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Accounting returns and merger assessment in European telecoms: A review of Tarantino et al. (2026)

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ABSTRACT

Tarantino et al. (2026) compare return on capital employed (ROCE) and weighted average cost of capital (WACC) for fourteen large European telecom groups over 2014–2024. They conclude that claims of systematic under-remuneration lack empirical support—a finding that could be read as implying that concerns about the sector's ability to sustain strategic investment are unwarranted. The timing and institutional provenance of this study make it highly relevant to the ongoing debate on whether consolidation could foster greater investment in this sector. This raises the question of whether historically positive sector returns imply that consolidation is unnecessary to sustain future investment. We argue that, whilst important, the study's findings do not rule out the prospect for consolidation to be pro-investment: the study's metric is backwards-looking and sector-wide; the merger-policy question is forward-looking and transaction-specific. An aggregate comparison of historical accounting returns provides limited guidance on whether a different market structure or a particular transaction would improve investment outcomes (e.g. due to scale effects or financial synergies), particularly when the next investment cycle is expected to present a less favourable risk-return profile than past cycles. Moreover, even taken at face value, the study's data support a more cautious reading than the authors offer: a narrow, declining ROCE-WACC spread and persistently high dividend payouts are equally consistent with the operators' contention that the sector, under its current market structure, does not generate returns sufficient to sustain the scale of investment the next cycle requires.

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**The authors have, in their professional capacities, been involved in some of the matters discussed in this article. The views expressed are those of the authors and do not necessarily reflect those of any organisation with which they are or have been affiliated, or the clients of any such organisation. In particular, the views expressed should not be read as an assessment of the merits of any specific transaction currently under review by competition authorities, including the proposed acquisition of certain SFR (Altice France) network assets by Bouygues Telecom, the Free-Iliad Group and Orange, announced in France in 2026.*

I. Introduction

1. The relationship between market structure and investment in the telecommunications sector is one of the most discussed topics in EU competition policy. Telecom operators have long argued that European markets are characterised by a large number of relatively small-scale network providers, and that this structure limits their ability to generate the returns needed to justify the infrastructure investments considered necessary for Europe to bridge its productivity gap with the US. This argument features prominently in the Draghi report on European competitiveness and has informed the debate over the revision of the European Commission's Horizontal Merger Guidelines. [1]

2. In January 2026, five economists from the European Commission's Directorate-General for Competition—including its chief economist, Emanuele Tarantino—published a study on VoxEU, the Centre for Economic Policy Research's principal dissemination platform. [2] The study analyses the financial performance of fourteen large, publicly listed European telecom groups over the period 2014–2024. [3] Its central metric is a comparison

1. *See* M. Draghi, The Future of European Competitiveness, September 2024, in particular the sections on digital infrastructure and the connectivity investment gap, https://commission.europa.eu/topics/competitiveness/draghi-report_en.

2. E. Tarantino, C. Atzeni, C. Cirignaco, D. Erharter and H. Zenger, An analysis of the EU telecom sector's ability to remunerate its cost of capital, VoxEU/CEPR, 29 January 2026, https://cepr.org/voxeu/columns/analysis-eu-telecom-sectors-ability-remunerate-its-cost-capital (accessed on 22 September 2026). The study's co-authors are economists at DG Competition.

3. Throughout this article, references to "telecoms" or the "telecom sector" adopt the same definition of the sector as Tarantino et al.—i.e. operators that own and operate physical network infrastructure and sell connectivity (voice, data, broadband) as their main product.

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between the sector's return on capital employed (ROCE)—an accounting measure of the operating return a company generates on the capital it has invested—and its weighted average cost of capital (WACC)—an estimate of the minimum return investors require to finance that capital. [4] The authors find that aggregate ROCE has, for most of the period, exceeded WACC. They conclude, on that basis, that claims of systematic under-remuneration of capital lack empirical support—a finding that could be read as implying that concerns about the sector's ability to sustain strategic investment are not warranted by the evidence.

3. The institutional provenance of the study and its timing—just prior to the release of the Draft New Merger Guidelines (DNMG)—make its findings and methodology particularly relevant to the merger-policy debate. That debate centres on whether and how merger control should move beyond a predominantly static, price-focused analytical framework to give greater weight to dynamic competition—that is, to the role of scale, innovation, investment and resilience as procompetitive factors critical to the long-term competitiveness of European industries, both within Europe and globally. [5]

4. The study's conclusions are likely to be viewed as a challenge to the claim that further consolidation is needed to encourage more investment in telecom markets. In other words, if the sector has, on the whole, historically earned its cost of capital and provided value to investors, why is more consolidation required to promote future investments?

5. Against this background, this article directly examines the implications of these findings for merger policy. We contend that although the study's findings provide useful insights into the accounting performance of the sector, they do not answer the crucial question for merger policy: whether consolidation (in the form of specific transactions) may improve the capacity and incentives of telecom operators to invest at a scale that would not occur otherwise. This issue is naturally future-oriented and transaction-specific, whereas the metric used in the study is historical and sector-wide (section II). Our contention is thus that only a careful case-by-case assessment can reveal the true probability that mergers in the telecommunications sector will increase investment.

6. We then turn to the evidence the study presents and show that, even taken at face value, the data support a more cautious reading than the authors offer: the narrow, declining ROCE-WACC spread and the persistently high dividend payouts are equally consistent with the operators' contention that the sector, under its current market structure, does not generate returns sufficient to sustain the scale of investment the next cycle requires.

