

MPHTH 06.71

JEL Classification: H70

DOI: <https://doi.org/10.52821/2789-4401-2023-5-38-49>

STATE REGULATION OF RAILWAY FREIGHT TRANSPORTATION IN THE REPUBLIC OF KAZAKHSTAN: ANALYSIS OF THE CURRENT STATE AND DEVELOPMENT PROSPECTS

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ABSTRACT

The purpose of the article is to develop theoretical and practical recommendations on improving the use of the development potential of the railway sector of the Republic of Kazakhstan, studying regulatory measures by the country and determining their development prospects.

The methodology of this article was theoretical and empirical research methods: analysis of the state of the country's railway complex, its problems and ways to solve them, as well as the study of the railway transportation process and its regulation. Analysis of literature on the research problem, comparison and systematization of empirical and theoretical data, systemic approach to the studied problems of the article, method of qualitative comparison, statistical method.

Originality/value of the research: Railway transport is one of the basic sectors of the economy of Kazakhstan, providing its internal and external transport and economic relations, and the transportation needs of the population, therefore it is important to improve the development strategy of the country's railway transport at the Government level. The state will be able to optimize the railway transport sector by obtaining useful information as a result of this article.

Conclusion: In order to successfully develop the railway transport market in Kazakhstan, the state must play a more active role as a strategic consultant, which will take on issues of long-term planning, forecasting, analysis and preparation of recommendations to market participants. In this regard, we believe that Kazakhstan needs a separate program for the development of railway transport.

Keywords: regulation, railway transportation, railway tariff, freight turnover, investment, economy.

INTRODUCTION

Transportation is often referred to as the "lifeblood" of the economy, significantly influencing the speed of a country's economic progress. The transportation sector of Kazakhstan has consistently been a focal point, as evidenced by its prominent mention in government program documents.

Railways play a vital role in promoting economic prosperity and enhancing societal well-being. Rail freight services typically manage the substantial transportation requirements of national economies, granting producers in key industries access to high-capacity transportation at a more economical cost compared to road transport. Furthermore, passenger railways serve important economic and social roles within densely populated inter-city corridors and well-integrated regional passenger transport systems.

Ensuring that railway infrastructure remains in good condition is of utmost importance for the safe operation of trains. It establishes an effective, accurate, and reflective decision support system for management and evaluation, addressing the challenges and issues at hand [1].

Therefore, the purpose of this article is to determine the current balanced development and operation of the railway transport system of the Republic of Kazakhstan, as well as to develop proposals for effective state regulation of railway transport. The study aims to offer a comprehensive and nuanced analysis of the current state of railway freight transportation in the Republic of Kazakhstan.

In summary, the purpose of the article seems to be a thorough exploration of the current state of railway freight transportation regulation in Kazakhstan, with a focus on identifying challenges and proposing prospects

for development. This type of analysis is crucial for policymakers, industry professionals, and researchers interested in the efficient functioning and growth of the railway freight transportation sector in the Republic of Kazakhstan.

The article explores potential areas for improvement and development in the regulation of railway freight transportation. This could involve proposing policy recommendations or infrastructure investments that could enhance the efficiency and effectiveness of the sector.

In undertaking, an analysis of the state regulation of railway freight transportation in the Republic of Kazakhstan, several problems or challenges might be identified. These issues could encompass a range of factors affecting the efficiency, safety, and overall effectiveness of the railway freight transportation system. Here are some potential problems that the study might explore: the railway infrastructure outdated, leading to issues such as track deterioration, which can affect the safety and efficiency of freight transportation; inadequate capacity might lead to congestion and delays in freight transportation; competition from other modes of transportation, such as road or air, could impact the market share of railway freight.

Addressing these problems would likely be a crucial aspect of the study, allowing for a more nuanced understanding of the challenges that the state regulation of railway freight transportation faces in Kazakhstan and providing a foundation for proposed solutions and recommendations.

Literature review. The railway industry is a highly regulated sector around the world. Historically, railroads are a good example of a natural monopoly due to their (infrastructure-based) high-cost structure, the presence of indivisibility in their services, and economies of scale. Therefore, public control or ownership of railway infrastructure and public management of railways have become the most common approach [4].

