

DOI: <https://doi.org/10.30932/1992-3252-2020-18-225-241>

## On the Ways of Development of Railway Business (1910)



*110 years ago, the professional railway community conducted sharp discussion on the ratio of commercial and state interests in domestic railway activity. There were attempts to use that criterion to classify the existed railways by directions and main business purposes. The discussion also referred to the aspects of monopolism and competition, strict government control over the costs of rail construction, distribution of dividends or their investment in future development, fair tariffs. The problem of, in modern terms, connectivity of territory touched upon the choice between enhancing transit capacity of main railroads and constructing of new less important railways in the regions where they have not been built yet.*

*Quite particular topic referred to the need to pay more attention to training of economic skills of employees as to condition of successful commercial activity of railways. It concerned training of technical employees in railway vocational schools, and of the future executives in higher schools, provided that «in the nurseries of railway engineers who provide a contingent of heads of railways, students are given complete economic preparation for their future activities».*

**Keywords:** history of transport, railways, tariffs, profitability, railway construction, railway training.

The editors are grateful to the staff of the library of Russian University of Transport for their help in preparing the material.

### **Railway business, being one of the branches of the state economy, is it a purely commercial enterprise?**

The question posed by our title is all the more important because its solution determines the point of view from which the results of operation of railways in general, and ours in particular, should be considered.

The railway business is a specialized transport business of a monopoly nature, and therefore it may seem only a purely commercial business, the value of which is determined exclusively by ruble, i.e. direct profit. It would have been like that if there had not been an unavoidable monopoly of this kind of enterprise, which is conditioned by both rail track, which runs only in permitted directions, and by its special state significance and inevitable significant restriction of self-government.

On the other hand, not all rail lines can be brought under one general category of enterprises intended to serve only as convenient routes of communication between industrial,

commercial, productive and population centers, which would give them the right to an exclusively commercial nature. There are rail tracks that are of even more serious importance, already of a purely state nature: to serve the requirements of national defense, strategic tasks, as well as to bring to life and develop local agricultural, commercial, industrial and factory productivity, while responding at the same time to improvement of state economy and strengthening of funds of the state treasury.

Comparing with each other these different services provided to the country by railways, it is naturally necessary to subdivide the latter into:

a) railways, as it were, of purely commercial importance, and therefore capable of representing enterprises of a certain commercial nature, regardless of their owner, treasury or private society;

b) railways of exclusively national importance, i.e. those that should be kept temporarily or permanently, if not completely, then mainly at the expense of the treasury.

The foregoing applies to actual operation of all railways; as for their construction, i.e. choice of direction (research), drawing up a price for their cost (price list) and production of the building itself, although this cannot be inconsistent with commercial considerations (in the sense of achieving cheapness), but based on the cardinal position that all monopoly routes of communication constitute the inalienable property of the state – construction of railways should not be regarded as a commercial enterprise. To have a commercial character does not mean to be a commercial enterprise either. Commercial enterprises respect the interests of their owners, otherwise they would be charitable institutions; state-owned enterprises, on the other hand, prioritize the interests of the country and third parties. In relation to private roads, it should also be borne in mind that these enterprises are conditionally assignable to individuals or societies for fixed-term use under the strict control (future?) of the road owner – the government. In the same way, the concession exploitation of such an enterprise by a private company, although, as already mentioned, is a matter of a purely commercial nature, but, in our opinion, should be carried out with obligatory participation of the treasury itself, and moreover not in the sense of guaranteeing coverage of shortfalls in operating fees, but in the sense of its direct participation both in the fixed capital and personal participation of its representatives in administration of the concession enterprise itself, which already takes place in relation to some private roads: Vladikavkaz, Ryazan-Ural, South-Eastern, Bugulma and the First Society of Access Railways.

For a long time, almost all of our railways were built, as it were, on commercial grounds, in other words, on concession grounds, when many builders, when constructing a road, regardless of conditions of future operation, used to a wide extent the limiting slopes and limiting radii and, in order to reduce the number of earth work in their favor, did not stop at the detrimental to operation of lengthening the line and useless premature costs. With state-owned buildings, the contractors pursued the same goal at the expense of weak (for various reasons) supervision on the part of leaders and

superiors. Then, with completion of construction of the road, after its acceptance into operation with allowable imperfections, exploiters of the newly built line inevitably had to spend new funds on its, at times, major restructuring. As a result, it turned out that the fixed capital invested in construction of the road increased significantly, and with it the number of interest annually owed to the capital spent increased; this, in turn, had a deplorable effect on overall profitability of the railway network.

