

## FINANCIAL ANALYSIS OF FIXED ASSETS AND SOURCES OF FUNDING THEIR RENOVATION

**Statement of problem.** Problems of fixed assets renovation and their simple and expanded reproduction are key questions. Answers to these questions provide possibility to measure the railway complex efficiency of the whole country.

Analysis of fixed assets renovation on rail transport enterprises revealed the absence of main management functions in material and technical base renovation. Low management efficiency of renovation process surely is caused by discrepancy of existing needs and financial capacity of enterprises. All this bring a necessity to improve fixed assets renovation management on enterprises. This in turn will increase profitability and efficiency of separate enterprises as well as the rail industry as a whole.

The program of hauling equipment renewal of Ukrainian railways for years 2012-2016 states that the current technical condition of rolling stock does not meet modern the requirements of transport system of the 21<sup>st</sup> century. Material obsolescence of hauling equipment is one of the most urgent problems of railways [1].

According to Section 2.9 of the Report on the financial and economic condition of state-owned enterprise "Pridneprov's'ka railway", prospects of its development are tied to, first of all, "renovation and modernization of fixed assets of the transport complex in order to achieve competitiveness in foreign and domestic markets".

Taking into account tasks set before enterprises of the rail industry, current situation in the transport and communications industry as well as numerous publications of foreign and local scientists, we consider the research is considered to be topical.

**Analysis of recent researches and publications.** Problems of fixed assets renovation and investments in rail transport facilities are disclosed in works by such scientists and researchers as M.A. Demchenko, V.P. Il'chuk, A.A. Lemishko, I.A. Mazurkiewicz, M.M. Ursulyak and others. Analysis of scientific developments and sources of this research shows a significant number of publications devoted to identification of sources of financing railways development and modernization including works by V.G. Andreychuk, D.V. Van'kovych, N.M. Kolesnikova, I.A. Makarenko, F.I. Khusainov, etc. However, most scientific studies little attention was paid to counting of branch features railroad lines in the first place – the character of the financial and economic processes of state ownership. This indicates the relevance of the chosen topic and direction of research.

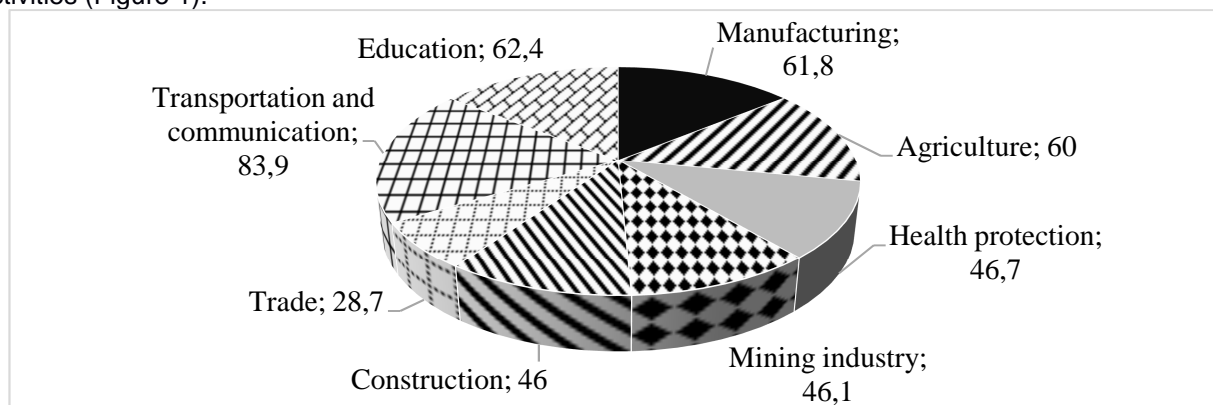
**Statement of tasks.** The research aims to substantiate main directions and current trends of the railway complex development by example of state-owned "Pridneprov's'ka railway".

The specified goal was concretized in following research tasks:

- to analyze technical condition of fixed assets on SOE "Pridneprov's'ka railway";
- to identify dependence of technical means from changes in value of enterprise's fixed assets;
- to define main sources of fixed assets financing on enterprises in rail industry.

