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Pittman R.W.
(Visiting Professor, Kyiv School of Economics, and Director of Economic Research, Antitrust Division, U.S. Department of Justice, Ph.D.)
ORCID ID 0000-0001-9498-0561

CREATING COMPETITION ON THE UKRAINIAN RAILWAYS: AN ECONOMIST'S VIEW

The article is devoted to the problem of creating competition on the Ukrainian railways. It is substantiated that the Ukrainian railways are not unique in possessing a state-owned state, vertically integrated monopoly railway. Based on research, it has been proven that competition is one of the ways to improve the efficiency and effectiveness of operations vis-à-vis the days of a state-owned monopoly. As rail passenger operations is not profitable, the main focus is on freight rail operations. Two broad strategies available to created competition in the railways sector were researched. Under the European model, the infrastructure remains a state-owned monopoly, while independent train operating companies compete to provide service to shippers, paying regulated access fees to the infrastructure operator. Under the Americas model, only the company owning the infrastructure generally runs trains on that infrastructure. It is concluded that each of the two models has its advantages and disadvantages. The Americas model has more advantages. The clear advantage of this model has to do with the financing of the infrastructure. There are debatable issues about the best model for Ukrainian railways at the level of government and reformers. To date, Ukraine has chosen the European model. This choice is an experiment. It is important to give an answer to the question which of varieties of this model should reformers ultimately be aiming toward? The choice is not an easy one.

The conclusion is made that the government and the courts will need to provide strong support to the new rail regulator and the Antimonopoly Committee of Ukraine, which will be required to enforce non-discriminatory access terms.

Keywords*: creating competition, railways, European model, Americas model.*

Formulation of the problem. Ukraine is not unique in possessing a state-owned, vertically integrated, monopoly railway that exhibits disappointing performance. Nor is it unique in the many years that its government officials, policy makers, and academics have devoted to discussions of the possibilities for reforming and restructuring the railway, in the face of solid resistance to change by that railway itself. These statements may be made as well regarding Russia, India, and China, to name just three.

Yet Ukraine may be unique, or at least extreme, in the degree to which the ills of the state-owned railway are holding back the broader economic performance of the country.

Multiple observers have noted that, despite the success of Ukraine as a grain exporter, its performance in this area could be significantly enhanced if it were not for the poor condition

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of Ukrzhaliznytsia's infrastructure, rolling stock, and overall performance.[1]

Ukraine's other most important export commodities, including iron and steel, iron ore, and machinery, are all products that may often move over long distances most economically at least partly by rail. In turn, the poor condition and performance of Ukrzhaliznytsia result in some heavy cargoes inappropriately (and often illegally) traveling by road, with resulting road congestion, air pollution, and road damage.

Analysis of recent research and publications. It may not be overstating things to categorize Ukrzhaliznytsia as a uniquely Ukrainian "binding constraint" on growth and development, as analyzed by Dani Rodrik, Ricardo Hausmann, and Andrés Velasco in their work on "growth diagnostics" [1].

One strategic step that has been proposed at high levels for the reform of Ukrzhaliznytsia is the elimination of some or all of the monopoly in the system through the creation of competition.[2] Competition is not a panacea, in railways or elsewhere, but it has been shown in many railway settings both to improve the efficiency and effectiveness of operations vis-à-vis the days of a state-owned monopoly and to be an important tool for attracting private investment into the system, sometimes including the infrastructure [2, 3].

Presentation of the main research material. To be sure, competition from other railways companies – termed "intramodal" competition – may not be necessary to achieve these goals in those situations where shippers and customers may use motor carriers or water carriers as economic alternatives to rail – "intermodal" competition. However, as a general matter, shipments of bulk commodities over significant differences often are economically shipped only rail – especially from or to locations not amenable to water access – so that some kind of access to a competing railway company may be the only way for a shipper or customer to have access to competition [4].

But how, exactly, is competition to be created within the railways sector? Since under current conditions rail passenger operations are usually subsidized, and competition in passenger operations is rare, we will focus on freight rail operations. In principle, there are two broad strategies available.

Under what we may call the *European model*, the infrastructure remains a state-owned monopoly, while independent train operating companies (TOCs) compete to provide service to shippers, paying regulated access fees to the infrastructure operator. Economists and those involved in reform debates in other network industries will recognize this strategy as one encouraged over the years by the World Bank and others in electricity, natural gas, and telecommunications as well as railways; indeed it has been authoritatively referred to as the "default option" among economists [5, 6]. In the modern railways sector, this strategy for creating competition originated in the UK and Sweden and is now the option mandated by the Directorate General for Competition of the European Commission [7, 8].

