

Definition of Effective Use of Financial Leasing for an Automobile Enterprises

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Abstract—The rolling stock of road transport enterprises in the Russian Federation is old, with about 80% of vehicles there is a need for replacement. Financial leasing can provide and provide such a replacement. At present, there is no valid methodology in the Russian Federation for evaluating the effectiveness of leasing for a lessee, taking into account the specifics of the activity of the enterprise itself and the type of leased asset. The article considers existing methods for assessing the efficiency of leasing, its comparison with alternative financial mechanisms of renewal of rolling stock, methods are classified, their advantages and disadvantages are highlighted. An author's technique is developed, taking into account the revealed defects of the techniques and intended for the object of leasing - an automobile vehicle. According to the developed methodology a program is developed that allows taking into account the influence of different parameters of the enterprise having a motor transport. In particular, the main parameters influencing the efficiency of the financing scheme are the intensity of operation of the rolling stock, due to the technical and economic indicators of operating hours and the fleet utilization rate. The authors carried out calculations of the whole complex of possible performance indicators of the rolling stock in the range of possible variants of operational, tax and organizational conditions, and conclusions and justification of the zone of effective use of motor vehicle leasing were made. The article presents the complex of working conditions of motor transport enterprises and the operation of motor vehicles, in which financial leasing is more preferable than other financing methods: purchase for own funds, for credit.)

Keywords—*financial leasing; transport means; motor company; operating intensity*

I. INTRODUCTION

Leasing is a modern and up-to-date mechanism for the acquisition of rolling stock and constitutes a significant competition for bank loans in the segment of acquisition of liquid fixed assets. The lack of substantiated recommendations for assessing the efficiency of vehicle leasing leads to the fact

that such an assessment is carried out by road transport organizations on their own, according to individual methods that differ significantly in accordance with the principles and methods of calculation [1, 2, 3, 4, 5]. This often leads to negative results of using leasing when rolling stock is updated, or failure to receive the planned effect due to underestimation of various factors.

The research carried out an analysis of the methodical basis of organization of leasing transactions. Their classification is presented in three directions. Russian and foreign approaches to the definition of lease payments are considered [6, 7, 8, 9, 10, 11, 12, 13, 14]. Methods of assessing the economic efficiency of leasing as a financing scheme [15, 16, 17, 18, 19, 20], where the leasing is measured by comparison with alternative financing of investments (in particular, bank loans and purchases for own funds of the enterprise) [21]. Separately, foreign methods of estimating leasing operations are distinguished, where models are used in which leasing payments are considered as the result of market relations between lessors and tenants [20]. In most literary sources, a general analysis of leasing policies focuses on interactions with tax incentives for rental or sales relationships, but non-tax incentives are also considered.

Having analyzed the existing methods, we have identified and classified their most significant disadvantages. Disadvantages of existing methods are eliminated in the developed methodology.

The branch specificity of the operation of the motor transport enterprise and the process of formation of the cost of transport services, currently applied, tax systems and tax privileges of financial leasing in the Russian Federation are considered. The methodical bases, allowing more accurately and accurately comparing financing by means of leasing, credit and own funds, are developed. The developed method is intended for the lessee, the object of leasing is a vehicle. The comparison is carried out through a developed econometric

mathematical model, based on which a program is created using Microsoft Excel to calculate a large number of variables.

II. METHODOLOGICAL BASES OF ESTIMATION OF MOTOR TRANSPORT LEASING IN THE RUSSIAN FEDERATION

In the methodology we propose to use the following methods and criteria for assessing the effectiveness of leasing. We have formulated the methodological bases for assessing the efficiency of leasing use:

- The period of consideration of cash flows equal to the life of the vehicle.
- Existing tax policy of the enterprise - lessee: applied tax system, method of accrual of depreciation, coefficient of acceleration of depreciation/
- Specificity of branch activity, organizational-economic and technological features (intensity of operation of a vehicle), objective and subjective factors of development of leasing, established custom of business practice.
- The possibility of using data for a specific motor vehicle company, taking into account the working conditions of the rolling stock.
- Discrete and continuous forms of presentation of cash flows are used.
- The influence of the parameters of the external environment is considered: the conjunction of the market of transport services, legislation and practice of its application.
- Account of the influence of factors occurs depending on the degree of importance.

