

Influence of Creative Accounting on the Amount of Provable Loss in Public Transport

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Abstract: *The provable loss is an integral part of living of the transportation company in charge of the public transportation under the contract on the traffic services in the real conditions of the Czech Republic. Without the subsidy policies the transportation company would not be able to continue to provide the traffic services within its business. The reason is the annual losses in providing the traffic services. It means that the revenues fail to fully cover the total costs occurring as a result of the public service contract in the public line transport and the passenger track-based transport. The paper points out to the provable loss and to affecting of its amount by creative accounting. The goal is to use the general linear model to ascertain which (transport or accounting) items have an influence on determining the amount of the provable loss and to show the affected areas which are most often manipulated.*

Key words: Public line transport · Public track-based transport · Provable loss · Creative Accounting

JEL Classification: M41

1 Introduction

The paper is concerned with the manipulation and evaluation of the quality of the accounting data related to a significant indicator – a provable loss. The provable loss is a part of the subsidy policies in providing the traffic services, i.e. carrying out the public service obligation agreed between the client (the orderer) and the carrier. The provable loss and the factors serving for its calculation were presented at the international INPROFORUM conference in 2015. Using the general linear model, the main explained variable "provable loss" and the influence of the partial economic and transport indicators, i.e. the explanatory variables, will be examined. The chosen statistical method gives the results which will be addressed in the doctoral thesis. The results of the method serve as the accounting data quality evaluation and also point to the accounting or transport factors which are mostly manipulated. The results will also show the cases of using the creative accounting in the transport area, which have an influence on the calculation of the total amount of the provable loss. Finally, also responsibility for manipulating the accounting, economic or transport data will be addressed.

2 Methods

2.1 Provable Loss in Public Line Transport and Track-based Passenger Transport

In case of the public line transport, the provable loss term is defined pursuant to Regulation No. 493/2004 Sb. as the difference between the sum of the economically substantiated costs and the adjusted reasonable profit and the earned receipts and revenue.

$$\text{Provable loss} = \text{economically substantiated costs} + \text{reasonable profit} - \text{receipts and revenue.}$$

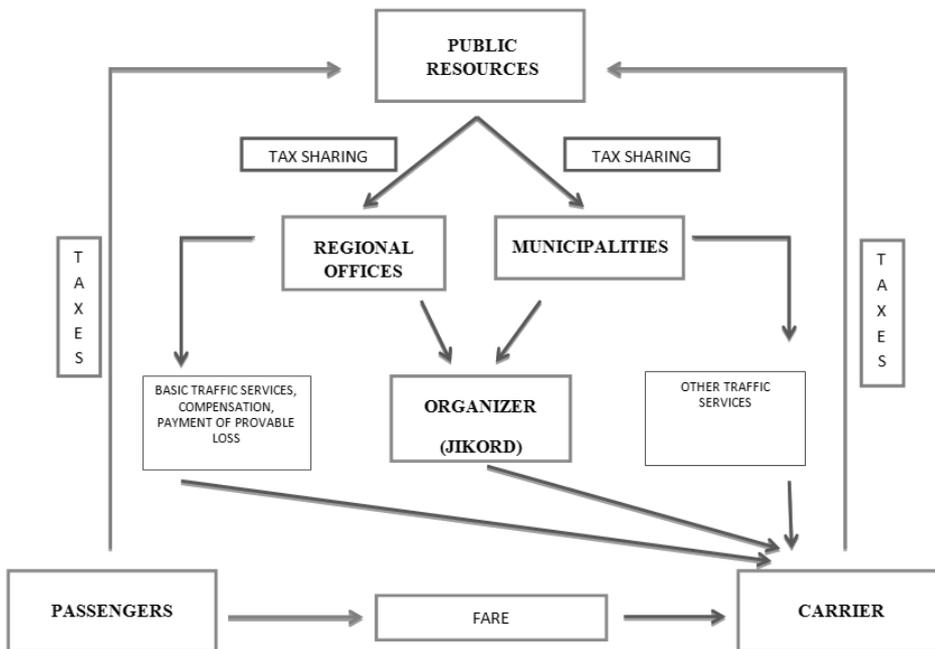
Regulation No. 296/2012 Sb. on the procedures for establishing the financial model and setting the maximum amount of the compensation analyses the deficiencies of Regulation No. 493/2004 Sb. and contains the more detail information and higher demands for the carriers which were not provided in the previous Regulation. The condition of the Regulation is that the carrier must not exceed the maximum permissible rate of return per the capital, being 7.5% annually from the operating assets. This condition is determined both for the public line transport and the public track-based passenger transport and the value of operating assets is considered on the basis of the amortised cost at the end of the immediately preceding accounting period. The transport companies (carriers) must use their assets which are procured and recorded as their property.

