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Financial and Credit Risk Management During the Introduction of High-speed Traffic in Ukraine

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Abstract

The article deals with urgent issues of financial and credit risk management during the introduction of high-speed traffic in Ukraine. It is noted that Ukraine's transport industry is facing the negative impact of the external environment, including aggression from Russia and the pandemic, which has required the tariff increase and additional state budgetary funds. The emphasis is placed on the important role of rail transportation in Ukraine due to the country's geographical and economic features. It is also shown that the growth of international activity and the globalisation of production have led to an increase in the volume of international freight traffic, which has required higher demands for transport systems. Thus, the introduction of high-speed traffic requires special highways and infrastructure development, which can be implemented with the state support. This support can include the budgetary funds, tariffs, loans, and international grants. Financial and credit risk management is a key component of strategic management of an enterprise, especially in the condition of a changing market environment. It is proposed to optimize the financial security forms in order to increase the traffic speed and to identify the main groups of financial and credit risks for their minimization. A mechanism for financial risk management at a railway transport enterprise is also proposed. It is based on a system of indicators and can help effectively in decision-making. The article substantiates a need for effective financial and credit risk management to ensure the stable and efficient operation of Ukraine's railway transport in the face of economic challenges and in the condition of an unstable geopolitical environment.
KEYWORDS: *financial and credit risk management, high-speed traffic, transport industry, railway transportation, infrastructure, financing, government support, efficiency, geopolitical situation, economic stability*

1. Introduction

The priority task for Ukraine today is to restore the country, overcome the consequences of the conflict on its territory and address national security and defence issues. Regarding the transport industry, it includes the introduction of high-speed traffic and the development of transport system, transport technologies, as well as addressing issues related to infrastructure and safety. Particular attention is paid to the risk-free development of the transport industry as a crucial component of the country's economic security.

Additional capital investments are not sufficient for the effective transport operation. External and internal environmental factors have a negative impact on the company's financial activities, which may result in various risks leading to financial losses. That is why the problem of neutralising and minimising financial risks at transport enterprises requires significant attention.

The introduction of high-speed traffic should be based on an integrated approach that combines technical, economic, environmental and social aspects. They are accompanied by such risk factors as high inflation, significant currency fluctuations, corruption, political instability, economic crises, imperfect taxation and tax administration, especially in relations with customs, limited access to financial resources, and bureaucracy. Special emphasis should be placed on the negative and powerful risk-forming factor of hostilities as a result of Russia's military aggression and annexation of part of Ukrainian territory, as well as the risk of a pandemic spreading with its restrictive measures, and the exacerbation of economic crises nationally and internationally.

An indicator of effective financial risk management is the minimal risk impact on the financial and economic condition, as well as the prevention of bankruptcy and liquidation of an enterprise. It should also be noted that the attempts made by individual Ukrainian transport companies to develop risk management mechanisms and tools have so far failed to ensure an effective and systematic approach. This is due to the absence of a full-fledged risk management methodology based on modern information technologies that would be appropriate to the scale and nature of today's threats against sustainable development, and would meet the requirements for innovative development of production complexes and regions.

2. Research Material

The purpose of the article is to study the process of financial and credit risk management during the introduction of high-speed traffic in Ukraine.

Ukraine's transport industry has been experiencing a significant negative impact from external forces, including the pandemic, war, economic condition, socio-cultural and political factors. In conditions of financial instability, all of these lead to the ousting of Ukrainian operators from international transport markets, reduce the quality of services for Ukrainian enterprises and the population, and pose a real threat to the national economic security.

The growth of international activity and the globalisation of production are leading to the expansion and deeper penetration of international transport and logistics systems and supply chains. This increases the intensity and volume of international freight traffic and significantly changes the volume and structure of freight transportation, thus imposing higher demands for the efficiency of international and national transport operators. Moreover, modern companies are increasingly globalising their production and trading operations, which leads to a steady increase in demand for international freight transportation.

The important role of Ukraine's rail transport is due to the following geographical and economic features:

- lower population density and long distances between regional centres, i.e., longer logistics routes;
- a large share of raw materials mostly transported by rail;
- the impact of seasonal factors on transportation (in particular for agricultural products); and
- preferential rail transportation for export products (consignor-railway-ports) [1].

Recent years have been characterised by significant difficulties in organising international rail transport due to a number of factors, including the impact of the Covid-2019 pandemic on the global market and Russia's military aggression that have contributed to a significant reduction in freight traffic. To avoid heavy losses, the Ukrainian government has raised railway tariffs for freight transportation and allocated budgetary funding. It has been a common practice that the profits generated by the freight sector have been used to cover the costs of rail passenger transport. But, due to the military conflict, the freight volume transported has fallen by half, while fuel and energy costs have risen significantly, which has caused higher losses.

