

Direct Cost – a first Benchmark

Assoc.Prof. Dipl.-Ing. Dr.techn. **Stefan Marschnig**
Institute of Railway Engineering and Transport Economy
Graz University of Technology



Direct Cost in the Directive 34/2012

"Charges for the minimum access package and for access to infrastructure connecting service facilities shall be set at the cost that is directly incurred as a result of operating the train service."

DIRECTIVE 2012/34/EU Article 31/3

DIRECTIVE 2001/14/EC Article 7/3

Which costs?



Commission Implementing Regulation (EU) 2015/909

on the modalities for the calculation of the cost that is directly incurred as a result of operating the train service

Direct Cost in the Regulation (EU) 2015/909

*"The infrastructure manager should be allowed to include in the calculation of its direct costs only costs that it can objectively and **robustly demonstrate that they are triggered directly by the operation of the train service.**"*

*"A need for **accelerated renewal or maintenance resulting from a more intense use of the network** may be taken into account for the purposes of calculation of direct costs, provided it is ensured that only costs directly incurred as a result of operating the train service are included."*

*"The **use of vehicles or railway lines with certain design** features results in different levels of direct costs incurred by the train service. Member States may allow their infrastructure managers to modulate average direct costs in accordance with, *inter alia*, best international practice to reflect such differences."*

Direct Cost in the Regulation (EU) 2015/909

"Direct costs on a network-wide basis shall be calculated as the difference between, on the one hand, the costs for providing the services of the minimum access package and for the access to the infrastructure connecting service facilities and, on the other hand, the non-eligible costs referred to in Article 4."

*"The infrastructure manager shall calculate average direct unit costs for the entire network by **dividing the direct costs on a network-wide basis by the total number of vehicle kilometres, train kilometres or gross tonne kilometres** forecasted for or actually operated."*

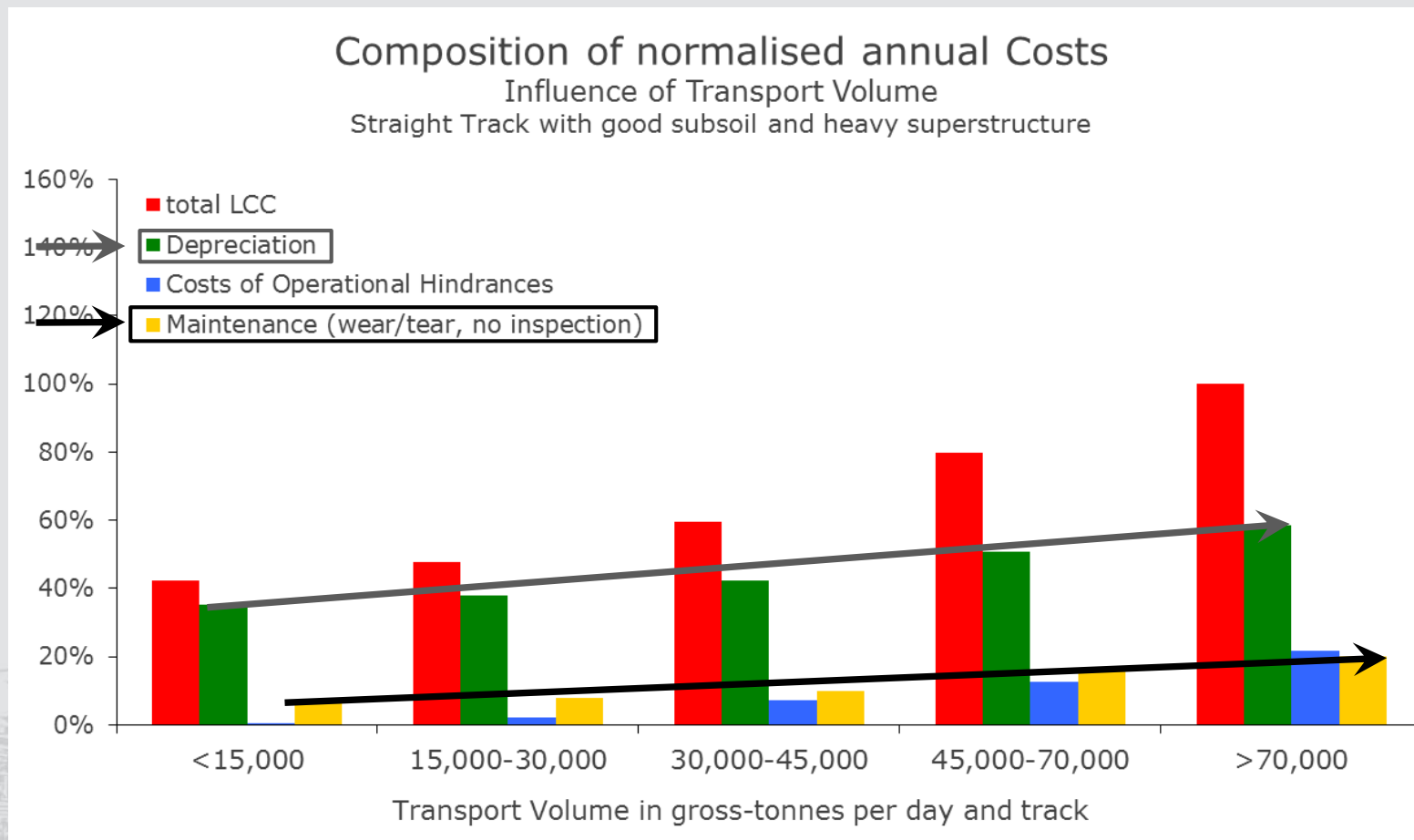
*"In order to calculate the average direct unit costs, the infrastructure manager **may use a combination of vehicle kilometres, train kilometres or gross tonne kilometres** provided this method of calculation does not alter the direct causation link with the operation of the train service."*

