

Information regarding intended significant changes to the charging schemes for mark-ups in the 2023 track access charge model as well as change of essential components of the charging rule

(As at 10 September 2021)

1. Pending or not (yet) legally concluded proceedings affecting mark-ups for the 2018, 2019, 2020, 2021 and 2022 working timetable periods

On 9 September 2016, ÖBB-Infrastruktur AG informed railway undertakings active in Austria about the intended 2018 track access charge model, by public notice in accordance with § 67d, Section 7 EISbG.

This notice declared ÖBB-Infrastruktur AG's intention to introduce an adapted track access charge model which would take effect for the 2018 working timetable period (10 December 2017). ÖBB-Infrastruktur AG also expressly indicated that

“the following information reflects the current planning status of the track access charge model. Changes may in particular result due to pending decisions from the Railway Control Commission or the bmvit.” (emphasis added)

There are currently no legally binding decisions regarding the amount of mark-ups for the 2018, 2019, 2020, 2021 and 2022 working timetable periods. As previously indicated in 2016, this could make changes to the track access charge model necessary.¹

2. Intended procedure for the 2023 working timetable period

At the moment, the approval procedure concerning mark-ups in the 2023 working timetable period is pending.

The decisions of the bodies reviewing the decision of the Railway Control Commission (SCK) of 17 December 2020 regarding the approval of mark-ups and the review of direct costs for the working timetable periods 2018 and 2019 (SCK decision) and the decisions of the first instance on the amount of the mark-ups and on the review of direct costs for the working timetable periods 2020 and 2021 expected in the near future – like the requested decision of SCK for working timetable period 2022 – may therefore have an impact on the intended track access charge model for working timetable period 2023.

¹ On the basis of the not (yet) legally binding decision of the Railway Control Commission (SCK) from December 17 2020 regarding the approval of mark-ups for the working timetable periods 2018 and 2019 as well as the regulatory examination of direct costs under competition law (SCK-16-012, SCK-17-009 and SCK-18-010), and corresponding to “Important Notice” for the working timetable period 2018 and chapter 6.1.2 of the Network Statement 2019, a chargeback of all overpaid amounts of track access charges invoiced in these working timetable periods has been completed by the ÖBB-Infrastruktur AG. Subject to contrary decisions made by the SCK, the Federal Administrative Court and/or the Supreme Administrative Court, there can be further reimbursements or additional invoices due to over- or underpaid track access charges for the working timetable periods 2018 and 2019 based on these decisions (see also OSS-notice of January 28, 2021). It should be noted that, for the proceedings affecting mark-ups for the 2020 and 2021 working timetable periods, the SCK has requested that the ÖBB-Infrastruktur AG submit alternative calculations. The ÖBB-Infrastruktur AG has submitted the corresponding recalculations and has filed contingency and sub-contingency proposals.

In particular, changes to the market segmentation, the amount of the costs incurred directly as a result of train operation or in the mark-ups for each individual RU may result. Should this result in a need to adjust the track access charge model or the requested mark-ups for the working timetable period 2023, ÖBB-Infrastruktur AG will respond by submitting suitable contingency and sub-contingency proposals in the approval procedure for the mark-ups for the working timetable period 2023.

In order to take into account the previous results of the approval procedure regarding mark-ups for the working timetable periods 2018 and 2019 (in particular the SCK notice), which has not yet been legally concluded, as well as the previous investigation results in the pending approval procedures regarding mark-ups in the working timetable periods 2020 and 2021, ÖBB-Infrastruktur AG is submitting contingency proposals from the outset for the working timetable period 2023 – as it has already done for the working timetable periods 2021 and 2022.

In any case, ÖBB-Infrastruktur AG expressly reserves the right to make changes (including interim changes, upwards or downwards) regarding the actual amount of the track access charge for each market segment if the SCK and entities verifying these decisions choose to diverge from contingency and sub-contingency proposals for the 2023 working timetable period. In particular, changes to the amount of the costs directly incurred as a result of operating the train service (“direct costs”) or the mark-ups may also be necessary as a result of these decisions.

