

Fair, Reasonable and Non-Discriminatory Distribution Remuneration For Independent Digital Rail Ticket Distribution Services

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Independent digital rail ticket distributors perform value-adding distribution functions that differ materially from resale-type distribution in other network industries. Competition law alone, including Article 102 TFEU, may be insufficient to secure contestable distribution markets where vertically integrated transport providers can deploy discriminatory commissions, internal cross-subsidies and pricing strategies capable of foreclosing entry. De lege ferenda, this paper proposes an EU Regulation granting independent digital rail ticket distributors an entitlement to a distribution commission on fair, reasonable and non-discriminatory (FRAND) terms. FRAND compliance is assessed by reference to the distributor's added value and the remuneration or compensation afforded to integrated, affiliated or associated distributors, including through intra-group settlement mechanisms. The framework accords primacy to negotiation within fixed deadlines, requires confidential notification of agreements and cost documentation to national supervisory authorities and provides for ex post FRAND review, including prohibition of non-compliant terms and arbitration where necessary. The Commission, after consulting the ENRRB, is to issue FRAND Guidelines to promote consistent application, supported by supervisory cooperation and information-sharing to ensure effective enforcement.

Keywords: FRAND guidelines; European Network of Rail Regulatory Bodies; Open Sales and Distribution Model

I. Introduction

To facilitate access to sustainable transport and strengthen the internal market in the field of transport, independent digital rail ticket distributors operating only in distribution markets play a key role by not limiting their services to a single railway undertaking. They typically offer access to rail services across multiple operators and routes and may integrate other modes of transport within a unified digital environment. Their platforms go beyond simple point-of-sale functions by curating end-to-end rail connections, offering tailored customer service and maintaining direct relationships with users. Compared to basic distribution models that merely redirect customers to transport operators, digital rail ticket distributors add significant value by combining and optimising rail connections while ensuring a

consistent user experience. These business models correspond to the vision underlying the Open Sales and Distribution Model (OSDM),¹ which promotes open, standardised and interoperable access to distribution interfaces and contributes to a customer-oriented, competitive and sustainable European transport system.

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¹ OSDM Working Group, Open Sales and Distribution Model (OSDM) <<https://osdm.io>>.

While competition authorities have increasingly recognised that independent digital rail ticket distributors may require distribution commissions to ensure the contestability of distribution markets vis-à-vis vertically integrated transport undertakings, this insight has neither been translated into a coherent and binding legislative framework at Union level nor sufficiently concretised in administrative and enforcement practice. As a result, the conditions under which such remuneration should be granted, and the benchmarks governing its adequacy, remain largely undefined.

II. Literature Review and Methodology

The existing literature on rail transport has primarily focused on interoperability, data access and technical standardisation of ticketing systems. In this context, Gill and Kerber situate the *Deutsche Bahn* case within the broader debate on data access as a key parameter of competition in digital ecosystems, arguing that sector-specific regulation and data trustee solutions may be required to effectively address competition problems arising from vertical integration.²

While the literature has identified the importance of data access and vertical integration in digital rail

and mobility markets, the remuneration of independent digital rail ticket distributors remains underdeveloped. Although recent contributions propose extending FRAND-based (fair, reasonable and non-discriminatory) remuneration to multimodal ticket distribution, its interaction with value-adding distribution services and margin squeeze risks is not yet fully explored.³

This article builds on these contributions. Section III sets out why digital rail ticket distribution requires a distinct regulatory response. Section IV explains why Article 102 TFEU alone is insufficient. Section V develops the proposed FRAND benchmark and the case for a reasonably efficient competitor-oriented approach. Section VI turns to institutional design and enforcement.

III. Why Digital Rail Ticket Distribution Requires a Distinct Regulatory Approach

1. Value of Digital Rail Distribution

Digital rail ticket distribution differs fundamentally from distribution models in other network industries. While distribution in sectors such as energy or telecommunications typically consists of resale activities with limited value creation – for example, where suppliers purchase electricity on wholesale markets and resell it to end-users under their own brand without materially altering the underlying product – digital rail ticket distribution involves the integration, aggregation and optimisation of transport services across multiple operators and routes.⁴

Independent digital rail ticket distributors do not merely act as intermediaries but provide value-adding services, in particular by combining fragmented transport offers into coherent travel options, enabling integrated journey planning across operators and routes, and facilitating seamless booking and ticketing within a single interface. These functionalities reduce transaction and information costs and allow users to compare and select transport options more efficiently.⁵

This value-adding character distinguishes digital rail ticket distribution from traditional resale models and provides the economic basis for a distinct regulatory treatment, in particular with regard to the remuneration of distribution services.

² Wolfgang Kerber and Daniel Gill, 'The German Competition Case "Deutsche Bahn", Governance of Railway Mobility Data, and Data Trustee Solutions' [2024] SSRN <<https://ssrn.com/abstract=5125093>>; cf Christian Koenig and Carlos Deniz Cesarano, 'Wettbewerbsfähige multimodale digitale Mobilitätsdienste durch europäische Regulierung!' [2023] IR 128; Christian Koenig and Carlos Deniz Cesarano, 'Wettbewerb im Vertrieb internetbasierter Mobilitätsplattformen' [2023] N&R 42. The case concerns access by independent multimodal mobility service providers to real-time railway data necessary for integrated journey planning and ticketing, where restrictions on such access may distort downstream competition, *Deutsche Bahn* (B9-144/19) Bundeskartellamt Decision [2023]; Monopolkommission, 'Bahn 2023: Time to GO: Endlich qualitativ wirksam in den Wettbewerb! (9. Sektorgutachten)' [2023] <https://www.monopolkommission.de/images/PDF/SG/9sg_bahn_volltext.pdf>, paras 162–176.