The low profitability, but not the non-profitability, since such does not exist, of our railways, as well as the unsatisfactory system of their economy, are a direct result of long-outdated general views on importance of railways, and is also even more a consequence of the existing railway policy, which is not adapted to the modern way of railway life and its requirements. We can safely say that the situation in our railway business will become completely different if the Government in this respect adheres to the following grounds.

Construction of new railways, as well as further development of existing lines, should be carried out under the strict direct control of the treasury, in relation to the conditions of each locality, taking into account all its characteristics, and in particular in accordance with the requirements of future operation in its full development, while limiting itself to initial implementation of only urgent costs, in other words, first spend only as much as necessary to meet the urgent requirements of the expected, initial activity of the road, according to the previously established general plan for the forthcoming activity of this line.

Then, any savings that may be generated during construction of the road should be entirely transferred to the reserve fund, along with the unspent amounts for the incomplete work of structures. Such a «reserve fund» should in no way serve to strengthen the current operating facilities of the road, but to be entirely intended, with interest accrued on it, to receive, as it becomes clear, the need – for the costs of developing the road and its equipment. This provision should apply equally to both public and private roads.

The exploitation of public and private railways of general importance should be



given a purely commercial character; a temporary exception should be allowed only for lines of predominantly strategic importance, and then until gross income begins to cover their operating costs; when such a moment comes, then purely strategic lines should not be removed from the commercial nature of exploitation.

The need for formation in operation of railways for a separate commercial service with its many agents was due to clarification, finally, of the significance of the traffic service in general, and its commercial branch in particular. In the present difficult time for the railway industry, in many cases, it is allowed, both in relation to railway agents and their leaders, to be content with simply renaming them into commercial agents and commercial services with corresponding superiors, relying on some skill they have already acquired in commercial operations. But life practice shows that such renaming alone is far from enough. At the same time, it is necessary to establish, once and for all, what exactly we call the commercial nature of railway operation.

The basic rule of any commercial business is to receive income on the capital spent and increase the turnover of the latter, not limiting ourselves to the necessary expenses, but spending, when required, even *fond perdu*, new funds for maximum development of their commercial activities, with the knowledge that such an expense is not only will come back, but it will also bear good fruit. Of course, it is necessary to have proper sharpness, complete knowledge of your business and have sufficient working capital, either your own or borrowed.

From this provision it is already clear what kind of serious requirements should be met by the leaders in the railway commercial part, and it is also clear that each independent road must have sufficient free funds or credits for its temporary commercial turnover. Such a requirement is most essential for the roads of private companies, whose statutes do not foresee formation of such capital, and therefore some roads *nolens volens* were forced to resort to temporary borrowing from their current cash resources, that is, from the calculated amounts with other roads, which, with a huge monetary turnover, reaching for the entire Imperial network up to three

billion rubles a year, seems tempting, and even in some cases inevitable. It should be noted that such an inevitability is provided for by the legislator, who established an 8 % penalty for such borrowing in favor of the treasury.

To create commercial agents who can stand at the height of their position, their preliminary theoretical training and proper practical awareness are required.

This is where a serious question arises: there are many people who have studied commercial sciences in existing commercial schools and higher courses, and among them there should be people with a broad outlook, with the right angle of view, with sufficient observation, and with an analytical mind, but their railway awareness will almost always be limited to their narrow local communication area.

