THE MINISTRY FOR ANTIMONOPOLY POLICY

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The Russian Federation is in the process of making major structural changes to its railway and electricity sectors. Both sectors will be at least partly vertically disintegrated, with the aim of creating competition in the “upstream” sector while maintaining state ownership and control of the monopoly “grid”. This paper examines the details of reform and restructuring in the context of the international experience with reform and restructuring in these two sectors, and considers the role of the Ministry for Antimonopoly Policy in reform, both in the past as an “advocate for competition” within the government, and in the future as the guarantor of non-discriminatory access to the grids by non-integrated upstream producers.

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Of all the possible roles for an antimonopoly authority to play in a transition economy, that of “competition advocate” is probably the most universally recommended. Domestic manufacturers have their policy advocates in a country’s Ministry of Industry; farmers have their advocates in the Ministry of Agriculture; who is the advocate for competition and for consumers if not the antimonopoly authority? From the beginning, there have been fears expressed that traditional antimonopoly law enforcement might be, or might become, counterproductive in a transition context: that abuse-of-dominance prevention would in practice become control of prices and protection of inefficient competitors, for example, and that merger control would penalize foreign acquirers, impose extra-

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neous conditions on transactions, and delay efficient reorganization (Godek 1991, 1998; Starodubrovskaya 1994; Waller 1994; Williams and Rodriguez 1995). In contrast, there has been virtual uniformity in recommendations that young competition agencies act as “competition advocates”, devoting resources to the analysis of anticompetitive government rules, regulations, and actions, to the persuasion of other political and regulatory authorities to remove these barriers to competition, and to making recommendations regarding the reform and restructuring of the traditionally government-owned infrastructure enterprises (Slay 1996; Kovacic 1997; World Bank and OECD 1999; Fuente 2002).

Indeed, in some countries – including Romania, Russia, and Ukraine – the law calls for the competition agency to take direct enforcement action against other agencies of government, including those of state and local governments, that harm competition, though such provisions have not been very effective in practice (Boner 1998; Clark 1999). More common has been the antimonopoly authority as backstop regulator: virtually every post-socialist country created an antimonopoly authority in the early or middle stages of setting up a liberalized economy, but the creation of independent or quasi-independent agencies to regulate the behavior of “natural monopolies” has come much more slowly, and the antimonopoly authorities have typically stepped into that breach, more or less willingly, using the abuse-of-dominance provisions of the competition laws as crude regulatory instruments (Ordovery et al. 1994; Fingleton et al. 1996). All the while, competition agencies in transition countries have sought to influence government decisions regarding privatization, liberalization, and deregulation in procompetitive ways.

In Russia the pattern has been no different from other transition countries. The Russian antimonopoly authority is actually a ministry – unlike in most countries around the world, though the Czech Antimonopoly Office had ministry status for a number of years – but in other respects it resembles the authority in Hungary and many other Central and Eastern European countries: it is a quasi-judicial body that enforces an antimonopoly law using its own investigative staff and adjudicative structure; it can issue rulings, orders, and fines that are enforced by the court system; and its rulings may be appealed to the courts by the subject enterprises. Articles 7 and 8 of the Russian antimonopoly law prohibit actions by agents of the federal or local governments that harm competition, particularly by discriminating in favor of local enterprises and against distant enterprises (Shastitko and Fomina 2000). However, in this as in other respects, the central authorities in Moscow have been relatively powerless against strong regional governments (Shleifer and Treisman 2000; Polishchuk 2001). Similarly, although the Federal Energy Commission was first created in 1992, only one year after the

enactment of the antimonopoly law, most electricity rates were in practice controlled by regional authorities, and the additional independent regulatory agencies called for in a 1995 presidential decree are still nowhere to be seen.¹ Currently both electricity and rail rates are broadly determined by the Cabinet and implemented by the antimonopoly authority, though a transition of responsibilities is being attempted to a twice remodeled Federal Energy Commission, now termed the United Tariff Organization.

However, in Russia as elsewhere, the infrastructure sectors of the economy are undergoing significant reforms. Ministries that combined the functions of service provider, policymaker, and regulator have fallen out of favor, and efforts are underway to create privately owned services companies that would be regulated by state authorities. Sectors or portions of sectors that were traditionally operated as government-owned or closely regulated “natural monopolies” are in the process of being opened up for competition (Newbery 1999; Pittman 2003a). Antimonopoly authorities, as the government’s experts in competition, may be expected to play a significant role in the policy deliberations as to how competition can be created and preserved in these formerly monopolistic sectors.

This paper begins with a short examination of the most important economic questions raised by the debates on infrastructure liberalization and reform. We proceed to examine the process of reform in the rail and electricity sectors in Russia, the two Russian sectors that are the subject of the lion’s share of current reform debate and energies (see also OECD 2001). For each sector, we begin with a background examination of the state of the reform debate and experience in other countries. We proceed to describe the sectoral reform plans adopted by the Russian government and approved by the *Duma* (the Russian Parliament), evaluating these in the context of the international reform discussion. Then we focus on the role of the Ministry for Antimonopoly Policy and Support of Entrepreneurship (MAP), both in the recent past as an advocate for competition, and in the future as one of the creators and protectors of competition. Much of the information in the paper was acquired from the author’s discussions with Russian specialists and experts, but where possible I have cited to English-language written sources as well.