Scholarly research interest in public policy issues in the rail freight industry has increased in line with the growing uncertainty in the economic environment in the process of globalization.

The provision of the railway transportation process with a carriage component and tariff policy are an integral part of an effective freight transportation process, which is a prerequisite for studying this topic [5].

Therefore, tariff policy and tariffs for railway freight transportation are important in the formation of national and regional markets for goods and services [6], therefore the system of railway freight tariffs is a relevant topic for study by many modern researchers [7].

Grigorieva O.A. highlights that railway transport infrastructure represents a production system characterized by a systematic structure akin to a technological complex. This complex is utilized by natural monopoly entities and is subject to regulation through state tariff policies. The infrastructure is considered a multifaceted entity within Civil Law, indivisible and non-consumable. It is intricately linked to the land plot, making it irreplaceable and underlining its direct association with state property [8].

Stepanov C.A. provides the perspective that objects within the material world, including railway infrastructure, are viewed in terms of property rights and associated obligations, which are subject to regulation by the state. In this framework, established property rights and legal obligations that are defined and enforced by the state govern the ownership and management of railway infrastructure. This underscores the role of regulatory frameworks and legal structures in managing and administering ownership and usage rights related to railway infrastructure. He noted that the meaning of railway infrastructure is not a uniform concept, but rather a broad and multifaceted concept [9].

Yakovlev A. S. [10] considered property as something that could be owned by someone, giving the example of railway infrastructure as property with a specific owner. In the work of Murzin D.V. [11], Stepanov C.A., the concept of railway infrastructure is likened to the legal understanding of a "thing" [12, 13]. This implies that within the legal context, railway infrastructure is regarded as a tangible entity, asset, or object that holds significance and is subject to legal considerations and regulations. It aligns with the legal framework that governs how railway infrastructure is defined, owned, managed, and utilized within the realm of law and associated practices.

Aydarova N.A. delineates three levels within the concept of state-regulated railway infrastructure: infrastructure networks, operations (operation or other infrastructure network service), and infrastructure markets, the latter being contingent on network capacity [14]. In the legislation of Kazakhstan, the main railway system is categorized as infrastructure.

From the provided definitions, it is evident that railway transport stands as a fundamental and crucial sector of Kazakhstan's economy. It operates under government regulation and serves vital roles in both domestic and international transport, economic relations, and the transportation needs of the populace. The functioning of railway transport, as an integral part of the unified transport system of the country, significantly contributes to the smooth operation of all social production sectors, fosters socioeconomic development, strengthens the state's defense capability, and promotes international cooperation for Kazakhstan.

MAIN PART

The oversight of railway transport in Kazakhstan falls under the jurisdiction of the Transport Committee within the Ministry of Industry and Infrastructure Development (MIID) of the Republic of Kazakhstan. This committee holds the responsibility for technical control and supervision of transportation safety, including the development and enforcement of standards. On the other hand, the Committee for Technical Regulation and Metrology, also under MIID, ensures adherence to technical standards and regulations. In addition to railway transport oversight, regulatory functions concerning natural monopolies, regulated markets, and the promotion of competition are managed by the Committee for the Regulation of Natural Monopolies (CRNM), operating under the Ministry of National Economy (MNE) of the Republic of Kazakhstan. Their shareholders or founders through general meetings, boards of directors or supervisory boards govern companies. Thus, the shareholder of the group of companies NC "Kazakhstan Temir Zholy" JSC, which encompasses the main railway system, freight and passenger carriers, transport and logistics companies, the port of Kuryk, and financial organizations, is indeed "Samruk-Kazyna" JSC, holding 100% ownership. "Samruk-Kazyna" JSC is a key sovereign wealth fund in Kazakhstan and has complete ownership of "Kazakhstan Temir Zholy" JSC, making it the sole shareholder of the entire group of companies.