II. The study's metric is not determinative for the merger-policy debate

7. Merger assessment is inherently forward-looking and transaction-specific. It asks whether a particular transaction would give rise to a significant impediment to effective competition, relative to a properly specified counterfactual in which the transaction does not occur. Effects on the parties' ability and incentive to invest enter that assessment.

4. ROCE is an accounting metric, calculated as operating profit divided by capital employed, expressed as a percentage. For example, if a company's ROCE is 8%, it generates 8 cents of operating profit for every euro of capital employed. WACC is an estimate of the minimum return investors require, derived from market data and financial modelling assumptions. For example, if WACC is 6%, the company's investors (lenders and shareholders) collectively require at least 6 cents per euro to justify their capital commitment. When ROCE exceeds WACC, the company is understood to be generating returns above what its capital providers require; when the two are equal, it is taken to be just covering its costs; when ROCE falls below WACC, it is destroying value. As discussed in section III.4, however, both metrics are subject to limitations that can cause them to diverge from the underlying economic reality they are intended to capture.

5. The Commission's ongoing revision of its Merger Guidelines will replace the 2004 Horizontal Merger Guidelines and the 2008 Non-Horizontal Merger Guidelines. The draft Guidelines released for public consultation in 2026 give explicit weight to scale, innovation, investment and resilience as pro-competitive factors that may benefit from consolidation (Draft Communication from the Commission, Guidelines on the assessment of mergers under Council Regulation (EC) No. 139/2004 on the control of concentrations between undertakings, 30 April 2026 ("Draft New Merger Guidelines"), paras. 10–15); set out a comprehensive framework for assessing efficiencies, distinguishing between direct efficiencies (deriving from cost reductions, elimination of double marginalisation, technology transfer) and dynamic efficiencies (conferring the ability or increasing the incentive to invest and innovate) (paras. 291–338); introduce an innovation shield for acquisitions of innovative start-ups (paras. 192 a) to e)) and a standalone theory of harm for loss of investment competition (paras. 169–174); and apply the "more likely than not" standard of proof established by the Court of Justice in *CK Telecoms* (case C-376/20 P, EU:C:2023:561) to the overall significant impediment to effective competition (SIEC) finding (paras. 32, 63 n. 63).

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8. In the context of the telecoms sector, consolidation among network operators can affect the ability and incentives to invest through at least two distinct mechanisms. The first mechanism operates through the cost side and combines two related effects:

- A larger subscriber base over which to spread a given fixed-cost investment. As discussed, network investment involves high fixed costs—building sites, deploying spectrum, and upgrading core infrastructure. These costs must be recovered across the operator's subscriber base. A merged entity can spread these costs over a larger subscriber base than either standalone operator, reducing the per-user cost of investment. [6] As a result, projects that would not clear the hurdle rate for a smaller standalone operator may become economically viable for the merged entity, simply because each euro of capital expenditure serves more customers and generates a higher expected return.
- A combined site-and-spectrum portfolio that generates more capacity per unit of investment than two standalone networks would. This has an ongoing effect on the cost of expansion because the capacity gain from upgrading a site increases with the amount of spectrum that can be deployed at that site. As a result, the merged entity can achieve a larger increase in capacity from upgrading a given number of sites than either standalone operator could. Achieving the same capacity increase without the merger would require upgrading a larger number of sites across two separate, and partially overlapping, networks. By reducing the unit cost of expanding capacity on a continuing basis, the merger frees resources for further quality improvements, such as broader coverage, higher network resilience, or faster deployment of next-generation technologies.

9. The second mechanism operates through the reduction in the number of competitors brought about by a merger, and can cut either way. By reducing the number of competitors, consolidation may, in certain cases, reduce the merged entity's incentive to invest relative to the pre-merger counterfactual. Before a merger, sales diverted from a rival by one firm's investment are a pure gain to the investing firm. After a merger, the portion of that diversion previously captured from the merged partner now cuts into the merged entity's own product sales instead—a cost the economics literature refers to as "cannibalisation." This can reduce the expected returns to investment and, hence, the incentive to invest. [7] This reduced incentive to invest is akin to standard static unilateral price effects, through which a merger can raise prices by internalising the diversion of sales that a price increase would otherwise send to a rival. [8]

10. However, that same reduction in the number of competitors may also generate a dynamic investment benefit by improving appropriability. [9] With fewer competitors, the merged entity is better able to capture the returns generated by its investments. This is because expected returns to investment tend to fall as more rivals pursue similar investments, with part of the value being dissipated through competition or partially appropriated by rivals. For a given level of investment, the expected return to the investing firm is therefore higher post-merger than pre-merger, strengthening incentives to invest. This "appropriability" effect is conceptually distinct from, and additional to, the cost-side investment efficiencies identified above. [10]

11. The two mechanisms described above can, in turn, feed into a third: strengthening the merged entity's capacity to finance investment from internal funds. Indeed, cost efficiencies and higher average revenue per user (ARPU) that follow from the merged entity's improved ability to capture the returns on its own investments both raise retained earnings, reducing the merged entity's reliance on

6. This effect is amplified by the above-mentioned "multiplicative" relationship between sites and spectrum described in the following bullet point: the capacity of a combined network is the product, not the sum, of these two inputs. Merging two site portfolios and two spectrum portfolios yields more capacity than two standalone networks. *See* X. Boutin, L. Eymard and M. Williams (BRG), A Dynamic Framework for the Assessment of Horizontal Mergers, Report commissioned by GSMA, with support from Connect Europe, January 2026, paras. 348, 405–407; CMA, Anticipated joint venture between Vodafone Group Plc and CK Hutchison Holdings Limited concerning Vodafone Limited and Hutchison 3G UK Limited: Final Report, ME/7064/23, 5 December 2024, para. 77.