¹ Presidential Decree No. 220, “On Certain Measures for the State Regulation of Natural Monopolies in the Russian Federation”, 28 February 1995. See Capelik and Wilson (1995); Slay and Capelik (1997).

1. BACKGROUND: INFRASTRUCTURE LIBERALIZATION AND REFORM

The broad and intensive period of debate concerning regulatory reform is perhaps forty years old now, and a number of issues may be regarded as largely settled, at least among economists. First, there is a broad presumption that markets work well, and that government regulation should be substituted for the workings of the market only where there are both a clear “market failure” and a clear likelihood that a government agency can do better. Second, there is widespread acceptance of the general empirical finding that privately owned enterprises are more efficient than government-owned enterprises, and that this is more rather than less obviously true in developing and transition countries than in mature market economies. Third, there is widespread understanding that rate-of-return regulation offers rather low-powered incentives for efficient operation of the regulated enterprise and may in many cases usefully be replaced by higher powered incentive systems such as price caps or yardstick regulation. On the other hand, there are situations where either the high shadow price on government funds, the political unacceptability of the earning of large profits by an infrastructure operator, or the inability of the government to otherwise commit to allowing a normal level of profits to the infrastructure operator may make low-powered incentive schemes appropriate.

Probably the most important area where a consensus is lacking – and where I believe that what consensus does exist is premature – is that of infrastructure enterprise restructuring. In virtually every infrastructure sector now there is at least one subsector – what I shall call here the “upstream” sector – where competition may be possible, and has been introduced somewhere in the world. There are strong arguments in favor of having multiple electricity generation enterprises competing to supply customers with the most reliable power at the lowest rates, and similarly for multiple producers of natural gas, multiple freight train operators, multiple mobile telephone service providers, and so on. At the same time there is compelling evidence that in each of these sectors an element of “natural monopoly” remains, a high-fixed-cost “grid” sector where it would be wasteful and unproductive to try to create or maintain competition: respectively, long-distance electricity transmission, long-distance gas pipelines, the track and signaling infrastructure of the railways, and local fixed-wire telephone service.

Although these four sectors differ a good deal from each other (as well as from other infrastructure sectors), the appeal of relying on competition wherever possible and the desire to avoid the need for day-to-day regulation to prevent discrimination, favoritism, and cross-subsidy has led to a fairly strong presumption among economists and competition law enforcers in favor of complete ver-

tical separation of these sectors: there will be competition in the upstream sector, with regulated terms of access to the monopoly grid structure, and no ownership connections between the upstream sector and the grid. Among the strongest advocates for complete vertical separation has been the competition enforcement agency of the European Union, Directorate General (DG) IV.²

Nevertheless there is also a strong dissenting view, articulated by Newbery (1999), myself (Pittman 2003a), and others (e.g., World Bank 2003), that differences among the sectors, as well as differences among countries at particular stages of transition and development – especially differences in regulatory structure, experience, and capability – may dictate different reform strategies. Some upstream sectors seem more likely to be able to support workable competition than others (electricity *vs.* freight railways, for example). In some sectors it seems to be easier for a regulator to detect and prevent discrimination by a vertically integrated infrastructure enterprise against nonintegrated upstream competitors than in others (freight railways *vs.* telecoms). In some sectors the losses of economies of integration, both static and dynamic, seem to be relatively more serious than in others (railways and telecoms *vs.* gas). These factors and others would seem to create at least a rebuttable presumption that in some situations vertical separation might indeed be the appropriate reform plan, while in others vertical integration with upstream competition might yield a more efficient solution, and in still others some types of competition among vertically integrated enterprises might be preferable.

We shall discuss some of these alternative reform strategies in the context of the two specific infrastructure sectors under discussion here: freight railways and electricity. Nevertheless, as will be seen, the model of complete vertical separation continues to provide the blueprint for reform in both of these sectors in Russia, as in other sectors and in other countries.

2. FREIGHT RAILROADS

2.1 The international experience

The principal freight railroad reform model under serious consideration for the past two decades around the world has involved partial or complete vertical separation of the sector. The infrastructure – the track, signaling, stations, and so forth – would be treated as a “natural monopoly” or “essential facility”, with the gov-

² See, e.g., on electricity Monti (2002a), and on railways Monti (2002b) and Bennett (2002).

ernment enforcing “non-discriminatory” terms of access to the infrastructure to enterprises wishing to operate trains. Competition would result from these independent operators of trains offering competing service to shippers. Ideally, this competition would allow the freight rates themselves to be set freely and without government intervention or approval, though, unless there were competition from other transport modes, regulation of the terms of access to the infrastructure would remain.

Whether this reform model should require *complete* vertical separation, with the infrastructure operator forbidden from operating trains, remains a matter of some dispute among advocates of this model, though competition authorities have argued with increasing force that only complete separation will insure non-discriminatory access and so permit effective competition among train operators (Monti 2002b; Pittman 2003c). Nevertheless, in some countries the progress towards railways reform has appeared to be in the direction of maintaining a vertically integrated train and infrastructure operator while allowing entry by other train companies and seeking to prevent, through regulation, discrimination against those entrants by the integrated operator (Huyen 2001).