Paragraph 1 of Article 5 of the Law of the Republic of Kazakhstan "On Railway Transport" clearly states that the main railway system is not eligible for privatization. Instead, it is designated to be transferred to the national managing holding and subsequently to the National Railway Company, based on conditions specified by the Government of the Republic of Kazakhstan. This legislative stipulation underscores the strategic significance and public ownership of the main railway system in Kazakhstan's transportation infrastructure. The national infrastructure operator is a legal entity whose controlling stake belongs to the national managing holding or the National Railway Company, which operates, maintains, modernizes, builds and provides services to the main railway system [2].

Currently, the National Infrastructure Operator in the form of a private legal entity is not separated, the main railway line is on the balance sheet of NC «Kazakhstan temir zholy» JSC (the managing branch of JSC "KTZ NC" is the Main Line Directorate).

Despite all the difficulties in foreign policy, the domestic political situation in the country is very stable. The composition of the Government and the Parliament has been stable for a long time and there are no trends for structural changes. In general, this is a positive factor for the external environment, because any political uncertainty can create risks for all sectors of the economy, which is not happening now. In addition, as a 100% state-owned company, a stable political environment is directly important for of NC «Kazakhstan temir zholy» JSC.

By 2025, the objective for NC "Kazakhstan Temir Zholy" JSC is to transform into a comprehensive transport and logistics enterprise. Its role will encompass executing the state strategy for orchestrating transit transport and logistics services, while concurrently prioritizing the augmentation of shareholder value.

Railway infrastructure spans a vast area and poses challenges in maintenance due to its intricate nature, involvement of numerous stakeholders, susceptibility to weather fluctuations, and the need to adapt physical components designed for earlier traffic and track conditions. This infrastructure is subdivided into distinct components, encompassing administration, traffic management, maintenance, and new investments [3].

Considering that passenger transport (both suburban and intercity) in the Republic of Kazakhstan is subsidized by the state due to its societal importance, the government's influence on transport companies is substantial. Primarily, the state exercises regulation over tariffs. As per legislation, NC "Kazakhstan Temir Zholy" JSC is classified as a natural monopoly entity, subjecting its operations to tariff regulation by the state.

The Committee for the Regulation of Natural Monopolies under the Ministry of National Economy of the Republic of Kazakhstan approves the service fees for the main railway system. Consequently, the success of the primary operations is contingent on political factors. Factors such as the "excessive reduction of tariffs for passenger transportation" and the "reduction in the volume of allocated subsidies" can significantly impact operations.

Secondly, the organization of regular passenger transport is partly the responsibility of the state. Here, the factor will be "strategy of development of the route system for the implementation of passenger transport". If the state is unwilling to develop and subsidize this or that direction, the company will not be able to carry out its activities even if there is a demand for this direction.

It is also worth mentioning the strategy of creating a system of highways. As Kazakhstan's rail passenger transport cannot move fast enough, road transport can compete with its autobahn development strategy.

In this case, economic factors are more standardized. First, it is the dynamics of the exchange rate, which affects the cost of tickets and the degree of profitability of the population.

High inflation and rising supplier prices. In this case, with an increase in consumer prices, the state "holds" tariffs at one level, in which case the company loses a significant percentage of its income.

Income inequality and low living standards reduce the demand for travel. This can also lead to a decrease in the level of population migration, and many citizens use rail transport precisely for "seasonal migration", for example, on a rotational basis, students or workers.

Since the freight industry is mainly a B2B industry, its development is indirectly affected by social factors. Nevertheless, it's important to note that the social situation in the country is relatively stable. Despite the influence of political and economic factors on the regulation and subsidization of passenger transport, the overall societal conditions in the Republic of Kazakhstan remain relatively consistent and stable. Despite the long-lasting economic crisis, the people of Kazakhstan do not show any negative activity now, thereby not increasing the political tension.

Methodology. The article was built upon a foundation of various theoretical and empirical research methods. These encompassed an analysis of the country's transport and logistics complex, focusing on its current state, existing challenges, and potential solutions. Additionally, the study delved into the railway transportation process and conducted a comprehensive review of relevant literature pertaining to the research problem. Comparative and systematic analyses of both empirical and theoretical data were employed, utilizing a systematic approach to address the discussed issues. The method of qualitative comparison and statistical analysis were also instrumental in conducting a thorough investigation.