In case of the public track-based passenger transport, the provable loss is calculated as the difference between the amount of economically substantiated costs increased by the reasonable profit and the total revenue from the operation of the public track-based passenger transport using the regional and nationwide transport trains.

The economically substantiated costs are allocated to the sections of tracks separately for the trains serving the regional transport and the nationwide transport and are divided into the territorial districts. The total revenues will be ascertained upon all types of the income transport documents maintained in the carrier's accounting system. The receipts from the fare will be divided for the regional transport trains and the nationwide transport trains according to individual territorial districts of regions.

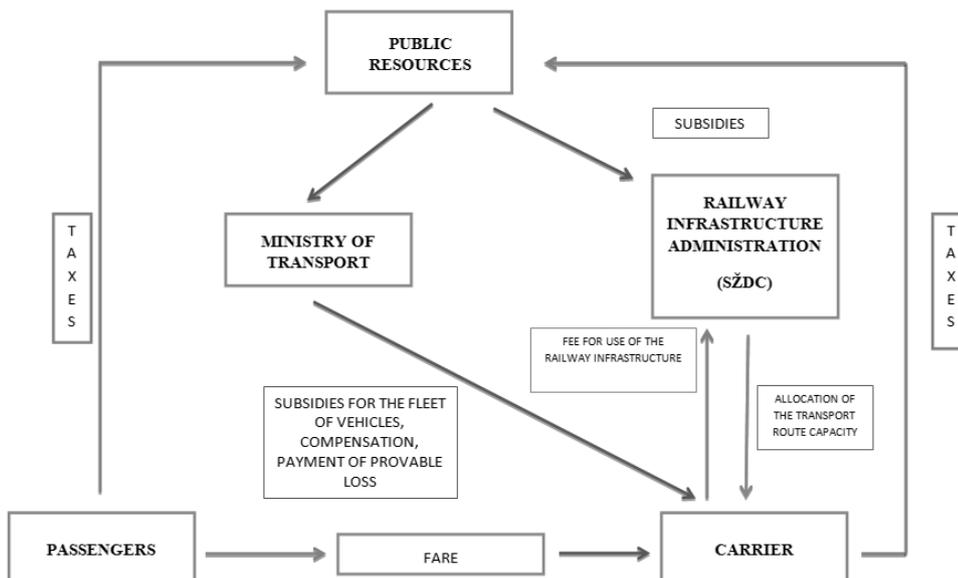
The provable loss is covered from the public budgets, especially the budget of the Ministry of Transport, regional offices and municipalities. The following diagrams show the method of distribution of subsidies and the payment of the provable loss to the carriers.