As I have noted elsewhere, this model has been something of a disappointment in practice (Pittman 2001; 2003a; 2003b; Marcon 2001; *Wall Street Journal* 2001; *The Economist* 2002). Whether vertical separation has been complete (the UK, Sweden) or only organizational (Germany), freight train operations have continued to be dominated by a single carrier facing little competition. Track access charges have not been sufficient to replace government subsidies for infrastructure maintenance (Huyen 1998, Pittman 2003b). Perhaps most seriously, vertically separate infrastructure operators do not appear to receive good economic signals and incentives for maintenance and investment projects, and technological improvements may be slowed if they require complementary investments in rolling stock and infrastructure (Siegmann 2001).

This “vertical access” model of railroad reform has been associated with Europe, in part because it has been codified as the model for railroad reform in the European Union.³ Reforms in the Americas have taken a different direction. In general, as government-owned monopoly railroads have been reformed and restructured in Latin America, restructuring models that maintain vertical integration – somewhat similar to the US and Canadian models – have been favored, with efforts to create both “parallel competition” – multiple railroads serving the same origin-destination pair – and “geographic competition” – multiple railroads competing to haul cargoes to or from a particular point, but in different directions. Important and generally successful railroad reforms following this model

³ See, for example, Directive 2001/14/EC.

have been undertaken in Argentina, Brazil, and Mexico (Kogan 2002; Estache et al. 2001; Garcia de Alba 2002). In both Brazil and Mexico – Argentina having its own special problems now – a very quick and direct result of restructuring has been the replacement of huge annual government subsidies with both payments of taxes and private investments of hundreds of millions of dollars in the infrastructure.

Nevertheless the “vertical access” model, with continuing differences of opinion as to whether there should be vertical separation as well, does constitute the mainstream reform model for the railway sector, so there is nothing particularly surprising or disappointing about the fact that the MAP has been an advocate for it in Russia.

2.2. Reform plans in Russia

The Russian railway reform plan traces its roots back to generalized dissatisfaction with the performance of the country’s “natural monopoly” sectors in the mid-1990s, and a direction by President Yeltsin to Railways Minister Nikolai Aksyonenko in 1997 to “draw up a reform plan that would increase the transparency of ... spending and operations while bolstering ... profitability” (Startseva 2001). Eventually a ten-year reform plan for the railway was approved by the Cabinet in 2001 and enacted by the *Duma* in early 2003, a plan that is based on the vertical access model but that becomes increasingly flexible in the details the further out one goes in the ten-year time frame.

The reform plan is divided into three time periods. For our purposes, the principal goals and activities of each time period may be summarized as follows:

First stage, 2001–2003:

- formal creation of the operating company, Russian Railways Company (OAO RZhD), which remains state-owned;
- complete separation of this operating company from the regulatory and policymaking functions of government agencies, especially the Ministry of Railways;
- divestiture from the operating company of “non-core”, “non-commercial” assets and activities (schools, hospitals, hotels).

Second stage, 2003–2005:

- creation of subsidiary companies within Russian Railways for freight hauling, long-distance passenger, commuter passenger, construction and repair, and infrastructure;

- implementation of non-discriminatory infrastructure access conditions for independent train operators;
- beginning of sales of some rolling stock and locomotives to these independent train operators;
- implementation of a transparent structure for government subsidies (replacing the current cross-subsidies from freight operations) to support passenger operations.

Third stage, 2006–2010:

- partial or complete privatization of non-infrastructure subsidiary companies;
- creation of competitive market for freight and perhaps long-distance passenger operations.

It is clear that some degree of vertical separation is contemplated here, but the details of just how the system would operate at the end of reform in 2010 remain sketchy. Initial drafts of the reform laws would have specified that private companies could never control the infrastructure, even under long-term franchise agreements, leaving the track infrastructure completely and irrevocably under the day-to-day control of the government or a government enterprise. However, this provision was removed from the final legislation, and the Russian Railways website lists as one component of the third-stage reform “to estimate the opportunities of setting up several railway companies, competitive and vertically integrated” (*Russian Railways* 2002).

On the other hand, in conversations with the author, Ministry of Railways officials have stated that the latter provision is meant to apply to secondary and feeder sections of track only; that is, the main lines of the Russian railways system will never leave direct government control. This may be one of the many ambiguities of the long-term plan that remain to be clarified as time progresses. The stated intention of the government remains the ownership and control of the entire infrastructure and one-half of the rolling stock when the reform period is completed (Startseva 2003a). At the same time, Railways Minister Fadeyev and Deputy Minister Belova insist upon that private train operators are being encouraged (though for the moment almost exclusively with locomotives owned by the Russian Railways Co.), principally from the large set of enterprises currently shipping by rail that have private track systems within their own production complexes (Holt 1993; Startseva 2003b).

An additional set of uncertainties concerns the great geographical diversity of Russia. Rail reform policies that are appropriate in the areas west of the Ural

Mountains, where population, economic activity, and rail coverage are all relatively dense, may be less appropriate east of the Urals. In particular, there are a number of options under active consideration for long-haul container routes via rail that would replace the existing slower water routings from the Russian Far East, Korea, Japan, and China to Europe (see, e.g., Tsuji 2002a; 2002b; 2003; and more generally the Trans-Asian Railway homepage, at <http://unescap.org/tctd/tar/index.htm>). The resulting high volume of transit traffic, coupled with the lack of density to support competition in local service, suggests that some form of infrastructure access by competing independent train operators will be the appropriate reform model for the Siberian rail infrastructure.

