INSTITUTE FOR ECONOMIC RESEARCH AND POLICY CONSULTING
IN UKRAINE
GERMAN ADVISORY GROUP ON ECONOMIC REFORM

Reytarska 8/5-A, 01034 Kyiv, Tel. (+38044) 228-6342, 228-6360, Fax 228-6336
E-mail: institute@ier.kiev.ua, http://www.ier.kiev.ua



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Ukrainian Railways: What needs to be done?

Executive Summary

During recent years, Ukrzaliznytsia (UZ), Ukraine's monopoly railway operator, has undergone substantial structural changes that have led to remarkable improvements in its performance. On the other hand, repeated controversies about the extent, to which freight transportation tariffs charged by UZ are necessary to cover its costs of operation, or simply represent excessive monopoly pricing, demonstrate the need for more transparency and, probably, reforms. In this paper we discuss those different views, and present a constructive reform agenda.

Despite recent achievements, UZ still faces large problems such as continuing depletion of assets, low quality of freight transportation services or persistent cross-subsidization of passenger- by freight transportation, and it finances activities, which might not always and fully be driven by commercial calculations (e.g. faster passenger trains, toll road Kyiv-Odessa, etc.). All this supports the impression that UZ's operations are mainly politically rather than commercially motivated. We argue that this is very problematic because it clearly comes at the expense of freight transportation customers and imposes an unjustified, substantial impediment to growth and further development to those industries.

To improve this situation we recommend institutional and regulatory reforms, in particular transforming UZ into a public, corporatized enterprise and separate suburban, passenger and freight transportation where the latter—as prime user—also receives the railway infrastructure (tracks). Furthermore, an independent regulator should supervise infrastructure access as well as tariff setting and control. Once those reforms are successfully implemented, further efforts should seek to stimulate competition in order to replace regulatory needs where possible.

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1. Introduction

Railway transport is increasingly important for Ukraine due to the heavy reliance of Ukraine's economy on railways with a share of 52.5% of all freight traffic. Most of this traffic consists of goods such as coal, ore, and ferrous metals, which—at least over a short- and medium-turn perspective—cannot be economically transported on roads or ships.[1] Thus, there is basically no possibility for inter-modal competition, making UZ a monopoly transporter. Therefore, the **competitiveness of many industries depends on** availability of a low-cost **railway transport service.**

During recent years, Ukrzaliznytsia (UZ), Ukraine's monopoly railway operator, has significantly improved its performance due to substantial structural changes. Nevertheless, repeated controversies about the extent, to which freight transportation tariffs charged by UZ are necessary to cover its costs of operation, or simply represent excessive monopoly pricing, demonstrate the need for more transparency and, probably, reforms. In this paper we discuss those different views and present a reform agenda for the creation of railway companies that operate transparently at competitive but fully cost-covering prices, without that either public budgets, or private industries, or both have to pay the bill.

2. Things are improving! Why change?

During recent years, **UZ has achieved doubtless progress**. The levels of barter have decreased from 85% in 1999 to 1% in 2002 increasing the company's monetary income. At the same time, the number of employees has been significantly reduced, in part due to the transfer of social infrastructure from the balance sheet of the railway enterprises into communal ownership. The railways also

[1] In general, transportation on roads and in particular on ships are interesting alternatives. However, given the current state of Ukraine's infrastructure we expect them to play a significant role only in the medium- and long term.

optimized their schedules, and decreased the intensity of suburban transportation to reduce losses. Many enterprises within the sector were corporatized, restructured and unprofitable or non-core businesses were either externalized or closed down. The railway management has undertaken important steps to increase the transit capacity of Ukrainian railways as well as dedicated attention on introduction of new service development such as contrailer transportation. Finally, one of the most important steps necessary to ensure profitability of the railway system are the recent raises in tariffs aiming at full cost-coverage.[2] As a result of those measures, financial discipline and manageability of the railway sector has been steadily increasing and since 2001 UZ even reports net profits. At the same time, a number of high-visibility projects, such as renovation of railway stations all over the country and introduction of faster passenger train connections between Kyiv and Kharkiv and Kyiv and Dnipropetrovsk, have improved the image of Ukrainian railways.

