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Ways to calculate on the efficiency rating of economic power of motor transport enterprises

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Abstract: The article considers ways to calculate the road transport enterprises rating on the economic efficiency indicators. For this purpose, nine indicators were selected which representing the economic potential of business entities. Because these indicators have different orientations and dimensions, they are brought to the same orientation and dimensions. However, taking into account all indicators significance is not the same, the significance factor of each indicator has been determined. Based on this, the enterprise rating determining method is shown using practical data.

Keywords: economic potential, rating, labor potential, assets, fixed assets, working capital, intangible assets, motor transport enterprises, materiality ratio.

Introduction

The efficiency concept of enterprises economic potential in our country was first introduced to the economic science analysis at the end of the last century. The main focus is on the economic potential of manufacturing enterprise[1]. Later, scientists began to work in other areas, as well as economic

[1]Pardaev M.K. Problems of financial analysis.//Economic report, № 1, 1997 -43-45 pages, Pardaev M.K. Methodology of financial analysis.-Samarkand, SamAI, 1997, -59-61 pages, Pardaev M.K., Isroilov B.I. Pardaev M.K. Labor potential analysis of the enterprise. - Samarkand, SamAI, 1997. Pardaev M.K. Analysis of the economic and financial potential of the enterprise. - Samarkand, SamAI, 1998. Pardaev M.K. Methods of assessing and analyzing the economic and financial strength of the enterprise. - Samarkand, SamAI, 1999. Pardaev M.K. Analysis of the financial potential of enterprises. - Samarkand, SamAI, 2000.

efficiency indicators and ways to identify and analyze them[2]. However, the economic potential of transport enterprises has not yet been studied by domestic scientists.

Usually, in determining the enterprise economic potential efficiency, the ratio of its performance indicators amount to the average economic potential value is obtained from the classical efficiency tariff, i.e. in any industry. The road transport companies performance we study consists of a number of indicators, such as the passengers number carried, the total transported cargo volume (in ton-kilometers), the total revenue from transport services (million soums). In addition, the income received in determining the economic potential efficiency of transport enterprises is also used. All types of income earned in the industry (gross income, taxable income, operating income, casual income, etc.) are taken into account in determining the indicators that represent income. The use of any of these depends directly on the goals and objectives of the analysis.

The next outcome indicator is profit. There are many types of this indicator. For example, in the automotive industry, these indicators can include gross profit, marginal profit, net profit, profit from financial activities, gross profit, random profit, retained earnings. Which of these indicators to obtain also depends on the analysis purpose.

It should be noted that the indicators system representing the economic potential of enterprises is theoretically and methodologically based by M.K. Pardaev and has been tested in training and practice. This example is his work below.[3]

The economic potential concept in joint stock companies, ways to analyze its effectiveness were defended in 1999 by researcher B.I. Isroilov[4]. It can be seen that the enterprise economic potential

[2]Isorilov B.I. Improving accounting and analysis in joint stock companies.-T., Banking and Finance Academy of the Republic of Uzbekistan, 1999. Pardaev M.K., Abdukarimov I.T., Abdiev A.A., Isroilov B.I. Analysis of financial statements in enterprises. Samarkand: SESI, 2007. - 12.1 p.-194 pages., Pardaev M.K., Abdukarimov I.T., Isroilov B.I. Economic analysis. Study guide.T.: "Mehnat" Publishing House, 2004.- 486 pages, Pardaev M.K., Abdukarimov I.T., Isroilov B.I. Analysis of the economic potential of the enterprise. T.: World of Economics and Law Publishing House, 2003.- 256 pages, Pardaev M.K., Isroilov J.I. Theoretical and methodological problems of the analysis of the activities of private enterprises. Monograph.T.: 'Science and technology', 2007. –164 pages.

[3]Financial analysis. - T.: "Economy and the world of law" Publishing House, 1999., Pardaev M.K. Analysis of economic and financial potential of the enterprise. – Samarkand, SamAI, 1998., Pardaev M.K. Economic analysis. Curriculum. Samarkand, SamAI, 1998, etc.

[4]Isorilov B.I. Improving accounting and analysis in joint stock companies. The dissertation abstract of the candidate of economic sciences. - T., Banking and Finance Academy of the Republic of Uzbekistan, 1999.

is recognized among scientists and practitioners as an important object of the economic science analysis and is an integral part of this science as an independent analytical indicator. These indicators are included in the curriculum and a number of textbooks on this subject, developed by I.T. Abdukarimov, M.K. Pardaev and B.I. Israilov.

