

EUROPEAN INTEGRATION PRIORITIES OF UKRAINIAN RAILWAYS IN CONDITIONS OF GLOBALIZATION

Olga Stasyuk

PhD, Institute of Economics and Forecasting of Ukraine National Academy of Sciences,
e-mail: stasyuk_o_m@ukr.net, Ukraine

Oksana Pikulyk

PhD, Lesya Ukrainka Eastern European National University,
e-mail: oksanalutsk2009@rambler.ru, Ukraine

Abstract. Authors determined the main priorities of the Ukrainian railways in the course of European integration. These priorities are examined in the context of institutional and infrastructural integration of Ukraine Railway Transport. Authors defined the main tasks of the railway transport of Ukraine within the framework of European integration priorities.

Keywords: railway transport, priorities, European integration process, institutional and infrastructural integration.

DOI: <http://dx.doi.org/10.23856/1806>

Introduction

Globalization processes cover not only trade, capital market, industrial production, and also the integration of transport systems. An integration of the railway transport of Ukraine into the European transport system is one of the priorities of Ukrainian state policy. This is evident from signing of the Association Agreement between Ukraine and the EU, which became the basis of the large-scale internal changes in all spheres of Ukrainian economy, including the railways, that, moreover, are in the process of the internal reforming and therefore it determines a particular interest in the prospects of the railway transport. Railway transport cooperation, in accordance with the Agreement, ensures the implementation of 8 directives and 4 regulations for the period of 8 years, i.e. until 2022. Therefore, the integration processes of the railway transport of Ukraine should be coordinated with the internal reform processes and the implementation of the relevant directives and EU regulations in the sector.

Directions of institutional and infrastructural integration of Ukrainian railways

The most effective in the next few years for Ukraine in the framework of the Association Agreement is the sectorial integration cooperation, where the important role in the transport sector belongs to the railway transport. The international integration process in the transport sector can manifest itself as *functional* (joint ventures, companies and corporations in the transport sector), *institutional* (going through the participation of countries in the international transport organizations, in management and coordination of international cooperation, promotion of common standards, rules regarding transportation and regulation of the market of transport services) and *infrastructural* (occurring through a combination of disparate transport infrastructure into a unified transport and communication system of two or more countries) integration (Nykyforuk, 2009).

The need to increase the competitiveness of Ukrainian railway transport in the international transportation market allows us to determine a number of priorities for the Ukrainian Railways in terms of deepening the institutional and infrastructural integration in the context of the European integration process in the transport sector:

1) *Intensification and implementation of the railway transport reform taking into account the experience of European countries.*

Railway transport reform is taking place in accordance with the State Program of Reforming Railway Transport for 2010-2019 (Derzhavna tsil'ova prohramare formuvannia zaliznychnoho transportu na 2010–2019 roky). The reform involves the creation of an effective mechanism for intra-industry competition through a policy of liberalization of access to potentially competitive sectors, following the European reforms and realizing their principle of separation of infrastructure and transportation – infrastructure management and management of the transportation process, that was firstly defined in the EU by Directive 91/440/E40 (Council Directive on the development of the Community's railways, 1991). This will force the railroad to introduce new rules and management principles for the organization of these fields, to define and set new appropriate requirements to own property, own calculations, i.e. its own financial performance. Open access to railway infrastructure will provide the possibility for new businesses to be started that will offer new and better services. According to three European directives and one regulation that provide access to market and infrastructure, any carrier should have the right to use the infrastructure. A prerequisite of equal access to the railway infrastructure is the organizational and financial separation.

The reform of the Ukrainian Railways becomes urgent in the light of the approximation of national and European legislation in the framework of the Association Agreement between Ukraine and EU and because the paces of the rail transport reform in Ukraine is much slower than in EU. This requires a review of the State Program of Reforming Railway Transport for 2010-2019 to adjust the terms of reform and harmonize the normative-legal base of the reform with the basic provisions of the relevant EU directives, that will ensure the institutional integration of Ukrainian Railways with the European ones.

2) *Large-scale technical and technological modernization of railways and transition to an innovative development path.* Some of the most acute problems of the Ukrainian Railways are: 1) the physical and moral deterioration of the rolling stock, the inconsistency of its technical and economic characteristics to the modern requirements (table. 1) and 2) the infrastructure deterioration, (table. 2), therefore, the technological upgrade is one of the priority tasks for today.