**Synopsis of the main material of research.** The economic essence and material content of fixed assets are defining characteristics for measuring their importance for reproduction processes, functioning and development of any economic activity. The complex of existing production facilities is a major portion of the national wealth of the country by their specific weight [2].

Problems of fixed assets renovation, their associativity and obsolescence are crucial for economic activities (Figure 1).



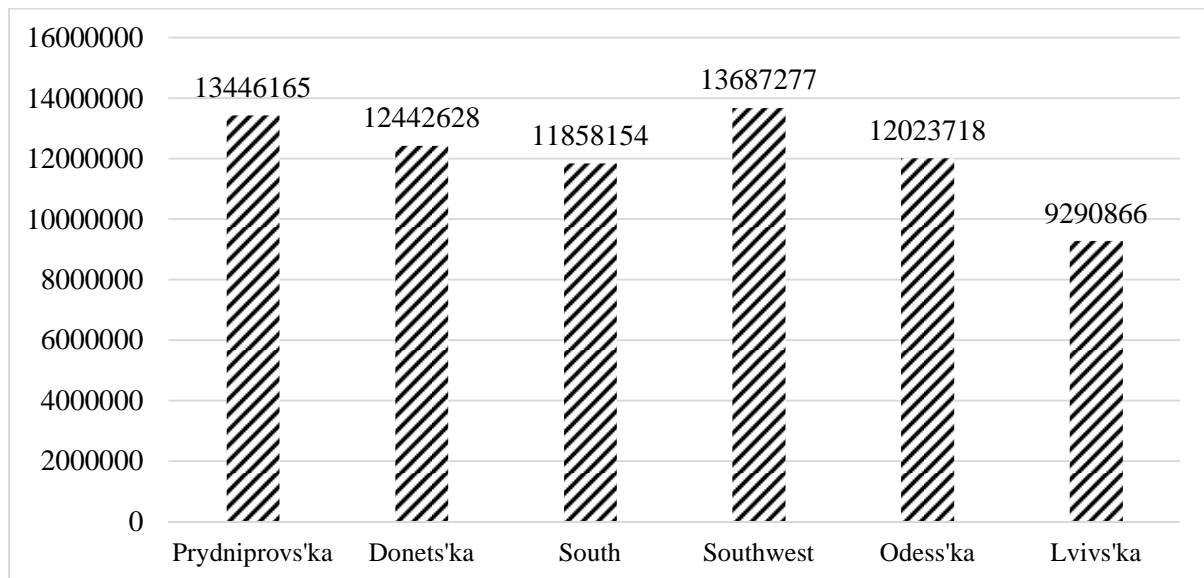
**Figure 1. Level of fixed assets' depreciation on enterprises in various economy sectors in 2010, %**

Source: compiled by the author on the basis of [6]

According to financial and economic condition report of the SOE “Pridneprovs'ka railway”, Section 2.2, the basic activity of the company is servicing Dnipropetrovs'ka and Zaporizhia regions and the Autonomous Republic of Crimea particularly:

- providing passengers and goods transportation services;
- all types of rolling stock renovation;
- metrological operations and metrological observation;
- constructing activities, building and assembling engineering and transport networks;
- wholesale and retail trading of food and non-food items;
- reconstruction and restoration of railway buildings, etc.

Figure 2 compares cost of fixed assets of all Ukrainian railways as of 01.01.2011: Prydniprovs'ka, South, Southwest, Lvivs'ka, Odess'ka and Donetsk'ska.



**Figure 2. Cost of fixed assets of Ukrainian railways as of 01.01.2011, thousand UAH**

Source: compiled by the author on the basis of [6]

Financial and economic mechanisms of fixed assets renovation can be divided into following categories based on the industrial complex's line of development:

- 1) degradation – deterioration of fixed assets' quality and quantity;
- 2) conservative – maintaining quantitative and qualitative condition of fixed assets at a constant level;
- 3) progressive – improving quality and quantitative composition of fixed assets.