It should be noted that EU countries pay considerable attention to the development of railway transport because it is environmentally friendly and ensures efficient and safe freight and passenger transportation. The comparison of the railway traffic volume of EU and that of Ukraine for 2022 is presented in Fig. 1.

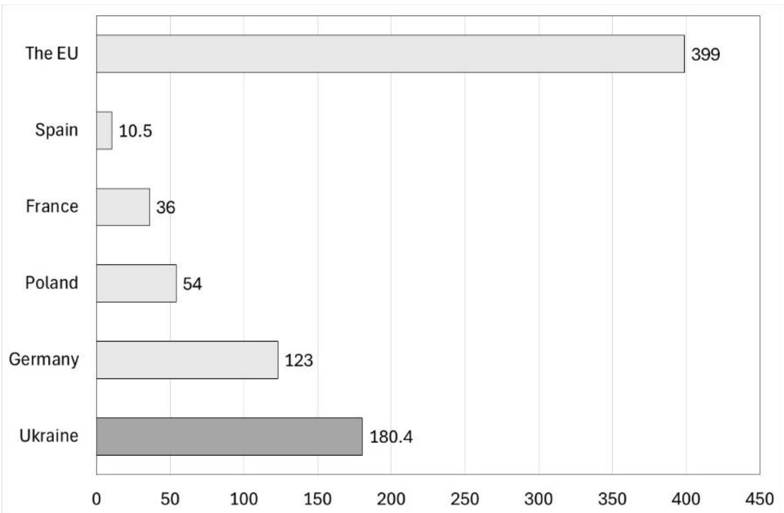

Fig. 1 The volume of rail freight traffic in EU in comparison with that of Ukraine for 2022, billion tonne-kilometres (btkm) [1]

One of the current trends in the development of global railway passenger transport market is increased train speeds. This has led to the widespread of high-speed and rapid traffic, which has led to additional competitive advantages in the global transport system in terms of the speed, safety, comfort, environmental friendliness, and regularity. These advantages are especially noticeable for distances over 400 km. However, Ukraine is characterised by a relatively low level of passenger rail service due to:

- lack of high-speed railway traffic between remote regional centres, where the average speed of passenger trains is 50-60 km/h and the train journey time can be longer than bus journey time;
- the high-speed network (Intercity+) it not provided for all regional centres to connect them with the capital;
- low level of comfort in regional and suburban trains; and

- outdated passenger car designs due to lack of pneumatic suspension, modern heating and air conditioning systems, and unsatisfactory technical state of most of the existing passenger car fleet.

High-speed railways and lines are defined by the International Union of Railways (UIC) as standard lines, the permissible maximum speed of which exceeds 200 km/h, or as new railway lines with a maximum speed of more than 250 km/h [2].

It should be noted that China is the leader in terms of the total length of high-speed lines, while the top ten leaders include the EU countries, Japan, the USA, and Saudi Arabia. Regarding the passenger traffic in the EU, a significant part of it in France, Germany or Spain (countries similar in size to Ukraine) is made up of high-speed routes (Fig. 2).

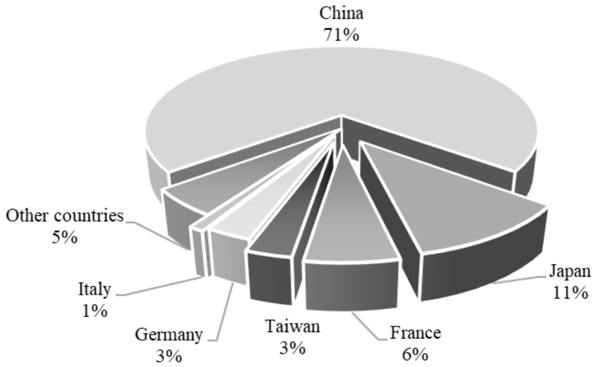

Fig. 2 Distribution of high-speed passenger traffic in the world for 2022, % [3,4]

The experience of other countries shows that the proper introduction of high-speed traffic involves the construction of dedicated railways, the development of needed infrastructure and the efficient rolling stock. By taking into account the high costs, this is implemented by means of government-supported programmes. Moreover, passenger transportation of such railways is partially government-supported due to its low profitability. An analysis of the global experience in financing the modernisation and integration of railway transport is presented in Table 1.