It can be seen that in any case, the indicator use in the analyzing process the economic efficiency indicators depends on the goals and objectives of the analysis in all cases. However, the effectiveness indicators of transport enterprises' economic potential have not been sufficiently studied by our scientists and, accordingly, are not reflected in the literature in the field. Therefore, as a methodological basis for the indicators analysis of economic efficiency of road transport enterprises, we consider it appropriate to take into account the total economic potential volume of enterprises in the sector. In this case, the results can be obtained total services volume indicators provided by road transport enterprises, income and profits. Therefore, it is expedient to study these indicators in three groups (efficiency, profitability and rentability) in terms of economic content. These indicators classification is shown in the following figure (Figure 1).

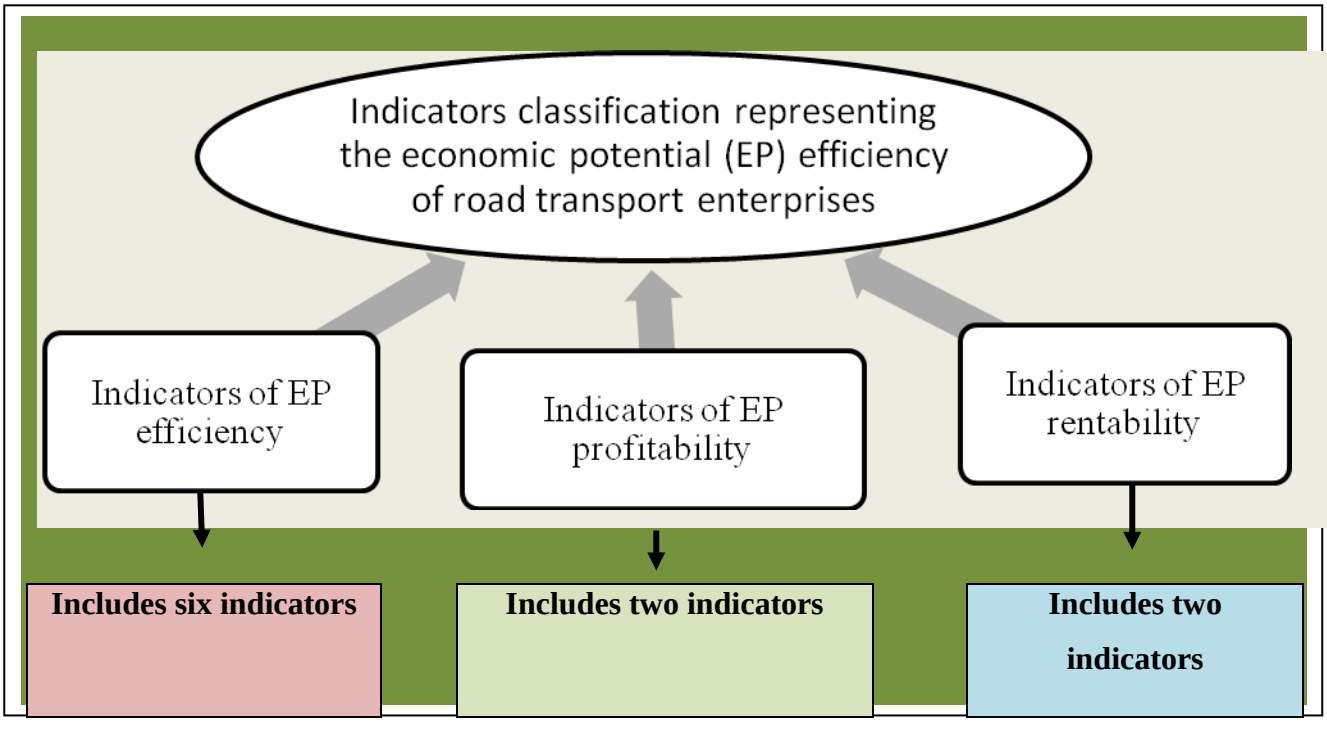

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Figure 1. Classification of indicators representing the economic potential efficiency of road transport enterprises [5]

As can be seen from this figure, the indicators that represent the economic potential efficiency in road transport enterprises are divided into three major groups. Each of these groups indicators includes a number of other indicators in the transport sector. These include 9 indicators that reflect the economic potential efficiency in road transport enterprises. This indicators system, in turn, includes the following.