With this in mind, ÖBB-Infrastruktur AG informs about its intention to change essential components of the charging rule with effect for the working timetable period 2023 (from 11 December 2022):

For the calculation of the mark-ups, the methodological approach according to "*Model II*" by Univ.-Prof. Dr. Georg Götz (provided as an expert appointed by the SCK in the procedure for the approval of the mark-ups for the working timetable periods 2018 and 2019) is applied. This is presented for overview in the appendix (from page 5) to this market information; details on this can be found in point 2.9.9 concerning "*The Ramsey-Boiteux model*" on pages 217 ff of the SCK decision² and on pages 77 ff and 93 to 96 of the "*Expert opinion on the proposal of ÖBB-Infrastruktur AG for approval of mark-ups in accordance with § 67d para. 6 EisbG*" by Univ.-Prof. Dr. Götz of 21 March 2018. ÖBB-Infrastruktur AG made this amendment to the charging rule - which is already permissible due to the exercise of the freedom to choose the method – based on internal planning work carried out for the track access charge 2023 and taking into account the fact that the SCK used this model of the expert appointed by it as the basis for the approval of mark-ups for the 2018 and 2019 working timetable periods in the SCK decision.

The calculation of the mark-ups according to "*Model II*" by Univ.-Prof. Dr. Götz is based – as it was for the working timetable periods 2020 to 2022, as well – on data from an existing primary analysis of the Austrian rail transport market (Significance study of 7 September

² Available at https://www.schienecontrol.gv.at/files/1-Homepage-Schiene-Control/1b-Wettbewerbsregulierung/Veroeffentlichungen/Bescheide%202021/21-03-11%20Bescheid_Wegeentgelt_geschw%C3%A4rzt.pdf. It should be noted that the chapter numbering on page 217 incorrectly reads “1.9.9” due to an editorial error.

2018) (e.g. price elasticity of end customer demand; proportion of RUs' total costs made up by the track access charge).

The previous market segmentation – already used as a basis for the working timetable periods 2018 to 2022 – remains in place. This was confirmed by the SCK in the SCK decision concerning the working timetable periods 2018 and 2019 (cf. page 294 ff).

3. Presentation of the expected resulting track access charges based on the current proposal for approval of mark-ups

The charges are presented in the same way as published in the 2023 Network Statement, i.e. in €/train-kilometres (train-kilometre components – consisting of direct costs and mark-ups) and €/gross-tonne kilometres (gross-tonne-kilometre components – consisting of direct costs).

The track access charges described below are based on the ÖBB-Infrastruktur AG's request submitted to the SCK on September 2021 for the approval of mark-ups.

Market segments	Unit	Direct costs excl. 20% VAT	Mark-ups excl. 20% VAT	Charge in € excl. 20% VAT
Train-kilometre components (tr)				
Commercial passenger traffic	Train-km	0,549	0,922	1,471
Public service long-distance passenger traffic	Train-km	0,549	0,906	1,455
Short-distance traffic high	Train-km	0,630	1,487	2,117
Short-distance traffic low	Train-km	0,630	0,858	1,488
Freight traffic manipulated	Train-km	0,620	-	0,620
Freight traffic non-manipulated	Train-km	0,620	0,597	1,217
Service train ³	Train-km	0,620	-	0,620
Gross-tonne-kilometre components (gtk)				
Commercial passenger traffic	Gt-km	0,001896	-	0,001896
Public service long-distance passenger traffic	Gt-km	0,001896	-	0,001896
Short-distance traffic high	Gt-km	0,002944	-	0,002944
Short-distance traffic low	Gt-km	0,002944	-	0,002944
Freight traffic manipulated	Gt-km	0,002944	-	0,002944
Freight traffic non-manipulated	Gt-km	0,001566	-	0,001566
Service train ⁴	Gt-km	0,001566	-	0,001566

Naturally, all RUs are in principle free to plan as they deem necessary. However, as ÖBB-Infrastruktur AG considers that a legally binding approval of mark-ups would

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permit mark-ups to be either increased or decreased, and as there is no high court ruling on the issue, RUs are advised, applying the principle of entrepreneurial prudence, to take into account as far as possible the deviations (in both directions in each case) from the proposal presented in this point 3 in their entrepreneurial planning for the working timetable period 2023.