Direct Cost in the Regulation (EU) 2015/909

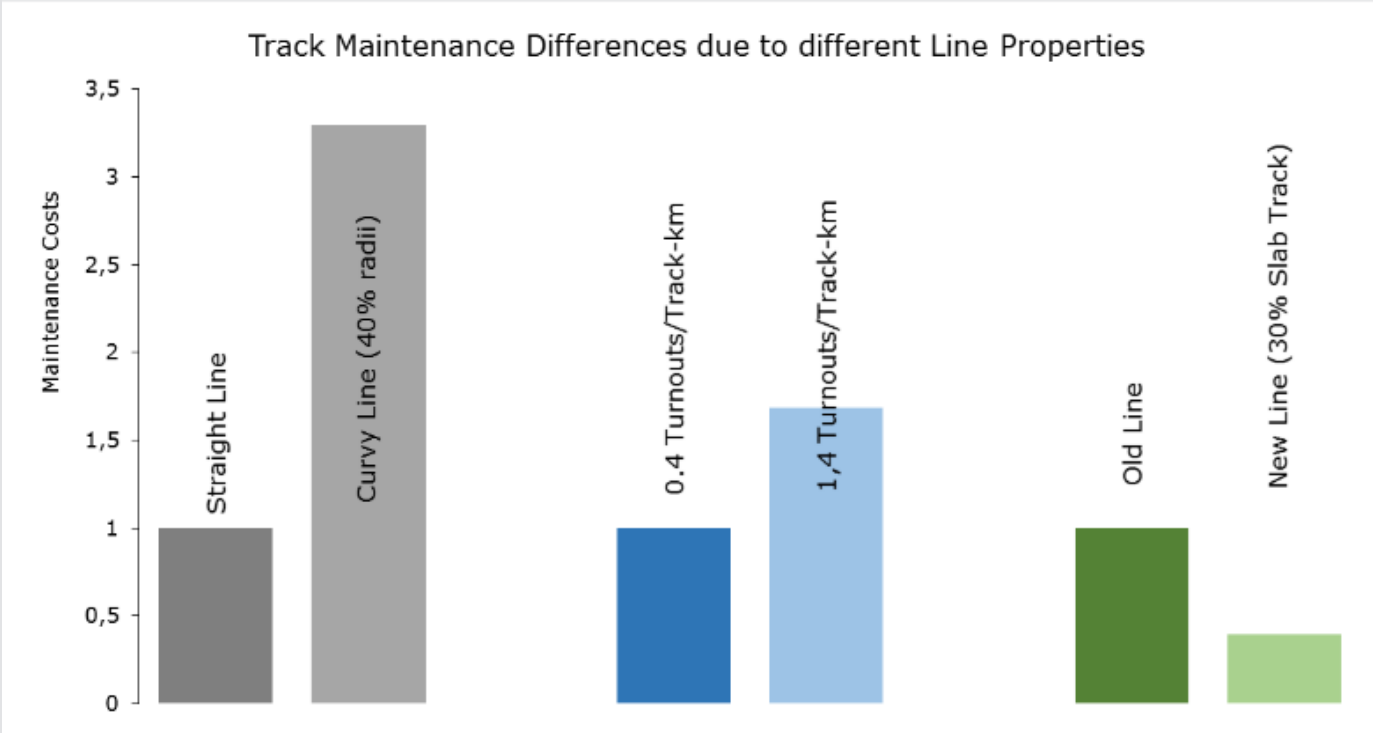
"Member States may allow the infrastructure manager to modulate the average direct unit costs to take into account the different levels of wear and tear caused to the infrastructure according to one or more of the following parameters:

- (a) train length and/or number of vehicles in the train;*
- (b) train mass;*
- (c) type of vehicle, in particular its unsprung mass;*
- (d) train speed;*
- (e) traction power of the motorised unit;*
- (f) axle weight and/or axle numbers;*
- (g) recorded number of wheel flats or the effective use of equipment to protect against wheel slips;*
- (h) longitudinal stiffness of vehicles and horizontal forces impacting on the track; (i) consumed and measured electric power or the dynamics of pantographs or contact shoes as a parameter to charge for the wear and tear of the overhead wire or the electric rail;*
- (j) track parameters, in particular radii;*
- (k) any other cost related parameters where the infrastructure manager can demonstrate to the regulatory body that values for each such parameter, including variation to each such parameter where relevant, are objectively measured and recorded."*

Direct Cost of Track



Direct Cost of Track



And the vehicles operated on different speeds definitely have an input to wear and tear as they apply different forces (→ Swiss Wear Factor)

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“The infrastructure manager shall calculate average direct unit costs for the entire network by dividing the direct costs on a network-wide basis by the total number of vehicle kilometres, train kilometres or gross tonne kilometres forecasted for or actually operated.”

All four countries compared use a certain type of modulation as the direct cost of different train services differ significantly.

Line characteristics are not considered in the countries compared – and if, they are not directly addressed...

Germany – DC @ Netz AG

In Germany, the line-based or infrastructure-based charging scheme was changed towards a net-wide approach focusing on different market segments.

The market segments follow generally the methodology of deriving mark-ups.

In difference to the mark-ups, they direct cost for similar trains are equal.

Example: All long-distance passenger trains have equal direct cost (1.145 € per train-kilometer), while mark-ups differ between 2.05 and 11.63 € per train-kilometer.

Austria – DC @ OBB Infrastructure AG

OeBB traditionally uses train-kilometres and gross-tonne-kilometres in the charging scheme.

Also in the new calculation (DC and mark-ups), the gross-tonne-kilometre approach kept for extracting the direct cost of a train service.

Similar to Germany, the infrastructure-based charging scheme (line- respectively net-segment-based based) was changed towards a net-wide calculation of direct cost.

Still under regulatory control.