7. This is the economic logic underlying the loss of investment competition as an independent theory of harm, as referenced in the Draft New Merger Guidelines (*see supra* note 5).

8. Post-merger, a price increase diverts fewer customers to rivals, because some customers who would previously have switched to the other merging party are now retained within the combined firm.

9. Appropriability refers to the extent to which a firm can realise the benefits generated by its innovation efforts. *See* RBB Economics, An innovative leap into the theoretical abyss: Dow/DuPont and the Commission's novel theory of harm, RBB Brief 54, July 2017, https://www.datocms-assets.com/79198/1667304872-rbb-brief-54.pdf (accessed on 22 September 2026).

10. For an introduction to the cannibalisation and appropriability effects in mergers, *see* RBB Economics, *supra* note 9.

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external financing that is more costly in the presence of information asymmetries between firms and investors. These frictions are particularly pronounced when the underlying assets are firm-specific, illiquid and subject to uncertain long-term payoffs, as is the case for telecom network infrastructure. [11] A merged entity that can self-finance a greater share of its investment programme, therefore, faces a lower effective cost of capital than a standalone operator that is more reliant on external financing, thereby expanding the set of investment projects that clear the hurdle rate. [12]

12. These mechanisms, and their expected direction of effect on the ability and incentive to invest, are summarised in the table below.

11. The corporate-finance literature shows that external financing is systematically more expensive than internal funds in the presence of information asymmetries between firm insiders and outside investors. This premium is particularly pronounced when the underlying assets are firm-specific, illiquid and subject to uncertain long-term payoffs—a description that fits telecom network infrastructure. A merged entity generating more internal cash flow is therefore less exposed to this friction and faces a lower effective cost of capital. *See* Myers, S.C. and Majluf, N.S. (1984), Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have, Journal of Financial Economics, 13(2), pp. 187–221; Inderst, R. and Müller, H.M. (2003), Internal versus External Financing: An Optimal Contracting Approach, Journal of Finance, 58(3), pp. 1033–1062.

12. Whether the resulting dynamic investment gain is sufficient to offset the static price harm is precisely the balancing exercise a forward-looking merger assessment must undertake.

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Table 1. Mechanisms through which consolidation can affect the ability and incentive to invest

Mechanism	Channel	Effect on investment	
Cost side	Economies of scale	+	Spreading fixed costs over a larger subscriber base lowers the per-user cost of investment, bringing more investment projects above the hurdle rate
Cost side	Combined site-and-spectrum portfolio	+	Multiplicative capacity gains reduce the unit cost of expanding capacity, freeing resources for further quality improvements
Competitive rivalry	Cannibalisation	-	Once internalised, sales diverted from the merger partner no longer raise the merged entity's profit, lowering the expected return to investment
Competitive rivalry	Appropriability	+	With fewer competitors, returns to investment are less likely to be dissipated or captured by rivals, raising the expected return to investment
Financing	Higher retained earnings	+	Cost efficiencies and higher ARPUs increase retained earnings and reduce reliance on costlier external financing, thereby lowering the effective cost of capital

13. Whether these cost-side and dynamic efficiencies exist and are sufficient to produce a net positive effect on the ability and incentive to invest, and whether that net effect outweighs any static price harm the merger may generate, is a case-specific question that turns on the relative magnitude of the effects set out above.

14. In this section, we argue that the metric at the core of the study—a historical, sector-wide ROCE-WACC comparison—may provide useful insights into the accounting performance of the sector, but it does not tell us whether a greater degree of sector consolidation, or a particular transaction in a particular national market, would generate incremental investments that may benefit consumers. There are three reasons for this.

15. First, an assessment of historical returns helps us understand whether past investments covered their costs and delivered a return. It is reasonable to expect that telecom companies would not have made investments unless they expected positive risk-adjusted profitability. It follows that it is unsurprising that an *ex post* analysis shows that the investments that did materialise were not unprofitable.

16. Notably, this does not tell us whether "enough" has been invested and whether greater levels of investment are associated with more concentrated markets. A more informative approach for assessing this question would be to examine the observable outcomes of the investments realised—coverage, speeds, 5G penetration—and whether these vary systematically with market structure. International comparisons suggest that they do (section II.1).

17. Second, the metric is backwards-looking, whereas the merger-policy question is forward-looking. The next cycle of investments is expected to offer a less favourable risk-return profile than those that generated returns over the past decade: the required commitments are larger in scale, have longer payback periods, and face greater demand uncertainty (section II.2).

18. Third, by aggregating returns across multiple operators and several national markets, the study's metric masks the variation across operators that determines precisely whether a specific merger would lead to greater investment (section II.3).

1. Historical returns reflect that past investment decisions were rational given constraints, not whether sufficient investments were made

19. The ROCE figures reported in the study reflect the performance of investments undertaken by operators—investments that, at the time of commitment, were expected to generate returns in excess of the cost of capital and for which operators were able to secure financing. Investments that were assessed and not pursued—because their expected return, given prevailing market conditions, did not clear the required threshold, or because operators could not secure financing—leave no trace in the data the study analyses.