In the period of 2000-2015, the operated traction rolling stock decreased by 17 % (782 units), freight cars – by 42 % (77,8 thousand units) and passenger cars – also by 42 % (3,8 thousand units), that is, the amount continuously decreases and the operational lifetime increases.

The main reasons for this situation are: 1) decommissioning of the rolling stock, which has fulfilled the appointed service life; 2) permanent underfunding, that makes the rate of aging of the Ukrainian Railway rolling stock much higher than the rate of buying of the modern ones; 3) ineffective approach to the maintenance and updating of the material and technical base (the necessary technical services haven't been provided in full, the rolling stock hasn't been renewed in time); 4) regular failure to implement major state programs for the renewal of the rolling stock and infrastructure.

Table 1

Railway transport inventory, rolling stock in 2000–2015, units*

Rolling stock by purpose	Years			
	2000	2005	2010	2015
Diesel	2741	2572	2539	2151
Electric	1796	1797	1861	1720
Locomotives	140	66	51	24
Freight cars, thous. including:	185,7	150,3	120,6	107,9
covered	21,0	18,3	12,0	7,1
platforms	16,2	12,5	8,6	5,5
open wagons	82,5	64,4	59,6	48,5
tanker	17,8	14,3	9,6	9,5
refrigerators	4,1	1,1	0,3	0,5
Passenger cars, thous. including:	9,0	7,9	7,3	5,2
soft	0,4	0,4	0,4	0,3
no compartment	4,6	3,9	3,6	2,7
compartment	2,7	2,5	2,5	1,9
interregional	0,3	0,6	0,4	0,2
dining cars	0,3	0,2	0,1	0,1
baggage, mail-baggage	0,2	0,1	0,1	0,04

* Source: Derzhavna tsil'ova proqramare formuvannia zaliznychnoho transport na 2010–2019 roky

Table 2

The railway network technical equipment in 2000-2014, km*

Indicators	Years			
	2000	2005	2010	2014
The operational length of the path including 2-track and more	22301,9	22001,4	21705,2	20969,1
	7279,1	7150,7	7333,9	7312,0
The exploited length of electrified sections including alternating current	9169,8	9407,2	9877,1	9990,00
	4510,2	4716,6	5112,6	5506,09
The operational length of lines equipped with automatic block system and dispatching centralization	13491,5	13378,3	13402,2	12829,89
The total length of main tracks	30328,8	29848,1	29661,1	28886,9
The length of the tracks on reinforced concrete	18885,6	21532,5	24730,2	25066,1
The length of jointless track	171189,7	19242,7	21387,0	21663,3

* Source: Derzhavna tsil'ova proqramare formuvannia zaliznychnoho transport na 2010–2019 roky.

The deepening integration of Ukrainian Railways will cause both positive (for example, import of new technologies) and negative consequences (including vulnerability of domestic producers) for technical and technological renovation.

3) *The development of multimodal (combined) transport through participation in the European multimodal projects.* EU enlargement to Ukraine's borders brought new challenges on the transportation zone formation and the ITC development.

Ukrainian Railways conduct transportation services within three (№ 3, № 5, № 9) Pan-European international transport corridors, defined at the second Pan-European transport Conference in Crete. However, the pace and scale of the railway infrastructure development in Ukraine are not comparable with the similar processes in the European countries that are not only active in the development of their transport networks but also in the implementation of innovations. One of the important tasks is to complete the new Beskidy tunnel that will allow to increase the throughput of the fifth European transport corridor (Italy – Slovenia – Hungary – Slovakia – Ukraine). Its strategic importance is determined by its special role in transporting goods to the Western border of the country, and the completion of the new Beskidy tunnel will allow increasing the efficiency and the traffic speed on this part of the corridor.

In addition to infrastructure projects, it is also important to improve the traffic management system within international transport corridors, to carry out the analysis of the modern transport market and its prospects, to use new information technologies in the traffic flow management for both domestic and international market.