Those achievements notwithstanding, overall **railway assets** are still **fairly outmoded** and **continue to deplete**. For example in 2001, 32% of the passenger cars were older than 26 years while only 2% were less than 8 years in use. Furthermore, the share of depleted rolling stock was estimated at about 75%, compared to 49% in 1998 and 39% in 1992.[3] In 2003, the Ministry of Transportation estimates depletion of traction equipment at even 79%. Thus, despite the recent attempts to invest in new passenger wagons, freight wagons and locomotives, overall depletion with its corresponding consequences such as low quality of freight transportation, e.g. indicated by persistent problems of providing freight customers with wagons, apparently continues. Against this background, some of the recent investments by UZ such as the UAH 1 b into the development of the high-speed passenger connections, suggests an at least **unclear priority setting** given that at the same time rolling stock and freight services have not improved at the pace the tariffs were growing.[4] In addition, UZ has also become heavily involved in **financing non-railway-related projects** such as the construction of the toll road Kyiv-Odessa where the South-Western Railway, a regional unit of UZ, issued three-year bonds in

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[2] In February 2001 as well as in December 2002, freight transportation tariffs were increased by 14.8% on average. Both times, the decision was taken only after intense political controversies between UZ, the Ministry of Transportation, CabMin and representatives of major customers such as the steel industry.

[3] State Statistics Committee of Ukraine (1999): Transportation and Telecommunications in Ukraine, p.13. Appeal of the All-Ukrainian meeting of transport industry workers to the President of Ukraine, Cabinet of Ministers of Ukraine and to the Verkhovna Rada. Signed by Minister of Transport V. Pustovoitenko. July 20, 2001.

[4] Capital investments of UZ in 2002 accounted for UAH 2.3 b and for 2003 investments of UAH 2.2259 b are planned. Most projects are financed out of own resources, outside financing accounts for only 3.2% ("All Transport", No 7-8, August 2003).

the amount of UAH 500 m, or plane construction in Kharkiv (through Ukrtransleasing) and even aid donations to the loss-making state-owned aviation company "Airlines of Ukraine" (USD 141,000 and UAH 1.9 m on the order of the Ministry of Transportation). Furthermore, losses from passenger transportation are still financed out of proceeds from freight transportation,[5] indicating that **freight-transportation tariffs are also used for cross-subsidization**.

While both, UZ's investment priorities as well as cross-subsidization of passenger transportation might—more or less—be justified by political considerations of a government they hardly fit the **logic of a commercial railway operator**. Thus, the impression arises that UZ—integrated into the Ministry of Transportation—has been increasingly used as an engine for quasi-state aid, public project financing and implementation of high-visibility projects with unclear economic justification. Hence, all the **achievements** mentioned above **come at the expense of customers of freight transportation services**, either immediately through too large tariffs, or successively through depleted assets due to under-funded maintenance with accordingly higher costs in the future. Either way, such freight transportation tariffs impose a **substantial impediment to growth and further development** of industries such as coal or steel that rely heavily on railway transportation and, given their relative importance, for the economy as a whole. Therefore, without substantial changes that will direct resources towards the renewal of rolling stocks and increases in service quality while keeping tariffs at the lowest possible level, current achievements of UZ will first, not be sustainable, and second, likely to lead to **further problems to Ukraine's economic development**. But, what type of changes needs to be implemented?

3. What to do? Recommendations for a sustainable reform

The phenomenon of a state-owned railway company integrated into a ministry and following a political rather than commercial logic is not unique to Ukraine. In fact, even in most of the Western European market economies it was standard until the 1970s. However, they all failed to provide their services without an increasing dependency on state subsidies or, like in Ukraine, were increasingly engaged into non-core activities, so that their financing became an increasingly unaffordable burden either for the state budget, or for customers, or for both. Consequently, European governments largely embarked on more or less successful reform

[5] For example, according to own information UZ accounted for net profits of UAH 1,551,387 during the first nine months of 2002, which were split into net profits of UAH 2,059,032 from freight transportation and losses of UAH 507,645 from passenger transportation.

programs.[6] One of the most successful ones was realized in Sweden (see box I). This model might be of particular interest for Ukrainian policy makers since, unlike in most other European countries, freight transportation occupies a dominant share also in Sweden.[7]

Box I Railway Reform in Sweden

The main principle of the reform was separating different, separable sub-activities into independent and self-responsible units, and letting them compete with the respective other means of transportation (roads, ships, planes) or regulate them accordingly in order to reduce costs and tariffs.