The reason for such limited awareness should be sought in difficulty of acquiring experience and a practical mechanism, and on the other hand, this is facilitated by the lack of such statistical reports that would give a clear and factual picture and indisputable material of all railways in a timely manner, and not several years late, operations for movement, and, finally, the reason must also be sought in the absence, up to the present time, of a sufficient number of practical schools in the service of movement, since only in recent years, at first, private enterprise, realizing the urgent need to organize such schools, initially in St. Petersburg and then in Moscow, opened courses for railway traffic agents; in Kiev, at Kiev Commercial Institute, in September 1909, higher courses for candidates for railway commercial agents were opened. All these courses are paid, but they can supply theoretically trained, we say: theoretically trained, since, with too short-term practical training, the latter can hardly go into serious consideration, — it is far from being able to satisfy the real demand of knowledgeable agents of this service. Therefore, in view of the urgent need, the Educational Department of the Ministry of Railways has already developed a plan and program for movement railway schools and similar courses, and since the Minister of Railways, S. V. Rukhlov, attaches great importance to this issue in streamlining our railway business, it is there is good reason to believe in successful development of such

schools, which should raise the qualifications of our railway agents.

The merchant, setting the price of his product, takes into account: what this product or work cost him, adds overhead costs associated with acquisition, storage and safety of goods, and adds his expected profit, the amount of which is dependent on the existing market and capital turnover rate; at the same time, he has the ultimate goal of the greatest and fastest sales, i.e. attracting the most significant number of buyers. Such a merchant is in the role of a complete owner, acting within the limits of his commercial abilities, the amount of capital and personal credit.

This is far from the case in the modern railway business: politics and competition do not exist there. Tariff rates are set for reasons completely alien to the actual cost of transportation by the road itself, and it is not at all an exaggeration to say that rates are determined «academically», pursuing, with rare exceptions, only one reduction in the carriage charge for random interests of third parties, not to mention preferential tariffs not caused by the interests of the road itself.

That tariff rates should be consistent with different state requirements, in relation to transportation of certain bulk goods of basic necessity – this is not subject to any dispute, but the limits of the size of the minimum tariffs must necessarily be regulated by the actual cost, which costs the road or network, the very transportation of these goods; this circumstance was drawn to the attention of the former Commission of Privy Councilor Ivashintsev.

Of course, there may be such rare moments of railway life when, due to the absence of transit and local cargo, rolling stock of the road is inactive and, therefore, it is more profitable to perform any work for a fee reduced to a loss in order to cover part of its unproductive expenses, but these are exceptional specific cases, the significance of which should be determined with great care by the road itself, taking into account wear and tear of its rolling stock and other possible consequences when setting a temporary preferential tariff. And in such cases, the commercial acumen of the responsible road manager should be the decisive regulator. In general, depending on the nature and value of the transported goods, the difference in size

of tariff rates should be subject to its justification on the percentage of the amount of this transported cargo to the total annual, final, operating cost of the road, and only in the period of significant absence of return cargoes, strengthening of this differential can to be admissible, to a certain extent, by lowering such rates, in relation to the amount of expenses that only depend on movement. In the same way, it should be taken as a rule that, when establishing any kind of preferential tariffs for direct interests of the railway, it should be firmly remembered that in the matter of transport enterprises, the final results of both costs dependent on movement and not dependent on it are equally important; the difference in the mutual relations of both these costs is that when the first, i.e. traffic-dependent costs, with increasing traffic, increase per unit of road work; the second, i.e. traffic-independent costs, although being fix costs, with an increase in traffic, proportionally decrease in their ratio; however, we stipulate that this decrease is possible only up to a certain limit, overstepping of which already causes the opposite result. It should be noted that in recent years, costs that do not depend on movement are growing strongly from year to year, not regulated by any measure.

The root cause of such a ubiquitous increase in costs that do not depend on traffic, both here and on foreign railways, should be seen:

Firstly, in non-solution, until now, of the question of what is more profitable for the state to do: should it develop its rail network by building new highways and tighten its loops by building secondary roads? Or spend almost billions of dollars on increasing the lifting and carrying capacity, as well as on more complete equipment of existing lines, leaving the vast areas of the country without any railway?

And, secondly, one of the reasons for the increase in costs that do not depend on movement should also be seen in the continuing progressive, widespread demand for improving living conditions in general, as a result of the political troubles of the present century, troubles that were not cut at the very beginning of their occurrence and, before until now, which have not yet found their complete liquidation anywhere.