There remains some important variation in the actual implementation of the European model, however. In particular, in the "purest" version of this model, the operator of the infrastructure is prohibited from operating its own trains on the infrastructure; this prohibition is designed to prevent discrimination by the vertically integrated incumbent against its new rivals, the unintegrated TOCs, and its rationale hearkens back to its origins in the US antitrust case that broke up the telecommunications monopolist, *U.S. v. AT&T* [9-11]. This version of the European model is widely referred to as "vertical separation", and, as one would expect, it has been fought fiercely by incumbent vertically integrated monopolists, including both Ukrzhaliznytsia and Russia's RZhD.

An amended and arguably weaker version of the European model permits independent TOCs to operate on the monopoly infrastructure, under regulated access terms, but allows the

[1] See Nekrasenko, *et al.* (2019), Pittman, *et al.* (2020), and the sources cited therein.
[2] See, for example, Centre for Economic Strategy (2019) and World Bank (2019).

infrastructure operator to continue operating its own trains in competition with the entrant TOCs. This variant has the advantage of maintaining the vertical economies of a single organization controlling both infrastructure and (some) trains; it has the disadvantage of requiring a regulator and/or competition authority to prevent the infrastructure operator from discriminating against the independent TOCs – a problem already observed in the EC [3; 4]. This variant on the European model has been termed "third-party access".

Under what we may call the *Americas model*, only the company owning the infrastructure generally runs trains on that infrastructure, as was historically the case with the earliest railways in England, the US, Canada, and the Russian empire; competition for freight shipments comes in two ways: a) two or more railway companies serving the same origin-destination pair (for example, Los Angeles – Chicago) offer competing, "parallel" service; and b) two or more railway companies serving the same origin or the same destination, but not both, offer to carry the originating traffic to different destinations or the supply the destination traffic from different origins, in what has been labelled "source competition". This strategy for creating competition remains the form of organization of the railways of the US and Canada and was adopted as a reform strategy in the 1990's by Brazil and Mexico, among others [12].

As I have argued elsewhere [2], each of these "models" has one important advantage and one serious disadvantage vis-à-vis the other. The advantage of the European model is that shippers in principle are never permanently "captive" to a single railway company; if they are dissatisfied with the pricing or service offered by their incumbent provider, they may either seek to attract an independent TOC to serve them (using the monopoly infrastructure) or run their own trains – or threaten to – to bring in inputs or carry out outputs, or both. On the other hand, under the Americas model, while many shippers enjoy competitive service offerings, individual railways inevitably have some degree of market power over some shippers in some regions, so that policymakers have been tasked with crafting regulatory solutions to protect those "captive" shippers. What is the best regulatory solution is very much a matter of dispute and discussion at this time:

- In the US, the regulatory tool used by the regulator so far has been the stand-alone-cost test, but there is widespread dissatisfaction with this test, including from the regulator itself, and a variety of alternative mechanisms are being discussed [13-16].
- In Canada, both binding arbitration and, under certain conditions, mandatory access by a competing railroad have been utilized, but also to some dissatisfaction with their effectiveness [4, 17, 18].
- In Mexico, the railways law allows the newly formed freight rail regulator to choose between setting rate ceilings and mandating access by a competing railroad. As of this writing, the regulator is considering its options [18, 19].

The clear advantage of the Americas model has to do with the financing of the infrastructure. In the US and Canada, private companies own the infrastructure, and collectively they invest billions of dollars in the infrastructure as well as the rolling stock every year. In Mexico and Brazil, the state maintains ownership of the infrastructure, but consortia of private owners enjoy exclusive access and control for thirty to fifty years, depending on the terms of the franchise agreement. These private owners bid hundreds of millions of dollars for the franchise rights in the auctions organized in the 1990's, and they continue to invest millions in maintaining and improving the infrastructure and rolling stock. This is the great success of the Americas model, as well as the deregulatory legislation known as the Staggers Act in the US [13, 20, 21, 27].

Correspondingly, the long-term Achilles heel of the European model (as well as of the older state-owned monopoly railway model) has been the unreliability of infrastructure funding. Public funding always has other demands, often seemingly more urgent than that of

maintaining and improving the railway infrastructure, which will, after all, always last another year. Some countries have had some success in attracting some private investment into the publicly owned and controlled infrastructure, but the magnitudes have not been great, and bottlenecks persist [8].

There is no reason to believe that there is a single reform model that is appropriate for all countries at all times. Small countries usually cannot achieve the economies of operation necessary to support railway competition, either freight or passenger, though there have been proposals to overcome this problem by creating cross-border railway companies (including infrastructure),, for example in Central America and Europe. Richer countries may be more generous with government funding than poorer countries, though of course the international lending institutions can assist the latter. Countries with different freight commodity mixes may have differing abilities to rely on competition from road haulers to limit monopolistic behavior by a railway [18].

