

Railway Competition: Options for the Russian Federation

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It is difficult to overstate the importance of the efficiency, productivity, and progress of the rail sector for the future of the economy of the Russian Federation. The size alone of the rail sector is one indicator of its importance: the fixed assets of the railway system account for an estimated five percent of the fixed assets of the country.² The size of the country itself is another indicator: the economic advantages of rail freight transport over road freight transport increase with distance, even in countries with very well developed road systems. Currently in Russia the railroads carry over 90 percent of shipments of coal and coke, iron and manganese ores, and perishable food products, over 80 percent of shipments of chemical and mineral fertilizers and cement, and over 70 percent of shipments of animal feeds, ferrous metals, and nonferrous ores.³ If the Russian economy is to become more unified, if geographic markets for commodities are to become national rather than regional, or regional rather than local, thus strengthening the forces of competition throughout the economy, it will be important for the railroads to contribute to that process.

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² IRIS Program on Natural Monopolies, "Rail Transport," Moscow, 1997 [?], p. 4.

³ Jane Holt, *Transport Strategies for the Russian Federation*, World Bank, Studies of Economies in Transformation 9, 1993, p. 65.

Although reforms to the Russian rail sector have been under discussion for a long time -- increasingly so in the past few months -- in many important ways the sector remains as it was ten years ago. (I apologize in advance for any errors of fact that I may commit here, and state my sincere willingness to be corrected. Alternatively, in the Soviet tradition, I will “blame it on the switchman.”) Seventeen separate railway enterprises, divided into geographic monopolies, have a large degree of autonomy over technical operations within their territories. Nevertheless all tariffs are set and all schedules made by the center, the Ministry of Railways (MOR) in Moscow, and revenues are regularly reallocated so as to more or less equalize profitability across enterprises.⁴ Close to fifty percent of rail traffic is interlined -- that is, moves on more than one of the seventeen regional railroads -- and with each change to a different railway enterprise, the train must be stopped and a different locomotive attached.⁵ Similarly, a large portion of economic activity in Russia, especially regarding bulk commodities, takes place at very large mining and manufacturing enterprises, and most of these enterprises have their own private “industrial” railways, which also require a change of locomotive upon shipment delivery. Freight tariffs have long subsidized intercity, suburban, and commuter passenger operations, as well as light-density freight lines that the railroads have not been permitted to abandon.⁶ There is no separate rail regulator; rather, the MOR both oversees and regulates the operations of the regional railroads.

As we discuss the options available to the government of the Russian Federation for the introduction of greater competition into the rail system, several lessons from the regulatory experience of other countries should be kept in mind. The importance and application of these lessons are by no means unique to Russia.

- First, reliable information concerning particular markets and enterprises is often difficult and expensive to acquire, for regulators as well as for others. This is especially the case when it is in the interests of the market participants to make the information difficult to acquire.
- Second, commercial contracts are often difficult and expensive to enforce. Regulatory orders may be ignored or only partially carried out. Courts are slow and unreliable arbiters of commercial disputes.

⁴ In fact, it was estimated in 1997 that the volume of revenues reallocated each year was over sixty percent of the revenues of the railway system as a whole, and amounted to over two percent of Russian GDP. IRIS, “Rail Transport,” p. 3.

⁵ European Bank for Reconstruction and Development, *Railway Sector Survey of Russia, Belarus, Ukraine and Kazakhstan*, Summary Report, January 1993.

⁶ It is interesting to note, however, that 50 years ago the pattern was the reverse. Freight tariffs were held below cost in order to encourage the development of heavy industry, and the deficit was made up by both passenger tariffs and government subsidies. J.N. Westwood, *Soviet Railways Today* (New York, 1964), p. 109.

- Partly for these two reasons, regulation tends to be costly and imperfect. Regulators work with information that is dated and imprecise and may be systematically distorted by the regulated enterprise. Furthermore, the incentives of regulators may not be perfectly aligned with the welfare of society.
- Thus there is a strong argument for relying on competition rather than regulation whenever possible, even where competition itself is far from perfect. Competition both economizes on centralized information requirements and removes power and discretion from the hands of individuals.⁷ It results in lower costs and lower tariffs and a more efficient allocation of economic resources.⁸

Part of my message here is to encourage a great deal of skepticism -- with respect to any economy, with respect to any transition economy, with respect to Russia -- towards any proposal for railway reform or liberalization that fails to take adequate account of these important lessons of experience.

We should also keep in mind several stylized facts about railroads.