Separation activities consisted of three steps:

1) Vertical separation of the railway industry into the National Railway Administration (Banverket), which owns and operates the infrastructure and regulates the access of different train operators, and the SJ train operator.
2) Vertical separation of SJ into three different units for freight, passenger and suburban transportation with different customer structures and priorities concerning service quality. This has increased financial responsibility and has facilitated the monitoring of subsidies to passenger services. It was finally accompanied by various organizational changes within each unit to improve manageability and accountability.
3) Introduction of a quality-enhancement program.

During this reform, SJ has successfully reduced its costs of operation, mainly because of substantial labor shedding from 29,000 to 14,000 workers, conducted in close cooperation with the respective labor unions. This has enabled the company to realize the highest productivity levels at the lowest freight fares within Europe, which was extremely necessary in order to compete with freight carriers on roads. Overall, SJ managed to turn a loss of USD 122 m in 1988 into USD 72 m profits in 1995, demonstrating the success of the Swedish model.

For information on reforms of Swedish railways see Banverket Annual Report 2002 (www. Banverket.se), and Lundberg, A: Restructuring of the Swedish state railways, EJRCF.

In general, international experience such as the Swedish case show that key to successful reforms is the principle of transforming national railways into independent, self-responsible units in order to **replace national ideology by commercial logic**, where the management obtains the freedom to concentrate investments on areas where (expected) returns justify it. We therefore recommend focusing main efforts on changes in **institutional** (3.1) and **regulatory** structure (3.2) to create the pre-conditions necessary for a further, competitive development of Ukrainian railways. Those changes are likely to occupy a period of approximately 5 years. Only **afterwards**, further measures should eventually seek to stimulate **competition** (3.3) in order to replace direct regulation

[6] For extensive description of international experience see German Advisory Group Beraterpapier O20: Restructuring and Tariff Regulation in the Railways Sector – Conclusions for Ukraine from International Experience, Kyiv 2001. See also OECD-ECMC: Railway Reform – Regulation of Freight Transport Markets, Paris 2001. J.H. Winner: Railways and the Role of Government. Presentation prepared for The World Bank Railway Workshop, Bucharest 2002.

[7] In 2002, Swedish railway's turnover was 9.1 b passenger-kilometers and 19.0 b ton-kilometers, compared to 49.7 b passenger-kilometers and 177.5 b ton-kilometers in Ukraine in 2001. Furthermore, both have a similar length of tracks (17,000 km in Sweden versus 22,212 km in Ukraine).

where possible because necessary measures do in part depend on results and insights obtained during institutional and regulatory reforms.

3.1 Institutional reform

3.1.1 Corporatization of UZ

Currently, UZ is a non-corporatized enterprise that operates and regulates all railway operations in Ukraine, and is in turn subordinated to the Ministry of Transportation. At present, the Minister of Transportation is also head of UZ. Naturally, replacing national ideology by commercial logic and preserving management freedom to run the business competitively requires **separating the management of UZ from the Ministry of Transportation**. Instead, UZ should be transformed into **public enterprises in corporate form** with an independent management, while the government retains controlling rights through its representation in the board. Such a step will increase transparency and help to reveal the full, efficiency-enhancing potential of market forces. More precisely, UZ should be separated into three public enterprises as follows:

3.1.2 Horizontal structure

We suggest a division into three separate and independent units serving

1) Freight transportation,
2) Passenger transportation,
3) Suburban transportation.

This will increase transparency and allows for an accurate cost accounting of each sub-activity, a crucial condition for cost-covering tariff setting and appropriate regulation.

3.1.3 Vertical structure

In general there are two possibilities of how the vertical structure of railway companies can be organized:

1) In the **Prime user approach** the railway infrastructure is vertically integrated into the largest rolling stock operator, while other operators pay access fees for using the tracks.