³ Koenig and Cesarano, 'Wettbewerbsfähige multimodale digitale Mobilitätsdienste durch europäische Regulierung!' (n 2).

⁴ Koenig and Cesarano, 'Wettbewerbsfähige multimodale digitale Mobilitätsdienste durch europäische Regulierung!' (n 2).

⁵ I.B. Alhassan and others, 'Public transport users' willingness-to-pay for a multi-county and multi-operator integrated ticket: Valuation and policy implications' [2022] 45 RTBM 100836, show that integrated ticketing systems generate significant user benefits, for which users exhibit a substantial willingness to pay.

2. Vertical Integration

'Vertically integrated transport undertaking' means an undertaking or a group of undertakings where the same natural or legal person, or the same persons, have the ability, directly or indirectly, to exercise control, and where such undertaking or group is active in the transport sector at both the level of transport services and/or infrastructure and at the level of distribution.⁶ Associated or affiliated undertakings include not only distribution entities that are (partially) owned or controlled by the vertically integrated entity, but also those that are closely linked in permanent business terms.⁷

The viability of digital rail ticket distribution depends on the recovery of costs, including capital costs, either through distribution commissions or through intra-group settlement mechanisms. While these mechanisms are functionally equivalent from an internal perspective, they differ fundamentally in their economic effects. Vertically integrated distributors may rely on intra-group cost allocation and cross-subsidisation, independent digital rail ticket distributors depend on the successful sale of tickets, causing a high degree of variability within the central revenue source.

This structural asymmetry creates a financial imbalance to the detriment of independent digital rail ticket distributors. Vertically integrated undertakings may have both the ability and the incentive to limit or deny adequate distribution commissions, thereby undermining the viability of independent business models. As a result, vertical integration may distort competition in distribution markets.

A sector inquiry by the Monopolkommission indicates a high degree of concentration in favour of Deutsche Bahn's integrated distribution channels. In the German long-distance passenger rail market, the upstream market structure is highly concentrated, with a market share of approximately 96%. In a comparison of major online distribution platforms for long-distance rail tickets, approximately 90% of user access was recorded via *bahn.de*. Independent distributors account only for a residual, single-digit share of online traffic, highlighting the marginal position of independent competition in this segment.⁸

In France, the Autorité de la concurrence obtained binding commitments in the rail ticket distribution sector following concerns that the Nation-

al Company of the French Railways (*Société nationale des chemins de fer français*, SNCF) had favoured its own online subsidiary over competing travel agencies.⁹

In 2021, 80–90% of Renfe's (Spain) online ticket revenues were generated via its own direct channels, compared to only 10–20% via third-party platforms, with individual intermediaries each accounting for no more than 0–5%. The Commission provisionally considered that Renfe, as a vertically integrated operator, holds a dominant position in the downstream online ticket distribution market, highlighting the marginal role of independent distributors.¹⁰

This illustrates the structural risk of market failure inherent in vertical integration: control over upstream inputs and customer access enables integrated undertakings to favour their own downstream channels. In the absence of a regulatory entitlement to distribution commissions, such undertakings may, due to market power asymmetries, undermine independent distributors by denying adequate remuneration, even where contractual arrangements formally exist. Intra-group cost settlement mechanisms further reinforce this imbalance, distorting competition and undermining a level playing field.

- 6 Drawing on the legal definitions found in energy-sector-specific regulation, Art 2, pt 53 Directive (EU) 2019/944 of the European Parliament and of the Council on common rules for the internal market for electricity and amending Directive 2012/27/EU [2019] OJ L158/125; Art 2, pt 43 Directive (EU) 2024/1788 of the European Parliament and of the Council on common rules for the internal markets for renewable gas, natural gas and hydrogen, amending Directive (EU) 2023/1791 and repealing Directive 2009/73/EC [2024] OJ L2024/1788. E.C.A Economics, 'Vertical integration, competition and efficiency in the rail industry: Economic trade-offs' [2024], <<https://www.e-ca.com/economic-trade-offs-in-railway/>> provides an overview of market structures and degrees of vertical integration in the European rail sector and finds that no single organisational model is unambiguously superior.
- 7 Vertically integrated, associated and affiliated undertakings shall be treated in a comparable manner, to the extent that similar intra-group cost settlement mechanisms or economic dependencies may arise.
- 8 Monopolkommission, 'Bahn 2021: Wettbewerb in den Takt! (8. Sektorgutachten)' [2021] <https://www.monopolkommission.de/images/PDF/SG/8sg_bahn_volltext.pdf>, para 329; Monopolkommission, 'Bahn 2023' (n 2), paras K1, 18, 144.
- 9 Autorité de la concurrence, 'Sale of train tickets' (press release) [2014] <<https://www.autoritedelaconcurrence.fr/en/communiqués-de-presse/2-october-2014-sale-train-tickets>>
- 10 *Renfe* (Case AT.40735) Commission Decision [2024] C(2024) 135 final, para 57.

IV. The Limits of Article 102 TFEU in Addressing Margin Squeeze in Digital Rail Ticket Distribution Markets

To ensure the viability of independent digital rail ticket distributors, margin squeezes must be avoided. Margin squeezes are recognised in the case law of the Court of Justice of the European Union (CJEU) as a category of abuse of a dominant position under Article 102 TFEU.¹¹ A dominant undertaking has a special responsibility not to allow its behaviour to impair genuine, undistorted competition on the internal market.

From an economic perspective, margin squeezes represent a form of an abuse of market power akin to predatory pricing. Predatory pricing occurs where a company accepts short-term losses in order to drive competitors out of the market and subsequently earn supracompetitive profits. Whereas predatory pricing typically takes place in a single market, a margin squeeze arises in vertically related markets.