- First, a large portion, perhaps as much as 30 percent, of the long-term costs of providing rail service are fixed costs, and are to a large degree “sunk”: once they are incurred, they cannot be recovered. This means that railroads must be allowed to charge tariffs on particular shipments significantly in excess of their short-run marginal costs if they are to survive and prosper.
- Second, each railroad shipment -- like each telephone call -- has a unique origin and a unique destination. When the electricity sector is liberalized, competition in generation may provide great benefits, but a particular user of electricity does not know or care which company generated the particular electrons that he is purchasing. A railroad customer cares a great deal whether he receives a shipment from a coal mine in Tula or a paper mill in Kondopoga.

⁷ This is of course a very old idea. It is sometimes forgotten that one of the principal advantages of competitive markets in the eyes of Adam Smith was their ability to break the hold of the powerful landlord interests on the early market economy.

⁸ It is sometimes argued that competition in the railroad sector will result in the duplication of facilities and so will be wasteful, in fact increasing rather than lowering costs. See, e.g., James Foreman-Peck, “Natural Monopoly and British Railway Policy in the Nineteenth Century,” Newcastle Discussion Papers in Economics 86-09, 1986. The great British economist Alfred Marshall responded to this argument nearly a century ago: “It must be admitted that, other things being equal, the ‘monopoly revenue price’ fixed by a railway will be lowered by every increase in the demand for its services....But, human nature being what it is, experience has shown that the breaking of a monopoly by the opening out of a competing line accelerates, rather than retards, the discovery by the older line that it can afford to carry traffic at lower rates.” *Principles of Economics*, 8th ed. (1920), V.XIV.5.

- Third, railroads face at least some competition in some circumstances from carriers using other transport modes: highway, pipeline, or water. Whether a particular shipper has a realistic economic alternative to the railroad serving him is of course a factual question that must be examined in a particular situation; nevertheless it is useful to keep in mind that a railroad “monopolist” is not always a “monopolist” in the true economic sense of having significant market power.
- Finally, a rail shipper who desires to have commodity X shipped from point A to point B may in some cases be protected from monopoly railroad power even if the alternative is not a perfect substitute. In particular, even if railroad 1 has a monopoly on rail shipments from point A to point B, and even if commodity X cannot be shipped economically by another mode from point A to point B, the shipper at A may be able to use railroads 2 and 3 to ship commodity X to other destinations, and the customer at B may be able to use railroads 4 and 5 to receive commodity X from other origins. This form of protection -- more or less effective in different settings -- is usually called “source competition”.⁹

Railway Reform: The Menu of Options

In considering the various alternatives available for railway reform and liberalization, let us begin by distinguishing between arrangements that rely fundamentally upon single companies maintaining control of both railroad track and the trains running over the track, and arrangements that rely fundamentally upon competition among different train operating enterprises over a single set of track. I will describe briefly several kinds of arrangements that have been tried or proposed, giving each a country label that I think most closely approximates the system of railway organization in that country. Then I will discuss briefly what I think are some of the lessons of these experiences to be kept in mind for the Russian Federation regarding its own railway system.

1. The American System. In the US, as in England for the first century or so of rail operation there, private railroad companies own both tracks and the trains that run over them. A particular location may be served by one or many railroads, and it is common for a pair of major cities to have two or sometimes three “parallel” railroads operating between them, competing for customers.¹⁰ Most tariffs have been deregulated, and are set in contracts between railroads and

⁹ Source competition is also an important source of protection for shippers in other network industries, for example producers of natural gas. J.H. Mulherin, “Complexity in Long-Term Contracts: An Analysis of Natural Gas Contractual Provisions,” *Journal of Law, Economics, and Organization* 2 (1986), 105-117; S. Masten and K. Crocker, “Efficient Adaptation in Long Term Contracts: Take-or-Pay Provisions for Natural Gas,” *American Economic Review* 75 (1985).

¹⁰ In railroad parlance, the word “parallel” is not to be taken literally. Routes that are called “parallel” may be quite different and more or less direct. The important point is that they

shippers. At particular locations with multiple shippers -- such as a city -- the individual railroads may agree among each other to form a "switching area", where each railroad may run its train on each other railroad's track to reach shippers located there (or the switching area track may be jointly owned by the local government, or by the railroads that use it).