Combined transport is considered to be one of the potential of Ukrainian railways but we are far behind the EU by the level of its development and this is an obstacle to our integration into the European railway network. The combined transport train "Viking" goes through Ukraine, Belarus and Lithuania and connects the infrastructure of Maritime container and piggyback lines of the Baltic region with the similar infrastructure of the Black, the Mediterranean and the Caspian seas. The container train "Zubr" runs across four states, connecting the Baltic and the Black seas, as well as Ukrainian ports Illichivsk and Odessa with ports Riga (Latvia) and Muuga (Estonia).

There is a new project for the TRANS-European transport network development (TEN-T) in Europe. Its core and comprehensive networks should be finished by 2030 and 2050. The major aim of TEN-T policy is to connect the TEN-T networks to the infrastructure of the neighbouring countries that will also ensure effective and reliable management of migration at the external border with the emphasis upon the border crossing points, to ensure the seamless traffic flow, to simplify the border checks and the border control procedures (Updated National Transport Strategy of Ukraine, 2016).

The Ukrainian railway transport, which plays an important role in the international transport and now remains not integrated with TRANS-European transport network, can take a special place here. There are the ends of two multimodal corridors integrated into the TRANS-European transport network on the Ukrainian border. In particular, the Mediterranean corridor, that ends at Záhon station on the border with Hungary, and the Eastern corridor, that ends at Chierna-nad-Tisou and Matovce stations on the border with Slovakia. Both sides are interested in multimodal corridors to be continued on the territory of Ukraine.

4) *The development of high-speed transportation.* The important task of Ukrainian transport policy in the context of deepening integration and globalization is to increase the speed and efficiency of both domestic and transit transport.

Today, the main highly-demanded directions in Ukraine are provided by high-speed passenger transportation. However, using the term "high-speed passenger message", it should

be noted that the maximum rate (not the route rate) of Ukrainian high-speed trains is 100-120 km per an hour, while in Europe the figure is 160 km per an hour or more. High-speed rail transportation in Ukraine does not meet European standards. This leads to a contraction of European carriers demand for the railway transportations that prefer more attractive terms, routes and prices.

The further introduction of the high-speed traffic, by construction of the appropriate infrastructure and the division of the railway network separately for the passenger and freight transport on the strategic rail roads should be considered as a long-term and innovative basis for the Ukrainian Railways development. This will ensure integration within the European railway community, considering the global trends in the high-speed freight and passenger traffic development and can be implemented only through the railway reform, the gradual transition to a vertically integrated management structure.

Considering the current sharpening of competition for the transit flows, it is important today to construct a high-speed European rail track of 1435 mm width through the territory of Ukraine to provide services at the northern branch of the Silk Road, that will link Europe with the countries of the South-East Asia, including China.

5) *Recovery of the railway transport transit potential.* Rail transport is the basis of the transit potential of Ukraine (except for pipeline), as it is used to transport 75-80% of all transit cargoes in Ukraine. In 2014 the Ukrainian Railways carried 29.4 million tons of transit cargo. Comparing the peak period from 2007 to 2014, the rail transport lost almost 30% (29.4%) of the annual volume of cargo transit (graph 1).