Margin squeezes are induced where a vertically integrated undertaking supplies upstream services to non-vertically integrated competitors while leaving such a narrow spread between the upstream ('wholesale') charge and its own end-customer ('retail') price that competitors cannot generate sufficient contribution margins. Even where subject to a duty to deal, the undertaking may thereby leverage its upstream market power into the downstream market, capturing the innovation or efficiency rents of its rivals and depriving them of their competitive advantage.

Margin squeeze type 1 may arise where wholesale charges are excessive, retail prices are abusively low, or a combination of both occurs. However, the existence of an abusive margin squeeze does not depend on the abusive nature of each individual charge, but

on the insufficient margin resulting from the overall pricing structure.¹²

Margin squeeze type 2 occurs where the spread between wholesale and retail charges remains positive but insufficient, in particular in light of the need for a risk-adjusted return on the significant investments required for innovative services.

When assessing the adequacy of the margin, granted distribution commissions must be considered and included in the achievable margin calculation underlying the margin squeeze test.

Since digital rail ticket distributors depend on access to the vertically integrated undertaking's travel permissions, wholesale charges constitute unavoidable input costs. Where these charges approach or exceed the retail price, independent distributors cannot operate profitably. By aligning wholesale and retail prices, the integrated undertaking can effectively eliminate the margin available to downstream competitors, making it impossible for them to offer competitive retail fees. Demand will consequently shift to the integrated undertaking's own distribution channels, leading to the foreclosure of independent distributors.

The enforcement of Article 102 TFEU is subject to structural limitations when addressing margin squeeze practices in digital rail distribution markets. As an ex post instrument, it requires complex economic assessments and detailed case-specific evidence, which may significantly delay intervention. In dynamic and innovation-driven markets, enforcement delays entail a significant risk of irreversible foreclosure. Independent distributors may be forced to exit the market before remedies can be imposed, resulting in a loss of innovation and competitive pressure that cannot easily be restored.

Moreover, a finding of abuse generally requires at least a potential foreclosure effect; the mere existence of a margin squeeze is not, in itself, sufficient.¹³ In markets characterised by entrenched vertical integration, however, structural incentives to discriminate are inherent.

Comparative regulatory experience reinforces this conclusion. Even in sectors such as energy, where extensive unbundling obligations coexist with access and tariff regulation, unbundling serves only as one element within a broader regulatory framework.¹⁴ By contrast, the rail sector is subject to less comprehensive structural separation, there-

11 Cases C-280/08 P *Deutsche Telekom* [2010] ECLI:EU:C:2010:603; C-209/10 *Post Danmark I* [2012] ECLI:EU:C:2012:172; C-52/09 *TeliaSonera* [2011] ECLI:EU:C:2011:83; C-295/12 P *Telefónica* [2014] ECLI:EU:C:2014:2062; C-23/14 *Post Danmark II* [2015] ECLI:EU:C:2015:651.

12 Case C-280/08 P *Deutsche Telekom* [2010] ECLI:EU:C:2010:603.

13 Cases C-52/09 *TeliaSonera* [2011] ECLI:EU:C:2011:83, para 64; C-295/12 P *Telefónica* [2014] ECLI:EU:C:2014:2062, para 124.

14 Art 60 of Directive (EU) 2024/1788.

by strengthening the case for ex ante regulation of distribution commissions.¹⁵ While accounting separation may facilitate ex post detection, it does not prevent exclusionary pricing strategies from being implemented. As a result, anti-competitive effects may materialise before effective enforcement can occur.

The Commission's commitments decision in *Renfe* illustrates these shortcomings. While the case addressed access to content and real-time data for third-party ticketing platforms, distribution fees were explicitly excluded and left to potential scrutiny under Article 102 TFEU.¹⁶ This underscores that digital rail distribution markets give rise to multiple, distinct competition law concerns – such as data access, platform interoperability and remuneration structures – which are typically assessed in isolation rather than jointly. As a result, enforcement remains fragmented and may fail to capture the cumulative competitive effects in complex multimodal distribution environments.

Empirical evidence supports these concerns. A recent study of the French market finds that distribution commissions granted by SNCF are insufficient, thereby supporting the existence of a margin squeeze.¹⁷ This has adverse effects on both competition and consumer welfare, further underscoring the need for regulatory intervention.

Against this background, reliance on Article 102 TFEU alone is insufficient to ensure effective competition in digital rail ticket distribution markets. The risk of irreversible foreclosure in vertically integrated platform environments points to a structural market failure justifying ex ante regulatory safeguards. Such regulation would establish a benchmark for distribution commissions, guiding negotiations, facilitating oversight and ensuring a level playing field, while reducing reliance on case-by-case enforcement.

Sector-specific regulation in other network industries provides a useful point of reference. For example, Article 74 of Directive (EU) 2018/1972¹⁸ provides for price control mechanisms aimed explicitly at preventing margin squeeze. Recital 192 emphasises that such measures are necessary to ensure that the spread between retail and access prices allows for sustainable competition. This demonstrates that the prevention of margin squeeze is recognised as a regulatory objective beyond the confines of competition law.

V. FRAND Remuneration and the Appropriate Benchmark

1. Fair, Reasonable and Non-Discriminatory

The costs for independent digital rail ticket distributors are characterised by high initial investments incurred in connection with the development of platform technologies and the programming of algorithms. Fixed costs in ongoing operations consist, inter alia, of personnel costs, costs to ensure the operation of the online portals and applications, and marketing and advertising costs. Variable costs of digital rail ticket distributors include, e.g., processing costs for bookings, processing fees for debit and credit cards, given that a platform also handles payment processing, or cancellation and refund costs. In addition, however, there are significantly higher overhead costs, which consist, in particular, of marketing costs, system costs (related to the technical provision of digital rail ticket distribution services), personnel costs, as well as other overhead costs (e.g., costs in connection with office buildings or customer support and information, which is often carried out by the company's own service centres). Another digital rail ticket distributor's cost component to be included in the composition of the distribution commission comprises data access fees, calculated on the basis of additional costs of granting data access.