Italy – DC @ Rete Ferroviaria Italiana

RFI follows an approximated wear-approach, using train-weight and speed-level (but not vehicle-based like in Switzerland).

There is a remarkable increase of direct cost reaching speed higher than 150 km/h (factor 5).

Additionally, the wear of the contact wire is charged separately.

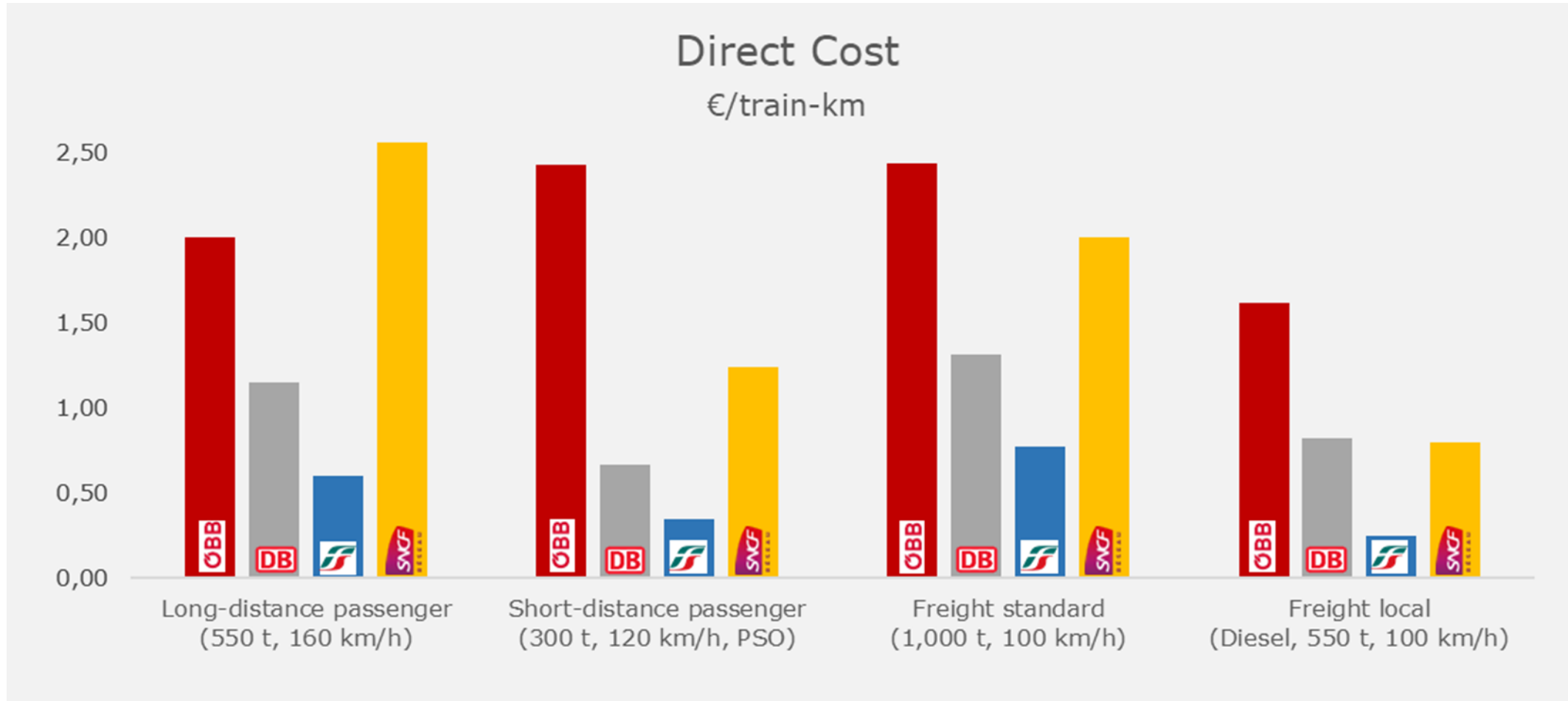
France – DC @ Réseau

SNCF Réseau's charges for the minimum service consist of three elements:

- I Running charges (RC)
- I Electric traction charge (RCE)
- I Coverage for losses in electric systems (RCTE)

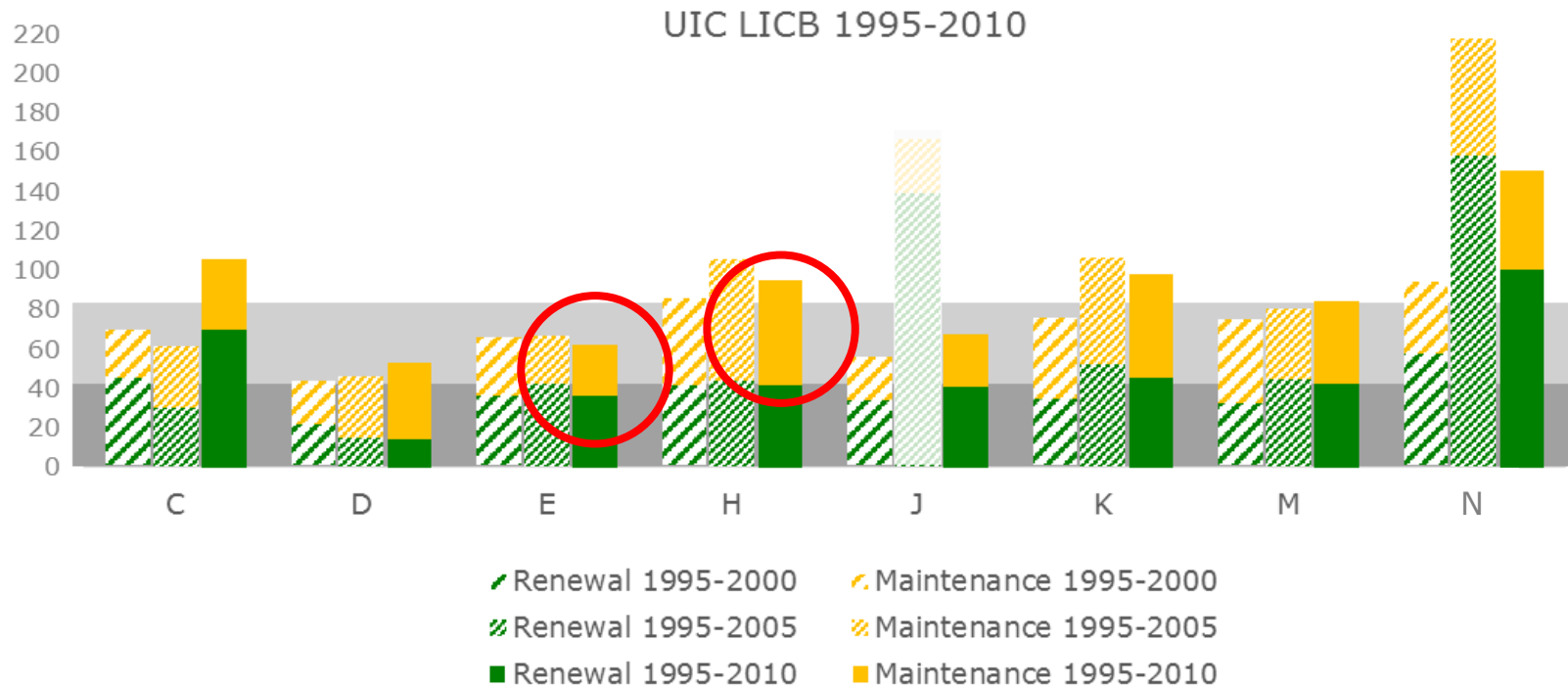
The direct cost are specified for the market segments, consider the train composition, and a rough line-characteristic (UIC-lines)

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Differences in Track Maintenance Costs

Are costs so differently in different countries?