20. The study's data, therefore, reflects the reality that operators earned their cost of capital on a self-

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selected subset of investments: those that operators judged worth making and for which they were able to secure financing. This is consistent with what one would expect from firms and their financiers acting rationally: operators commit capital only where expected returns justify the risk, and financiers provide funding only where the risk-return profile meets their own requirements and compares favourably with the alternative opportunities available to them.

21. This reading, however, leaves unaddressed the possibility that other projects, which were expected to be less profitable relative to their risk, but which could nevertheless benefit consumers, were not pursued. It also does not rule out that projects offering satisfactory expected returns remained unfunded because capital constraints forced operators to choose among competing investment options. Put another way, historical accounting returns cannot indicate whether the level of investment achieved has been adequate.

22. A more informative assessment to these questions would examine observed investment outcomes, such as geographic network coverage, download and upload speeds, latency, 5G adoption rates, and the connectivity disparities among various user groups and regions. These outcomes capture what investments have provided to consumers and businesses—and, by extension, what they have failed to deliver.

23. Importantly, they also provide direct insight into whether outcomes differ consistently across markets with varying levels of concentration and average operator size. Such evidence is relevant to the merger-policy question of whether consolidation would improve the capacity and incentives of telecom operators to invest at a scale that would not occur otherwise.

24. Where this is the case, more concentrated markets would be generally expected to exhibit, *ceteris paribus*, better deployment outcomes, such as wider coverage, higher speeds and faster 5G adoption.

25. International evidence is suggestive in this regard. [13] On several key metrics—including 5G coverage, download speeds and network capex per capita—Europe continues to lag behind countries such as the United States, South Korea and Japan, each served by fewer, larger-scale operators with higher ARPUs (see Table 2). [14]

13. *See*, for example, C. Genakos, T. Valletti and F. Verboven, Evaluating market consolidation in mobile communications, *Economic Policy*, Vol. 33, Issue 93, 2018, pp. 45–100, https://doi.org/10.1093/epolic/eix020 (accessed on 22 September 2026). Using a uniquely constructed panel of mobile operators' prices and accounting information across 33 OECD countries between 2002 and 2014, they document that more concentrated markets lead to higher investment per mobile operator, though the impact on total investment is not conclusive.

14. "[T]*he European telecommunications sector is not at the forefront of technology development or of technology adoption: It is behind the leading Asian countries and the US with regard to the latest and faster Next-Generation Access networks*." *See* M. Cave, C. Genakos and T. Valletti, The European Framework for Regulating Telecommunications: A 25-year Appraisal, *Review of Industrial Organization*, Vol. 55, Issue 1, 2019, pp. 47–62, https://doi.org/10.1007/s11151-019-09686-6 (accessed on 22 September 2026).

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Table 2. Mobile network performance, coverage, and telecom investment intensity. Europe, the US and selected Asian countries (2023–2024)

Metric	Europe	United States	Asian countries
ARPU adjusted for differences in GDP/capita (2023)	€14.8	€24.9	South Korea €22.4; Japan €21.1; China €19.8
Median Mobile Download Speed (2024)	71 Mbps	108 Mbps	South Korea 143 Mbps; China 105 Mbps
5G Share of All Mobile Connections (2024)	29%	69%	China 92%; South Korea 55%; Japan 45%
5G Standalone [15] **(population coverage, 2024)**	40%	91% (North America)	Asia Pacific 45%
Telecom Investment per Capita (2023)	€118	€226	Japan €188; South Korea €173

Source: Connect Europe, State of Digital Communications 2025, January 2025, https://connecteurope.org/sites/default/files/2025-01/State%20of%20Digital%20Communications%20-%202025%20edition.pdf

Notes: (i) The unadjusted ARPUs are: Europe €14.8; USA €41.7; South Korea €26.0; Japan €22.6; and China €9.5. (ii) According to GSMA Intelligence estimates, for Europe to meet the EU's 5G goals, European mobile operators would need to invest an additional €200 billion over the next decade, on top of the expected €270 billion required to maintain standard technology upgrades and replacement cycles. See GSMA Intelligence, Mobile investment needs in Europe, May 2026, https://www.gsmaintelligence.com/research/mobile-investment-needs-in-europe. Links accessed on 22 September 2026.

26. One cannot infer from these data that the gap is entirely attributable to differences in market structure. Other factors, including regulatory frameworks, spectrum policy and population density, likely play an important role. However, the pattern is sufficiently consistent to warrant careful examination of whether the existing market structure constrains the investment that Europe's digital infrastructure requires.

2. Historical returns do not inform on the risk-return profile of the next cycle of investments

27. The study frames its own question in forward-looking terms. The authors consider that a clearer view of the sector's performance is "*essential*" to the debate on the sector's ability to "*sustain strategic infrastructure investment in network development*."

28. However, where investment profiles may vary over time, caution should be applied when drawing inferences about future conduct from historical data.

29. Observed returns on past investments can be, to some degree, informative about the expected returns on investments not yet undertaken, only to the extent that the risk-return profile of the former is a reasonable proxy for that of the latter. If the proxy does not hold—i.e. if the next euro of incremental capital faces a materially different risk-return profile from the average euro deployed in the past—then the historical ROCE-WACC differential tells us little about the forward-looking question of whether future investments will be undertaken.