I have argued elsewhere that the Americas model would likely be a good fit for Ukraine, whose railway shares many characteristics with that of Mexico, where the Americas model has worked quite well [21]. However, in recent years the reform debate in Ukraine has centered on the European model, no doubt in part because of the country's desire for a closer economic and political relationship with the EU [22, 23]. Like its counterpart RZhD in Russia, Ukrzhaliznytsia has resisted both varieties of the European model, vertical separation and third-party access, but it appears that, also like RZhD, Ukrzhaliznytsia may eventually be forced to accept experiments in third-party access as a first step toward the introduction of intramodal freight competition.

Conclusions and suggestions. If we posit that Ukraine has chosen the European reform model for now, which of its varieties should reformers ultimately be aiming toward? The choice is not an easy one:

- Third-party access maintains the economies of scope resulting from the operation of the vertically integrated going concern. However, under the third-party access model, if vigorous competition is to take place among TOC's and between those TOC's and the Ukrzhaliznytsia train operations, there must be a regulator or competition authority sufficiently strong and expert to protect against discrimination in the allocation of access to infrastructure by the integrated incumbent. Will the government and the courts support the rail regulator (yet to be created) and/or the Antimonopoly Committee of Ukraine (AMCU) in this context?
- Vertical separation is designed to protect against the incentives of the infrastructure operator to discriminate in favor of its own TOC in the price and conditions of access, and so reduce the demands on the regulator and competition authority. However, in doing so, it sacrifices the economies of scope available to a vertically integrated enterprise. Furthermore, the empirical economics literature suggests that railways that are freight-dominant and railways that are densely operated – both characteristics of Ukraine – enjoy lower operating costs if vertical integration is maintained via third-party access than in the case of vertical separation [24-26].

At this point in the intellectual and political debate, reformers may be quite satisfied if they are able to see implemented first experiments and then an actual regime of third-party access – that is, a railway structure in which Ukrzhaliznytsia remains vertically integrated but is required to permit essentially unlimited access to the infrastructure by independent TOC's, whether foreign operators (Deutsche Bahn, PKP, perhaps in the future RZhD) or new operators introduced by shippers or domestic entrepreneurs. However, for this experiment and restructuring to work, the government and the courts will need to provide strong support to the new rail regulator and the AMCU, which will be required to enforce non-discriminatory access terms. Some of the regulators and antimonopoly authorities in the EC already have relevant experience in this area that may be instructive.

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Пітман Р.В.
(професор Київської школи економіки та директор з економічних досліджень, Антимонопольний відділ Міністерства юстиції США)

СТВОРЕННЯ КОНКУРЕНЦІЇ НА УКРАЇНСЬКИХ ЗАЛІЗНИЦЯХ: ПОГЛЯД ЕКОНОМІСТА

Стаття присвячена проблемі створення конкуренції на українській залізниці. Обґрунтовано, що українська залізниця не є унікальною у володінні державною, вертикально інтегрованою монопольною залізницею. На основі досліджень було доведено, що конкуренція є одним із способів підвищення ефективності та результативності діяльності порівняно з часами державної монополії. Оскільки перевезення пасажирів на залізниці не є прибутковими, основна увага приділяється вантажним залізничним перевезенням. Було досліджено дві широкі стратегії, доступні для створення конкуренції в залізничному секторі. За європейською моделлю інфраструктура залишається монополією держави, в той час як незалежні компанії, що експлуатують поїзди, конкурують за надання послуг вантажовідправникам, сплачуючи регульовані збори за доступ оператору інфраструктури. Відповідно до американської моделі, лише компанія, яка володіє інфраструктурою, зазвичай керує поїздами на цій інфраструктурі. Зроблено висновок, що кожна з двох моделей має свої переваги та недоліки. Американська модель має більше переваг. Очевидною перевагою цієї моделі є фінансування інфраструктури. На рівні влади та реформаторів є дискусійні питання щодо найкращої моделі української залізниці. На сьогоднішній день Україна обрала європейську модель. Цей вибір – експеримент. Важливо дати відповідь на питання, на який із різновидів цієї моделі в кінцевому підсумку мають орієнтуватися реформатори? Вибір не з легких.

Зроблено висновок, що уряду та судам необхідно буде надати потужну підтримку новому залізничному регулятору та Антимонопольному комітету України, які будуть зобов'язані забезпечити дотримання недискримінаційних умов доступу до інфраструктури.

Ключові слова: *створення конкуренції, залізниці, європейська модель, американська модель.*