To determine technical and economic coefficients of operation of the railway and comparative assessment of the results of operation



of different roads, it is generally accepted measuring units: steam locomotive, train and axle versts, and in relation to the indicated coefficients, these meters have their decisive importance in many cases, but based on their comparative conclusions, without the possibility of falling into large errors, is more than difficult; so, for example, the value of a train-mile depends on the number of cars that make up the train, which are in both 5 and 45 cars, and the axle versts depend on the number of axles in circulating cars — four-axle with bogies, and three- and two-axle without bogies; even a steam locomotive verst also requires additional instructions: working, idle, maneuvering, additional, etc.

Therefore, in order to determine the commercial operation of a road, it is more correct to consider it as normal meters of passenger and

food-versts, since these data represent direct and precisely defined indications of the useful commercial work of all roads that receive their income from transportation of passengers and goods per unit of distance traveled by them.

If the displayed average annual cost of a steam locomotive, train and axle-mile does not give a complete picture of the useful commercial work of the railway, then it further obscures the idea of this work — indication in statistical materials of only the average annual cost of passenger and food-versts, one common to the whole network of railways, since these latter gauges, for each individual road, are completely independent and often differ sharply from each other. As proof, we will cite, for example, some data from our Imperial network, according to reports for 1906 of both state and private roads.

#### I. Average expenses per passenger-verst are represented as:

##### a) on state roads:

Baltic–Pskov–Riga	1,18 kopecks;
Samara–Zlatoust	0,48 kopecks;
Biskunchakskaya	0,28 kopecks;
Zabaikalskaya	3,71 kopecks;
Siberian	0,30 kopecks.

##### b) on private roads:

Belgorod–Sumy	2,35 kopecks;
Warsaw–Vienna	1,46 kopecks;
Vladikavkaz	0,81 kopecks;
Moscow–Kazan	0,64 kopecks;
First Society of Access Roads	1,24 kopecks.

The average expenses per one passenger-verst for the entire rail network for 1906 are calculated: for European Russia as 0,79 kopecks;

for Asian Russia as 0,69 kopecks.

#### II. Average expenses per one food-verst\* for 1906 are expressed as:

##### a) on state roads:

Zakavkazskaya	0,025 kopecks = 1/40 kopecks;
Nikolaev	0,020 kopecks = 1/50 kopecks;
Riga–Oryol	0,0166 kopecks = 1/60 kopecks;
Ekaterininskaya	0,0142 kopecks = 1/70 kopecks;
Zabaikalskaya	0,0476 kopecks = 1/21 kopecks;
Middle Asian	0,0179 kopecks = 1/58 kopecks.

##### b) on private roads:

Ryazan–Ural	0,0212 kopecks = 1/47 kopecks;
Moscow–Vindavskaya	0,0140 kopecks = 1/71 kopecks;
Belgorod–Sumy	0,0104 kopecks = 1/46 kopecks;
First Society of Access Roads	0,0333 kopecks = 1/30 kopecks.

Average expenses per one food-verst for 1906 are calculated:

for European Russia as 0,0158 kopecks = 1/63 kopecks;

for Asian Russia as 0,256 kopecks = 1/39 kopecks.

\* Pood is equal to 16 kg, verst is equal to 1066 m (or 1,066 km).



The character of fluctuations in these data indicates that setting of the minimum tariff rates must be consistent with the conditions of each individual road, that the adoption of one average value for the meter of own costs of all roads in the network is incorrect and, without additional indication of the highest and lowest such costs of individual roads, introduces delusion, and that is why it is necessary, set 15 years ago, a meter in 1/125 kopecks from pood-verst, for its own value, to increase and subject it to periodic verification for the future, otherwise it turns out that in fact it exists in some cases, that other bulk cargoes (coal, ore, timber) are transported by roads, unconsciously, at a loss, and this, in turn, leads the road to low profitability. Of course, we will be objected that such a measure will increase the cost of transporting cheap goods and complicate calculation of freight charges, and that everywhere, in Europe, they are striving to reduce the number of tariff rates. To this we answer the following:

The irrationality of the existing railway tariff system has led to the fact that at present on all European networks there is an extremely alarming decrease in profitability, which is greatly facilitated by the desire, for the sake of producers and consumers, to lower freight charges to the extreme, not complying with the commercial conditions of this railway, then as in America, where, with the length of the rail network of 361 thousand kilometers of the main track, owned by 2313 private companies, independently setting, at their own discretion, moderate\* tariff rates, the results of operation for 1906 were as follows:

Shareholders received on average dividends on their shares:

in 1904	6,09 %;
in 1905	5,78 %;
in 1906	6,03 %.