Having regard to the substantial investments by digital rail ticket distributors, it is not sufficient to ensure that they receive a distribution commission as such. Rather, the commission granted has to be composed on FRAND terms. While the determination of FRAND-compliant remuneration necessarily involves a consideration of the underlying costs, the European legislator may appropriately refrain from codifying overly specific or uniform cost models. This allows for necessary flexibility in the applica-

15 Cf Chapter II of Directive 2012/34/EU of the European Parliament and of the Council establishing a single European railway area [2012] OJ L343/32.

16 *Renfe* (Case AT.40735) Commission Decision [2024] OJ C2024/2269, para 13.

17 J. Juts and D. Sevy, 'On the level of commission applied by SNCF for the distribution of its train tickets' [2024] Compass Lexecon.

18 Directive (EU) 2018/1972 of the European Parliament and of the Council establishing the European Electronic Communications Code [2018] OJ L321/36.

tion of FRAND principles across different market constellations and evolving business models, while ensuring that the regulatory framework remains adaptable and proportionate.

FRAND originates in the context of patents and has increasingly found its way into competition law and regulatory frameworks, most prominently through the Digital Markets Act (DMA)^{19,20}. The DMA explicitly incorporates FRAND concepts, with Recital (61) and Article 6 requiring gatekeepers to ensure fair, reasonable and non-discriminatory access conditions, including transparent pricing and effective dispute resolution. Furthermore, the Commission's approval of Telia Company's acquisition of Bonnier Broadcasting was conditional on commitments to license broadcasting content to competitors on FRAND terms.²¹

In line with well-established regulatory postulates in sectors such as telecommunications and postal services, the obligation to ensure FRAND remuneration derives from the fundamental principle of undistorted competition underpinning Article 102 TFEU. This principle requires that market players, irrespective of vertical integration, are able to compete effectively and that market access is not hampered by discriminatory pricing structures or economic coercion resulting from dominant positions. FRAND-based distribution commissions, therefore, serve as a structur-

al guarantee to maintain the contestability of digital rail ticket distribution markets. The prohibition of abusive margin squeezes recognised in the case law of the CJEU constitutes a concrete expression of this principle, ensuring fair, reasonable and non-discriminatory access to essential inputs.²²

Although FRAND terms are not explicitly defined in the energy sector, the principles of non-discrimination and cost-reflectivity laid down, e.g., in Regulation (EU) 2024/1789, reflect fundamental FRAND objectives, demonstrating that such terms are inherent to regulatory frameworks. In the draft Digital Networks Act,²³ reliance is likewise placed on FRAND principles within the framework of symmetrical regulation, particularly in the context of access to in-house wiring.

The application of the FRAND principle to distribution commissions is in alignment with the broader concept of FRAND access to all infrastructures, services and data to which rail undertakings themselves have access and which are necessary to compete in the market. A consistent application of FRAND terms across different but interlinked upstream markets within the rail sector ensures coherence in market access conditions and prevents discriminatory practices that may arise from vertical integration and market power. Although the relevant markets may differ, they are functionally connected within the same value chain.

Harmonisation through FRAND contributes to effective competition by setting transparent, non-discriminatory and cost-based standards for access and remuneration, thereby supporting a level playing field.

Fairness: In order to safeguard the principle of fairness within the meaning of competition law, distribution commissions must not be linked to conditions, obligations or concessions that are not objectively necessary or reasonably related to the wholesale transaction or the retail service quality. Practices such as tying the distribution commission to unrelated contractual or factual concessions, particularly where imposed unilaterally or under unequal bargaining conditions, may exploit market asymmetries, distort negotiations and undermine effective competition. Such behaviour may amount to unfair trading conditions contravening the principles of good faith (*bona fide*).

Reasonableness: In order to ensure the economic viability and competitiveness of digital rail ticket dis-

19 Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 [2022] OJ L265/1.

20 Andreas Schwab in Rupprecht Podszun (ed), *Digital Markets Act* (1st edn, Nomos 2023), para 295; cf Recital (9) of Regulation (EU) 2024/1789 of the European Parliament and of the Council on the internal markets for renewable gas, natural gas and hydrogen, amending Regulations (EU) No 1227/2011, (EU) 2017/1938, (EU) 2019/942 and (EU) 2022/869 and Decision (EU) 2017/684 and repealing Regulation (EC) No 715/2009 [2024] OJ L2024/1789 underlines that energy sector tariffs must comply with non-discrimination and cost-reflectivity principles, ensuring a level playing field, as these principles ultimately reflect the application of FRAND terms.

21 *Telia Company/Bonnier Broadcasting Holding* (Case M.9064) Commission Decision [2019] C(2019) 7985 final.

22 Cases C-280/08 P *Deutsche Telekom* [2010] ECLI:EU:C:2010:603; C-209/10 *Post Danmark I* [2012] ECLI:EU:C:2012:172; C-52/09 *TeliaSonera* [2011] ECLI:EU:C:2011:83; C-295/12 P *Telefónica* [2014] ECLI:EU:C:2014:2062; C-23/14 *Post Danmark II* [2015] ECLI:EU:C:2015:651.

23 Art 69 of Proposal for a Regulation of the European Parliament and of the Council on digital networks, amending Regulation (EU) 2015/2120, Directive 2002/58/EC and Decision No 676/2002/EC and repealing Regulation (EU) 2018/1971, Directive (EU) 2018/1972 and Decision No 243/2012/EU (Digital Networks Act) [2026] COM(2026) 16 final.

tributors operating only in distribution markets, it is essential that distribution commissions reflect the economic value of the service provided. A remuneration significantly below economic value may hinder the ability of efficient market participants to sustainably operate, compete and innovate. Ensuring that distribution commissions are commensurate with the economic value of the distribution service contributes to maintaining a level playing field.