Annex to the market information 2023 Overview of Model II by Univ.-Prof. Dr. Götz

The following input parameters are required for the calculation of mark-ups based on the Ramsey-Boiteux rule⁵:

- Target revenue as contribution to full costs, which must be generated by the track access charges;
- Market viability of the individual market segments, which results from the elasticity, cost structure and pass-on rate;
- number of train path kilometres (ZTrkm) as a variable for the volume,
- average tonnage per market segment,
- direct cost rates per market segment to calculate the direct costs per ZTrkm per market segment and
- charge update values for the calculation of changes in quantity due to price changes.

The above-mentioned input parameters, which were determined in ÖBB-Infrastruktur AG's internal planning work for the 2023 track access charge, are entered into the calculation model. A change (made by the authorities later in the procedure) in only one of these input parameters, e.g. a different level of direct costs, inevitably leads to a change in the level of the mark-ups.

a. Target revenue

The Ramsey-Boiteux prices are subject to the secondary condition of a firmly defined cost-revenue difference, which would be exactly zero⁶ in the case of full cost recovery. In order to balance the financing of the railway infrastructure, ÖBB-Infrastruktur AG is required to achieve a binding track access charge revenue specified by the bmK (Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology).

b. Calculation of the relative sustainability of the market segments

To determine Ramsey-Boiteux prices, it is first necessary to calculate the relative sustainabilities per market segment using the formula below:

$$\frac{1}{\varepsilon * \text{Kostenstruktur}_{\text{Segment}} * \text{Weitergabequote}_{\text{Segment}}}$$

c. Calculation of Ramsey-Boiteux prices

The planned revenues for the service trains must first be deducted from the target revenue incl. service trains specified by bmK. This revenue is determined by applying the direct cost rates for the service trains. In the event that the direct cost rates for the service trains are changed by the authorities, this amount must also change in order to achieve the target revenue incl. service trains specified by bmK.

⁵ cf. decision of Schienen-Control Kommission of 17.12.2020 concerning the approval of mark-ups for the 2018 and 2019 working timetable periods and concerning competition supervision review of direct costs (SCK-16-012, SCK-17-009 and SCK-18-010), page 187.

⁶ Krick (2011): Berücksichtigung von Markttragfähigkeiten bei der Entgeltregulierung. In: Ronellenfitsch et al. (Ed.): Aktuelle Probleme des Eisenbahnrechts XVII, page 113.

Before deriving the Ramsey-Boiteux prices, the contribution margin target, i.e. that part of the target revenue specified by bmk which is to be covered by mark-ups, must be determined. The contribution margin target results after deduction of the network-wide direct costs from the target revenue; since the direct costs for the service trains – as explained above – have already been deducted, the following formula therefore only deals with the direct costs of the market segments. The mark-ups must be selected with knowledge of the input parameters relevant to the planning in such a way that the contribution margin target is achieved. The contribution margin target is calculated by deducting the direct costs, which are calculated from the product of the planned train path kilometres $ZTrkm_{GEPLANT,i}$ and the planned direct costs c_i , from the target revenue:

Deckungsbeitragsziel

$$\begin{aligned} &= Erlösziel - ZTrkm_{GEPLANT,EW PV} * C_{EW PV} - ZTrkm_{GEPLANT,GW PFV} \\ &* C_{GW PFV} - ZTrkm_{GEPLANT,NV stark} * C_{NV stark} - ZTrkm_{GEPLANT,NV schwach} \\ &* C_{NV schwach} - ZTrkm_{GEPLANT,GVman EWV} * C_{GVman EWV} \\ &- ZTrkm_{GEPLANT,GVman KV} * C_{GVman KV} - ZTrkm_{GEPLANT,GV nman} * C_{GV nman} \end{aligned}$$

Formula 11⁷

The Ramsey-Boiteux model by Götz thus includes as a secondary condition that the revenues from the mark-ups, determined by the sum of all segment revenues less the direct costs incurred in the segments, correspond to the contribution margin target:

$$Deckungsbeitragsziel = \sum_{i=1}^n (Segmenterlös_i - Direkte Kosten_i)$$

Formula 13

The segment revenue per market segment can be calculated by multiplying the number of train path kilometres per market segment ($ZTrkm_i$) by the track access charge per market segment (p_i):

$$Segmenterlös_i = ZTrkm_i * p_i$$

Formula 14

In Götz's model II, which is used in this case, the Ramsey optimality condition is used to determine

$$\frac{(p_i - c_i)}{p_i} = k * \frac{1}{|\eta_i|} \text{ mit } k = \left[\frac{\lambda}{1 + \lambda} \right]$$

Formula 15

the amount of the surcharge as

$$(p_i - c_i) = k * \frac{1}{|\eta_i|} * p_i$$

⁷ The numbering of the formulas listed corresponds to that of the expert opinion prepared by the non-official expert appointed by the SCK, Univ-Prof. Dr. Georg Götz, and was retained in the proposal for reasons of better comprehensibility of the chosen model approach.