   Advantages:

   - No risk for disruption of primal user from infrastructure network (with corresponding high costs for economy).

- Optimal coordination of infrastructure investment towards the needs of the primal user.

Disadvantages:

- Potentially less optimal coordination with needs of other users, in particular potential entrants.

2) **Complete vertical separation** of all rolling stock operators and creation of independent infrastructure operator.

Advantages:

- More capable for guaranteeing equal access to tracks.
- Operator and railway companies can focus on their core business.
- Maximum transparency (costs and regulation, subsidies and other government policies).

Disadvantages:

- Planning of infrastructure investments does not necessarily coincide with requirements of railway companies.

While none of the two alternatives can be favored in general,[8] the specific situation of Ukraine with a clearly dominating role of cargo traffic suggests choosing the first approach with the **freight transportation operator as Prime User.**

3.1.4 Regional separation

Currently, UZ is separated into six regional sub-companies under the control of the central office. Compared to a structure where the entire railway system would be completely managed by one central body, such a decentralized system bears the advantage of providing smaller, better-accountable and controllable units. Therefore, given the already complex tasks of horizontal and vertical separation ahead, a further regional separation appears to be non-advisable at this time. Rather, both the newly established passenger- as well as the freight-transportation company should for now preserve their regional structure, combined within a central holding each.

[8] For example, while the USA (Amtrak) or Japan (Japan Rail Freight Corporation) follow the prime user approach, railway reforms in Sweden or the United Kingdom have realized full vertical separation.

3.2 Regulatory reform

For this institutional reform to improve the current situation, it needs to be accompanied by regulatory reforms aiming at the following objectives:

- Prevention of price abuses.
- Provision of adequate investment levels including infrastructure and rolling stock.
- Increasing transparency in provision and use of public subsidies.

3.2.1 Creation of an independent Regulator

Measures necessary for achieving those goals should initiate substantial changes in regulation and, to a smaller extent, in competition within Ukraine's railway systems. In contrast to the Swedish example, Ukrainian railways—in particular freight transportation—face only little inter-modal competition from waterways and roads. Therefore, **extensive regulation** will be **crucial to prevent abuse of monopoly power** of the newly created operators. In principle, the **regulation authority must be independent** from operators as well as from the government, and there should also be the possibility to solve disputes in courts. Furthermore, regulation has to focus on both, rolling stock operations and infrastructure provision. For the former, main emphasize should be given to **regulation of tariffs**, while for the later guaranteeing **access** and **non-discriminatory prices** for non-prime-user operators are also crucial.

In general, **regulation of tariffs** consists of two parts, the choice of a **pricing rule** and its **control**:

3.2.2 Pricing Rule

Establishing the appropriate pricing rule amounts to finding a compromise between the objectives of the service provider, who wants high enough tariffs to cover all costs and to generate some profit, and the customers, who favor low tariffs. While theoretically, several pricing rules are possible for industries with increasing returns to scale such as railway operations, practical experience has shown that establishment of **full-cost-covering prices**, including costs of infrastructure investments and an appropriate capital remuneration, should be the main regulatory objective. This in turn requires information on all costs for the provider, including investments for maintenance and necessary expansion.

3.2.3 Tariff Control

Once a pricing rule is established, there are two general ways for the regulator to conduct tariff control, price cap or profit cap regulation. For price-cap regulation, the regulator establishes a maximum price level for the operator to charge (usually together with a minimum level of quality). While this creates strong incentives for operators to increase profits by reducing costs (at the minimum quality level), it does not ensure sufficient return on risky investments. On the contrary, under profit-cap regulation the regulator sets the tariff so as to ensure a certain profit level for the provider. This in turn does not create incentives for reducing costs, but it ensures a certain return on investments. Given the substantial need for future investments to sustain functionality of Ukraine's railway systems, **profit-cap regulation** appears to be the more appropriate strategy. However, regulators may switch to price-cap regulation later on when stimulation of competition becomes the main objective.