Non-discriminatory: To exclude discrimination, independent digital rail ticket distributors who operate from a demand (retail client) perspective on the same relevant retail market shall be entitled to distribution commissions under functionally equivalent terms in relation to the remuneration or compensation granted by transport providers to their integrated, affiliated or associated digital rail ticket distributors, taking into account that integrated digital rail ticket distributors also receive remuneration or compensation through intra-group settlement, vertical cost allocation or group accounting mechanisms. A discrepancy between internal and external distribution remuneration or compensation would severely distort competition and endanger the competitiveness of independent digital rail ticket distributors. Integrated digital rail ticket distributors could abuse their vertical leveraging power and, through hidden cross-subsidies, be able to endanger the market position of external digital rail ticket distributors through low-price or predatory pricing tactics.

2. Long-Run Average Incremental Costs and Efficient Competitor Test

In determining the economic value of digital rail ticket distribution services, a cost-oriented approach should be applied, taking into account the efficiently incurred costs of providing the distribution services, including a reasonable profit margin. Such a methodology ensures transparency, objectivity and predictability in the assessment of remuneration and mitigates the risk of exploitative or exclusionary practices.

When determining adequacy, the achievable margin shall be compared to a cost benchmark sufficient to assess whether the achievable margin can cover all (efficient) costs of digital rail ticket distribution services, including an adequate profit margin.²⁴ In this context, the Long-Run Average Incremental Cost

(LRAIC) approach is particularly suitable.²⁵ LRAIC provide an appropriate, well-established cost benchmark to implement the economic concept of adequacy of the achievable margin to avoid margin squeezes, which will likely guide regulatory practice to apply LRAIC as a cost benchmark due to its regulatory practicability, even if not explicitly codified in this Regulation.

LRAIC comprises the average of all (variable and fixed) costs incurred by an undertaking to produce a particular product. While average avoidable costs (AAC) are specific to each unit (such as raw materials, energy and packaging), LRAIC refers specifically to each line of production. A pricing scheme will be, in general, considered legal if effective prices are above LRAIC, whereas the scheme will be illegal if effective prices are below AAC. As long as effective prices remain consistently above LRAIC (according to the prevailing as-efficient competitor, AEC, test: of the dominant undertaking), it is presumed to allow an equally efficient competitor to compete profitably notwithstanding rebates or discounts in any form whatsoever. In cases where effective prices are set between LRAIC and AAC, other factors indicating illegal (margin squeeze) foreclosure should be considered to rebut the presumption.

The price level of the vertically integrated undertaking's end-customer services on the distribution markets should be compared to the LRAIC incurred by independent digital rail ticket distributors to determine the adequacy of the margin. Accordingly, it is not sufficient to assess whether the margin is adequate to cover the costs of an equally efficient – hence vertically integrated – competitor (AEC). Against this background, a modification of the AEC test should be considered.

EU competition law recognises the AEC test as an analytical benchmark in price-based exclusion cases, including margin squeeze.²⁶

In *Deutsche Telekom*, Advocate General Mazák expressed reservations as regards a modification of the

²⁴ Case C-52/09 *TeliaSonera* [2011] ECLI:EU:C:2011:83, para 41.

²⁵ Communication from the Commission Amendments to the Communication from the Commission – Guidance on the Commission's enforcement priorities in applying Art 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2023] OJ C116/1 (Amendments to the Guidance on the enforcement of Art 82), Annex para 5.

²⁶ Case C-52/09 *TeliaSonera* [2011] ECLI:EU:C:2011:83, para 31.

AEC test, without, however, excluding such a possibility altogether.²⁷ Subsequently, in *Unilever Italia*, the CJEU clarified that the AEC test does not constitute a uniform or exhaustive benchmark, but rather forms part of a broader analytical toolkit. In particular, the Court emphasised that its application is context-dependent and may, in certain circumstances, require adaptation:

As regards the ‘as efficient competitor’ test [...], it should be noted that that concept refers to various tests [...] assessing the ability of a practice to produce anti-competitive exclusionary effects [...]. Such a test may be inappropriate [...] in the case of certain non-pricing practices [...] or where the relevant market is protected by significant barriers. Moreover, such a test is only one of a number of methods [...].²⁸

This line of reasoning has since been reflected in the Commission’s Amendments to the Guidance on enforcement priorities under Article 82 EC.²⁹

In its Recommendation on consistent non-discrimination obligations and costing methodologies, the Commission introduced the Economic Replicability Test (ERT), which assesses whether a competitor can economically replicate the retail offer of a vertically integrated operator with significant market power on the basis of available wholesale inputs.³⁰ While a negative outcome may indicate a pricing structure capable of producing exclusionary effects, the Commission explicitly clarified that the ERT neither replaces nor is equivalent to an ex post assessment under Article 102 TFEU. Rather, it constitutes an ex ante regulatory instrument tailored to the specific objectives of sectoral regulation.³¹

This distinction is of central importance. The AEC test, as developed in the case law, was conceived in the context of ex post abuse control and does not

constitute a mandatory blueprint for ex ante regulatory intervention. Accordingly, the relevant question is not whether Article 102 TFEU requires reinterpretation, but whether a de lege ferenda regulatory benchmark should mirror the incumbent’s cost structure.