On the other hand, it may well be that Russia west of the Urals can support a number of vertically integrated rail companies, competing with each other over parallel routes or geographically, investing in their own infrastructure under very long-term franchise arrangements, along the lines of the thirty-year agreements in Argentina and Brazil and the fifty-year agreements in Mexico (Pittman 2001). The rail network in European Russia (that is, west of Omsk but excluding Kaliningrad) has over sixty thousand route-kilometers, easily sufficient to support on the order of six vertically integrated railways according to the estimates of economies of density and system size in the literature (Bitzan 2000; Preston 2001).

So while a reform plan for the Russian railway system is underway, there is much about the plan that remains to be determined.

2.3. The role of the Ministry for Antimonopoly Policy

The most important activities of the MAP in the area of railways regulation and reform can be divided into three areas: *the overall reform plan, the setting of tariffs, and conditions for access to the rail infrastructure by independent train operators*. Let us consider each of these in turn.

The MAP has by all accounts not played a very important role in *the creation and enactment of the legislative reform package*. (Its predecessor agency played an important role a number of years ago in the writing of a broad Law on Natural Monopolies, but this law does not appear to have been a significant part of the discussions for reform of the railway or, for that matter, the electricity system.) News accounts of the reform process describe a process of both collaboration and struggle between the Ministry of Railways (MR) and the Ministry of Economic Development and Trade (MEDT), whose minister, German Gref, has been in the recent past the most forthright government advocate of economic liberalization

generally. Such accounts typically do not mention any role played by the MAP, and the absence of an important MAP role is confirmed by my interviews with participants and observers in the process, in government and out.

In general, say these observers, the MAP has participated in government deliberations on railways reform and has favored reform, in particular the standard liberal reform package of vertical separation of the railways. Certainly one force behind the MAP's support for change has been its experience in trying to prevent anticompetitive behavior by the current railways monopoly. A MAP section chief told me that the MR has been the most frequent violator of Article 7 of the antimonopoly law, one of the two articles addressing restrictions on competition by government agencies, and that the MAP files at least ten cases against the MR each year, alleging such violations as illegal limitation of access to shipping services, interference with the activities of independent enterprises, and inappropriate pressures on suppliers. Another source (Shastitko and Fomina 2000) reports that the MR is a frequent violator of pricing regulations. At least the first two of these four types of violations are behavior that vertical separation of the rail sector would arguably help to correct.

The inability of the MAP to play a stronger role in the deliberations on reform – while not at all unusual in international experience – is allegedly at least partly owing to one particular disadvantage under which the MAP has labored: a shortage of available qualified specialists, in turn largely owing to the very low enterprise size threshold for prenotification of prospective mergers to the MAP and the substantial paperwork required in processing the prenotification materials. With the MAP employing more than two thousand staff members, it might seem that it could allocate a few high-quality staff members to participate in inter-agency reform discussions, but I heard about this resource constraint from several sources. A separate problem, also not unusual among the antimonopoly authorities of the world, and especially the post-socialist world, is that the MAP cannot pay salaries anywhere near high enough to retain any qualified experts that it manages to hire. It is not clear, though, why this should be a more serious problem for the MAP than it is for the MEDT, which has apparently managed to find the skilled people necessary to play an important role in the reform deliberations (Korchagina 2003).

An additional drain on the resources of the MAP available for discussions of infrastructure reform has been the agency's role as a *quasi-regulator of tariffs*, in this and other infrastructure sectors. Again this is similar to the experience in other post-socialist countries (Ordovery et al. 1994): the Russian antimonopoly authority was created long before there was an effective regulatory agency that could control tariff increases by the railroad and electricity monopolists; in fact that day has arguably still not arrived. With no regulatory alternative besides the

operating ministries, the MAP became the tariff regulator of last resort under the abuse-of-dominance provisions of the competition law. Eventually the limitation of increases in infrastructure tariffs came to be seen as an important component of macroeconomic stabilization policy, and the entire Cabinet took over the approval of requests for overall tariff increases, seeking to balance the needs of the operating ministries for funds against the desires of policymakers for price stability.⁴ Still the MAP has the important and labor-intensive responsibility for preventing abuses and evasions in the day-to-day implementation of these decisions by the MR.

This problem is probably in the process of being solved, and certainly with the support of the MAP. In September 2001, President Putin signed a decree creating a new Federal Energy Commission, which was to take control over the implementation of the government's tariff decisions in the energy, railway, telecoms, seaport, and postal sectors (Koriukin and Startseva 2001). Unfortunately the FEC immediately set about allowing significant increases in energy tariffs, a policy with strong analytical backing but no political backing, and it promptly found the government overruling its decisions (Startseva 2002a). More recently, however, the FEC has been transformed into the United Tariff Organization, which retains most of the tariff-setting powers nominally given to the FEC except for telecoms rates. In any case, it appears that the policy of creating and actually utilizing an independent regulatory body for both railroads and electricity has some momentum, and the MAP will likely be relieved of these day-to-day responsibilities (Yanovskiy 2003). As in other post-socialist countries, any policy change that moves the antimonopoly authority further away from price regulation is to be welcomed.