Table 1

Analysis of global experience in financing the modernisation and integration of railway transport

Germany	United Kingdom	Poland	Egypt
1) Debt relief 2) Decentralisation and concurrent subsidies 3) Transport market liberalization 4) Lower infrastructure costs	Budgetary funding of the state-owned property	Investments of € 2 billion by floating PKP CARGO, a logistics operator, on the stock exchange	Attraction of private capital (USD 10 billion) and external finance (USD 440 million loan from the World Bank)

Railway companies in France and Germany, for example, fulfil the state social order for passenger service, while costs and revenues are under the jurisdiction of local authorities, which receive appropriate subsidies from the state budget [5].

Ukrainian Railways (Ukrzaliznytsia, UZ), like other state-owned enterprises, can be financed in a variety of ways. The main funding sources for UZ include:

1) budgetary funds, which can ensure the operation and development of railway infrastructure;
2) passenger and freight rates, as one of the main sources of income and adequate tariffs can ensure financial sustainability;
3) credits and loans from financial institutions for funding development projects and current operations of UZ; and
4) international grants.

The introduction of high-speed passenger traffic and the acceleration of freight traffic on Ukrainian railways are taking place in the conditions of a falling investment rating for Ukraine with all its leading industries, including railway transport, as a result of Russian aggression. Freight volumes are falling rapidly, despite the fact that freight has always been the main source of revenue for the Ukrainian Railways. Therefore, insufficient funding is a major constraint to the implementation of high-speed projects for UZ.

The comparison of Ukraine's experience with that of other countries demonstrates that today's difficult situation of Ukraine's railway transport is caused by:

1) critical amount of worn-out rolling stock and railway infrastructure;
2) low financial and economic performance indicators from railway companies;
3) low investments and credit ratings; and
4) lack of needed funds for the innovative and technological development of railway transport, due to which Ukrainian Railways cannot effectively meet international standards for transport and logistics so that to satisfy the needs of society and industry.

The major problem is the lack of state budgetary funds for supporting infrastructure projects and full compensation for privileged passenger transportation. This has led to the situation when Ukrainian Railways cannot finance railway infrastructure and ensure further development of the railway industry as a whole.

Financial and credit risk management is an integral part of the strategic management of an enterprise that can help ensure its strong and steady financial position in a changing market environment. Therefore, it is advisable to optimise the main forms of financial support for high-speed traffic projects in order to identify the main groups of financial and credit risks and methods for their minimisation (Fig. 3).