In this respect, the economic and structural conditions of the market under consideration militate against a strict AEC benchmark. Rather, the situation of a *reasonably efficient competitor* only active at the distribution level should be decisive, engaging in high initial investments in innovative digital rail ticket distribution services incurred in connection with the development of platform technologies and the programming of algorithms, thereby facing high capital and retail market risks. Therefore, instead of benchmarking only in relation to the vertically integrated undertaking’s retail price (p), its upstream price (a) and to its own downstream costs (c) under the AEC test formula ($p \geq a + c$), an effective avoidance of margin squeezes requires here $p \geq a + d$ (d = LRAIC incurred by independent digital rail ticket distributors). This is necessary because:

- Vertical integration, scale, and scope advantages of the vertically integrated undertaking only lead to lower costs for the vertically integrated undertaking itself, but not for the independent digital rail ticket distributors;
- Independent digital rail ticket distributors only active in the distribution markets cannot cross-subsidise low retail (distribution) prices from transport revenues or other group resources, but are confined to refinancing mechanisms within their respective distribution market. Channelled through more or less hidden intra-group settlement techniques, cross-subsidies within the vertically integrated undertaking to finance low retail (distribution) prices create tremendous financial imbalances and discrimination between vertically integrated and independent digital rail ticket distributors, which can only be remedied, most effectively in conjunction with unbundling regulation, on the basis of the *reasonably efficient competitor test*;
- The purchase and integration of the travel permissions by the external digital rail ticket distributors incur transaction, integration and handling costs which are not incurred internally by the vertically integrated undertaking; and
- External digital rail ticket distributors must regularly undercut the price of the vertically integrated

²⁷ Case C-280/08 P *Deutsche Telekom* [2010] ECLI:EU:C:2010:2012, Opinion of AG Mazák, para 50.

²⁸ Case C-680/20 *Unilever Italia* [2023] ECLI:EU:C:2023:33, paras 56–57.

²⁹ Amendments to the Guidance on the enforcement of Art 82, Annex para 3.

³⁰ Commission Recommendation on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment [2013] C(2013) 5761 final, paras 61–65.

³¹ *Ibid.*, para 63.

ed undertaking (which, as a national champion, often emerged from a state monopoly or public service undertaking) in order to overcome the latter's goodwill advantages.

VI. Institutional Design and Enforcement

The following sets out and explains a proposed regulatory provision. It aims to ensure fair, reasonable and non-discriminatory conditions for distribution commissions.

1. Negotiation

A regulatory provision should stipulate that the distribution commission is, in principle, subject to contractual freedom and that negotiated distribution commissions take precedence. However, in order to counteract market power asymmetries, negotiations and the composition of distribution commissions should be subject to legal restrictions, in accordance with FRAND terms, and to a negotiation requirement. Distribution commissions should be negotiated between transport providers and digital rail ticket distributors upon a written request by the respective digital rail ticket distributor.

2. Notification and Confidentiality

A regulatory provision should minimise administrative burden by providing that distribution commissions are subject to prior negotiation between the parties concerned, accompanied by an obligation on the respective negotiating parties to submit the negotiated outcome to the National Supervisory Authority (NSuA).

The notification obligation should serve to create an incentive for the negotiating parties to conduct negotiations in accordance with FRAND terms. The potential for ex post scrutiny should be established from the outset, thereby discouraging unfair and discriminatory practices and contributing to a more balanced negotiation environment, particularly in situations of asymmetric bargaining power. Such asymmetries are often inherent in vertically integrated or highly concentrated markets, as typically observed in the transport sector, and risk the distortion of com-

petition in the absence of appropriate regulatory oversight.

The notification should trigger the ex post control of the distribution commission agreement by the NSuA. To carry out this assessment in an expeditious and effective manner, the NSuA should be provided, through the notification, with all necessary documentation, including the distribution commission agreement, the cost documentation relating to the provision of digital rail ticket distribution services by the (vertically integrated) transport provider on the one hand and by the independent digital rail ticket distributor on the other, as well as any other documents necessary for monitoring compliance with FRAND terms in distribution commission agreements. The NSuA may request any further FRAND-relevant data and documentation from the parties concerned.

The digital rail ticket distributor's documentation should be necessary to assess the recovery of the costs of efficient service provision by, and specifically related to, independent digital rail ticket distributors, including a reasonable profit margin, while the ticket provider's documentation should be needed to enable the assessment of the margin between the wholesale charge and the retail charge. The submission and handling of such documentation should be carried out by the NSuAs and the parties concerned under strict protection of business confidentiality. Any data and documentation submitted by the parties to the NSuA, in particular cost documentation containing business secrets, should not be disclosed by the NSuA to the other party unless the respective owner of this business data agrees in writing to such disclosure.

3. Ex post Review by NSuAs

A regulatory provision should stipulate that the NSuA assesses, for each individual distribution commission agreement and the related cost documentation, compliance with FRAND terms.

On the basis of the submitted cost documentation, the NSuA should also be able to compare the costs of digital rail ticket distribution services of the independent digital rail ticket distributor with those of other non-vertically integrated digital rail ticket distributors operating only in distribution markets, in order to apply a cost-oriented FRAND approach in line with the reasonably efficient competitor test.

The tasks assigned to NSuAs do not constitute a fundamentally new regulatory function but rather build on existing competences and institutional structures. NSuAs can be integrated into existing national regulatory authorities, in particular within established departments responsible for the rail sector, thereby allowing economies of scale and scope within the administrative apparatus to be leveraged. In most Member States, such sector-specific expertise is already available. Therefore, the assessment of distribution commissions under FRAND terms represents an extension of existing activities, relying on well-established economic methodologies, such as cost-based assessments and reasonably efficient competitor tests, as applied in competition law and sector-specific regulation, for example, in the context of margin squeeze analysis.

Where the NSuA determines that the distribution commission agreement does not comply with this Regulation, in particular with FRAND terms or other provisions of competition law, it should prohibit the application of the incompatible terms and conditions of that agreement and, without requiring an application by either negotiating party, initiate ex officio an arbitration procedure. This mechanism should mitigate the impact of market asymmetries on regulatory control, enable prompt remedial action, and ensure the establishment and maintenance of FRAND remuneration, thereby safeguarding effective competition within the internal market.