1. The economic potential efficiency level (IEPE) in road transport enterprises in relation to the number of passengers (Np);
2. IEPE харажатлар сўммаси (EPxc) билан боғлиқ даражаси;
3. IEPE is the level related to the total transported cargo volume (Cv);
4. IEPE is the transported cargo level (Cv) relative to the cost amount (EPxc);
5. IEPE ratio to total revenue (Q) from transportation services;
6. IEPE level related to the (Q) transportation costs amount;
7. IEPP level revenue (R) from the transport services provision relative to the total IS (EP.tv) volume;
8. IEPP revenue (R) level from the of transport services provision related to the EP expenditure volume (EP.tv);
9. IEPP profit (P) level from the provision of transport services in relation to the total EP volume (EP.tv);

The ways to determine these indicators by individual groups are given in the table below (Table 1).

Table 1

The system of indicators representing the economic potential efficiency in road transport enterprises and ways to determine them[6]

T/p	Name of indicators	Ways of detection (formulas)	Note (what it means)

[5]Developed by the author as a research result.
[6]Developed by the author as a result of research.

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1. Indicators of economic potential efficiency (IEPE) in transport enterprises			
1.1.	The rate associated with the IEPE passengers number (Np)	$\text{IEPENp} = \frac{\text{Np}}{\text{EP.tv}}$;	The number of passengers which corresponds to the total economic potential volume (EP) per thousand sums (EP.yx)
1.2.	The rate associated with the IEPE cost sum (EPxc)	$\text{IEPExc} = \frac{\text{Np}}{\text{EPxc}}$;	Number of passengers per thousand sum of EP expenses (EPxc).
1.3.	IEPE is the ratio of the total transported cargo volume (Cv)	$\text{IEPECv} = \frac{\text{Cv}}{\text{EP.}tv}$;	The amount of cargo transported corresponds to the total volume of (EP.tv) one thousand sums EP.
1.4.	IEPE is the ratio of the freight (Cv) transported to the cost sum (EPxc)	$\text{IEPENp} = \frac{\text{Cv}}{\text{EPxc}}$	The volume of transported cargo, which corresponds to the sum of EP costs (EPxc) in thousand sums.
1.5.	IEPE ratio to total revenue (Q) from transportation service	$\text{IEPE}Q = \frac{\text{Q}}{EP.\text{tv}}$;	Total revenue from the provision of transport services, which corresponds to the total volume of EP (EP.tv) of one thousand sums.
1.6.	The rate at which the IEPE is related to the sum (Q) of	$\text{IEPE}Q = \frac{\text{Q}}{\text{EPxc}}$;	The total revenue from the provision of transport

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	providing cost of the transport service		services, which corresponds to the EP cost (EPxc) per thousand sums.
2. Indicators of economic potential profitability (IEPP) in transport enterprises			
2.1.	IEPP revenue rate from transport services (R) related to total EP (EP.tv)	$\text{IEPE}Qtv = \frac{\text{R}}{\text{EP. tv}}$;	The amount of income corresponding to the total EP amount (EP.tv) per thousand sums.
2.2.	IEPP revenue rate from transport services (R) related to EP expenditure volume (EP.tv)	$\text{IEPE}Q\text{xa} = \frac{\text{R}}{\text{EP. ex}}$;	The amount of income corresponding to the EP expenses amount (EP.tv) per thousand sums.
3. Indicators of economic potential profitability (IEPP) in transport enterprises			
3.1.	IEPP profit level from the of transport services provision (P) in relation to the total EP volume (EPtv)	$\text{IEPE}Qtv = \frac{\text{P}}{\text{EP. tv}}$;	The profit amount (P) corresponding to the total EP amount (EP.tv) per thousand sums.
3.2.	The profit level (P) related to the transport services cost in the TE (C)	$\text{IEPEX}x_i = \frac{\text{P}}{\text{C}}$;	The amount of profit (P) corresponding to the expenses amount (Ex) per thousand sums

As can be seen from this table, the determining ways of economic potential efficiency in motor transport enterprises are very close to each other, as the indicators system is interrelated. But when practical data is applied, it is evident that they have different levels and orientations. Therefore, in the

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analysis process, it is expedient to study these indicators together in relation to each other. To do this, we recommend the following table (Table 2).

Table 2

Calculation of changes in the economic potential indicators of road transport services of "KIZILKUMSEMENT" JSC in 2018-2019.