To ensure accuracy and credibility, the article utilized official statistical data sourced from the Bureau of National Statistics of the Agency for Strategic Planning and Reform of the Republic of Kazakhstan. Furthermore, the results of international studies were incorporated, enabling a detailed examination of Kazakhstan's innovative, scientific, and technological development and facilitating a comparative analysis between domestic and foreign data. This methodological approach underpins the robustness and reliability of the findings and conclusions presented in the article.

Results and discussion. Railroad transport, like pipeline transport, provides intercity and international connections in Kazakhstan. Railways have virtually no competition when carrying out large volumes of transportation over long distances.

As of the beginning of 2022, the operational length of railway lines in the Republic of Kazakhstan stood at 16,062.7 km. Within this total length, approximately 26.4% of the lines were electrified, indicating the portion of the railway network that utilized electrification for power. Additionally, double-track lines constituted about 31.4% of the operational railway lines, signifying the proportion of the network with two parallel tracks for bidirectional travel and increased capacity. These statistics provide an overview of the key metrics related to the railway infrastructure in Kazakhstan at that specific time. The density of the railway network is 5.9 km/1000 km.

In 2022, based on data presented in Table 1 from the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, the total freight turnover for all modes of transport reached 602,962.5 million tonne-kilometers (t-km). This figure represents a 1% increase compared

to the level observed in 2021. Specifically, the freight turnover attributed to railway transport, constituting half of the country's total freight turnover, witnessed a growth of 4.3%. By the end of 2022, the freight turnover for railway transport amounted to 311,927.0 million tonne-kilometers. These statistics provide insights into the trends and performance of the freight transport sector in Kazakhstan during the specified year. The largest increase in cargo turnover was observed in inland water transport - 54.5%, maritime transport - by 23.4%. The growth in cargo turnover of pipeline transport amounted to 3.6%. In the reporting year, air transport cargo turnover decreased by 33.4%, road transport – by 7.6% [15].

Table 1 – Freight turnover of Kazakhstan in 2022 by mode of transport, million t-km

Kind of transport	Freight turnover, million t-km				Share in total cargo turnover, %	
	2020	2021	2022	Changes 2022/2021, %	2021	2022
All transport	588 679,4	597 196,2	602 962,5	0,97	100	100
Pipeline transport	125 088,5	139 012,6	143 969,6	3,57	23,28	23,88
Air Transport	56,2	81,7	54,4	-33,41	0,01	0,01
Water transport	62,1	66,4	102,6	54,52	0,01	0,02
Railway transport	302 156,1	299 170,8	311 927,0	4,26	50,10	51,73
Automotive and urban electric transport	160 685,5	158 311,9	146 227,1	-7,63	26,51	24,25
Sea transport	631,0	552,8	681,9	23,35	0,09	0,11
Note – compiled by the author based on source [16]						

The stability and effectiveness of the railway industry in Kazakhstan are significantly attributed to its well-structured organization, primarily centered around a vertically integrated transport holding company, JSC NC KTZ. This holding company oversees a unified mainline railway network and comprises key business units essential for the integrated transportation process.

Joint Stock Company "National Company Kazakhstan Temir Zholy" (referred to as "NC KTZ" JSC, KTZ, or the Company) serves as the national railway company, established through the decision of the Government of the Republic of Kazakhstan as a joint stock company. The controlling stake of this company is owned by the national management holding company, JSC "National Welfare Fund Samruk-Kazyna." Notably, Samruk-Kazyna is the founder and sole shareholder, and it is ultimately owned by the Government of the Republic of Kazakhstan.

The efficient functioning of railway transport is directly contingent on the cohesive and efficient operations of this railway company. The integrated structure and management facilitated by NC KTZ play a crucial role in ensuring the smooth operation, development, and growth of the railway sector, further supporting the overall transportation and economic landscape of Kazakhstan.