30. There are good reasons to believe that past investment outcomes cannot serve as a proxy for the risk-return profile of the next investment cycle. The forthcoming cycle may unlock new commercial revenue streams, alongside cost efficiencies from network modernisation. [16] Realising this potential,

15. the most advanced form of 5G; *see* Connect Europe, State of Digital Communications 2025, January 2025, at 5, https://connecteurope.org/sites/default/files/2025-01/State%20of%20Digital%20Communications%20-%202025%20edition.pdf.

16. Some of these efficiencies are already visible: the substantial completion of the copper-to-fibre migration in several European markets is reducing maintenance costs and energy consumption relative to legacy copper networks, and operators are increasingly deploying AI-based tools for network planning, fault detection and traffic management, which can lower operating costs and improve service quality for a given level of capital

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however, is likely to require operators to commit capital to various types of projects: 5G standalone, progressive preparation for 6G, [17] greater network resilience and security, and wider high-quality coverage. These projects are expected to present a less favourable risk-return profile than those of the past decade on three dimensions.

31. The first is the scale of the required capital commitment. [18] Each mobile technology cycle has increased the importance of network scale. In particular, 5G standalone requires a dedicated 5G core and associated network upgrades, whilst first-wave 5G deployments often added 5G radio equipment while continuing to rely on the existing 4G core network. Therefore, to meet policy expectations and competitive requirements, operators may need to invest well beyond the dense urban deployments that characterised much of the first-wave 5G. [19] [20]

32. Moreover, payback periods for the next cycle are expected to be both longer and more uncertain than for past investments that expanded capacity in already proven demand segments. Urban 4G, first-wave 5G non-standalone and dense-area fibre investment could be assessed against an established base of consumer demand for mobile data and fixed broadband. By contrast, rural coverage, transport-corridor coverage and 5G standalone are justified by future use cases whose adoption and willingness to pay are less certain.

33. The third dimension concerns demand. The key monetisation channels for 5G standalone include enterprise 5G, network slicing and Internet of Things (IoT) connectivity. These opportunities may be substantial, but their business cases are less predictable than those underpinning earlier investment cycles. [21]

34. In short, neither the historical realised returns nor the historical cost of capital can, therefore, confidently be used to draw inferences about whether operators currently have the incentive and financial capacity to "*sustain strategic infrastructure investment in network development*," in the study's own words. Still less can they speak to whether operators have sufficient capacity and incentive to make the next cycle of investment economically viable on a standalone basis, or whether a greater degree of consolidation is necessary. This is precisely the question that a forward-looking merger assessment must address.

3. Aggregate returns mask the operator-level heterogeneity that drives merger outcomes

35. The study's key conclusions are based on a weighted-average ROCE calculated across operators that vary in size and operate in different national markets with unique competitive dynamics. The

expenditure. For example, *see* R. Romero, Ó. S. Molina and P. M. Uribe, How Artificial Intelligence Is Revolutionizing Network Fiber Planning, Telefónica, 9 December 2025, https://www.telefonica.com/en/communication-room/blog/artificial-intelligence-revolutionizing-network-fiber-planning/ (accessed on 22 September 2026).

17. Beyond 5G standalone, the next generation of mobile technology, generally referred to as 6G, is already taking shape. Recommendation ITU-R M.2160 (approved by the ITU Radiocommunication Assembly in November 2023) sets out the objectives, usage scenarios and overall multi-phase roadmap for IMT-2030, the ITU's official designation for 6G. *See* ITU-R, Recommendation ITU-R M.2160, Framework and overall objectives of the future development of IMT for 2030 and beyond, approved by the ITU Radiocommunication Assembly, November 2023, https://www.itu.int/dms_pubrec/itu-r/rec/m/R-REC-M.2160-0-202311-I!!PDF-E.pdf. Under this roadmap, the detailed technical performance requirements and evaluation criteria for candidate radio-interface technologies are expected to be finalised around 2026/2027, with the submission and evaluation of candidate technologies running from February 2027 to February 2029, and final IMT-2030 specifications expected around 2030, the point around which commercial deployment is generally anticipated. *See* ITU-R, IMT towards 2030 and beyond (IMT-2030), https://www.itu.int/en/ITU-R/study-groups/rsg5/rwp5d/imt-2030/Pages/default.aspx; ITU-R Working Party 5D, WP 5D timeline for IMT-2030, https://www.itu.int/dms_pub/itu-r/oth/0a/06/R0A060000C80001PDFE.pdf. All links above accessed on 22 September 2026.

18. For Europe to meet its 5G targets, GSMA Intelligence (2026) estimates that European mobile operators will need to invest an additional EUR 200 billion over the next decade, on top of the EUR 270 billion required just to maintain existing technology and replacement cycles. This represents nearly a 75% increase over baseline maintenance-level investment. *See* GSMA Intelligence, Mobile investment needs in Europe, May 2026, https://www.gsmaintelligence.com/research/mobile-investment-needs-in-europe (accessed on 22 September 2026).

19. *See* Boutin et al., *supra* note 6, para. 372: "*The economies of scale in mobile network deployment have increased as mobile technology has evolved*." The report further notes that this effect is compounded by the "*multiplicative effect*" of combined site portfolios and spectrum holdings, which means that a merged network provides significantly higher capacity than two separate networks with split spectrum (para. 348), and that these scale dynamics are expected to intensify with 5G standalone, 6G and network security upgrades (paras. 342–343, 371, 373).