Figure 1 Financial flows in the regional bus transport

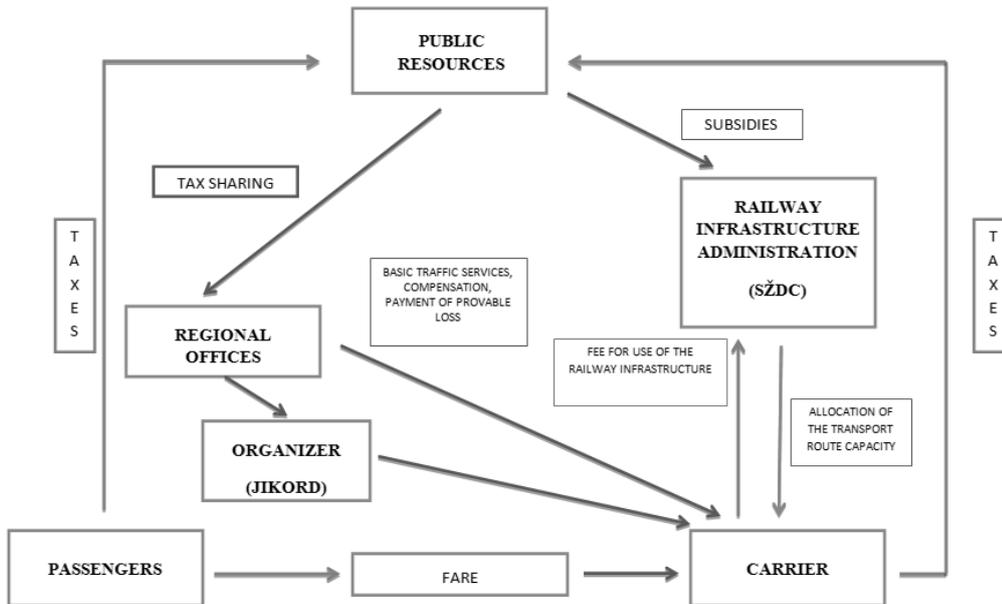


Source: author's own processing of the source Sláma (2014)

Figure 2 Financial flows in the nationwide railway transport (long-distance trains)



Source: author's own processing of the source Sláma (2014)

Figure 3 Financial flows in the regional railway transport (regional fast trains and passenger trains)

Source: author's own processing of the source Sláma (2014)

The passenger railway transport is divided into the three most important segments. The first of them is the regional railway transport funded from the regional office's budget with the contribution from the Ministry of Transport. The second segment is the long-distance railway transport ordered and paid from the Ministry of Transport's budget. The third segment is represented by the transport carried out at the carrier's own risk (most of the international long-distance connections, hotel and accommodation trains, etc.). The regional offices ensure the ordered traffic services by themselves or by means of the service organization (e.g. JIKORD, s.r.o.), most often the coordinator. Within the order the connections, times and lines are distributed. The service organization may pay for the performances upon the concluded public service contract.

Based on the order, the capacity of the transport routes is first allocated to the international long-distance trains, then the trains ordered by the Ministry of Transport, and only then the capacity is allocated according to the requirements of individual regions. Upon the allocated capacity of the means of transport type, the fee for using the railway transport route is charged.

In the regional bus transport, the regional office is an exclusive orderer. The bus transport can be further divided into

- international transport
- national long-distance bus transport

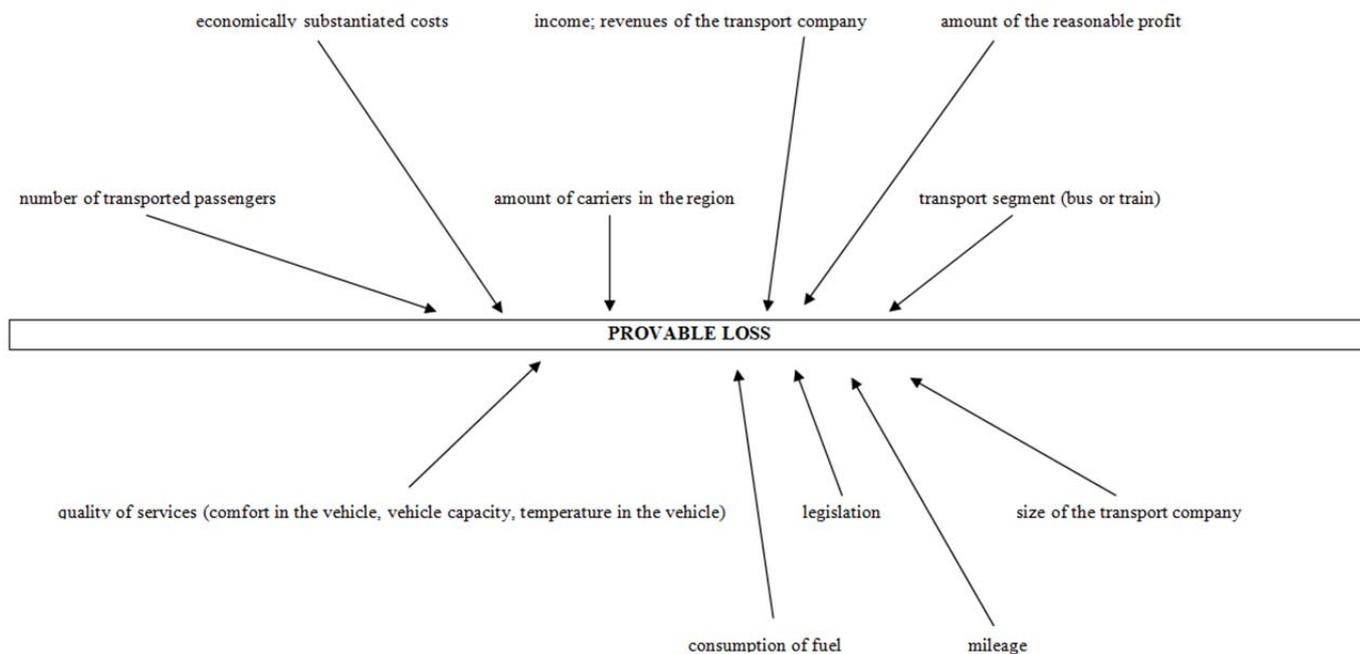
These two types are operated at the carrier's own business risk. The regional bus transport is covered from the budgets of the regional offices or municipalities. The specific transport is the urban transport which is funded from the budget of its operator.