However, it is an important part of the American system that most such arrangements for "trackage rights" by one railroad company over another company's tracks are voluntary and mutually agreed upon. "Compulsory" trackage rights, that is, access mandated by a government regulatory agency, are fairly rare. When they do occur, they are typically either a) as a competitive condition placed upon the merger of two railroad companies to maintain competitive options for a particular shipper, or b) if a particular shipper can satisfy the difficult regulatory requirement necessary to prove that it is economically "captive" to a single railroad and deserves a competitive alternative. Even in those rare cases where competitive access is mandated, there may be lengthy regulatory or court proceedings to arrive at the price to be paid for access.

are economic alternatives for enterprises wishing to ship commodities from point A to point B.

2. *The Canadian System.* Most rail traffic in Canada travels over one of only two major privately owned carriers, the Canadian National Railway and the Canadian Pacific Railway. As in the US, each railroad runs its own trains over its own track. A large amount of rail traffic flows between Canada and the US, and each Canadian railroad has various connections with US railroads for interlining traffic. Perhaps the most important difference between the Canadian and the American systems regarding competition is that in Canada, captive shippers located on one of the railroads but within 30 km of the other may insist upon receiving either service by the second railroad over the tracks of the first or service by the first that interlines with the second, both at regulated rates.¹¹

There have been legislative proposals to establish a similar system of compulsory competitive access to captive shippers in the US, in order to obviate the need for the lengthy regulatory processes of the Surface Transportation Board, but so far the railroads have fought them successfully.

So, to be clear, what I am calling “the Canadian system” is the American system with the addition of automatic compulsory trackage rights or interconnection for a large number of captive shippers.

3. *The Mexican System.* When the Mexican railway system was transformed from a government owned monopoly in the period 1997-1999, it was divided into three major regional privately owned railroads -- each with a monopoly in its own region -- along with one company controlling traffic between the Atlantic and Pacific ports and several smaller local railroads. As in the US and Canada, each of the three main rail enterprises runs its own trains over its own track. However, unlike in the US and Canada, in Mexico there is not much “head-to-head” competition between different railroads: with two exceptions, there are no pairs of major cities or other economic areas where two railroad companies offer competing origin-to-destination service.

What there is in Mexico is what I have described as “source competition”. As the Mexican system was restructured, each of the three principal daughter corporations received as part of her dowry access to Mexico City:

- the Northeastern railroad, connecting Mexico City with the US border at Laredo, with the ports of Tampico and Veracruz, and the city of Monterrey;
- the North Pacific railroad, connecting Mexico City with several other US border points and the cities of Guadalajara and Monterrey; and

¹¹ Clifford Winston, Thomas Corsi, Curtis Grimm, and Carol Evans, *The Economic Effects of Surface Freight Deregulation*. Washington: The Brookings Institution, 1990, at 57.

- the Gulf railroad, connecting Mexico City with the Mexican Gulf Coast, including the Gulf port cities of Coatzacoalcos and Veracruz.¹²

Thus shippers in Mexico City -- which, as in the American model, is a jointly operated “switching area” -- can choose among three different rail carriers for either sending or receiving freight. This choice is especially meaningful because so much of the rail traffic in Mexico is international traffic, and different railroads leave Mexico City to serve different ports and different US connecting railroads. Thus if one railroad charges excessive rates to Laredo, a Mexico City shipper may be able to use another railroad to reach a Gulf port, since the ultimate destination was Atlanta or New York or São Paulo anyway.

It must be admitted that source competition is not a perfect substitute for parallel competition. As noted, a significant portion of Mexican rail traffic is import/export traffic, where the shipper and receiver of freight may be able to choose among several different ports and border points, but domestic shippers of domestic products are probably more likely to really need to get their product to or from a particular location. On the other hand, there is very little disagreement that in practice source competition significantly limits the monopoly power of a railroad.

Again, to be clear, what I am calling the “Mexican system” is the American system but with a principal reliance on source competition rather than parallel competition to provide shippers with economic alternatives.

The American, Canadian, and Mexican systems constitute the three principal methods that have been used to provide freight shippers with competitive rail options while still maintaining a system whereby most rail traffic consists of a particular company running its own trains over its own tracks. In all three countries there is some regulatory protection available for “captive” shippers; nevertheless, in all three countries most traffic moves on non-regulated tariffs using non-regulated shipping arrangements. Competition is not perfect, but it is “workable”. This has resulted in a much reduced presence for the rail regulators of these countries. At the same time, in the US at least, deregulation has been accompanied by falling real tariffs and increasing rail sector profitability.