4. Arbitration

A regulatory provision should stipulate that the arbitration procedure serves to ensure compliance with FRAND terms in individual cases while preserving the limits of self-regulation by providing a structured and impartial mechanism for resolving disputes between negotiating parties without substituting private autonomy.

The arbitration procedure should apply where negotiations between the parties have failed (case 1) and where the NSuA, following an ex post control of the distribution commission agreement, prohibits the application of incompatible terms and conditions (case 2). It should further define the circumstances in which negotiations are deemed to have failed. Negotiations should be considered to have failed if (i) a

distribution commission agreement is not reached, (ii) either party explicitly refuses to negotiate, or (iii) the railway undertaking does not submit an answer to the request by the independent digital rail ticket distributor.

In the first case, the arbitration procedure should apply upon a written application by a negotiating party. In the second case, arbitration proceedings should be initiated ex officio by the NSuA. The NSuA should act as an arbitrator and, after hearing the parties, submit a concrete recommendation on the terms and conditions of a distribution commission agreement.

5. FRAND Guidelines

A regulatory provision should ensure the harmonised application of the principle of FRAND terms in distribution commission agreements across the Union by empowering the Commission to adopt guidelines (FRAND Guidelines), taking utmost account of the outcome of consultations with the European Network of Rail Regulatory Bodies (ENRRB). The FRAND Guidelines should provide guidance to the negotiating parties and to the NSuAs on the application of the FRAND concept to distribution commission agreements in the specific context of ex ante regulation of single digital booking ticketing, inter alia, with regard to vertical integration and asymmetries of market power in the transport sector. In particular, the FRAND Guidelines should provide guidance on the implementation of FRAND terms in the negotiation of distribution commission agreements, the notification procedure, the ex post control of such agreements and the arbitration procedure under this Regulation.

While the European legislator might refrain from codifying overly concrete or uniform cost models in an act of approximation of national laws, the Commission should be entrusted, where appropriate, to establish concrete cost parameters in its FRAND Guidelines. These parameters should support ex ante negotiations, ex post control of distribution commission agreements and arbitration proceedings in light of FRAND terms. This should ensure that independent digital rail ticket distributors receive market-viable remuneration in line with FRAND principles, thereby enabling them to remain competitive and economically sustainable.

Distribution commissions that do not cover the costs of efficient service provision by, and specifically related to, independent digital rail ticket distributors, including a reasonable profit margin, should be prevented, as they are liable to cause foreclosure effects and distort competition. The cost parameters set out in the FRAND Guidelines should therefore define cost-oriented and FRAND-compliant remuneration, while remaining tailored to the specific conditions of digital rail ticket distribution markets rather than mirroring models from other network industries.

In addition to benchmarks and parameters defining substantive FRAND requirements, the Commission should also be empowered to further specify procedural rules, conditions and modalities to be applied by the NSuAs for notification, ex post control of distribution commission agreements and arbitration procedures within its FRAND Guidelines, without prejudice to the competences of the NSuAs. This should ensure a uniform and consistent application of the Regulation within the internal market, as well as effective enforcement and legal certainty for all parties concerned.

6. Surveillance

Member States should ensure supervisory mechanisms that secure compliance with FRAND terms, primarily by monitoring distribution commission agreements. These commissions should first be negotiated directly between transport providers and digital ticket distributors on a FRAND basis. Regulatory intervention by national supervisory authorities should be strictly residual, limited to situations where negotiations and arbitration fail or where ex post review identifies non-compliance with FRAND standards or competition law.

NSuAs should act as arbitrators where negotiations break down, where breaches of negotiation duties are alleged, or where incompatible terms are prohibited after ex post scrutiny. They should issue recommendations within defined deadlines under the procedural law of the Member State.

Any ex post measures, and where necessary ex ante obligations, should adhere strictly to proportionality, particularly regarding cost-orientation and transparent cost-accounting. Obligations on adequate distribution commissions should be imposed

only once arbitration has been unsuccessfully exhausted.

7. Participation of National Supervisory Authorities Within the ENRRB

National supervisory authorities should cooperate with one another and with the ENRRB. Drawing on the positive experience of comparable cooperation structures – including the European Network of Competition Authorities (ECN), the Body of European Regulators for Electronic Communications and the Agency for the Cooperation of Energy Regulators (ACER) – ENRRB provides the established platform for coordination, information exchange and regulatory convergence. Given its expertise in the rail sector, it is well placed to address the regulatory challenges of digital rail ticket distribution and to ensure coherence across the wider rail value chain.

The ENRRB should monitor national supervisory practices, particularly regarding the implementation of FRAND-related guidance, and assess their impact on fair, non-discriminatory and effective competition and on market functioning. It should also conduct public consultations and analyse actual or potential transnational markets affected by pricing and costing issues. To support transparency and consistent regulatory outcomes, the ENRRB should be able to issue opinions, common positions and recommendations on best practices, including on the implementation of FRAND-compliant distribution commission agreements and regulatory measures with cross-border relevance. NSuAs should take full account of these instruments when applying the framework in their domestic markets.

8. Cooperation Between The Competent Authorities and Regulatory Bodies

Key regulatory tasks should be entrusted exclusively to independent national supervisory authorities. Member States should safeguard their institutional stability and independence during transposition while retaining flexibility to allocate other regulatory tasks unless expressly restricted.

NSuAs, the ENRRB, the Commission, national competition authorities and other competent bodies should exchange all information necessary for apply

ing the framework, in line with the principle of sincere cooperation.

9. Proposal for a Regulation

Article A: Remuneration of independent digital rail ticket distributors

(1) ¹Transport providers with significant market power shall grant independent digital rail ticket distributors a remuneration for the distribution of transport services (distribution commission). ²The distribution commission shall be fair, reasonable and non-discriminatory (FRAND terms), in particular in relation to the added value of the digital distribution services as well as to the remuneration or compensation granted by transport providers to their integrated, affiliated or associated digital rail ticket distributors, taking into account that integrated, affiliated or associated digital rail ticket distributors also receive remuneration or compensation through intra-group settlement, vertical cost allocation or group accounting mechanisms, irrespective of its designation or structure in the internal settlement.