This leaves as the most important activity of the MAP in the liberalizing railways sector *the protection of non-discriminatory access to the infrastructure* on the part of independent train operators – and more generally the overall protection of competitive conditions among train operators. By all accounts this is the area of policymaking and legislative drafting regarding railways reform that has been the MAP's exclusive responsibility, and this reflects the important role that the MAP will have to play if and when the railway sector is vertically restructured. The MAP drafted the relevant legislative provisions, and is preparing to

⁴ Here is Prime Minister Mikhail Kasyanov's comment on the topic in December 2002: "It is important, on one hand, that the decision[s] on changes in tariffs do not have a negative impact on the financial state of businesses and do not lead to an unjustified rise in consumer prices. But on the other hand we should guarantee the satisfaction of the financial requirements of the infrastructures of the natural monopolies and the financial resources that are vital for them to operate properly" Startseva (2002b).

implement and enforce them. In addition, one of the amendments to the Russian competition law proposed by the MAP and enacted last year was directly aimed at increasing the agency's ability to target the provision of unequal access to essential facilities, namely the addition to Article 5 of the following as a specific example of the abuse of a dominant position: "creation of the conditions of entry on commodity markets, of exchange, consumption, buying, production and selling of goods, that discriminate against one undertaking in comparison to the other" (Avdasheva and Shastitko 2003).

A particular manifestation of this problem – so far observed only in Brazil, I believe (Estache et al. 2001) – is the danger of a dominant regional manufacturer buying a dominant regional train company in order to place its manufacturing rivals at a disadvantage. With the railway sector's need for private investment, it is not likely that policymakers will want to be particularly selective regarding which investors are permitted to own and operate train companies. One aspect of the need for the MAP to create and preserve competition in the train sector will be the necessity of preventing this type of use of the train sector to weaken rivals in train-using sectors.

All of this will not be an easy task. As noted above, for reasons of national security policy, the Russian government has committed to maintaining a significant presence in train operations in any portions of the railways sector that are opened for entry, including maintaining ownership of 50% of all rolling stock (apparently maintaining this minimum if and as the total level of rolling stock increases). Whether or not a "Russian Railways Freight Train Company" is formally separated from a "Russian Railways Infrastructure Company", experience in other countries suggests that it will be very difficult for a regulator to prevent the infrastructure company from providing discriminatorily favorable access terms to its former sister, the train company. As a general proposition, the MAP has a fairly weak enforcement record – in no small part because of the overall weaknesses of the Russian judicial system (Yanovskiy 2003) – and there is no particular reason to expect that it will be more successful or powerful against these two strong companies than it has been against others (Avdasheva and Shastitko 2003), or against a strong regional aluminum, steel or coal company that wishes to place its competitors at a disadvantage regarding access to transport.

Still it is probably the right agency of the Russian government for the job, and this responsibility can be used as one further argument for increasing the resources and strengthening the capabilities of the agency. A survey of enterprise managers by the Institute for the Economy in Transition lists "high transport costs" as the single largest impediment to competition, particularly in forest products (including pulp and paper), construction materials, and metallurgy (IET 2001). The MAP has reportedly already won an early battle over access with the MR with

regard to whether the newly legislated principles of non-discriminatory access to infrastructure would apply to privately owned as well as publicly owned infrastructure. The MR argued that there was no need to expand the principle beyond publicly owned infrastructure, since there was not likely to be any significant building of infrastructure by private companies. The MAP won this argument, and in fact there is already one private aluminum company in the Komi Republic constructing its own new rail infrastructure (Cottrell 2002).

3. ELECTRICITY

3.1. The international experience

In Russia and in the rest of the world, too, the restructuring project in the electricity sector is further along than the restructuring project in the railway sector. The UK was the world's pioneer here, as the Conservative government combined sector privatization with complete vertical separation of generation, transmission, and distribution functions in 1989. Within eleven years, a large portion of the rest of the world had followed suit: the need to attract private investment to fund growing energy demand led to significant degrees of vertical restructuring and significant levels of private-sector participation in both the OECD countries and Latin America (Briceno 2002). (Africa and the countries of the former Soviet Union are farther behind, with the countries of Central and Eastern Europe somewhere in between – Newbery 1994.)

Then came the summer of 2000, and the California experience. There had been hints of problems in other places earlier; in the UK, for example, there was a steady drumbeat of criticism arguing that the restructuring process had created a generation sector dominated by only two private enterprises, each of them therefore enjoying a significant degree of market power, and the British have been trying to create more competition in generation ever since (Newbery 1999). But it took the billion dollar disaster in California to demonstrate the Achilles heel of electricity restructuring: that the combination of very inelastic demand (so long as most users lack real-time metering) and very inelastic supply with non-storability of the product can lead to huge price fluctuations, and can give an enterprise with even a fairly small share of a generation market enormous market power if it happens to control a marginal unit at the right time (Blumstein et al. 2002; Borenstein 2002; Borenstein et al. 2002; Joskow 2001).