The specifics of the operation of the vehicle is that a wide range of characteristics of the vehicle itself and various indicators of the work of the entire rolling stock of the enterprise are possible. We propose to take into account the influence of factors through the indicator of the intensity of operation of the vehicle. This indicator can give a comprehensive description of changes in the mode of operation of the car during its operation in the established working conditions (specific performance indicators of the organization of transport) and environmental parameters.

It can easily be estimated quantitatively [18], as in

$$OH = T \times \alpha \quad (1)$$

where OH – operating hours, quantitative expression of the intensity of operation of the vehicle, time in the attire (T), and the fleet utilization factor (α). Each operating mode of the enterprise (one-, two-, three-shift) corresponds to a certain value of time in costumes, with a fixed emission factor, and a certain value of auto-hours of the car. The practical range of working time of vehicles per day is from 8 to 21 hours, and the utilization rate of the park is from 0.4 to 0.94.

There are three basic modes of work of the rolling stock: one-shift, two-shift and three-shift. Each mode of operation corresponds to some range of values of the generated auto-clock. The most probable value of the fleet utilization rate is 0.55, while the average values of the autosecond time for the month of operation: for one-shift mode - 132 AH, for double-shift - 264 AH, for the three-shift - 371 AH. When using a vehicle in a particular mode of operation, there are significant differences in their impact on different cost groups and, accordingly, on the magnitude of specific costs and sources of financing.

In addition to the general system of taxation (GST), the current tax code also provides for special tax regimes. Taking into account the transport specificity, a simplified taxation system (STS) is used, which has two applications: a simplified system of taxation of income (SSTI), and a simplified system of taxation incomes without expenses; and the tax system in the form of a single tax on imputed income for certain types of activities (CTA).

Based on the actual reporting basis for the existing intensity of transport operation and the applied tax system, the whole range of possible variants of operational, tax and organizational conditions was investigated. The basis for calculations in the CS is the simulation of payment flows using the method of "determination of net cash flows" (discounted amounts remaining at the disposal of the enterprise after tax) for the entire period of operation of the vehicle. The calculation is carried out for one car, it is assumed that the cost of transportation does not change from the life of the operation, the seasonality is not taken into account, and the calculation is being increased, by years.

III. CONCLUSION

We described the tax systems and modes of operation of vehicles used by motor transport companies at present, and their influence on the determination of the efficiency of ATC acquisition schemes was substantiated.

The tax system applied at the motor transport company will have the greatest importance when comparing leasing and credit. Under equal initial conditions, leasing benefits from those tax schemes where taxes are levied on profits (GST and SSTI). At the expense of assigning lease payments to the cost price, there is a decrease in taxable profit, thus achieving savings in taxes (profit tax at the GST and a single tax with net income at SSTI). A loan is more beneficial in those tax regimes where the tax and depreciation benefits of a lease are not applied, but rather turned to its shortcomings due to the overvalued value of the loan. Leasing is not recommended to be used in the application of tax systems SSTI and GST, since in the presence of an alternative loan, leasing is always less profitable. In the absence of alternative lending options on these systems, a positive result on leasing is possible with high profitability of transportation.

The profitability of transportation directly influences the possibility of using any scheme of acquisition of a vehicle. With low profitability ratios (less than 10% in the application of the general tax system and less than 25-50% in special cases) the acquisition of rolling stock is economically

ineffective. It may be justified by setting other tasks, non-economic, or in these situations it is possible to acquire equipment that was in use at a lower cost. The leasing effect in comparison with the loan is achieved with increased operational switching (two and three-shift modes of operation).

With the general tax system and three-shift operation of the rolling stock, leasing is beneficial in relation to the loan with any non-negative value of profitability, and for one- and two-shift work, the profitability should be higher than 14%.

With a simplified tax system from net income to get into the zone of efficiency of leasing, the profitability should have a relatively high value: for three-shift work - at least 18%, and for one- and two-shift work - 26-24%, respectively. With a simplified tax system with gross revenue, the profitability indicator should be higher than 50% for one-shift operation, above 37% for double-shift, and above 24% for three-shift. For UTII, the profitability should be higher than 60% for one-shift operation, above 45% for double-sided and above 30% for three-shift. In practice, these values of profitability are difficult to achieve.

The schedule of lease payments should take into account seasonal work. In the case of uneven lease payments, a variant with a consideration of uneven demand is preferred. In no case is the schedule of payments with decreasing.

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