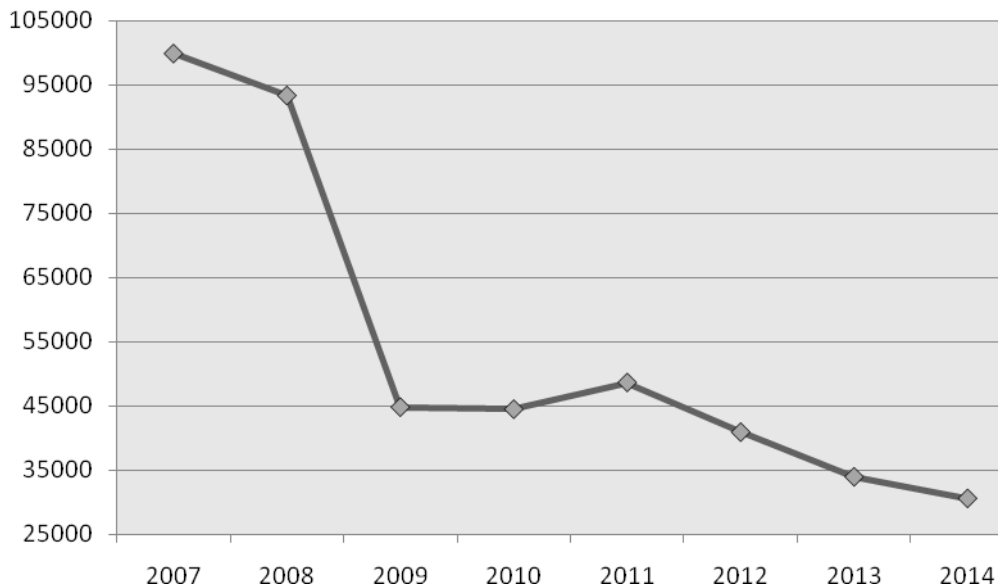


Fig.1. The volumes of transit transportation by the railway transport in 2007-2014, in million tons

Source: Derzhavna tsil'ova prohramare formuvannia zaliznychnoho transportu na 2010–2019 roky

The major part of transit goods is transferred from Kazakhstan, Russia and Belarus to European countries, particularly Hungary, Slovakia, Czech Republic, Austria and Romania and also other countries of the world through the ports (Vidnovlennia tranzynohoho potentsialu v konteksti pidvysychennia konkurentospromozhnosti Ukrainy na mizhnarodnomu rynku transportnykh posluh. Analitychna zapyska, 2014).

The two major programs expired in 2010 – the Comprehensive Approval Program of Ukraine as a Transit State in 2002-2010 and the State program of development of national network of international transport corridors in Ukraine for 2006-2010, that were implemented under the Government's policy to attract transit traffic through the territory of Ukraine. These Programs were not fully implemented, but the new state transit transport and the transport infrastructure development program was not drawn up.

The growth of international competition in the transport-transit sector for the additional transit flows, accelerated railway infrastructure development in the neighbouring countries require increasing traffic capacity on the border.

6) *The improvement of passengers services in accordance with EU directives and regulations stipulated by the Association Agreement.* The passenger rail transportation in EU is defined by two regulations – Regulation (EC) No 1371/2007 on the rail passengers' rights and obligations and Regulation (EC) No 1370/2007 of the European Parliament and Council of 23 October 2007 on the public passenger transport services by rail and by road (Regulation (EC) of the European Parliament and Council on public passenger transport services by rail and by road, 2007). Regulation (EC) No 1371/2007 was aimed at safeguarding the users' rights for the rail passengers and at improving the quality and the effectiveness of the rail passenger services in order to help increase the share of the rail transport in relation to other modes of transport (Regulation (EC) of the European Parliament and Council on rail passengers' rights and obligations, 2007).

The successful implementation of this Regulation in the railway industry of Ukraine will not only improve the quality and efficiency of the rail services and raise the safety standards of the passenger transportation operated by the railway transport, and also will help regulate relations between the railway enterprises and passengers (consumers) in Ukraine, and to preserve the share of the rail transport in the transport market of Ukraine, will contribute to improving the competitiveness of the rail transport in the internal and foreign markets.

The full implementation of this Regulation requires other directives and regulations to be implemented as the Regulation contains 6 references to these documents. Ukraine should sign an Additional agreement on transport, that will contain a paragraph concerning the implementation of this Regulation and provide a transition period.

The introduction of Regulation (EC) No 1370/2007 of the European Parliament and Council of 3 October 2007 on public passenger transport services by rail and by road into the national legislation is complicated by the lack of the public market for the rail passenger services, that has just started to form and its formation is considered to be a final stage of the deep structural reform.

7) *Creation of a traffic safety management system and environmental protection system.* The main railway transport problems are outdated production technologies, energy-intensive equipment, transporting of dangerous goods, a large number of obsolete and physically worn-out environmental constructions, increasing noise pollution, safety problems and the like ones. All mentioned have the adverse effects on the environment.

The reform of the railway sector is considered to be an opportunity to create an effective environmental safety system of the railways, that will be fully consistent with the basic

principles of national environmental policy. It is advisable to develop a sectorial environment protection program based on the EU directives (especially the Directive 2004/49/EC of the European Parliament and Council of 29 April 2004 on safety on the Community's railways (Directive 2004/49/EC, 2004), that requires a different approach to the environmental safety issues in the railway sector, as well as the study and systematization of domestic and European Railways experience in the environmental field.