2.2 Options of Influencing the Amount of Provable Loss using the Creative Accounting

The following figure shows the factors which may have an influence on the amount of the provable loss.

Especially the medium-sized and large transport companies with a complex structure overestimate the economically substantiated costs, underestimate their income and try to find the advantages stemming from the insufficient wording of the law and the regulations which govern determining of the provable loss and its partial parts.

In case of the public track-based passenger transport, the lines are often closed for traffic and the trains are replaced with other means of transport whose operating costs should be lower; however, the costs being advantageous for the carrier are reported

Figure 4 Financial and non-financial factors affecting the amount of the provable loss

Source: author

2.3 Prevention of Using Creativity beyond the Limit of Standard Accounting Adjustments

Upon the client's instruction, the transport companies document all information on the company's operation, including the performance of the means of transport, not for individual means of transport but as a whole. This way, the client loses track of the performances of individual means of transport, resulting in intentional increase in the mileage leading to an increase in the provable loss. The transport company is obliged to submit to the client the initial and real financial models; these reports, however, are not verified by an auditor and, as a result, the data submitted in the reports lose their credibility and quality. At the end of the accounting period at the time of compiling the financial statement, the carrier is obliged to have its accounting reports examined by an auditor. If the orderer finds significant deviations between the real financial model and the examined financial statement, he asks for the explanation of such deviations and for submitting the real financial model which does not include such a serious fraud. In most cases, the real financial model is re-drawn up under supervision of the orderer's authorized person. In some cases, the orderer asks the carrier to return a portion of the funds provided from the public budget.

3 Research results

The paper explains the primary transport and economic term "provable loss" in the public line transport and the track-based passenger transport. The goal was to set which factors have an influence on the dependent variable using the statistical model, a general linear model.

Using the statistical model application, or more precisely, the general linear model, those explanatory variables which have an influence on the explained variable, i.e. a provable loss, will be chosen. This model will help ascertain which explanatory variables have statistically the most relevant influence on the provable loss. Upon the results of the model, the examples of using the creative accounting and the ways of finding the measures which would considerably prevent this step will be given.

The general linear model is a statistical model based on the roots of mathematical thinking. It is characterized as an expansion of the linear multiple regression for one dependent variable.

The provable loss is chosen as the explained variable. In the model, it is characterized as the result of the effects of the explanatory variables. It is marked as Y. The explanatory variables act in the model like the causal variables. It means that their change will have an affect on the explained variable Y. They are marked as X. A total of six explanatory variables, namely:

- economically substantiated costs,
- income (revenues),
- number of deployed vehicles,
- mileage,
- company size (based on the staff headcount),
- type of transport (s – mixed transport; a – bus transport), were chosen.

A total of 42 carriers from various regions of the Czech Republic were chosen. At present, the data collection continues.

The results of the model are as follows:

Figure 5 "Provable loss" parameters

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Coefficients:
                Estimate Std. Error t value Pr(>|t|)
(Intercept)      16.91139    4.31720   3.917 0.000361 ***
Náklady           0.66044    0.07029   9.396 1.87e-11 ***
Počet_ujetých_kilometrů 0.81680    0.33612   2.430 0.019930 *
Příjmy          -0.67321    0.06864  -9.808 5.83e-12 ***
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Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 10.04 on 38 degrees of freedom
Multiple R-squared:  0.7543, Adjusted R-squared:  0.7349
F-statistic: 38.89 on 3 and 38 DF,  p-value: 1.148e-11

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Source: author

The Figure shows the final results, i.e. the value of parameters is:

Provable loss: $16.91139 + 0.66044 * \text{costs} + 0.81680 * \text{mileage} - 0.67321 * \text{income}$

R – adjusted quadrate amounts to 0.7349 (73.49%). It determines the accuracy of the chosen regression model using the method of least squares. It says how many per cents of the dispersion of the dependent variable is explained using the model and how many per cents is not explained. Generally, the higher the value of R–quadrate is, the higher the dependency between the explained variable and the explanatory variable is.