As noted, the carriage component and tariff policy are important for the railway industry. A significant number of wagon owners, low market concentration, imperfect management principles for small fleets worsen the efficiency of using rolling stock in general and increase the load on the railway system. Which creates additional difficulties in organizing operational work in the field of freight transportation and reduces the level of satisfaction of the needs of the economy of Kazakhstan in transport services. In such conditions, to balance supply and demand in the market for rail freight transportation, the efficient use of the rolling stock becomes key. In the face of increasing competition within the transport services market, the key determinant for a railcar operator's success is the enhancement of business processes, targeting improved efficiency and heightened customer focus.

The utilization of rolling stock poses a challenge due to high wear and tear, amounting to approximately 70%. This issue, coupled with potential delays in adopting new technologies and upgrading railway technical conditions, poses a significant risk of reduced freight and passenger transportation volumes.

Asset depreciation within the railway sector significantly impacts industry development, incurring substantial costs. The first image illustrates the wear and tear levels of main resources in the transport sector of the Republic of Kazakhstan. Railway transport faces a wear and tear rate of 27%, while car types experience a 25.8% wear and tear. Storage and additional economy have a wear and tear rate of 35.7%, and inland water transport experiences a wear and tear rate of 34.3%. Addressing asset depreciation is crucial for the sustainable growth and efficiency of the railway industry.

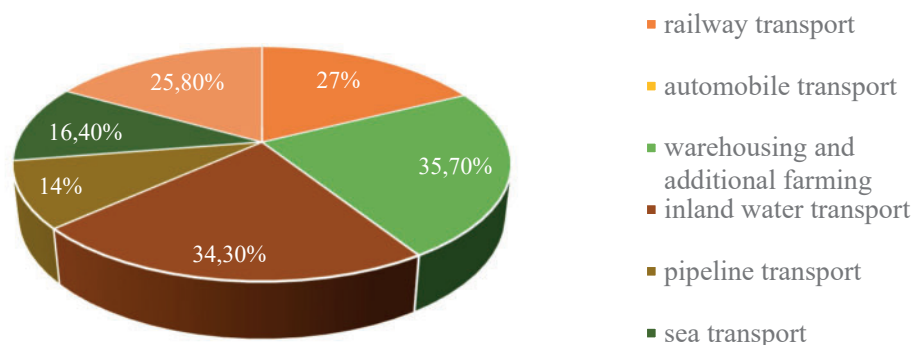


Figure 1 – The degree of depreciation of fixed assets in transport of the Republic of Kazakhstan

Note – compiled by the author based on sources [16]

The substantial moral and physical degradation of fixed assets, along with extensive wear and tear in the infrastructure, especially the prolonged single-track and non-electrified sections, impose severe limitations on the speed and capacity of the primary railway network. These challenges contribute to the formation of numerous "narrow crossings," further restricting capacity. Consequently, these constraints impede progress in enhancing population mobility and diminish the competitive edge of rail transport for both passengers and freight. Moreover, these factors also impact the competitiveness of transit corridors.

Addressing this issue requires a comprehensive approach. It involves strategic investments in infrastructure modernization, electrification of tracks, and the expansion of double-track sections to alleviate limitations. Enhancing the railway network's capacity is crucial for facilitating the efficient movement of people and goods, ultimately contributing to the development of the transportation sector and the nation's economy as a whole. It's vital to focus on sustainable practices and advanced maintenance strategies to ensure the longevity and effectiveness of the railway infrastructure, fostering enhanced mobility and competitiveness.

In Kazakhstan, \$1.6 billion must be invested in upgrading mainline and shunting locomotives by 2032. Seven out of ten locomotives available at the beginning of this year were considered worn out. This is reported in the concept of transport and logistics potential of Kazakhstan until 2030, developed by the Ministry of Industry and Infrastructure Development, presented for public discussion.

1,846 locomotives were registered in the republic, including 1,228 diesel locomotives and 618 electric locomotives, as well as 2,577 passenger railway carriage, 139,073 freight railway carriage in 2022.

Also, the problems of railway transport include the poor condition of most of the infrastructure, the lack of electrification on 70% of railways, only about 26.4% of Kazakhstan's railways are electrified as shown in Figure 2 [17].