Conclusions and suggestions

In summary, we can conclude that there is a common interest in enhancing the integration of Ukrainian Railways in the transport market of the EU. Western European States seek to diversify both the sources of origin of imported goods and the ways of their transportation, and the Ukrainian Railways have a considerable potential in this field. However, these activities should be more consistent and well-grounded. It is reasonable to develop a strategy on the prospects of the railway transport development, directions of its development, transit, participation in projects for the development of TRANS-European transport network (TEN-T) in the context of the world market conditions in the age of globalization.

Among the major challenges faced by the Ukrainian railway in the context of the institutional and infrastructural integration should be mentioned the following:

1) to accelerate the railway industry reform with due regard to the experience of the EU countries (to change and improve the organizational structure of the railway transport management, to ensure transparency and equal access of all entities to the railway infrastructure, leaving the state regulation in the market only for the safety-related issues);

2) to attract foreign and domestic investment for technological renovation of the main equipment and infrastructure, according to the principle of reasonable combination of technological efficiency and environmental safety on the basis of studying the European countries experience in the field of the rolling stock and railway infrastructure repair and modernization;

3) to use the opportunities given by the participation in the European multi-modal projects for the development of TRANS-European transport network TEN-T to improve the competitiveness of the Ukrainian Railways at the international level;

4) to introduce high-speed transportation services establishing long-term and qualitatively new principles of the Ukrainian Railways development on the European integration path, providing continuous market relations between economic agents and taking the challenge of globalization that makes the delivery of both cargo and passengers faster;

5) to adopt the railway infrastructure development strategy, that will allow to overcome the lag in the pace of development of the Ukrainian part of international transport corridors and to attract additional transit cargo flows that will accelerate the infrastructure integration of the Ukrainian railway;

6) to raise and keep the high quality standards of passenger transportation services according to the European principles and norms on the responsibilities of rail transport to passengers, the rights of passengers, etc.;

7) to change approaches to these issues and to create an effective safety management system of the railway transportation.

References

- Council Directive on the development of the Community's railways (91/440/EEC of 29 July 1991)*. Retrieved from <http://www.transport-ukraine.eu/docs/27>.
- Derzhavna sluzhba statystyky Ukrainy [State statistics service of Ukraine]*. [Electronic resource]. Retrieved from <http://www.ukrstat.gov.ua/>. [in Ukrainian].
- Derzhavna tsil'ova prohramare formuvannia zaliznychnoho transport na 2010–2019 roky [State program of Reforming Railway Transport for 2010-2019]*. Retrieved from <http://zakon2.rada.gov.ua/laws/show/1390-2009-n>. [in Ukrainian].
- Directive 2004/49/EC of the European Parliament and Council on safety on the Community's railways (of 29 April 2004)*. Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02004L0049-20091218>.
- Nykyforuk, O.I. (2009). Shyroka intehtratsiia v transportnomu sektori: teoriiaipraktyka [A wide integration in the transport sector: theory and practice]*. *Naukovyi visnyk Volyns'koho natsional'noho universytetu imeni Lesi Ukrainky [Scientific Bulletin of Lesya Ukrainka Volyn National University]*, No 3, 258–265. [in Ukrainian].
- Regulation (EC) No 1370/2007 of the European Parliament and Council on public passenger transport services by rail and by road (of 23 October 2007)*. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:315:0001:0013:EN:PDF>.
- Regulation (EC) No 1371/2007 of the European Parliament and Council on rail passengers' rights and obligations (of 23 October 2007)*. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:315:0014:0041:en:PDF>.
- Updated National Transport Strategy of Ukraine (2016). Transport Sector Policy: Part 1*. Retrieved from <http://mtu.gov.ua/files/Zakypivli/Ukraine%20Transport%20Strategy%20Part%201%20-%20POLICY%20NOTE.pdf>. [in Ukrainian].
- Vidnovlennia tranzytnoho potentsialu v konteksti pidvyshchennia konkurentospromozhnosti Ukrainy na mizhnarodnomu rynku transportnykh posluh. Analitychna zapyska (2014). [Recovery of the transit potential in the context of increasing Ukraine's competitiveness on the international market of transport services. Analytical note]*. Retrieved from <http://www.niss.gov.ua/articles/1844/>. [in Ukrainian].