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MAXIMUM AND BUSINESSLIKELY REGULATED PRICE IN RAILWAY TRAFFIC

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In currently applied tariff system in traffic in Czech republic, the Ministry of Transport and Government (exchequer) are entitled to regulate the amount of tariff(price) in:

- price for usage of internal railway traffic route on nation-wide and regional railways in conduction of railway traffic (maximum price),
- railway passenger transport (businesslikely regulated price – in regional passenger transport and in public interest services),
- in regular bus passenger transport (businesslikely regulated price – in public interest services).

Maximum price

Regulation of price for usage of internal railway traffic route on nation-wide and regional railways in conduction of railway traffic was established in Czech Republic in the year of 1995 along with the force of law n.266/1994 Sb., abput railways. Purpose of this regulation was to ensure the refund for usage of raiway traffic operator together with protection of newly originated private railway conveyors against possible price discrimination from almost exlusive public railway operator, which remained Czech Railways Inc. even after transformation. Price for usage of traffic route is regulated by maximum price, whereas the costs of driving the

railway vehicle, electricity supply, rent for usage of operational buildings, elaboration of railway guide, requisitioned train attendance and some other services required by conveyor are not included in the regulated costs.

Maximum costs of usage of internal railway traffic are defined for:

- freight a mixed trains, engines, other driving vehicles and other standalone track vehicles, passenger trains, standalone electric and motor-powered waggons, according to formula

$$C_m = \left(S_1 \times b + \frac{Q}{1000} \times S_2 \right) \times L$$

where:

C_m ..... maximum price for usage of internal railway traffic of nation-wide or regional lines with single train for agreed traffic route

S_1 ..... price for 1 train km as quotient of traffic route pursuit (traffic control) per one train kilometer

b ..... coefficient regarding the train weight during traffic route pursuit

1. light trains to 100 tons including, it is Q 100 tons 0,75
2. trains where 100 tons < Q 1 000 tons 1,00
3. heavy trains above 1 000 tons, it is Q > 1 000 tons 1,25

Q ..... gross train weight, found out

for freight trains as sum of weight of railway vehicles (driving vehicles, rail wagoons, other rail vehicles) and weight of loaded goods (parcels) in tons rounded up to whole tons,

for passenger trains as sum of weight of railway vehicles (driving vehicles, rail wagoons, other rail vehicles) and weight of passengers (number of places fo siting x 0,08) in tons rounded up to whole kilometres.

S_2 ..... cost of 1 000 gross tone-kilometres for appropriate type of train as quotient of cost of covering the serviceability of traffic route (infrastructure of traffic route) per 1000 gross tone-kilometres

L ..... length of train route in kilometres rounded up to whole kilometres

Modification of formula with usage of coefficient (e), regarding active driving vehicles of independent traction on electrified tracks (concerning only a part of train passage geared by driving vehicle of independent traction on electrified track)

$$C_m = S_1 \times b \times L + \frac{Q}{1000} \times S_2 \times \left[L - L_e \left(1 - e^p \right) \right]$$

values of coefficient *e*:

1. trains transported by driving vehicle of independent traction on electrified tracks: 1,05

2. in all other cases: 1,00

L_e .....moved distance on electrified track with driving vehicle of independent traction

p.....number of driving vehicles approaching to coefficient e

values of coefficient *p*:

1. number of active driving vehicles of independent tractions in case of fulfiment of condition *e* = 1,05: 1 and above

2. in all other cases: 1

Tab. 1 *Maximum cost of usage of internal railway traffic route for freight and passenger train*

	Coefficients	
	Operating of traffic route (traffic control)	Covering serviceability of traffic route (infrastructure of traffic route)
	S_1: Crowns/train-kilometres	S_2: Crowns/1 000 gross tone-kilometres
Freight train	48,46	58,86
Passenger train	8,96	50,49

source: Cenový věstník, amount 14/2004

Train type and length of given train passages according to kilometre stone published by track operator are critical for determination of maximum cost of usage of nation-wide and regional railway traffic routes.

In unplanned diverted drive caused by railway operator, the distance moved is appointed by originally concluded train passages according to internal directive of the railway operator. If the railway operator negotiates the planned drive with the conveyor of the diverted route with at least 60 days lead, the railway operator is entitled to account the cost of usage of traffic way on the diverted route.

Maximum costs are determined without VAT.