3.2.4 Elimination of Cross-Subsidization

Furthermore, regulation of railway tariffs should gradually eliminate cross-subsidization of passenger transportation by freight transportation. In particular, this will lead to:

- Increasing transparency of the entire system, thereby making it more attractive for outside investments.
- Stronger incentives for providers to reduce the number of non-paying passengers by improving fare-collection systems, in particular for suburban transportation.[9]
- Making the non-covered costs of privileged and low-costs passenger transportation obvious to decision-makers, thus stimulating necessary political decisions (that is, either losses are covered by respective budgets, or privileges are reduced, or both).

3.2.5 Public goods provision

Naturally, pure commercial logic cannot be the sole driving force of railway operations since they also provide an important public good. For example, providing railway access to remote areas might—although loss-making for the railway operator—still improve welfare levels of the society as a whole. Hence, enforcing politically determined minimum standards (e.g. concerning network density)

[9] For example, Kyiv city administration reported recently that revenues in one of their bus routes increased by about 17% after a new electronic turnstile was installed for testing purposes.

is a further important task of an independent regulator. If this causes losses to the railway operator, they should be covered either by allowing the operator to charge higher general tariffs or, preferably, through direct payments from regional/national budgets. However, cross-subsidization of one type of railway operations by another, as is currently the case between freight and passenger transportation, is a clearly sub-optimal solution as this leads to distortions beyond railway operations (e.g. taxation of industry through higher transport tariffs) and thus, additional efficiency losses. Furthermore, the decision whether or not to enforce such minimum standards should also depend on the availability of non-railway competition, in particular for the popular case of providing remote areas with passenger transportation.

3.3 Stimulating Competition

Once institutional reforms have been successfully implemented and appropriate independent regulation is in place, further efforts need to concentrate on stimulation of competition. For passenger transportation this appears to be rather straightforward given the high competition from transportation on roads and airplanes. In these cases, suburban transportation or specific intercity railway connections could be operated within **Public Private Partnerships** (PPP) such as franchising or concessions to combine efficiency-enhancing advantages of private participation with public-responsibility-related arguments in favor of state ownership.[10]

For freight transportation the situation is more complicate since substantial competition from roads and waterways cannot be expected. Thus, the only remaining alternative is competition among different railway operators, for example the six regional freight transport operators that emerged from horizontal separation, and—probably—additional entrants.[11] In this case, a crucial question is to decide whether operators have to compete by using the same tracks, or by offering comparable connections on parallel routes where the required railway infrastructure remains integrated within the respective operator. While the first alternative requires a rather sophisticated level of access regulation and arbitrary courts, the second alternative requires further restructuring of freight operators and infrastructure assets to create a sufficient amount of parallel tracks operated by different companies. Furthermore, the decision whether to stimulate such intra-modal competition at all has to be carefully weighed against potential benefits from merging operators in order to utilize scale

[10] See Beraterpapier S20 for a detailed discussion on PPPs.

[11] In addition, several short connections, which are mainly occupied by specific cargo traffic e.g. between different plants, should be separated and given into independent PPPs.

economies. Therefore, given that railway reforms in Ukraine have just started, we regard it as too early to point out the most appropriate model of how competition should be stimulated and preserved in the long run.

4. Conclusions

In recent years, Ukrainian railways successfully dealt with the bequest of the general economic crisis and managed to show profitable performance. However, the depleting stock, inefficient organizational structure and political pressure still call for continuation of reforms towards sustainable profitability and the capacity to serve the growing needs of other industries, which rely heavily on railway transportation.

Currently, the main stumbling block is political dependence of UZ, which is subordinated to the Ministry of Transportation and controls both, regulatory and economic activities of Ukrainian railways. We argue that such a structure distorts investment priorities and operational goals and calls for unbundling. We therefore recommend transforming UZ into a corporatized, public enterprise and separate it into three independent units serving freight, passenger and suburban transportation where the railway infrastructure remains with the primal user, the freight-transportation unit. At the same time, we recommend creating an independent regulator separately from the Ministry. Once those institutional changes have been implemented, there is a scope for introducing competition and private interests into the sector.

It is important to realize that procrastinating with those necessary changes will—despite all recent achievements—endanger not only the future development of Ukraine's railway industry but, more importantly, also the development of the economy as a whole, since many sectors heavily rely on railway transportation.

I.P., F.P. Lector: R.G.

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