Addressing the issue of wagon scarcity and the decline of the wagon fleet necessitates either investments or optimizing the tariff policy to ensure sufficient revenue. As noted, the state participates in regulating tariffs in the railway industry. In recent years, Kazakh railway workers have been busy improving the tariff policy for freight transportation. This is a long and painstaking task, but necessary. Due to insufficient clarity and transparency in the tariff policy, NC KTZ JSC does not receive a large portion of its income. They, in turn, are needed for the development of infrastructure and renewal of the locomotive fleet.

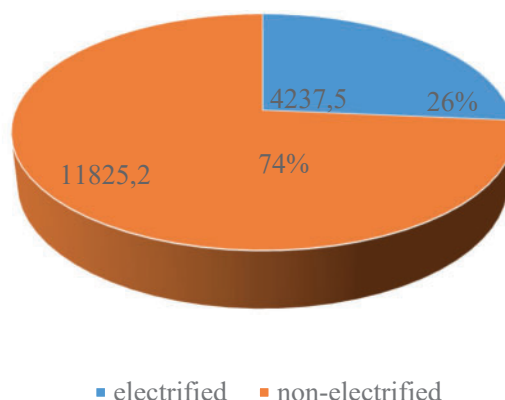


Figure 2 – Indicators of electrification of railways in Kazakhstan

Note – compiled by the author based on source [17]

In Kazakhstan, the four components of the railway tariff are formed as follows [18]:

- infrastructural component – the tariffs for services provided by the main railway networks (MRN) are regulated due to the nature of these services falling within the domain of natural monopolies.

- locomotive component (LC);

- the cost of the locomotive traction service is capped or restricted, because services belong to the sphere of socially significant markets;

- wagon component;

- services for the provision of wagons and containers are provided on the competitive market by the owners of the rolling stock, or operators of wagons, containers, respectively, state price regulation does not apply to them. The final 27 fee varies and depends on the transportation distance, type of rolling stock, wagon ownership, type of cargo, wagon load and other parameters;

- Evaluation and analysis of quality, implementation of methodological bases for determining compliance of services with standards, analysis of customer feedback. By analyzing customer feedback, it is possible to timely eliminate problems that may affect the efficiency of the service, the reputation and competitiveness of the organization;

- Implementation of a system of monitoring and evaluation of the activities of organizations providing railway transport services, creation of an accessible information base for all subjects where organization data is evaluated by consumers and expert analysis is carried out. It provides more information about transport organizations serving the rail sector;

- Conducting policy according to the information system of the railway industry, conducting market research and ensuring transparency of information. Marketing research provides a complete picture of the development of rail transport. Marketing research provides managers with information to determine further tactics. Failure to enact suitable policies in the information provision system of the industry results in a decline in the reliable collection of industry-related data and delays in the timely dissemination of information to national or regional centers. Consequently, this curtails the capacity to effectively compare information pertaining to each sector of the industry. All of these negative situations reduce the effectiveness of the information obtained and lead to the unintended use of resources in the field.

- Hence, drawing from global experience, efforts should be directed towards innovating new categories of trains, railway tracks, and rolling stock. Leveraging existing road industry programs, improvements should be made to railway vehicles and road condition monitoring devices within the railway sector. For this, domestic factories in the field should work together with foreign companies and firms to create a new era of road machinery. In the near future, general renovation of roads is the main task.

- In light of the increasing transportation volumes, establishment of new transport pathways, and ambitious transit potential development plans, a significant challenge faced by Kazakhstan's railway industry is the inadequate supply and substantial export of rolling stock. The issue of insufficient freight rolling stock has persisted for numerous years, emphasizing the need to enhance the performance of the country's machinery manufacturing sector. To address this, the following steps are imperative:

- In order to successfully develop the railway engineering market in Kazakhstan, the state should play a more active role as a strategic consultant, which will take on the long-term planning, forecasting, analysis and preparation of recommendations for market participants. Given these circumstances, we hold the view that Kazakhstan requires a dedicated program for the advancement of railway engineering.