Management of Ukraine Railways today sees the main sources of funding expanded fixed assets' renovation in private investments, loans and leasing [3] (table 1).

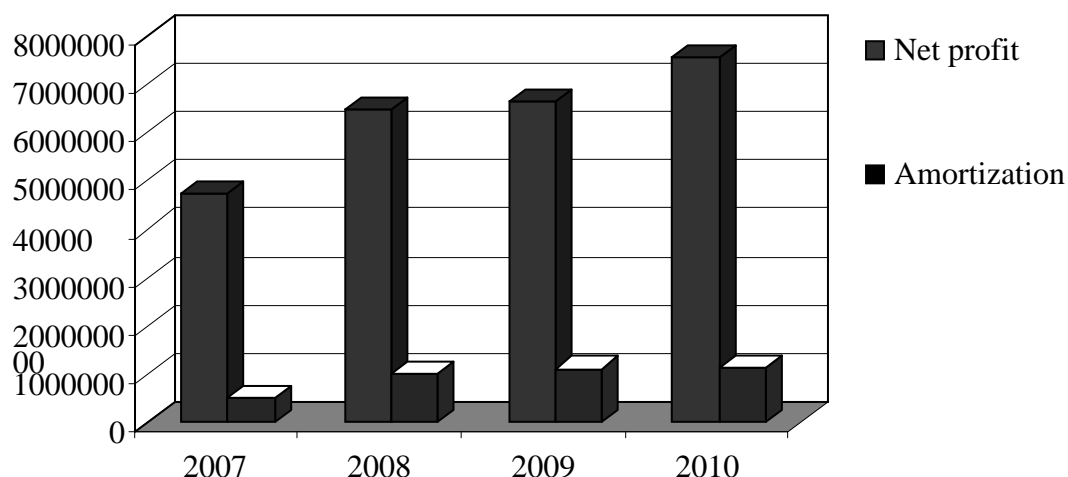
**Table 1**

**Projects of investments in rail transport (2010)**

Sources of financing	Amount, UAH million	Share, %
State budget	–	–
Local budgets	–	–
Own funds	5698.8	65.34
Obtained funds	3022.4	34.66
Total	8721.2	100.00

Source: compiled by the author on the basis of [1]

In general, sources of financing fixed assets' renovation include own, centralized and borrowed financial resources. Entity's own sources of financing fixed assets renovation include income from operating, financial and investment activities, non-sales transactions, amortization deductions, income from selling retired assets. Indexation is a specific source of funding fixed assets renovation that requires no investments. The main source of fixed assets renovation is amortization deductions and profit (Figure 3).



**Figure 3. Main sources of fixed assets renovation of SOE “Pridneprovs'ka railway”, UAH thousand**

Source: compiled by the author on the basis of [2]

In modern economy conditions the assets renovation process on enterprises is based on the process-functional approach to understanding of fixed assets circulation. Each stage of it has its own peculiarities of functionality and methods used for planning. Thus, fixed assets formation is a starting point for implementation of fixed assets circulation. So, it has a significant impact on subsequent processes of assets development, usage and reimbursement. In order to improve management of fixed assets renovation, this process should be planned taking into account entity's strategy on the basis of target planning - based on goals. This approach takes into account demand for freight transportation of each company, profitability level and corresponding market share that a company occupies. Decline in demand for transportation leads to decrease in entity's current needs of expanding its material base. That, in turn, results in revision of forms and methods of fixed assets renovation. Available technology ratio formalizes process of fixed assets' formation and development. The ratio's optimal value describes economic activities of enterprises with different industry focus. At the same time, vehicles, as an active part, are the main factor of rail freight transportation efficiency improvement. Share of the active part of fixed assets should remain within 50 - 75 % to ensure growth of rail transportation capacity [4, p. 38-41].

Table 2 provides results of fixed assets' technical condition analysis of SOE “Pridneprovs'ka railway” and dependency of technical means from changes in company's fixed assets value.