Indicators	In the past 2018	In the current 2019	The difference (+,-)	Change rate%
Volume indicators related to the economic potential of transport enterprises				
1. The volume of services provided by transport enterprises, mln. sum	69042,0	98764,9	+29722,9	143,1
2. Other operating income, mln. sum	1882,1	2302,6	+420,5	122,3
3. Total revenues from transport enterprises, mln. sum.(1s+2s)	70924,1	101067,5	+30143,4	142,5
4. The amount of expenses incurred by motor transport enterprises, mln. sum	65819,3	94137,0	+28317,7	143,0
5. The amount of profit received by motor transport enterprises, mln. sum (3s – 4s)	5104,8	6930,5	+1825,8	135,8
6. The amount of economic potential in road transport enterprises, mln. sum	146689,7	191452,5	+44762,8	130,5
7. Served passenger turnover, thousand passengers/km.	28474,0	21165,0	-7309,0	74,3
8. Carried cargo capacity, tons	10267891,4	10153870,7	-114020,7	98,9
Relative indicators related to the economic potential of transport enterprises				
9. Number of passengers per AKEP (Np) (7s*100/6s), %	19,4	11,1	-8,3	57,2
10. The amount of costs incurred by AKEP (EPxc) (4s*100/6s), %	44,86	49,17	+4,31	109,6

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11. The total volume of transported cargo to AKEP (8s/4s), tons	6,41	10,79	+4,38	168,3
12. Gross revenue from the provision of transport services corresponding to AKEP (Qy) (1s*100/6s), %	47,07	51,59	+4,52	109,6
13. The revenue ratio (R) from services rendered by TE to the total volume of EP (EP profitability). (EPrtv) (3s*100/6s), %	48,35	52,79	+4,44	109,2
14. The revenue ratio (R) from the provision of transport services of TE to the expenses amount. (EPrex) (3s*100/4s)	107,76	107,36	-0,40	99,6
13. The profit ratio (profitability) (P) of TE to the transport services provision to the total volume of EP. (EPp) (5s*100/6s)	3,48	3,62	+0,14	104,0
15. The total volume of transported cargo to AKEP (Cv) (8s/6s), tons	69,99	53,04	-16,95	75,8
16 The profit level (P) related to the cost of transport services in TE. (Ex) (5s*100/4s)	7,76	7,36	-0,40	94,9

From the data in this table, it can be seen that the economic potential efficiency of the analyzed entity in 2019 increased significantly compared to the previous 2018. The services volume provided by the transport company for the same period increased by 143.1%. Correspondingly, the expenses amount also increased by 143.0%. The total transport enterprises income also increased by 142.5%. During the same period, the company's profit increased by 135.8%. The economic potential amount increased by 130.5%. It is clear from this situation that while the result was high, the costs were also high. As a result, the profit amount remained less than their growth rate. This of course also affects its profitability. This figure was 104.0% compared to the previous year, the income was 109.2% and the efficiency was 109.6%. It can be seen that in the transport enterprises there was a growth rate on all indicators that

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reflect the economic potential efficiency. However, this situation still does not allow to draw general conclusions, especially to determine the enterprises rating. Therefore, based on these indicators system, we recommend to determine the complex indicator volume that determines the motor transport enterprises rating (Mte). To do this, we recommend an additive model use of mathematical methods used in economic analysis:

Mte = Np + EPxc + ЮOcxc + Qy + EPrtv + EPrex + EPp + ЮOx + Ex;

However, it must be acknowledged that these indicators cannot be added to determine the enterprises ranking. Because their sizes are different. So you have to bring them to the same size. To do this, it is necessary to determine the substantiation of each indicator coefficient. There are also several ways to determine this:

- by scoring each indicator;
- by determining the growth rate relative to the plan;
- relative to the industry average;
- in relation to the established norm of the analyzed indicator;
- can be determined in relation to the average of the subjects under study and so on.