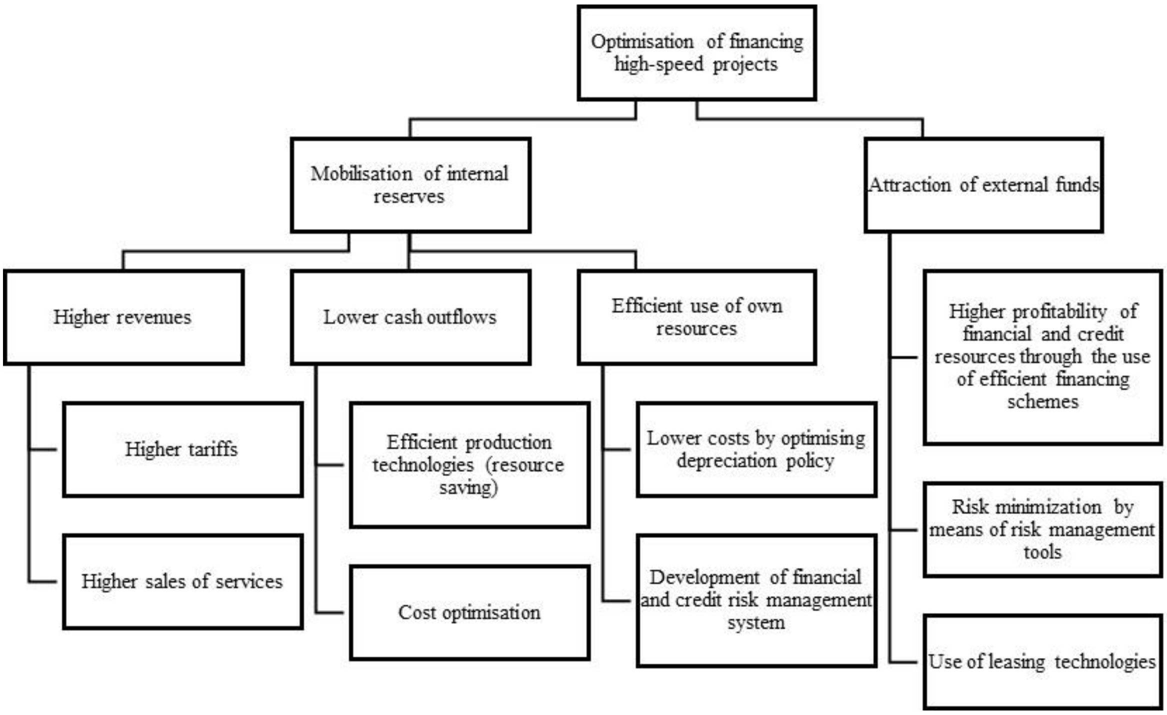

Fig. 3 Optimization of funding forms for high-speed railway projects

Under the conditions of objective financial and credit risks and various losses associated with them, there is a need to develop an efficient mechanism for the identification of risks at an enterprise, and, if possible, the neutralisation them by means of appropriate managerial decisions. Such a mechanism can be the process of financial and credit risk management at a railway transport enterprise, as shown in Fig. 4.

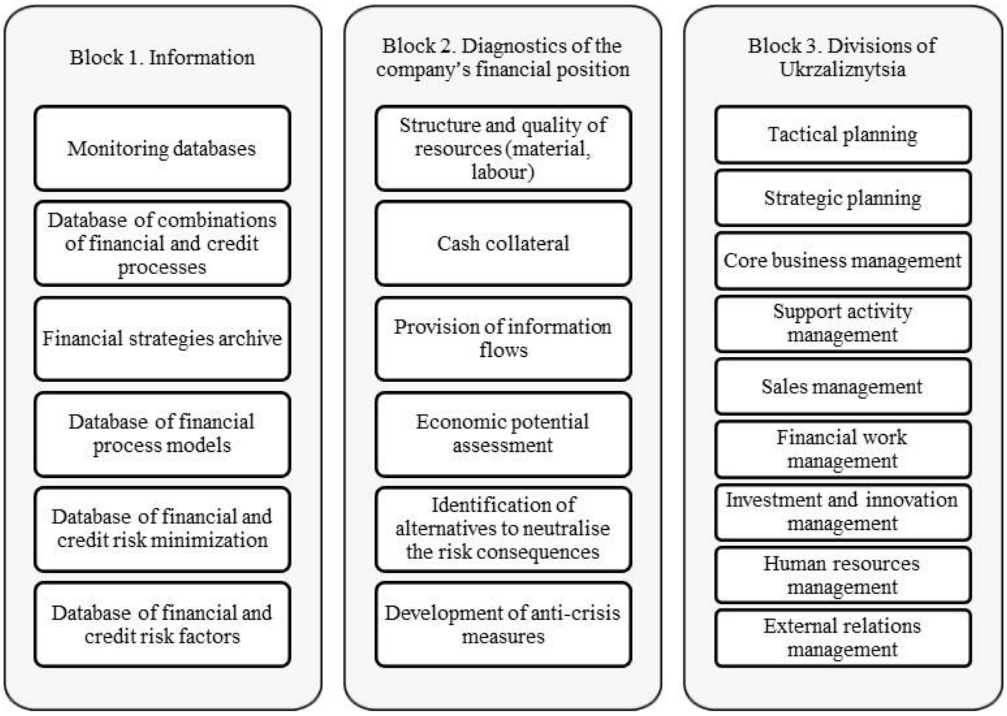

Fig. 4 Mechanism for financial and credit risk management at railway transport enterprises

This mechanism is implemented on the basis of indicators and involves the accumulation of data on risk situations with subsequent adjustment of their basic statistical probability. It allows forecasting potential risks, i.e., determining a management action plan in the current environment. The information base helps to considerably reduce the costs of an effective decision as well as its implementation. This information base includes a set of documents and methods for identifying existing financial risks.

At this stage, it is advisable to present a scheme of the financial risk management mechanism for a railway enterprise. This mechanism consists of the following:

1) Block of information;

2) Block of identification, assessment and confirmation of the feasibility of a managerial decision aimed at neutralisation of financial and credit risks at an enterprise, it also includes control and development of anti-crisis measures; and

3) Block of UZ divisions.

All blocks are interconnected and directly linked to the enterprise's administration, who makes the final decision on the financial strategy.

3. Conclusions

Rail passenger transport plays a key role in the global transport system and is essential for the country's economic development. The transit passenger traffic across Ukraine creates additional competitive advantages for the development of the transport industry. However, increased competition in the global transport market and the integration of Ukraine into European and global transport systems require the introduction of a financial and credit risk mechanism to minimise the risk impact on the development of the transport industry.

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