Let us now consider two models of railroad restructuring that provide for competing train operators on a monopoly track. This model of creating competition “on the rails” has broad conceptual appeal, and it is under serious consideration in a number of countries. It is identical conceptually to the “unbundling” of the natural monopoly bottleneck from related competitive markets that has taken place or been proposed in the electricity and telecommunications (and other) sectors throughout the world. As in these sectors, however, the idea of unbundling raises a difficult question: is the owner/controller of the natural monopoly bottleneck -- in this case, the track -- to be permitted to operate in the competitive sector of the market -- in this case, the trains?

¹² OECD, Committee on Competition Law and Policy, *Railways: Structure, Regulation and Competition Policy*, Paris, 1998, at 109-112.

If the answer is yes, there may be a serious problem of favoritism and discriminatory access. How is a regulator to make sure that the track owner does not give more favorable access terms -- regarding either price or quality -- to its own, integrated train operation than to competing train operators? Will this require more knowledge than the regulator is likely to have, and more extensive intervention in the day-to-day operations of the railroad than the policy maker is likely to desire? And if favoritism cannot be effectively prevented, can there be effective competition in the "competitive" sector? One US example that suggests caution is the trackage rights arrangement imposed by the Surface Transportation Board on the merger of the Union Pacific and Southern Pacific Railroads, whereby the Burlington Northern/Santa Fe line was given access over the merged railroad's lengthy "central corridor" route from the Midwest to California. As of this writing, the "tenant" railroad, the BNSF, carries only about five percent of the traffic on this route.

On the other hand, if the answer is no -- if the track owner/operator is *not* permitted into the business of running trains -- there are other problems raised. First, there is the loss of economies of scope. Who knows more about operating trains than the enterprise that operates the track? And who knows better what track investments need to be made than the enterprise that runs the trains? What are the costs of separating these people and organizations from jobs that they can do well? Second, there is the problem of sequential monopoly. With the economies of scale that characterize train operation, it seems unlikely that there will be many train operators in a single geographic area. This means that, in addition to the monopoly power which we assume accrues to the owner/operator of the track, there may be monopoly (or oligopoly) power enjoyed by the train operator as well. Economic theory suggests that the result of a monopoly downstream firm paying a monopoly price for the upstream product and setting its own monopoly price on the final product will be a higher price than that which would be set by an integrated monopolist.

Finally, either of these models will require a complex operating agreement between the track owner/operator and whichever train operators it does not control. The terms of service required by a train operator desiring track usage -- like those of an electricity generator requiring long distance transmission access -- are multifaceted and complex. The contractual relations between the two enterprises are likely to be correspondingly multifaceted and complex. An entire set of transactions that takes place *within the enterprise* in the American, Canadian, and Mexican models must take place *between two independent enterprises* under this type of system. It is not completely clear how workable such a system will be. How many lawyers do we want to create work for, and how many lawyers will the regulators need to monitor them?

Let us consider separately two real-world models.

4. *The EU System.* The countries of the European Union have traditionally had unitary, monopoly, state-owned railroads. However, as a result of EU Directives 91/440, 95/18, and 95/19, each member country will be obligated to a) separate the cost accounting records of the track and other infrastructure from that of the train service, and b) allow use of the infrastructure by "international groupings of railway undertakings" and "railway undertakings engaged in

international combined transport of goods throughout the [EU].” The hope is to further unify the market, by providing “seamless” transborder rail shipments within the Union -- in much the same way the railways are relied upon to facilitate economic union in the vast territories of the Russian Federation.

The new system is not in place yet. I must admit to being unclear as to exactly what kinds of enterprises will and will not be allowed to use the infrastructure under the stated conditions. However, the overall idea is clear. At least for the foreseeable future, train operators and track companies will remain vertically integrated. However, under certain circumstances they must permit other train operators to operate over their track, presumably under regulated rates and conditions. The separation of the accounts within the vertically integrated operation is intended to insure that the integrated train operator pays the same rates for track access as does an independent operator.

The broader intent of those who seek to implement an EU-style system in other countries is typically to provide shippers with competitive rail service while not losing the economies of scope that come from joint operation of the train and the track. (It is not clear yet to what degree the system will achieve this goal in the EU itself, since the train operators given mandatory access to the track in any particular country must apparently be *international* train operators.) Many supporters of this system believe that the mere *potential* for (for example) shippers of large volumes to provide their own train service over the monopoly track will be enough to force the rates of the integrated enterprise down to a workably competitive level. Regulation would then be required for terms of access to the infrastructure but not for train service itself.