In particular, it is worth emphasizing that the post-reform generation market in California looked workably competitive by any of the usual standards. The 30–40% of the state's power generation that was gas powered, was divided among

five companies, each with between 6–8% of the state's generation capacity. As it turned out, however, gas generation was nearly always the marginal technology during the period of the crisis, and enough of the gas capacity was inframarginal at any given time that individual companies had the incentive and were able to exercise significant degrees of market power (Borenstein 2002).

The California experience has brought a good deal of the electricity sector restructuring activity around the world to a halt, as governments and policymakers try to understand its lessons. However, as with the rail sector, it remains safe to say that some version of the “vertical access” model is still the mainstream reform model around the world. Also as with the rail sector, there remain differences of opinion among analysts as to whether this model is best accompanied by complete vertical separation, in this case between the generation and long-distance transmission sectors (Kennedy 2002). There is also an ongoing debate among advocates of the access model between those who favor the “single buyer” model – where all generators sell power into a single “pool”, whose power is transported by the grid operator to final customers – and those who prefer the “wholesale market” model, where final customers can sign supply contracts directly with generators, and the grid simply transports the power, as a common carrier, at a regulated tariff. (The evidence of Briceno 2002 favors the latter model, based on the experience so far.)

In fact there is not really even a strong alternative to the “vertical access” model in the discussions of electricity reform, as there is with the Latin American model in railroad reform; in spite of some parallel issues which might argue for trying a similar arrangement in the electricity sector, I know of no country that has done so (Newberry 1999; Pittman 2003a; 2003d). In Russia, presidential economic advisor Andrei Illarionov has argued for such a model,⁵ but this view is clearly very different from the government's reform policy.

3.2. Reform plans in Russia

As noted above, Russia is similar to the rest of the world in that the restructuring of the electricity sector has proceeded further than has that of the railway sector. Having said this, it must be acknowledged that Russia has not moved as far in electricity restructuring as most OECD (or, for that matter, Latin American) countries. A series of presidential decrees in 1992 established the joint-stock com-

⁵ Conversation with the author at the Seminar on “Post-Soviet Russia in Transition: Electricity Reform”, Carnegie Moscow Center, Carnegie Endowment for International Peace, 6 February 2003.

pany RAO-UES, 52% owned by the government, as the owner of most of the large and medium-sized thermal and hydro generation assets, the transmission grid and dispatch facilities, and majority or minority stakes in the 70 regional integrated generation and distribution companies (the “energos”). However, it was not until July 2001 that the government finally announced its plan for sector restructuring, including complete vertical separation, and not until February 2003 that a revised plan passed the crucial second reading in the *Duma*. The principal components of the reform plan adopted by the *Duma* are the following:

- A single, government-controlled joint-stock company will own and operate the nation’s long-distance transmission grid.
- A second joint-stock company will be the system operator for the unified system.
- Like the dispatch function, local distribution companies will be separated from the transmission grid.
- The RAO-UES generation assets will be divided among about ten generation companies, with no single generation company permitted to control more than 35% of generation capacity in any single “price zone”. (The country is currently divided into seven price zones.)
- The energos will be vertically separated, with their grid components becoming part of the national grid and their generation assets made part of private generation enterprises.
- As in many other transition countries, nuclear and hydro generation assets will remain under government control.

As with Russia’s rail restructuring plan, there is a good deal about the electricity sector restructuring plan that remains vague, uncertain, and subject to government discretion. The timing of the steps of the plan is generally not specified, and the degree to which actual liberalization is permitted in particular locations – for example, freeing of wholesale prices or creation of true wholesale markets – depends on when and whether the government decides that the location is ready for this step (*Russia Journal* 2003).

There are at least four major points in the plan that remain quite controversial. The first is the structure of the generation markets being created. It is clear now that the dangers of both collusion and unilateral anticompetitive behavior in generation markets are greater than was first realized. Yet those outcomes seem a very real possibility – probably the most likely scenario – in a liberalized Russian electricity sector. The 35% regional generation market share ceilings clearly provide little or no protection, given how much smaller were the shares of the generation enterprises that exercised market power during the crisis in California. (The possibility that the same firms may control 35% of generation assets in

multiple regional markets means that they may have even less incentive than otherwise to compete aggressively in any individual regional market.) Russia's economy remains by most accounts controlled by a small group of "oligarchs" and industrial groups, and it is widely feared – even assumed – that privatized regional generation markets would be controlled by one or more of these oligarchs or groups.⁶ Two very recent events have apparently made this outcome a near certainty:

- a final decision by the board of directors of the RAO-UES that only shareholders of the company will be allowed to bid for the large-scale generation assets that are to be spun off from the company; and
- the purchase, within about a week's time in May 2003, of most available RAO-UES shares by "major financial and industrial groups with interests in aluminum, coal and even oil" (Startseva 2003d).

The world experience has demonstrated how costly to society such an outcome may be, and this experience has been in countries, like the US and the UK, with much stronger sectoral and antimonopoly regulators than those operating in Russia.

In fact the UES is already causing concern among policymakers and other observers with its announcement that it is holding discussions with Germany's largest electric utility, E.ON, for that company to take over management control of "one or more of the 10 wholesale generating companies to be created as a part of ... industry restructuring". The fact that E.ON recently acquired Ruhrgas, Germany's largest gas company, which in turn owns a 5.7 share in Gazprom, certainly does not help matters (Startseva 2003e).