We chose the most convenient methods to determine the comparable relative value relative to the average value of the subjects studied. For the convenience of the formula, we define all the indicators as " X_i" and, accordingly, we recommend setting the significance factor of each indicator as $К_{Мi.}$ In both cases i = 1, 2, 3… n. In this case, the above formula will look like this:

$$\mathbf{Mte = (X_1*Sci_1) + (X_2*Sci_2) + (X_3*Sci_3) + (X_4*Sci_4) + (X_5*Sci_5) + (X_6*Sci_6) + (X_7*Sci_7) + (X_8*Sci_8) + (X_9*Sci_9);}$$

Where:*Mte*– is *a complex indicator aimed at determining the economic potential rating of road transport enterprises;*

$К_{Мi}$ – *is substantial coefficient of individual indicators economic potential of road transport enterprises. This indicator amount is set from 1 to 10 range. This study results are determined by qualimetry (generalization results of a sociological survey).*

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To apply this formula to the table data, the absolute amount of each indicator is multiplied by its substantiation coefficient and the result is summed. The significance coefficient (SC) is determined by conducting a sociological survey. At the same time, all indicators representing the transport enterprises' economic potential rating will be distributed to experts. They set the substantiation coefficient in the 0.10-1.00 range. They are then aggregated for each indicator and divided by the respondents number. To do this, we recommend using the following formula:

$$Indi = \frac{1}{n} \sum_{i=1}^{n} Iri;$$

Where: Indi – substantiation coefficient of i-indicator average rating;

Iri - the significance coefficient of the i-indicator;

i - ordinal numbers of indicators;

n – the total number of indicators.

Applying this formula to the data in the table above, it will be possible to determine a complex indicator of the efficiency of the economic potential of the enterprise. To do this, we recommend creating the following table (Table 3).

Table 3

Calculation of the economic potential rating of "KIZILKUMSEMENT" JSC motor transport enterprises for 2019

Indicators	Rating indicators growth rate, %	Rating indicators index	Rating indicators are substantial	Comparative amount of rating indicator
1. Number of passengers per AKEP (Np) (7s*100/6s), %	57,2	0,572	0,83	0,479
2. The amount of costs incurred by AKEP (EPxc) (4s*100/6s), %	-109,6	1,096	0,81	0,888
3. The total volume of transported cargo by the AKEP (ЮОСхс) (8s/4s), tons	168,3	1,683	0,92	1,548

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4. Gross revenue from the provision of transport services corresponding to AKEP (Qy) (1s*100/6s), %	109,6	1,096	0,88	0,965
5. The revenue ratio (R) from services rendered by TE to the total volume of EP. (EP profitibility) (EPrtv) (3s*100/6s), %	109,2	1,092	0,87	0,950
6. The revenue ratio (R) from the provision of transport services of TE to the expenses amount. (EPrex) (3s*100/4s)	99,6	0,996	0,76	0,760
7. The profit ratio (P) from the provision of TE transport services to the total volume of EP (profitability) (EPp) (5s*100/6s)	104,0	1,040	0,93	0,967
8. The total volume of transported cargo to AKEP (Cv) (8s/6s), tons	75,8	0,758	0,82	0,622
9. The profit level (P) related to the cost of transport services in TE. (Xp) (5s*100/4s)	94,9	0,949	0,78	0,740
10. The total volume of indicators associated with TE EP $\sum_{k=0}^{n} EP$	x	9,282	x	7,919
11. The average EP rating of the automotive enterprise	x	1,031	x	0,880

As can be seen from this table, the basis of the rating indicators is its growth rate to determine the economic potential rating of transport enterprises. Based on this, the rating indicators index was determined. Their significance coefficient was determined for each indicator. To determine this coefficient, a sociological survey was conducted among scientists and experts, and each indicator relative magnitude was determined by adding their accuracy coefficient. To do this, we recommend using the following formula:

$$Rimi = \frac{Indi}{100} * \frac{1}{n}\sum_{i=1}^{n} Iri\,;$$

where Rimi – comparative amount of rating indicators for one enterprise;

Indi – the growth rate of each (i) indicator included in the rating;

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i – serial number of indicators included in the rating;

n – the number of indicators included in the overall rating;

$\sum_{i=1}^{n} Iri$ *- i is the substantiation indicator coefficient.*

The indicator value in 2019, which represents the transport enterprises rating under analysis in terms of economic potential, was 0.880. This amount is determined by the following calculation:

(57,2/100*0,83) + (109,6/100*0,81) + (168,3/100*0,92) + (109,6/100*0,88) + (109,2/100*0,87) + (99,6/100*0,76) + (104,0/100*0,93) + (75,8/100*0,82) + (94,9/100*0,78) =

= 0,479 + 0,888 + 1,548 + 0,965 + 0,950 + 0,760 + 0,967 + 0,622 + 0,740 =

= 7,919 / 9 = 0,880

As the rating result, the number of subjects to be compared is determined in the same way, and their level is compared with each other. This method is important for companies to know the situation and make effective management decisions in the future.

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