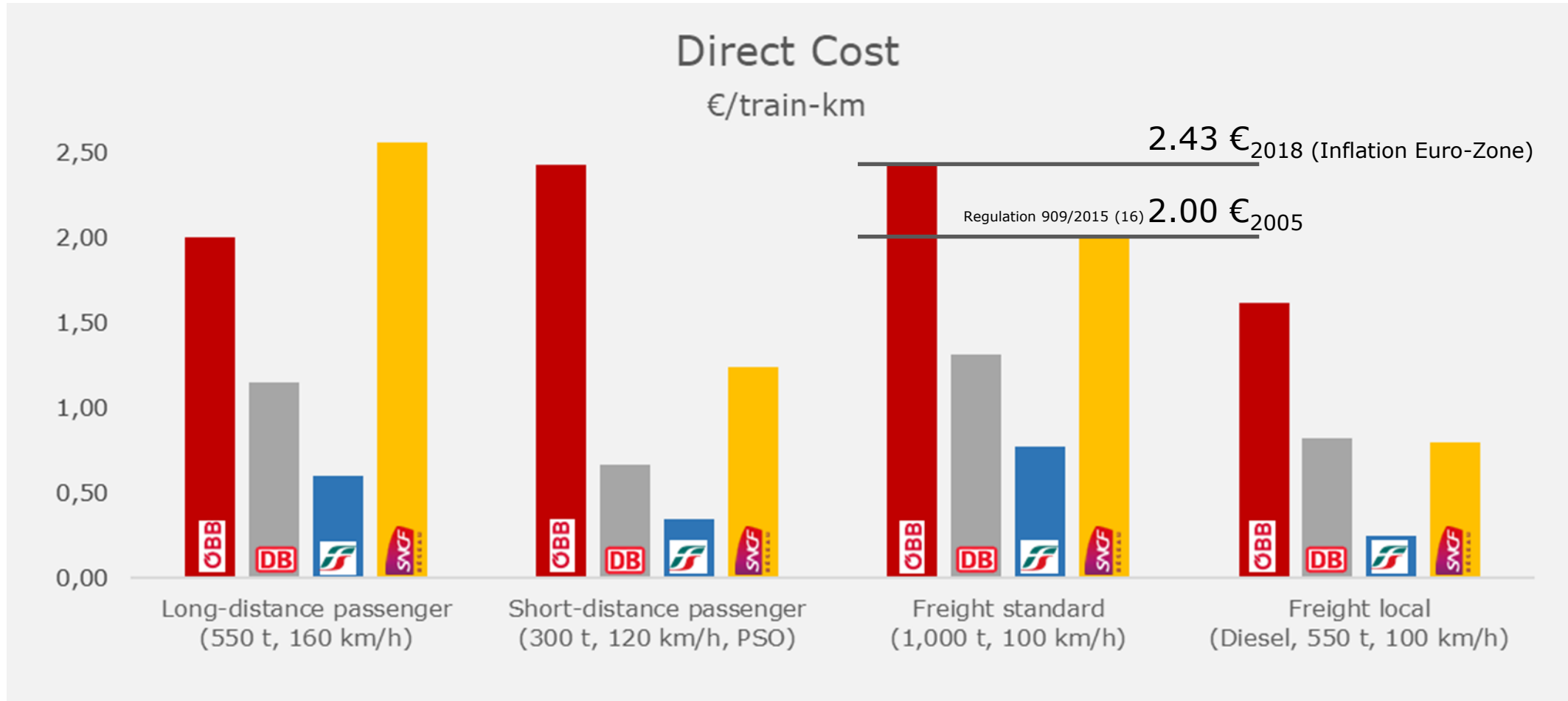


Yes, they are...