(2) Distribution commissions shall be negotiated first and primarily agreed on according to FRAND terms, referred to in paragraph 1, between transport providers and digital rail ticket distributors within a period of 6 weeks upon a written request (including by e-mail) from the respective independent digital rail ticket distributor.

(3) ¹The distribution commission agreement shall be notified separately by both the transport provider and the digital rail ticket distributor to the competent National Supervisory Authority (NSuA) within 1 week of its conclusion and handled by NSuAs and the parties under strict protection of business secrets. ²The notification, referred to in sentence 1, shall include the distribution commission agreement, the cost documentation relating to the provision of digital rail ticket distribution services by the transport provider on the one hand and by the independent digital rail ticket distributor on the other as well as any other documents necessary for monitoring compliance with FRAND terms in distribution commission agreements. ³NSuAs may request further FRAND-relevant data and documentation from the parties. ⁴Any data and documentation submitted by the parties to the NSuA, in particular their

cost documentation containing business secrets, must not be disclosed by the NSuA to the other party.

(4) ¹The NSuA shall assess, for each individual distribution commission agreement and the related cost documentation, compliance with the FRAND terms referred to in paragraph 1 within a period of 8 weeks after the notification pursuant to paragraph 3 has been submitted to the NSuA. ²FRAND terms shall, in particular, be deemed not to be met where the negotiated distribution commission agreement unduly restricts competition on distribution markets or impedes market access of independent digital rail ticket distributors, including but not limited to:

- a) distribution commissions which do not cover the costs of efficient service provision by, and specifically related to, independent digital rail ticket distributors, including a reasonable profit margin;
- b) distribution commissions that do not allow a margin between the charge for the upstream purchase of the travel permissions issued by the transport providers (wholesale charge) and the charge invoiced by their integrated, affiliated or associated rail ticket distribution units for the transport services (retail charge) at a level sufficient to enable an independent digital rail ticket distributor to achieve an adequate profit margin; or
- c) applying dissimilar conditions to equivalent digital rail ticket distribution transactions with digital rail ticket distributors, in particular favoring vertically integrated, affiliated or associated distributors, thereby placing independent digital rail ticket distributors at a competitive disadvantage.

Where, in the course of the assessment, referred to in subparagraph 1, the competent NSuA determines that the distribution commission agreement does not comply with this Regulation, in particular the FRAND terms referred to in paragraph 1, it shall prohibit the application of these incompatible terms and conditions of that distribution commission agreement and, without the requirement of an application by either negotiating party, initiate ex officio the arbitration procedure pursuant to paragraph 5, subparagraph 1 within a period of 2 weeks upon the NSuA's finding.

(5) If the negotiations, referred to in paragraph 2, have failed, the NSuA shall act as an arbitrator upon a written application by a negotiating party, or in cases of NSuA's ex officio initiation of arbitration proceedings and therefore without application, as referred to in paragraph 4, last subparagraph, and, after hearing the parties, submit a recommendation on the terms and conditions of a distribution commission agreement within a period of 8 weeks after the application for arbitration proceedings has been submitted to the NSuA, or respectively after the NSuA's ex officio initiation of arbitration proceedings within a period of 4 weeks.

Negotiations are deemed to have failed if (i) a distribution commission agreement is not reached within 8 weeks from the written request by the independent digital rail ticket distributor, as referred to in Article A, paragraph 2, (ii) either party explicitly refuses to negotiate or (iii) the railway undertaking does not submit an answer to the request by the independent digital rail ticket distributor, referred to in Article A, paragraph 2, within 10 business days.

(6) After consulting the European Network of Rail Regulatory Bodies (ENRRB) the Commission shall publish guidelines on

- the FRAND terms for remuneration for digital rail ticket distribution services, referred to in paragraph 1,
- the negotiation procedure for distribution commission agreements between transport providers and digital rail ticket distributors, referred to in paragraph 2,
- the procedure for the notification, referred to in paragraph 3, and the ex post control of distribution commission agreements, referred to in paragraph 4, and
- the arbitration proceedings conducted by NSuAs, referred to in paragraph 5, (FRAND Guidelines).

¹The FRAND Guidelines shall provide guidance to the negotiating parties, referred to in paragraphs 2, 3 and 5, and to the NSuAs, referred to in paragraphs 3, 4 and 5, on the application of the FRAND concept to distribution commissions in the specific context of ex ante regulation of single digital booking ticketing, inter alia with regard to vertical integration and asymmetries of market power in the transport sector. ²The negotiating parties and the NSuAs shall take utmost account of the FRAND Guidelines issued by the Commission.

VII. Conclusion

Independent digital rail ticket distributors perform value-adding functions that cannot be equated with mere resale in other network industries. In vertically integrated rail markets, however, their viability may be undermined by discriminatory remuneration structures, internal cross-subsidisation and margin squeeze risks. These structural asymmetries point to market failure, as vertically integrated undertakings are both able and incentivised to distort downstream competition in distribution markets. Article 102 TFEU remains relevant, but as an ex post instrument it is not sufficient on its own to prevent such foreclosure in time.

Against this background, this article has explored *de lege ferenda*, the introduction of an entitlement to distribution remuneration on FRAND terms. Such a framework could be assessed by reference both to the added value of independent distribution services and to the remuneration or compensation granted to integrated or affiliated distributors, including through intra-group mechanisms. Its effectiveness would depend on complementary procedural safeguards, in particular structured negotiations, confidential notification, regulatory review and, where necessary, arbitration.