- The government should undertake the development of long-term strategic plans, in which machine builders are given relevant forecasts and plans, recommendations for the release of the optimal production line by year and its nomenclature. Such plans can be announced at regular strategic sessions at the site of the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken".

- The state should also more actively support the development of innovations in the railway-engineering sector, in particular, initiate research in the field of efficiency of using innovative wagons, and to this end actively use the potential of domestic transport science.

It is necessary to further improve and harmonize the development of the regulatory legal framework, which regulates the process of planning and organization of railway cargo transportation, as well as the improvement of the tariff policy, which should be a direct reflection of the chosen model of reforming the industry. Considering the strategic significance of railway transportation for Kazakhstan and the potential inflationary impact resulting from increased transportation tariffs, it is prudent to advocate for continued regulation of freight transportation tariffs and locomotive traction services. Furthermore, there is a need for ongoing enhancement of the industry financing system and tariff policies.

It is plausible to assert that the financing system and tariff policies within the industry require further refinement. It is likely necessary to implement a systematic state support mechanism for JSC NC KTZ, serving as the national operational infrastructure. This support should encompass, in our perspective, a clearly defined commitment from the state to shoulder the primary costs of maintaining and advancing the primary railway network, along with expenses associated with fulfilling its social obligations.

In an ideal market structure, tariffs should be set in a way that allows a company to generate sufficient income, without relying on state subsidies and investments, to cover all its expenses and ensure a reasonable profit margin. Additionally, these tariffs should be designed to incentivize companies to adopt the most efficient operational strategies, fostering healthy competition within the market.

Railway transport is a foundational sector of Kazakhstan's economy, playing a vital role in both domestic and international transport and economic linkages, as well as meeting the transportation needs of the population. Therefore, it is crucial to enhance the country's strategy for the development of railway transport at the government level.

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ҚАЗАҚСТАН РЕСПУБЛИКАСЫНДАҒЫ ТЕМІР ЖОЛ ЖҮК ТАСЫМАЛЫН МЕМЛЕКЕТТІК РЕТТЕУ: ҚАЗІРГІ ЖАҒДАЙЫН ТАЛДАУ ЖӘНЕ ОНЫҢ ДАМУ БОЛАШАҒЫ.

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АНДАТПА

Мақаланың мақсаты – Қазақстан Республикасы теміржол саласының даму әлеуетін пайдалануды жақсарту бойынша теориялық және практикалық ұсыныстар әзірлеу, елдің реттеу шараларын зерделеу және олардың даму перспективаларын анықтау.

Әдістемесі теориялық және эмпирикалық зерттеу әдістеріне негізделді: елдің теміржол кешенінің жай-күйін талдау, оның проблемалары мен оларды шешу жолдары, сондай-ақ теміржол тасымалы мен оны реттеу үдерісін зерттеу. Зерттеу мәселесі бойынша әдебиеттерді талдау, эмпирикалық және теориялық деректерді салыстыру және жүйелеу, мақалада зерттелетін мәселелерге жүйелі көзқарас, сапалық салыстыру әдісі, статистикалық әдіс қолданылды.

Зерттеудің бірегейлігі/құндылығы: теміржол көлігі Қазақстан экономикасының ішкі және сыртқы көліктік-экономикалық байланыстарын, сондай-ақ халықтың көліктік қажеттіліктерін қамтамасыз ететін негізгі салаларының бірі болып табылады, сондықтан еліміздің теміржол стратегиясын мемлекеттік деңгейде жетілдіру маңызды. Мемлекет осы мақаланың нәтижесінде пайдалы ақпарат алу арқылы теміржол көлігі саласын оңтайландыра алады.

Түйін сөздер: реттеу, темір жол тасымалы, темір жол тарифі, жүк айналымы, инвестиция, экономика.