Formula 16

and inferred the Ramsey price:

$$p_i = \frac{c_i}{1 - k * \frac{1}{|\eta_i|}}$$

Formula 17

Subsequently, elasticity is replaced with relative sustainability

$$p_i = \frac{c_i}{1 - k * rTF_i} \text{ mit } rTF_i = \frac{1}{|\eta_i|}$$

Formula 18

The train path kilometres ($ZTrkmi(p_i)$) demanded after a change in the price adjustment of each segment i (calculated quantity change) are determined as follows:

$$ZTrkmi(p_i) = ZTrkm_{GEPLANT,i} - ZTrkm_{GEPLANT,i} * \frac{p_i - p_{IBE,i}}{p_{IBE,i} * rTF_i}$$

Formula 19

The term $ZTrkm_{GEPLANT,i} * \frac{p_i - p_{IBE,i}}{p_{IBE,i} * rTF_i}$ refers to the change in quantity in the case of a deviation from the track access charge with indexed updating of the track access charge of the previous working timetable period ($p_{IBE,i}$), whereby the changed price p_i corresponds to the Ramsey price function derived above (18).

Since the variable costs per market segment result from $\sum_{i=1}^n ZTrkmi(p_i) * c_i$, the total variable costs can be determined as follows:

$$\begin{aligned} \text{Variable Kosten}_{gesamt} &= \sum_{i=1}^n \text{variable Kosten}_i \\ &= ZTrkm(p_{EW PV}) * c_{EW PV} + ZTrkm(p_{GW PV}) * c_{GW PV} + ZTrkm(p_{NV Stark}) \\ &\quad * c_{NV Stark} + ZTrkm(p_{NV Schwach}) * c_{NV Schwach} + ZTrkm(p_{GV man EWV}) \\ &\quad * c_{GV man EWV} + ZTrkm(p_{GV man KV}) * c_{GV man KV} + ZTrkm(p_{GV nman}) * c_{GV nman} \end{aligned}$$

Formula 20⁸

Now the formula for the contribution margin target (13) can be reformulated as follows:

$$\text{Deckungsbeitragsziel} = \sum_{i=1}^n ZTrkmi(p_i) * (p_i - c_i)$$

Formula 21

The track access charge in the market segment "freight transport manipulated" is adjusted to the level of direct costs in accordance with the assumption made in Götz's model II and no mark-up is therefore applied for this market segment. Taking this

⁸ As already stated in the SCK decision in FN 564 (page 220), the Götz expert opinion erroneously included minus instead of plus signs in formula 20. As this is obviously a typing error, the formula was corrected accordingly for the present proposal.

assumption into account, the respective contribution margin for this market segment (consisting of single wagonload traffic and combined transport), in which the charge is set at the level of the direct costs, is set to zero, and by inserting (20) as well as (18) and (19) into the condition for the contribution margin target (21), the equilibrium condition is obtained as follows, taking into account the changes in volume⁹ resulting in principle from changed charges:

$$\begin{aligned}
 & \text{Deckungsbeitragsziel} \\
 &= \left(\frac{c_{EW\ PV}}{1 - rTF_{EW\ PV} * k} - c_{EW\ PV} \right) \\
 & * \left(ZTrkm_{GEPLANT,EW\ PV} - ZTrkm_{GEPLANT,EW\ PV} * \frac{\frac{c_{EW\ PV}}{1 - k * rTF_{EW\ PV}} - p_{IBE,EW\ PV}}{p_{IBE,EW\ PV} * rTF_{EW\ PV}} \right) \\
 &+ \left(\frac{c_{GW\ PFV}}{1 - rTF_{GW\ PFV} * k} - c_{GW\ PFV} \right) \\
 & * \left(ZTrkm_{GEPLANT,GW\ PFV} - ZTrkm_{GEPLANT,GW\ PFV} \right. \\
 & * \left. \frac{\frac{c_{GW\ PFV}}{1 - k * rTF_{GW\ PFV}} - p_{IBE,GW\ PFV}}{p_{IBE,GW\ PFV} * rTF_{GW\ PFV}} \right) + \left(\frac{c_{NV\ stark}}{1 - rTF_{NV\ stark} * k} - c_{NV\ stark} \right) \\
 & * \left(ZTrkm_{GEPLANT,NV\ stark} - ZTrkm_{GEPLANT,NV\ stark} \right. \\
 & * \left. \frac{\frac{c_{NV\ stark}}{1 - k * rTF_{NV\ stark}} - p_{IBE,NV\ stark}}{p_{IBE,NV\ stark} * rTF_{NV\ stark}} \right) + \left(\frac{c_{NV\ schwach}}{1 - rTF_{NV\ schwach} * k} - c_{NV\ schwach} \right) \\
 & * \left(ZTrkm_{GEPLANT,NV\ schwach} - ZTrkm_{GEPLANT,NV\ schwach} \right. \\
 & * \left. \frac{\frac{c_{NV\ schwach}}{1 - k * rTF_{NV\ schwach}} - p_{IBE,NV\ schwach}}{p_{IBE,NV\ schwach} * rTF_{NV\ schwach}} \right) + \left(\frac{c_{GV\ nman}}{1 - rTF_{GV\ nman} * k} - c_{GV\ nman} \right) \\
 & * \left(ZTrkm_{GEPLANT,GV\ nman} - ZTrkm_{GEPLANT,GV\ nman} \right. \\
 & * \left. \frac{\frac{c_{GV\ nman}}{1 - k * rTF_{GV\ nman}} - p_{IBE,GV\ nman}}{p_{IBE,GV\ nman} * rTF_{GV\ nman}} \right)
 \end{aligned}$$

Formula 22

By inserting the calculated contribution margin target, the relative sustainability and the planning-related input parameters, the above equation (22) can be solved with the unknown variable "k", which is used to determine the level of the mark-ups for the five market segments (initially without applying a glide path).

⁹ These volume changes would only be of a theoretical nature in the event of changes to the track access charges after the end of the concerned working timetable period, as changes after the end of the working timetable period can no longer result in volume changes.

With the help of the k-value, equation (18) can subsequently be used to determine the

$$p_i = \frac{c_i}{1 - k * rTF_i} \text{ mit } rTF_i = \frac{1}{|\eta_i|}$$

the (provisional) track access charge can be determined for each market segment. The contribution margin target calculated above is thereby fulfilled. If the track access charges were set at the level of the Ramsey-Boiteux prices on the basis of the calculations described above, there would be a calculated drop in demand of more than 1% in the market segment "freight traffic non-manipulated". The critical loss limit is therefore taken into account in this track access charge, so that the calculated drop in demand is limited to 1%.

The critical loss limit (CL) is calculated on the basis of the maximum demand reduction of 1% and the track access charge elasticities or the indexed track access charge of the market segments of the previous working timetable period for the market segments concerned as follows¹⁰:

$$GV_{nman_{CL}} = p_{IBE, GV_{nman}} + \frac{1\% * p_{IBE, GV_{nman}}}{\varepsilon_{GV_{nman}} * \text{Kostenstruktur}_{GV_{nman}}}$$

The critical loss limit of the market segment "freight traffic non-manipulated" is below the previously determined Ramsey-Boiteux price and is thus applied.

After the critical loss limit for the market segment "freight traffic non-manipulated" is applied, the mark-ups and charges for the remaining segments must be determined again to ensure that the contribution margin target is ultimately achieved. For this purpose, equation (22) is solved again, whereby in addition to the charge for the market segment "freight traffic manipulated" (consisting of combined transport and single wagonload transport) in the amount of the direct costs, the charge for the market segment "freight traffic non-manipulated" is also set at the amount of the critical loss charge.

This calculation, in turn, using equation (18) for the market segments "Commercial passenger traffic", "Public service long-distance passenger traffic", "Short-distance traffic high" and "Short-distance traffic low" and taking into account the direct costs in the market segment "Freight traffic manipulated" and the critical loss value in the market segment "Freight traffic non-manipulated", results in the values for the track access charge 2023 stated in the market information.

¹⁰ Mathematical derivation of the track access charge level with a maximum change in demand of 1%.