5. *The UK System.* The UK has chosen the second version of the “many trains, one track” model: it has separated the ownership and control of the track and the operation of the trains into two completely independent enterprises, with the intention of encouraging competitive train operators to enter the market.¹³ The track company, Railtrack, provides access to both freight

¹³ It is interesting to note that the UK is returning to the system that was envisioned when the first railways were built in the UK and the US. “The first projectors of the improved modern railways contemplated themselves only as proprietors of the lines. They intended to make a road, and to offer it to the public to be run upon, all persons having the means of transport upon it, paying them a toll for its use. The railways, however, had scarcely come into operation, when it became glaringly manifest that this analogy to a common road was altogether destitute of foundation, and that the new instrument of transport must be worked upon principles, and by methods, totally different. It became evident, in a word, that the proprietors of the road must themselves become carriers upon it; the unity of management, and the harmony of movement, indispensable to the efficient action of its peculiar mode of transport, rendering this indispensable.” Dionysius Lardner, *Railway Economy: A Treatise on the New Art of Transport* (London, 1850; reprint New York, 1968), at 107-108. Simmons and Biddle believe that the critical factor making the “public toll road” model infeasible was the introduction of locomotives, “for few of the carriers would own such machines.” *The Oxford Companion to British Railway History* (Oxford, 1997), at 328.

and passenger trains at a regulated tariff level. However, again one cannot really say that the new system is fully in place, because thus far the Rail Regulator has permitted only one freight operator on the track.

Again to be clear, the difference between what I am calling the EU system and what I am calling the UK system is that in the former the track owner/operator is permitted to be a train owner/operator as well, while in the latter it is not. Otherwise the intention of those who support these models is usually the same: to allow for competition among different train-operating enterprises over a single monopoly track.

The Russian Federation, Choosing from the Menu

Most experts would, I think, agree on a certain bare minimum set of requirements for a liberalized Russian railway system to operate in a more efficient and productive manner: flexible local or regional setting of tariffs, flexible local or regional train scheduling, an end to system-wide revenue redistribution, separation of the ownership and regulatory functions, and direct, transparent government subsidization of passenger operations rather than their subsidization from freight revenues. Beyond these -- which certainly merit discussion on their own -- I want to consider how the systems that I have just described for creating railroad competition may be applied in modern Russia.

Let us note first of all that intermodal competition, wherever it can be economical, is a simple answer to our problems. Both road freight transport and river freight transport tend to be industries that are structured as reasonably competitive,¹⁴ so that where they are economically feasible they can by themselves provide competitive transport alternatives to shippers and obviate the need for regulation. The government of the Russian Federation should do everything possible to encourage the development of intermodal competition, for example by

- providing the necessary road and water infrastructure for the use of private operators,
- protecting competition in the procurement policies of governments at all levels, to ensure that infrastructure investments get the best results possible, and
- insuring that tax policies -- for example on fuel use -- do not discriminate against particular transport modes.

However, regardless of any such policies, the Russian Federation is a huge country whose economy includes huge volumes of commodities that travel most economically by rail. We must come up with ways to create *railroad* competition if most of these shippers are to have competitive choices. Let us consider the possibilities.

The EU system is very popular in policy debates around the world just now, and for good reasons. Transparency, which it provides, is a good thing. Potential or even actual intramodal

¹⁴ This is not so true for less-than-truckload road haulage, where the creation of a hub-and-spoke network may be important, as it is for truckload road haulage.

competition, which it also provides, is also a good thing. It seems a perfectly good idea to require the Russian railways to keep separate accounts for their track and train operations, and to require them to “charge” themselves a reasonable, regulated tariff for track access, so that it may be possible in the future for shippers of large volumes -- who typically run their own “industrial railroads” anyway -- to either supply their own long-distance rail transport, or to threaten to do so. However, it seems to me that we should not delude ourselves: the regulator will not have the knowledge or enforcement capability necessary to ensure that this access tariff is set at the correct, efficient level in hundreds of different situations around the country -- even if economists can ever agree on how to do that conceptually! The EU system may provide *some* protection for *some* large shippers, but it seems to me to require much too much regulatory knowledge, enforcement, and intrusion into day-to-day enterprise management to be relied upon as the primary source of rail competition in Russia.