The basic construction capital is equal to the sum of 75 766 191 686 francs, which is 219 569 francs per kilometer of travel or 89 364 rubles per verst\*\*. The share capital is 46,69 %, and the bond capital of various names is 53,31 % of the share capital.

It should be noted, however, that not all received dividends, but only some joint stock

\* The law stipulates only moderation of tariffs in the interests of the public.  
 \*\* 20 % cheaper than ours.

companies, which in relation to the total capital of the entire American network:

in 1904	57,47 % of the total number of issued shares;
in 1905	62,84 % shares, the rest shareholders;
in 1906	66,54 % received nothing.

The sum of dividend capital given to the shareholders, was equal to:

in 1904	1 157 093 455 francs;
in 1905	1 237 415 306 francs;
in 1906	1 418 539 065 francs = 523 058 550 rubles.

The data given by us, above, of the average annual expenses per passenger and pood-verst on our Imperial network of state and private railways quite definitely sets the actual cost of transportation for each specified road, while lowering this verst cost, without much indirect benefit for itself, to the roads, in terms of commercial trends, there is no logical basis. If, in the public interest, in exceptional cases, the roads are forced to lower, for a given cargo for a certain time, the size of tariff rates, to the detriment of their direct interests, then such a sacrifice must necessarily be made only at the expense of the state treasury, but not at the expense of the road itself, whether public or private. In reality, however, railway practice observes phenomena of a completely opposite nature.

For now, let us dwell on this and move on to the next provision of railway policy, which should be abandoned in order to improve our railway business and establish the correct economy inherent in a well-maintained, commercially exploited enterprise.

The railway economy, by its nature and results, is so closely connected with state economic interests that when one hears a general indiscriminate and even official shade accusation of our railways in the general absence of economic order, and moreover, as a result of all kinds of abuse on the part of railway agents and their associates, then the question involuntarily arises: what if all these suspected agents turned into undoubtedly honest people, unable to covet a single state penny, would the railway economy improve? and operating costs would decrease significantly? To such a question, the following can be boldly and unmistakably answered:

Until the government itself comes to the aid of the railways in the sense of freeing them





through legislative measures and administrative orders:

a) from modern vampires who suck overpayments of multimillion-dollar deliveries from the railways, in the form of numerous syndicates and trusts of various names, raising strikes for personal gain – prices for massive necessities of railways;

b) from various applicants who do not stop at bribery, falsehoods and all kinds of abuses, for the purpose of profit at the expense of railway orders and admitted accidents;

c) from predators, parasites, sucking, on the basis of legal furnishings at the railways, all kinds of remuneration under various pretexts that are difficult to dispute.

Until then, the railway administration, whether private or state-owned, will be beyond the ability to do anything seriously to reduce operating losses.

On the other hand, the irresponsibility of some top and middle agents, who are covered in their illegal actions by sanction of various committees and commissions, also completely irresponsible, due to their collegiality, as well as non-application of the principle of fiscal responsibility of managers of loans themselves for losses caused to the road by their unreasonable orders, causing enormous unproductive costs, also contribute to the fact that the anti-commercial economy of some of our roads not only holds firm, but is still growing from year to year.

But the most powerful levers that could influence improvement of the railway economy and put it on a really comfortable commercial footing, in our opinion, would be:

a) persistent suggestion to all railway agents, especially the highest instance, that time loss is a significant crime that must be strictly prosecuted;

b) that in the nurseries of railway engineers who provide a contingent of heads of railways, students are given complete economic preparation for their future activities;

c) convincing those who follow that rhetoric, connections and patronage, which put forward some individuals, obscure modest, active knowledgeable, and therefore more useful agents.