ГОСУДАРСТВЕННОЕ РЕГУЛИРОВАНИЕ ЖЕЛЕЗНОДОРОЖНЫХ ГРУЗОВЫХ ПЕРЕВОЗОВ В РЕСПУБЛИКЕ КАЗАХСТАН: АНАЛИЗ СОВРЕМЕННОГО СОСТОЯНИЯ И ПЕРСПЕКТИВЫ РАЗВИТИЯ

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АННОТАЦИЯ

Цель статьи – разработка теоретических и практических рекомендаций по совершенствованию использования потенциала развития железнодорожного сектора Республики Казахстан, изучение мер регулирования страны и определение перспектив их развития.

Методологией данной статьи послужили теоретические и эмпирические методы исследования: анализ состояния железнодорожного комплекса страны, его проблем и путей их решения, а также изучение процесса железнодорожных перевозок и его регулирования. Анализ литературы по проблеме исследования, сравнение и систематизация эмпирических и теоретических данных, системный подход к изучаемым проблемам статьи, метод качественного сравнения, статистический метод.

Оригинальность / ценность исследования: железнодорожный сектор является одним из основных компонентов экономики Казахстана, обеспечивающим внутренние и внешние транспортно-экономические связи, а также удовлетворяющим потребности населения в транспортных услугах. Поэтому существенно разработать и усовершенствовать стратегию развития железнодорожного транспорта на уровне государства. Государство сможет оптимизировать сектор железнодорожного транспорта получив полезную информацию в результате данной статьи.

Результаты исследования: для успешного развития рынка железнодорожных перевозок в Казахстане государство должно играть более активную роль стратегического консультанта, который возьмет

на себя вопросы долгосрочного планирования, прогнозирования, анализа и подготовки рекомендаций участникам рынка. В связи с этим мы считаем, что Казахстану необходима отдельная программа развития железнодорожного транспорта.

Ключевые слова: регулирование, железнодорожные перевозки, железнодорожный тариф, грузооборот, инвестиции, экономика.

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МРНТИ 83.31.33

JEL Classification: C15

DOI:<https://doi.org/10.52821/2789-4401-2023-5-49-60>

ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ ТЕЛЕКОММУНИКАЦИЯЛЫҚ ҚЫЗМЕТТЕР НАРЫҒЫН МОДЕЛЬДЕУ ЖӘНЕ БОЛЖАУ

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АНДАТПА

Зерттеудің мақсаты: Қазақстан Республикасындағы телекоммуникацияның дамуын және оның дамуына әсер ететін факторларды зерттей отырып, телекоммуникациялық қызметтер нарығын модельдеу және болжау.

Әдіснамасы: Телекоммуникация нарығының соңғы 2017-2022 жылдар аралығындағы даму көрсеткіштеріне және аймақтар бойынша статистикалық талдаулар мен болжамдар жасалды. Статистикалық, гипотезаларды тексеру, корреляциялық, регрессиялық әдістері қолданылды. Есептеулер деректерді талдауға арналған R бағдарламау тілінде жүргізілді.

Зерттеудің бірегейлігі/құндылығы: Мақалада Қазақстан Республикасындағы телекоммуникация саласы қызметтерінің ерекшеліктері қарастырылған. Телекоммуникацияның салалары бойынша қызметтер нарығын талдаулар жасалды. Сондай-ақ, оны жақсартуға ықпал ететін оң факторларды және оның дамуына кедергі келтіретін негізгі себептер анықталды. Анықталған факторлар негізінде болжамдар жасалып, модель құрастырылды.

Өзектілігі: Телекоммуникация саласының даму тенденцияларын зерттеу әлемдік экономиканы дамытудың жалпы стратегиясының шеңберінде ерекше өзекті болып табылады.

Зерттеу нәтижелері: Талдау нәтижелеріне қарап байланыс қызметі бойынша кіріс алып келіп отырған негізгі ішкі салалар сымсыз және сымды желілер бойынша Интернет қызметтері екені анықталды. Аймақтар бойынша Алматы және Астана қалаларында түсім көбейген. Зерттеулер негізінде авторлар Қазақстан Республикасындағы телекоммуникация қызметтерінің даму жағдайы туралы қорытындыларды қалыптастырды.

Түйін сөздер: цифрландыру, телекоммуникация, статистикалық талдау, корреляция, регрессия, R программалау тілі.