This is even more true of the UK system, which requires complete enterprise separation between the track owner/operator and all train operators. Such a system may require less regulation of access terms than the EU system -- since there is no reason for the track owner to discriminate among different train operators -- but it more than offsets this advantage by the additional contract negotiation and enforcement that it requires -- in a legal system which is not prepared for this burden¹⁵ -- and the loss of economies of scope between train and track operators. Like the EU system, the UK system is at this point essentially untested. There are some early positive signs, such as the real benefits of the introduction of competition into some of the markets for maintenance, equipment, and supplies. But overall the experience to date is one of controversy, confusion, and failed hopes.¹⁶ At this point the UK system seems to me even less likely to be the foundation for competition on the Russian railways than is the EU system.

This brings us to the three North American systems. I believe that “parallel” rail service between origin and destination points has been shown by experience to provide the best economic alternatives for shippers who depend on rail, requiring a minimum of close regulatory supervision and intrusion. My understanding is that there are rail routes in Russia -- the

¹⁵ Chris Nash, a distinguished British student of railroad economics, made this point at an OECD Conference on Competition and Regulation in Network Infrastructure Industries in Budapest in 1994. As recorded in the conference volume, Professor Nash argued that “the operation of the new system requires good contract law and a huge amount of legal effort. One hundred new companies are being created that must interact intimately with each other. Nash wondered if even the United Kingdom -- much less Eastern Europe -- is ready to run its railways as a laboratory test of Oliver Williamson’s *Markets and Hierarchies*.”

¹⁶ The *Financial Times* (June 26 2001) describes a recent “conference of industry leaders ... aimed at rebuilding confidence” that “descended into a series of bitter charges and counter charges over service chaos, financial problems, and public outrage.” An earlier *FT* story (June 4 2001) reports that “more than 300 people are employed by railway companies to argue among themselves about who is to blame for late trains and who will pay...The high cost attached to delaying trains has been linked to a rise in unsafe working practices and a decline in maintenance standards.”

landbridge movements from the Pacific coast to Europe, some areas in European Russia -- where there is sufficient "parallel" track (and please remember the sense in which I am using that term) that a restructuring to create the American system could be feasible, and I urge policy makers to consider introducing this option in those areas. Shippers who remain "captive" to a single rail carrier in these territories could perhaps be protected under something like the Canadian system, where the railroad serving the shipper must provide access or connecting service to the nearest alternative railroad.

So: parallel rail competition for some shippers located in the right places, regulatory protection for shippers in such areas who remain captive to a single carrier, perhaps potential entry into long-distance haulage of their own commodities by some of the largest shippers. What of the others?

Here is where I must admit to some surprise that, throughout the world, the Mexican system has not been given more attention. True, it has not really had the opportunity to prove itself in Mexico yet, but the same fact has not prevented the EU and UK systems from appearing on the agendas of all rail-related conferences. And the central idea behind the Mexican system -- source competition -- has been shown for more than a century in the US, Canada, and the UK to be an effective constraint on railroads that would otherwise have monopoly power. I believe that the Mexican system deserves a serious look as a possible solution for Russia.

How would it work? In those areas where parallel railroad competition is not feasible, the most important locations for rail origins and/or deliveries would be determined. Probably this list would include a combination of a few large cities (for example, Moscow and Yekaterinburg) and a few large single-industry production areas (for example, the Kuzbass). A few of these cities may already be served by more than one railroad enterprise, with track heading in different directions from the city. The single-industry production areas are typically in the interior of a single railroad enterprise. The railway enterprises would be reorganized and restructured so that each of these cities and production areas was served by at least two independent rail enterprises -- perhaps one going east and one going west, or one going north and one going south. The overall number of independent rail enterprises might be fairly small, smaller than the current seventeen -- I do not pretend to know the optimal number -- but shippers at each of these rail "termini" would have at least two choices of rail carriers. The track directly serving shippers in each city or production area would be reorganized as an independent or joint venture switching area, with an independent or jointly appointed dispatch unit scheduling and supervising train operation. And the competition provided -- again, not "perfect", but hopefully "workable" -- should dramatically reduce the need for close regulatory supervision of the railroad enterprises.

This is just one idea for a possible reorganization of the railroads of the Russian Federation. There is of course a great deal that I do not know about Russian railroads, so there may be good reasons why some aspects of this idea would be unworkable. Nevertheless, with my limited knowledge, it seems like an alternative that deserves serious consideration. Although it would certainly involve some transition costs as the current railroad enterprises are reorganized, I believe that it would require much less day-to-day regulation, and rely much more

on day-to-day, rail-to-rail competition, than some other alternative plans.