The economically substantiated costs, income and the mileage, thus, become the main area of the manipulated data by means of the creative accounting.

We chose and analysed those factors who had "direct and indirect" influence on the provable loss, namely the economically substantiated costs, income (revenues), mileage, number of vehicles, size of the company and the transport type; the economically substantiated costs, income (revenues) and the mileage became the statistically important factors. There is no proportional correlation between the company size, number of vehicles and the transport type and the explained variable (provable loss) and, hence, they were gradually excluded from the model.

As a result, we moved towards the creative accounting and analysing of the final factors which could be manipulated. Using the general linear model, also the quality of accounting data was partially evaluated. The quality of accounting data is, on the other hand, also evaluated by the initial and real financial models which must be submitted to the orderer of the transport every accounting period, including the accounting reports (annual reports) which must be verified by an auditor. Under these conditions, the data are compared in individual reports and the links are being searched for in order to reveal whether the transport company presented a true and fair view of its data in its accounting system or used the elements of creative accounting.

Within the legislation, creative accounting is completely legitimate and truthful. The more important aspect is to recognize the level of creative adjustments which are either authorized or represent almost a crime.

The table below shows the percentages of individual cost items in the total costs (economically substantiated costs) in the public line transport.

Table 1 Structure of economically substantiated costs and their percentage in the total costs in the public line transport in 2016

Item	Line	Public line transport	
		Actual values as of 31/12/201x	
		Total thousand CZK in %	CZK/km %
Fuel, oils	1	26.0	26.0
Rubber rims	2	2.0	2.0
Other direct material	3	1.0	1.0
Direct wages	4	22.0	22.0
Buses in total	Depreciation	5	14.0
	Rental/leasing	6	0.0
	Repairs and maintenance	7	10.0
	Road tax	8	1.0
	Insurance (statutory, collision)	9	1.0
Other direct costs	Fare	10	1.0
	Payments to the funds	11	7.0
	Any other direct costs	12	5.0
Overhead costs	13	10.0	10.0
Total operating costs	14	100%	100%

Source: author

The table shows that the fuel and oils (26%) and the direct wages (22%) account for the largest shares of the costs. In case of the urban public transport and the public track-based passenger transport the percentages are approximately the same.

Examples from practice which increase the provable loss using the creative accounting:

- Intentional increase in the wages and salaries,
- Inclusion of the costs that are not related to the transport service,
- Purchase of fuel at lower prices x consumption of fuel is reported at higher prices
- Wrongly valued means of transport; the ancillary costs not related to the acquisition of the means of transport are included in the purchase price
- Intentional increasing of the depreciation based on the wrong appraisal of the fixed assets (see the appraisal of means of transport)
- Manipulation in increasing the mileage (shunting and parking travels not included in the timetable)
- Revenues from the sale of scrap not posted as revenues
- Fines collected from the passengers (a proportion is not posted as revenues)
- Purchase of the departure control systems (distance posts, alarms, computers) which are no longer used
- Purchase of the "overpriced" spare parts that are not used for the needs of repairs and maintenance of the means of transport and, after a few years, they lose its value and are undersold, thus creating a loss for the transport company.

4 Conclusions

The cases of using the creative accounting which are most often encountered in the transport companies in practice were stated. In general, the transport company size is what matters. Generally, the bigger the company is (and the more complex its organizational structure is), more accounting errors and the traces of creativity in its accounting we find. The economically substantiated costs most often become the main area of the data manipulation. Especially where the total costs represent the highest percentage, i.e. the fuel and wages and salaries. This paper partly analyses the evaluation of the accounting data quality and highlights the areas which are most often and most probably affected by the manipulation. All stated facts have an influence on the total evaluation of the financial health of the transport company as well as the system of the subsidy policies within providing the traffic services.

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