20. The CMA's Final Report in the *Vodafone/Three* merger notes, citing Ofcom, that operating a mobile network involves high fixed costs and that significant investment will be required to deploy the capacity needed to carry more mobile traffic and new technologies, including 5G standalone (CMA Final Report, ME/7064/23, *supra* note 6, para. 15).

21. The CMA's Final Report in the *Vodafone/Three* merger notes that MNOs and other market participants have stated that the business case for deploying 5G standalone is "*challenging due to the uncertainty over the extent to which they can make a return on their investment*" (ibid., para. 16).

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authors recognise that returns differ significantly among operators and over time, with some consistently outperforming while others regularly fall below the cost-of-capital threshold. Nonetheless, their policy implication is sector-wide: the entire sector has covered its cost of capital, suggesting that concerns about investment capacity are not empirically supported. Although the authors do not explicitly frame their findings in merger-policy terms, it may be inferred that if the sector already remunerates its capital, then consolidation to boost investment becomes less justified.

36. This step, however, if taken, would not be supported by the study's data. The merger-policy debate is not concerned with whether the European telecom sector, taken as a whole, earns enough to remunerate its capital. It concerns whether specific transactions—between specific operators, in specific national markets, with specific competitive structures—would change incentives and capacity to invest in ways that would ultimately lead to more investment than would be the case absent the merger and, on balance, benefit consumers. That question depends inherently on the relative scale and competitive position of the merging parties, on the gap between what the merging parties are currently investing—and plan to invest—and what the market requires, and on whether the merger would close that gap (or expand it). In other words, and in the language of the DNMG: the "theory of benefits" (or "theories of harm") associated with a specific merger.

37. The variation in returns across operators that the authors acknowledge is not a secondary feature of the data; it is a finding that carries direct relevance for the merger-policy debate, because it is precisely the differences in competitive position across operators that determine whether a given merger could change investment outcomes. A sector-wide average, by construction, is not informative in this regard.

38. The *Vodafone/Three* case in the United Kingdom illustrates the point. Prior to the merger, the four UK mobile network operators (MNOs) had, in aggregate, generated accounting returns above the cost of capital—at least as measured by the ROCE-WACC spread. [22] On the study's approach, this aggregate finding would be taken as evidence that the UK mobile sector did not face an investment-capacity constraint. Yet the merger assessment turned not on that aggregate but on the distribution of returns among the four operators and on whether the merger could generate investments that could not otherwise be sustained. Two operators (BT/EE and VMO2) held substantially stronger market positions and had invested accordingly; two (Vodafone UK and Three UK) operated with persistently thinner margins, lower network quality scores and more constrained investment programmes. [23]

39. Against this background, the CMA assessed whether a market structure with three operators of more comparable scale would produce better investment outcomes—in terms of network quality, coverage and innovation—than one with four operators, of which two faced financial constraints on their ability to invest. In this regard, Ofcom recognised that "*an MNO consistently earning* (. . .) *below its cost of capital over a sustained period, despite continuing to compete (and invest), may have reduced forward-looking investment incentives*" and that "*scale is an important aspect of an MNO's competitiveness, including as demonstrated by the relative profitability (measured by ROCE) of different MNOs*." While the CMA found that the merger would give rise to a substantial lessening of competition, it ultimately cleared the transaction subject to a binding GBP 11 billion network investment commitment—concluding that the commitment would significantly improve network quality, "*boosting competition between MNOs in the long term*". [24]

40. Had the CMA relied on the sector-wide ROCE-WACC differential to assess the merger's investment case, it would have overlooked that the two merging parties lacked, individually, the scale and financial capacity to sustain strategic investment.

22. As discussed in section III.3 below, the ROCE-WACC spread is a largely unreliable measure of whether an operator is earning, in economic terms, its true cost of capital. The *Vodafone/Three* example is used here not to endorse the metric but to show that even on the study's own chosen measure, the sector-wide average masks the very differences between operators that a merger assessment needs to examine.

23. In 2021, the four UK MNOs had an average ROCE just below 10%—a figure that, in aggregate, would imply that the industry was earning adequate returns. However, the two larger operators (BT/EE and VMO2) earned returns of approximately 20% and 14%, respectively, while the two smaller operators (Vodafone and Three) both earned returns less than 3%, well below their cost of capital (*see* Ofcom, Ofcom's future approach to mobile markets and spectrum, Conclusion Paper, 6 December 2022, https://www.ofcom.org.uk/spectrum/innovative-use-of-spectrum/ofcoms-future-approach-to-mobile-markets).

24. CMA Final Report, *supra* note 6, para. 8.

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III. The study's data are consistent with operators facing both diminishing investment capacity and weaker incentives to invest over time

41. In section II, we noted that a backwards-looking assessment of financial performance cannot, by its nature, speak to the forward-looking, transaction-specific question at the centre of the merger-policy debate: whether specific transactions and consolidation would enable investment that would not otherwise take place to the benefit of consumers.

42. In this section, we note that, even when taken at face value, the study's own data are equally consistent with a more cautious interpretation of past performance. An industry whose aggregate ROCE has barely exceeded WACC over the past decade—with that margin narrowing over time—is indicative of an industry that has, on average, barely cleared the minimum threshold required to remunerate its investors' capital. A financial profile of this kind is consistent with operators facing both diminishing capacity and weakening incentives to commit capital to the larger-scale, longer-horizon and more uncertain infrastructure investments the next technology cycle requires (section III.1). Equally, a persistently high dividend payout ratio is consistent with operators returning cash to shareholders because the available investment opportunities do not offer risk-adjusted returns sufficient to justify retaining earnings (section III.2).