Businesslikely regulated costs

Since 2001 the internal passenger railway traffic costs were moved by measure of exchequer from the maximum cost category to category of businesslikely regulated cost. The allowed level of businesslikely regulated costs includes:

- economically warranted expenses of operating the routine public internal railway passenger transport (only passenger transport), operating and serviceability of the railway

for this traffic, lowered by expenses covered by othe conveyors; depreciations can then be included in the cost up to amount practically applied,

- payed costs of usage of the railway traffic route for this traffic, if the railway traffic operator pays to other subject,
- adequate profit, which bounds to pursuit of this traffic.

The warrant also determines, that calculation of businesslikely regulated cost has to be implemented separately for each type of passenger trains, of which the different fare is applied. In case of cost or extra pay for usage of higher quality train, it is necessary to perform an independent calculation. The following relation should apply to calculated costs:

$$N + Z - D \geq T$$

where:

N ..... economically warranted expenses increased by demonstrable expenses at inputs of current year

Z ..... adequate profit corresponding to conditions of current year

T ..... planned revenues for current year without value added tax

D ..... dotations provided with state budget, state funds or regional and contry budgets for operating the traffic in current year

This kind of regulation is already at the first sight very complicated, because the conveyor has to follow the quantities, which are in many cases hard to discover, when setting the tariffs. But the same complication influences the exchecquer during the cost control, which is in this case much more complicated, than in case of maximum cost. Therefore it's possible to claim, that costs of passenger railway traffic are factually free. Regulating elements are cost of competitive bus traffic, urban traffic and cost of driving fuel for individual motorism. Whereas the regulated railway tariffs came in the passed years to levels exceeding beyond the costs of bus traffic, abuse of dominant position a quick rising of costs is almost impossible here.

At present, there is no need of determination of tariff coefficients in freight traffic in Czech Republic. Most of the traffic base of Czech Railways cannot be namely considered by it's constitution as monopolistic. E.g. almost all internal short distance transportation (below c. 400 km) can be realized by lorries. All railway services, provided in terms of tranportation of general merchandise can be considered competivite, regardless to distance of the track. Only some kinds of long distance transportation of wholesale die, some kinds of international tranzit transportation can fall in category of monopolistic service (including combined freight transportation), if the pacts of European Community determine the railway share of whole transportation volume, or outstanding limitation of using lorries in any part of transportation track.

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Literatura

1. MELICHAR V., JEŽEK J. *Economics of a Transport Corporation*, Pardubice (2004).
2. *Determination of Treasury ČR*, no. 01/2005 - appendix no. 4.

Resumé

MAXIMÁLNÍ A VĚCNĚ USMĚRŇOVANÁ CENA V ŽELEZNIČNÍ DOPRAVĚ

Jindřich JEŽEK

Určování cen v železniční dopravě je jedním ze závažných plánových rozhodnutí, které ovlivňují zisk a prosperitu dopravního podniku nebo firmy. Jde o složitý a komplexní problém, protože stanovení ceny není pouze otázkou kalkulace vlastních nákladů a stanovení přirážky k těmto nákladům. Při stanovení ceny je třeba odlišit maximální cenu (za použití vnitrostátní železniční dopravní cesty celostátních a regionálních drah při provozování drážní dopravy) a věcně usměrňované ceny (ve vnitrostátní přepravě osob a při výkonech veřejném zájmu na železnici).

Summary

MAXIMUM AND BUSINESSLIKELY REGULATED PRICE IN RAILWAY TRAFFIC

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Determination of costs in railway traffic is one of the major plan decisions, which influence the profit a prosperity of traffic company or firm. It's a complicated an complex problem, because determination of the cost is not only the matter of calculation of expenses and additional charges to these expenses. During the determination of the cost, it's necessary to differentiate the maximum price (in usage of internal railway traffic route on nation-wide and regional railways in conduction of railway traffic) and businesslikely regulated prices (in internal passenger transportation and during services of public interest on the railway).

Zusammenfassung

MAXIMALER UND OBJEKTIV GERICHTETER PREIS IM EISENBAHNVERKEHR

Jindřich JEŽEK

Die Festlegung der Preise im Eisenbahnverkehr ist eine der wichtigsten Plan-Entscheidungen, welche Gevinn und Prosperität des Transportunternehmens oder des Betriebs beeinflussen. Es ist kompliziertes und komplexes Problem, weil die Preisstellung nicht nur Frage Kalkulation Eigenkosten aber auch Feststellung des Zuschlages zu diesen Kosten ist. Für die Preisstellung ist wichtig absondern Maximalpreis (bei der Benutzung der nationalen und regionalen Eisenbahnstrecken) und objektiv gerichteter Preis (im Binnenpersonenverkehr betrifft das öffentliche Interesse).