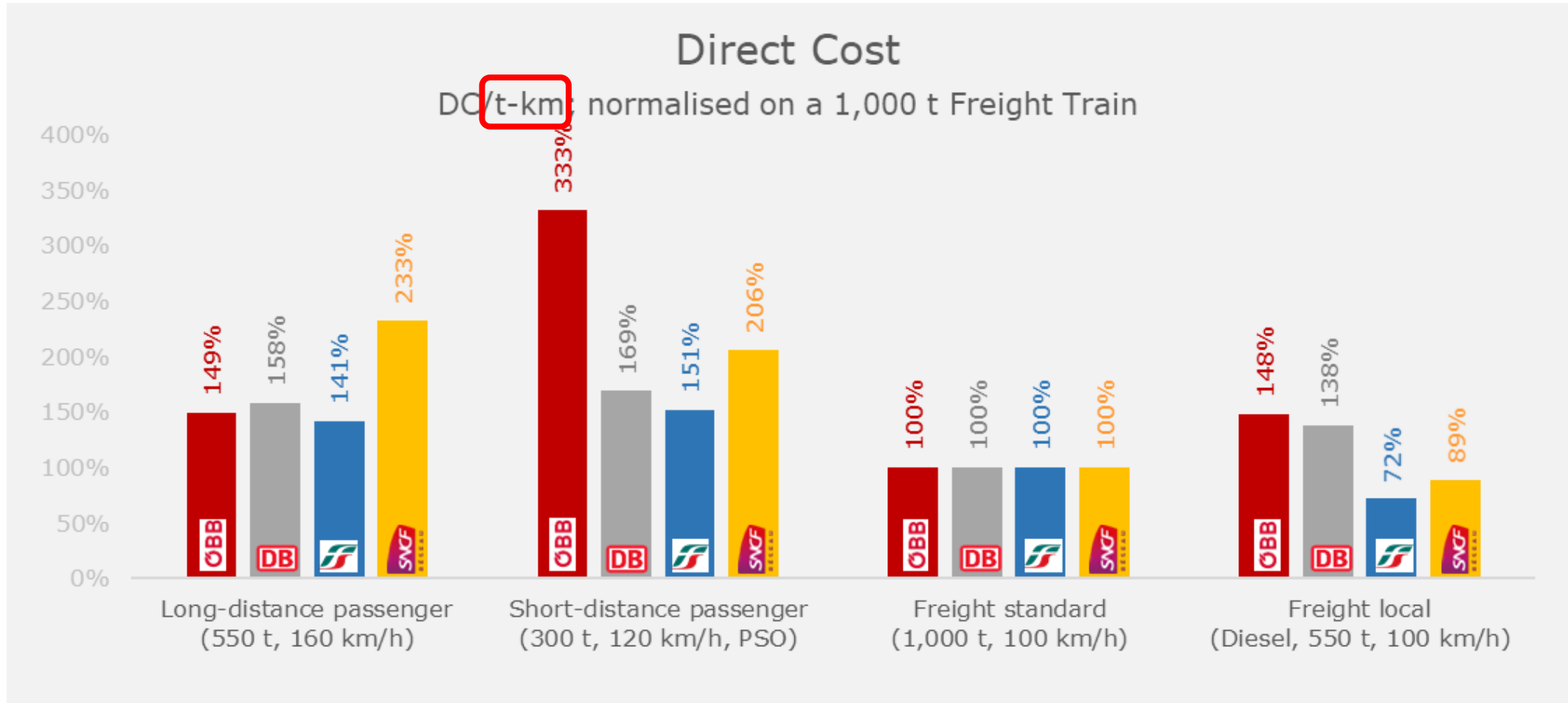
Is this the reason for the differences?

Probably not... It might be **still** a different understanding of "direct cost"

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Direct Cost are (still) kind of Magic Box...

Let's go into details!



Technische Universität Graz

Institut für Eisenbahnwesen und Verkehrswirtschaft

Assoc.Prof. Dipl.-Ing. Dr.techn. **Stefan Marschnig**
Institute of Railway Engineering and Transport Economy
Graz University of Technology

stefan.marschnig@tugraz.at