Then, if every head of the railway, of course, subject to granting of the necessary broad powers, under strict accountability for the consequences of their orders, is elevated to the position of a local chief, responsible commercial figure, which would be absolutely rational, then the central administration would be the master of the whole the railway network, managed as if by agents (in commercial terms, clerks) on the report; then such unnatural facts as, for example, a sudden transformation of a profitable road into a non-profitable one, due to the newly erected adjacent diagonal lines, i.e. shorter distance. Then such an owner of the network, foreseeing the changing conditions of profitability of the direction of goods, would not leave the road, which had lost most of its goods, by transferring them to another – to work independently and deliberately at a loss, but would connect it, but already, as a line of local importance and serving, as an unloading-bypass, to the road that most delayed its work; and this would have been done commercially, otherwise, now, we see, for example, the

following picture, extracted by us from a note by the chairman of the Special Higher Commission for the Study of Railway Business in Russia, engineer-general N. P. Petrov.

	Data on the information of the State Audit Office <sup>1</sup> (rub.)	Data on the estimates of the Ministry of Railways (rub.)
On Riga—Oryol road for 1906		
Gross income	24000 059	18 854 997
Operating expenses	14 319 774	12 874 571
Net income	9680 285	5980 426
Obligatory payments	5964 159	5964 159
Net income	3716 126	16 267
On Syzran—Vyazma road for 1906		
Gross income	24086 081	12 593 265
Operating expenses	15 221 434	13 991 260
Net income	8864 647	Deficit 1 397 995
Obligatory payments	3989 250	3989 250
Net balance	4875 397	Deficit 5 387 245

<sup>1</sup>The reports of the State Audit Office, which makes its own standard in its reports, sometimes differ from the reports of the road itself.

But since additional capital was spent from the State Treasury to strengthen and improve these roads from the State Treasury, for the first of the above 52 473 358 rubles, and for the second 27 198 112 rubles, then the indicated net balance brought the State Treasury:

On Riga—Oryol road for 1906 7,88 %, while according to the estimate for 1909, only 0,03 % is accepted.

On Syzran—Vyazma road for 1906 17,9 %, and according to the estimate for 1909 no payment is expected.

Such results, which appeared as a result of pulling of loads onto new diagonal roads, directly indicate how the real commercial owner of the business should have done. And the examples given by us are not isolated.

There is a well-established opinion that public roads are less well maintained than private ones, in other words, private roads are much better at doing business. We disagree with this; some autonomy of private roads, in fact, makes it possible for the local administrations of the latter to better and more consciously administer their enterprise, while in relation to state roads, remote centralization of the administration greatly inhibits manifestation of the lively and sensitive activity of the local administration of these roads. Being placed in the same conditions as private roads, the activities of state roads will not differ from the

activities of private roads, which now rise only at the expense of state railways; on private roads, self-government is based on trust, which does not exist on public roads. Small economy is almost the same everywhere, due to the peculiarity of this shortcoming to the Slavic nature in general.

Having thus clarified the conditions of commercial importance in general and the commercial activity of railways, and having given a negative answer to the question posed in the title, we proceed to consider the question of whether all railways should be recognized as state and private state importance? This question can only be answered in the affirmative, since the commercial nature of the activities of railway enterprises concerns their own life and nutrition, which roads should derive from their direct activities, but, according to the results of this very activity, responding to all manifestations of the country's state life as in a strategic and culturally and economically — the state importance of railways is inalienable from them. We have already had the opportunity to point out, in one of our excursions<sup>\*\*\*</sup>, that the colossal size of the state's income list today is based precisely on the activities of railways; a state economy without means of communication, and most importantly, railways, cannot not only be considered comfortable, but, under modern political conditions, could not exist at all. By virtue of this, the direct task of the government, in its own interests, without stopping at any sacrifices, is to promote by all measures the development and prosperity in Russia of the greatest number of railways, not only mainline, but also of secondary importance, remembering tirelessly that:

A country teeming with railways will always be the most cultured and strongest.

With development of the railway network, ordering of its furnishings and its tightening in a loop, the growth of productive forces of the State and the national wealth will also rise, and this, in turn, balancing opposite passions, guarantees internal peace, external peace and prosperity of the country.

**Enaes.**  
**(Zheleznodorozhnoe Delo [Railway Business], 1910, No. 23, pp. 127–132) •**

<sup>\*\*\*</sup> Railway facilities before the Public Court: «Zheleznodorozhnoe delo», 1909, No. 41.