**Table 2**

**Ratios of fixed assets' technical condition and circulation on state-owned enterprise “Pridneprovs'ka railway” as of 01.01.2012**

Index	Formula	01.01.2011	01.01.2012	Absolute deviation
1. Primary value of fixed assets, UAH thousand	x	506159909	506148272	-11637
2. Net value of fixed assets, UAH thousand	x	13448814	12880521	-568293
3. Depreciation, UAH thousand	x	492711095	493267751	556656
4. Fixed assets, UAH thousand	x	13735103	13163261	-571842
5. Equity, UAH thousand	x	11707927	12904486	1196559
6. Inventory, UAH thousand	x	257733	243286	-14447
7. Goods in process	x	721	32200	31479
8. Total assets, UAH thousand	x	16436786	16164831	-271955
9. Availability ratio, %	100-(10)	2.67	2.55	-0.12
10. Depreciation ratio, %	(3)/(1)*100	97.34	97.46	0.12
11. Property intrinsic value, %	II.(030+100+120)/280	0.83	0.81	-0.02
12. Constant asset index	I.080/380	1.173	1.020	-0.153

\* Calculations are based on data of state-owned “Pridneprovs'ka railway” balance (form №1) as of 01.01.2012.

The following ratios are used to measure fixed assets' condition and circulation: constant asset index, depreciation ratio, fixed assets renovation ratio, fixed assets retirement ratio, property intrinsic value ratio.

Constant asset index (CAI) shows share of fixed assets in own funds of fixed assets.

Property intrinsic value ratio (Rpiv) shows the share of production facilities in property value, the level of production capacity, availability of production means (norm > 0.5).

Depreciation ratio (Rd) shows how much fixed assets replacement and renovation are financed by depreciation:

Depreciation ratio is calculated at the beginning and the end of the reporting period. This ratio together with fixed assets availability ratio (Ra) gives 100% (or 1).

Fixed assets renovation ratio (Rren) provides share of new fixed assets in those available at the end of the reporting period and is calculated using formula:

Fixed assets retirement ratio (Rret) shows how many fixed assets that a company started operating with in the reporting period were retired for various reasons.

During the reporting period the initial and net value of fixed assets reduced by UAH 11,637 and UAH 568,293 thousand respectively. Depreciation increased by UAH 556,656 thousand. Fixed assets value dropped by UAH 571,842 thousand. Equity grew by UAH 1,196,559 thousand and inventories decreased by UAH 14,447 thousand.

Depreciation ratio in 2011 was 97.34%, in 2012 – 97.46%. The ratio's increase by 0.12% indicates a slight technical condition deterioration of fixed assets. Availability of fixed assets ratio decreased by 0.12% for the period. Intrinsic value ratio that defines enterprise's procurement with production facilities dropped by 0.02% for the period. Constant assets index was as follows: at the beginning of the period – 1.173 at the end – 1.020. During the period, the ratio reduced by 0.153 points meaning that the part of the company's own fixed assets declined. Thus, we can affirm a tendency of fixed assets depreciation on Pridneprov'ska railway.

The financial and economic crisis in 2009 has adjusted plans of railways significantly. The issue of freight and passenger traffic differentiation and high-speed traffic introduction moves to the background and is replaced with smooth functioning of existing infrastructure issues. That once again proves that simple renovation questions must be resolved before implementing expanded renovation of fixed assets.

Domestic railways are not the only one to face problems of raising funds through financial mechanism. Russian Railways have similar problems associated with a necessity to improve existing regulatory framework to provide broader possibilities to raise funds from private companies – both Russian and foreign. One of the obstacles for attracting funds from international financial institutions for Ukrainian companies is ambiguous and multi-directional measures and processes of railway reformation.

Railways in modern conditions can not succeed without partnership with private investors and loans from international financial institutions. Financial partnership of the North ore-dressing and processing enterprise, situated in Krivoy Rog, Dnepropetrov'ska oblast with Pridneprov'ska railway can serve as an example of cooperation between railway and its customers in terms of restoring fixed assets of the railway complex. Renovation of previously dismantled stations in Therny and Ryadova as well as Ryadova-Kontsentratna line (near 5 km) were financed by the enterprise in 2006. This became possible due to significant growth of the enterprise's production compared to the beginning of the 1990s. The EBRD loan to Ukrainian Railway under the state guarantees in 2006 for implementation of high-speed passenger trains on railways of Ukraine is an example of foreign investments [5].