The second controversial point has to do with the pricing of electricity to final users, both residential and commercial/industrial. Both gas prices and electricity prices in Russia are set far below world-market levels, and in the case of electricity, generally far below costs. For electricity, Hubert (2002) estimates average residential rates at about USD 13/MWh and industrial rates at about USD 17/MWh, compared with production and opportunity costs of at least USD 35/MWh. More dramatically, domestic gas prices are held down to around one-fifth (Aron 2003) or one-sixth (OECD 2001) of export prices. Furthermore, as is often the case in transition and developing countries, electricity prices to residential customers are set below those for commercial and industrial customers, when the cost of serving residential customers is in fact higher. Like the railroad system in Russia, and like the electricity systems in other transition and develop-

⁶ Grigory Yavlinsky, leader of the Yabloko political party, warns of this outcome: "There will be an energy oligarch in each region who will control all activities" (Tavernise 2003; see also Startseva 2003c).

ing economies, the electricity system in Russia is in very poor technical condition, badly in need of private investment flows for repairs and upgrading. These private investment flows, however, will not likely be forthcoming unless producers can earn profits, by selling electricity to customers at prices that cover costs.

So, the future path of electricity prices remains very uncertain. As noted above, the calendar for system liberalization is to be set entirely at the discretion of the government; in fact, the reform legislation allows the government to set retail price caps during a “transition” period, to determine how much power can be sold at unregulated prices during this transition period, and to require independent generation enterprises to sell up to 35% of their power to specified distribution companies at regulated rates (*Russia Journal* 2003). Perhaps more ominously, both President Putin and his advisor Andrei Illarionov have made it clear that they do not expect electricity prices to increase in the course of system liberalization. The President has stated that liberalization should result in sufficient improvements in system efficiency so that no price increases will be needed (Startseva 2002c). Illarionov has argued that if the system has excess generation capacity, and the capacity is in such poor condition, the true economic costs of generation must be very low, and thus user prices below accounting costs are appropriate.⁷ It is difficult to see how the reformed system will reconcile the contradiction of the need for increased investment with the political imperative to avoid rate increases.

The pricing issue raises in turn a third problem, which is not at all unique to Russia but is potentially a source of difficulty. As mentioned above, liberalized markets for electricity are likely to be subject to large swings in wholesale prices because of the combination of inelastic demand and inelastic supply as full capacity utilization is approached. There is a relatively new but quite strong international consensus that it will be difficult to avoid this situation absent policies that increase demand elasticities, and that the only currently obvious way to increase demand elasticities at the times when this makes a difference – i.e., at times of peak demand – is to have some form of real-time pricing.⁸ Operations at all levels of a liberalized electricity market in Russia will have to become much more sophisticated than at present if even large industrial users are to face real-

⁷ Remarks at the Seminar on “Post-Soviet Russia in Transition: Electricity Reform”, Carnegie Moscow Center, Carnegie Endowment for International Peace, February 6 2003.

⁸ See Brennan (2002) for a valuable discussion of some of the theoretical issues involved with real-time pricing. Note that real-time pricing is not the same as “time-of-day” pricing, which uses meters that cannot distinguish between 2 p.m. on a cold winter day with peak heating demand and 2 p.m. on a mild winter day with below-peak demand. Borenstein (2001) has shown that time-of-day pricing generally provides a very poor approximation to real-time pricing.

time incentives to cut back on their power usage at times when the cost of power to society is high (OECD 2001).

Finally, and again a part of the broader pricing issue, the fact that the prices paid by domestic users of natural gas in Russia, though perhaps above Russia's very low production costs, are far below export prices, is additionally troublesome because of the possibility of interfuel substitution and backwards vertical integration on the part of the largest electricity customers. Large industrial users are receiving very poor price signals when they make investment decisions: some industrial and commercial users can substitute between gas and electricity directly, and others may choose to purchase cheap gas and generate their own electricity rather than to rely long-term on commercial electricity supplies. So long as the price of gas is distorted, liberalized electricity markets cannot be expected to operate in economically efficient ways. Yet the prospects for gas market reform seem dim.⁹

3.3. The role of the Ministry for Antimonopoly Policy

As with our discussion of railway reform, we can divide the most important activities of the MAP in the area of electricity regulation and reform into three subject areas: *the overall reform plan*; *the setting of tariffs*; and *the conditions for access to the long-distance transmission infrastructure by independent generation companies*. Let us consider each of these in turn.

Regarding *the creation and enactment of the legislative reform package*, the picture appears to be very much the same as in the railway sector. The MAP had similar incentives to support system reform; like the MR, the RAO-UES has been the subject of a large number of MAP investigations and cases. Likewise, the root of the problem was similar in the two cases: an integrated monopoly, both operated and regulated by the government, had clear incentives to evade regulation and to deny system access to non-integrated upstream competitors. So the MAP has participated throughout the reform process and has consistently supported the standard reform package of "vertical access", but again it seems to have played a decidedly secondary role to the MEDT and the monopoly incumbent. Again in the electricity sector, the MAP apparently had primary responsibility for statutory and regulatory language regarding access issues.