43. Moreover, there are methodological reasons to read the headline ROCE-WACC spread with caution. First, the authors' preferred ROCE measure excludes goodwill from capital employed, thereby mechanically increasing reported ROCE and widening the ROCE-WACC spread. However, for an assessment of operators' capacity to remunerate the total capital committed to the business, a ROCE measure including goodwill is more appropriate (section III.3).

44. Second, the ROCE-WACC spread is only a high-level accounting diagnostic, with important limitations when used as a measure of operators' underlying economic performance (section III.4).

1. A narrow and declining ROCE-WACC spread warrants a cautious interpretation

45. As explained, ROCE is intended to capture the return a company generates on the capital it has invested, expressed as a percentage. If a company's ROCE is 8%, it means the company earned 8 cents of operating profit for every euro of capital deployed. WACC is intended to measure the minimum return that investors (both shareholders and lenders) require to finance the capital. If WACC is 6%, investors need at least 6 cents per euro to justify their commitment. When ROCE exceeds WACC, the company is understood to be generating value for its investors; when the two are equal, it is taken to be just covering its costs; when ROCE falls below WACC, it is effectively eroding value.

46. On the authors' figures, aggregate ROCE excluding goodwill [25] for the 14 EU integrated operators in their sample has exceeded WACC across most of the 2014–2024 period, but only narrowly. At its widest, the spread reached approximately 3.5 percentage points (around 2017–18), and for most of the period it sat between 1 and 2.5 percentage points. The spread has, moreover, followed a declining trend through the latter part of the period, recovering only partially in 2023–2024 to approximately 1.5–1.8 percentage points.

47. Including goodwill in the calculation—which, in our view, is the more appropriate measure, as discussed in section III.3 below—produces a less favourable picture. On that basis, the spread sat between approximately 0 and 1.5 percentage points

25. Goodwill is the accounting entry that records the premium paid in an acquisition—the difference between the price paid and the book value of the acquired assets. When an operator acquires a competitor for EUR 5 billion but the target's net assets are valued at EUR 3 billion on its books, the remaining EUR 2 billion is recorded as goodwill. Excluding goodwill from capital employed means measuring returns only on the underlying operating assets, without accounting for the cost of past acquisitions (*see* section III.3).

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for most of the period, and ROCE fell below WACC in 2014–2015 and again in 2020–2021, reaching a low of around -2 percentage points in 2021.

48. Taken together, these results describe the financial profile of an industry that has, on average, and not in every year, just about cleared its cost of capital, and by a margin that has narrowed over time.

49. Taken at face value, this profile does not indicate a sector exhibiting strong financial performance or unduly high returns on capital. Earning a return above the cost of capital is generally regarded as the minimum requirement for ongoing viability; a company that consistently earns less than its cost of capital is eroding value, implying that investors would achieve higher risk-adjusted returns elsewhere. Considering this, merely matching—or earning only marginally above—the cost of capital may not be a sufficient condition for investment. This is especially true in an industry such as telecoms, where investments are characterised by high upfront costs, significant irreversibility, and long payback horizons, with returns that depend on demand conditions that are inherently uncertain when the capital is committed.

50. Standard investment theory establishes that when an investment is largely irreversible, a rational firm will not invest at the point where expected returns merely match the cost of capital. When a commitment of capital cannot be reversed, investing today means forgoing the option to defer the investment until uncertainty (e.g. about future demand, costs and competitive conditions) has partially resolved. That option has economic value: it represents the gain from committing capital based on better information at a later stage rather than on what is known today. A rational firm will therefore require expected returns to exceed the cost of capital by a margin—known as the hurdle rate premium—wide enough to compensate for the loss of this option. The resulting hurdle rate, which is the minimum return a project must offer to justify immediate capital commitment, can substantially exceed the cost of capital. The gap between the two increases with the degree of irreversibility of the investment and the level of uncertainty surrounding its future returns. [26]

51. In the telecom sector, several structural features influence this gap, including the asset specificity of network infrastructure, the length and uncertainty of demand cycles, and the regulatory conditions under which spectrum and access obligations are set.

52. The level of ARPU is also directly relevant. Lower ARPUs reduce the expected return on a given network investment and extend the period required to recover the capital committed. A lower expected return means a project is less likely to clear the hurdle rate in the first place; a longer payback horizon increases the uncertainty surrounding its outcome, which in turn raises the hurdle rate premium itself. This means that investments that would be viable at higher ARPU levels may not be undertaken at lower ARPU levels.

53. As shown in section II.1, European mobile ARPUs have declined in real terms over the past few years, [27] and remain below those of international peers (see Table 2). This suggests that the set of investments European operators can rationally justify may be narrowing over time.