Construction of new lines also available with investments from interested companies, for example, the construction of Naryn-Luhokan railway line in the Chita region, Russian Federation in 2007 by means of state budget of the country, JSC "Russian Railways" and MMC "Norilsk Nickel" and Yayva-Solykamsk line in Perm region in 2008.

Construction of railways in Zaporizhzhya in 2007 by the decision of Zaporizhzhya City Council is an example of financing railway construction by partial immunity from taxation that allowed to raise UAH 1,348 million by exemption of Pridneprov'ska railway and Zaporizhelektrotrans from 75% of the land tax [4, p. 39, 5].

**Summary.** 1. Today, it is essential to pay attention to counting of branch features railroad facilities, first of all, the character of economic and financial processes with state-owned. Therefore, the main areas of research and current trends in the development of the railway complex as an example of one of the largest state-owned enterprises "Pridneprov'ska railway" is objective and relevant.

2. The initial and net value of fixed assets of SOE "Pridneprov'ska railway" reduced significantly during 2011-2012. As of 01.01.2012 the wear-off ratio was 97.46%, share of fixed assets in equity of the company also declined considerably. So, there is a general tendency of "Pridneprov'ska railway" fixed assets depreciation.

3. It was identified that railway enterprises' own funds remain the main source of financing fixed assets renovation. Financing with own funds is available due to amortization deductions and net profit.

4. Economic mechanism of fixed assets renovation in railway complex occupies a key position in providing extended renovation of rail transport production facilities and requires further research and improvement considering current conditions and challenges of globalization, competition, technological progress and development of productive relations.

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### Horiashchenko Yu.H. FINANCIAL ANALYSIS OF FIXED ASSETS AND SOURCES OF FUNDING THEIR RENOVATION

**Purpose.** The aim of the article is to substantiate the main directions and modern trends of the railway complex development by example of state-owned enterprise "Prydniprovsk railway".

**Methodology of research.** Scientific methods were used in the research including the method of matrix and structural analysis – while studying technical state of fixed assets of state-owned enterprise "Prydniprovsk railway", methods of analysis and synthesis – to determine dependency of technical facilities from changes in company's fixed assets value; classification methods – while substantiation the main sources of financing fixed assets of enterprises of the railway complex; methods of logical approach and theoretical generalization – while analyzing the problem of fixed assets renovation and modernization in transport complex; special methods including statistical survey, formalization and system analysis – to define and estimate fixed assets' state and movement.

**Findings.** The problems of renewal and modernization of fixed assets transportation and road complex in order to achieve competitiveness in the foreign and domestic markets have been considered. Technical state of fixed assets of state-owned enterprise "Prydniprovsk" has been analyzed. Dependency of technical facilities from change in enterprise's fixed assets value and main sources of financing fixed assets of enterprises of the railway complex have been determined. It has been done the calculation and assessment of the state and movement of fixed assets. It has been noted that in modern conditions it is extremely important to pay attention to counting of the branch peculiarities traveling facilities in the first place, the character of economic and financial processes with state ownership. It has also been identified that the main source of financial security is reproduction of fixed assets for enterprises of the railway complex are own funds – amortization deductions and net profit.

It has been proved that economic mechanism of railway complex's fixed assets renovation occupies the key issue in expanded renovation of the railway complex production facilities considering current conditions and challenges of globalization and competition. The main directions and current trends of the railway complex development have been substantiated.

**Originality.** Comprehensive approach was used for studying technical condition of "Prydniprovsk" fixed assets. Fixed assets' state and movement were evaluated using such ratios as constant asset index, fixed assets depreciation ratio, fixed assets renovation ratio, fixed assets retirement ratio and property intrinsic value ratio.

**Practical value.** Research results disclose existing problems of fixed assets usage, show ways to maximize return on funds and define the main directions of the railway complex development in terms of its competitiveness.

**Key words:** fixed assets, financial analysis, depreciation, renovation, railway complex.