⁹ President Putin, speaking at the tenth anniversary of the founding of Gazprom on February 14 2003, called the company "a powerful level of political and economic influence in the world", and vowed that "the government will never support plans to break up Gazprom". RFE/RL Newline (Radio Free Europe/Radio Liberty), February 18 2003. See also Litvinov (2003).

Concerning *tariffs*, the situation in the electricity sector has been more complex than in the rail sector. *Wholesale* tariffs – that is, the price paid for generation – had been, like rail tariffs, broadly controlled by the Cabinet as a matter of macroeconomic stabilization policy, and overseen on a day-to-day basis by the MAP, until the latter function was devolved first to the FEC and now to the UTO. However, unlike rail tariffs, electricity tariffs at the *retail* level have been set regionally. In theory the regional retail tariffs were set jointly by regional electricity regulatory commissions and the regional MAP offices. However, in practice the regional commissions have had all the power, or rather have been used as regional regulatory tools by the powerful regional governors, and the regional MAP offices have not had the ability to interfere (Avdasheva and Shastitko 2002; Yanovskij 2003; see also Startseva 2003f).

Finally, as in the liberalized railway sector, it will likely be the task of the MAP to *insure non-discriminatory access* to the electricity grid for independent power generators, and more broadly to create and protect conditions of workable competition in the generation sector, whether complete vertical separation is the final outcome of liberalization or not. Again the MAP has written statutory and regulatory language for which it will be the primary enforcement agency; again both Article 5 of the competition law (regarding the abuse of a dominant position) and Article 7 (regarding anticompetitive actions by agencies of government) may be expected to be heavily relied upon; again this is likely to be a very difficult set of tasks, even though the MAP is clearly the appropriate body to undertake them.

Just how difficult the job is likely to be may be seen by the experience of the MAP and the RAO-UES regarding access to the long-distance electricity transmission grid by the state-owned nuclear power generation company RosEnergAtom.¹⁰ In June 2001, RosEnergAtom signed an agreement, along with the German company PBE, to supply electricity to Georgia. This agreement was approved by the Federal Energy Commission. However, the RAO-UES refused to allow the RosEnergAtom to have the transmission grid access necessary to supply the electricity.

RosEnergAtom complained to the MAP, which investigated and ruled that the refusal of access to the grid by the RAO-UES was an abuse of the dominant position of the latter on the electricity market, hence a violation of Article 5 of the antimonopoly law. The MAP decision was upheld by the FEC and the Moscow Arbitrazh Court. Eventually, however, the RAO-UES won an appeals court decision sending the case back to the Arbitrazh Court. At this point, the RosEnergAtom gave up and signed a joint venture agreement with

¹⁰ The following is based on Avdasheva and Shastitko (2002) and news reports.

the RAO-UES for the export of electricity. The MAP, unable to enforce its ruling concerning terms of access to the grid, was forced to sit by helplessly as a cartel took the place of competition.

4. DISCUSSION

The Russian Ministry of Antimonopoly Policy has played to date an important but relatively small role in the process of restructuring the country's railway and electricity sectors. It has not been a major player in the broad discussion and formulation of restructuring policy, but it has had the responsibility for formulating and drafting regulatory and statutory provisions concerning the prevention of discrimination in the granting of access to the monopoly grid in each industry's assumed future of partial or complete vertical separation.

Unfortunately there is not much reason to be optimistic that the MAP will be any stronger or more successful in enforcing these provisions against discriminatory access policies than it has been in other areas of protecting competition. The effectiveness of the MAP in these areas is hampered severely by three principal disadvantages:

- the weakness of the Russian court system, which means that the MAP decisions and orders against powerful enterprises typically cannot be enforced (Yanovskiy 2003);
- the weakness of the central government vis-à-vis the regional governments, which means that the regional MAP offices may be subject to irresistible pressures not to bring enforcement measures against enterprises that have political power in particular regions (Shleifer and Treisman 2000; Polishchuk 2001); and
- the limited ability of the MAP to attract and retain highly skilled specialists, along with the requirement that those specialists who are hired spend too much of their time fulfilling paperwork requirements.

These problems are suffered to some degree by competition agencies in most transition and developing economies. However, it is probably fair to say that they are suffered to an unusually high degree by the MAP, at the same time when the MAP and Russia face unusually difficult issues and problems regarding liberalizing the infrastructural sectors of the economy.

Only the third of these problems would seem to be within the control or at least the sphere of influence of the MAP. Whether it could succeed in getting government salaries increased, or in placing its own staff on a higher-pay scale than that of the rest of the government, is doubtful. Yet it is clearly within the

MAP's power to allocate its resources more productively, and in particular to devote less staff time to the paperwork involved in premerger notification. In fact this is already taking place, as the thresholds for notification have been increased significantly. In the case of the first two problems, the MAP can choose its actions so as to have a positive rather than a negative impact, but the overall difficulties are much broader than those related to competition and regulatory reform.

In terms of the specific questions of restructuring the railways and electricity sectors, I have suggested some reasons to be sceptical that the current policy moves in the direction of vertical access and vertical separation are the best choices for the Russian situation. But I do not suggest that the MAP is at fault for not adopting this heterodox viewpoint. Regardless of the details of reform, it would be a great step forward for the Russian economy if the MAP developed further in the direction of becoming a strong, expert advocate for reform and an effective enforcement agency against the powerful monopolies and oligarchies of the Russian economy.

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