54. On that reading, a narrow ROCE-WACC spread of the kind the study reports is unlikely to represent a comfortable margin for the large-scale, long-horizon and largely irreversible investment decisions the next cycle requires. It is at least as consistent with operators rationally deferring or scaling back the most capital-intensive, longest-payback investments—precisely the investments the policy debate is concerned with—until either expected returns rise, uncertainty partially resolves, or the cost of further delay becomes sufficiently high. The declining trend in the ROCE-WACC spread through the latter part of the period is consistent with this reading. If the sector's capacity to earn above its cost of capital is compressing at precisely the moment when the investments it is expected to undertake are becoming larger and more uncertain in their return,

26. A. K. Dixit and R. S. Pindyck, *Investment under Uncertainty*, Princeton University Press, 1994, ch. 1 (for the conceptual framework) and ch. 2 (for the formal model). *See also* R. L. McDonald and D. Siegel, The Value of Waiting to Invest, *Quarterly Journal of Economics*, Vol. 101, Issue 4, 1986, pp. 707–727, which derives the original formal result. For applications to regulated infrastructure and telecommunications specifically, *see* G. Guthrie, Regulating Infrastructure: The Impact on Risk and Investment, *Journal of Economic Literature*, Vol. 44, Issue 4, 2006, pp. 925–972; and R. S. Pindyck, Mandatory Unbundling and Irreversible Investment in Telecom Networks, *Review of Network Economics*, Vol. 6, Issue 3, 2007, pp. 274–298.

27. In 2023, mobile ARPU in Europe declined by 5.9% compared to the previous year in real terms. *See* Connect Europe, State of Digital Communications 2025, January 2025, at 6, https://connecteurope.org/sites/default/files/2025-01/State%20of%20Digital%20Communications%20-%202025%20edition.pdf (accessed on 22 September 2026).

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one plausible interpretation is that the conditions for the next investment cycle are tightening.

55. A further reason to doubt that a ROCE-WACC spread this narrow could offer confidence in the sector's capacity to fund the next investment cycle lies in how capital is actually allocated at the margin. In integrated capital markets, global investors will not evaluate the returns available in the European telecom sector in isolation, but relative to those available both in other industries and among comparable telecom operators elsewhere. [28]

56. Relative to other industries, the ROCE-WACC spread of the European telecom industry appears modest. For perspective, in Europe, a ROCE-WACC spread of 1.5–2.5 percentage points is comparable to those typically observed in some regulated utility sectors, where returns are designed to approximate the cost of capital and firms benefit from demand and revenue protections that telecom operators do not enjoy. By contrast, other capital-intensive industries, such as pharmaceuticals, have historically generated spreads in the range of 7–9 percentage points, while technology companies (e.g. software systems and applications) have achieved larger spreads of over 14 percentage points. [29]

57. Turning to comparable telecom operators in other developed markets, direct evidence is similarly unfavourable to European operators. Data from NYU Stern's database show that US wireless and telecom services operators generated an after-tax return on invested capital of around 13% as of January 2026, on an unadjusted basis. Their cost of capital was approximately 5.4–5.5%. This implies a spread of roughly 7.8 to 7.9 percentage points. [30]

58. Adjusting for capitalised operating leases, the return on capital falls to around 10–12%. Even on this more conservative basis, the spread is still around 4.9 to 6.7 percentage points. Both measures are well above the EU spread discussed above, on either the including-goodwill or excluding-goodwill basis. [31] As shown in section II.1, mobile operators in the US sustain a substantially higher ARPU than their European counterparts. This is indicative of a wider margin over the cost of capital.

59. Taken together, a ROCE-WACC spread this narrow for European operators, modest against the wider universe of industries, and narrower than that of peer telecom markets abroad provides limited grounds for expecting the European telecom sector to attract capital preferentially over the alternative uses to which that capital could be put.

60. These considerations, taken together, support a different reading than the one the authors draw from the same figures: the study's own data do not rule out—and are indeed consistent with—the operators' contention that the sector, under its current market structure, does not generate returns sufficient to sustain the scale of investment the next cycle requires. This conclusion holds at face value, independently of the methodological concerns regarding the calculation of ROCE and WACC discussed in sections III.3 and III.4 below.

2. High dividend payout is consistent with limited investment incentives

61. The study notes that the European telecom sector has maintained one of the highest dividend payout ratios among European industries for over two decades, while simultaneously operating with high leverage. The authors' reading is that if operators can afford to distribute such a high proportion of their earnings to shareholders, the argument that they lack the financial means to sustain strategic investment is difficult to sustain.

62. Economic theory, however, requires consideration of an alternative reading. When a firm

28. *See* R. M. Stulz, Globalization, Corporate Finance, and the Cost of Capital, *Journal of Applied Corporate Finance*, Vol. 12, Issue 3, 1999, pp. 8–25, showing that, in integrated capital markets, a company's cost of capital is set with reference to the risk-adjusted returns available to investors across borders and industries.

29. *See* investment return measures (ROC-WACC) in Europe between 2023 and 2025 for various industries in Damodaran Online at https://pages.stern.nyu.edu/~adamodar/New_Home_Page/data.html (accessed on 22 September 2026).

30. *See* A. Damodaran, NYU Stern, "Return on Capital by Sector (US)" and "Cost of Capital by Sector (US)," data as of January 2026, available at https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/roc.html and https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/wacc.html. Figures shown are unadjusted and lease-adjusted after-tax ROIC, and cost of capital, for the "Telecom (Wireless)" (12 firms) and "Telecom Services" (39 firms) industry classifications. Both links above accessed on 22 September 2026.

31. This is not a like-for-like replication of the study's own methodology. Nonetheless, the gap in ROCE-WACC spread between US and European operators is large. It is unlikely to be fully explained by methodological differences alone.

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faces investment opportunities whose expected risk-adjusted returns exceed the cost of capital, it tends to retain earnings, because deploying the capital internally creates more value than returning it to shareholders. It is, by contrast, when the available investment opportunities do not offer sufficient risk-adjusted returns that firms increase distributions to shareholders, since shareholders can redeploy the capital elsewhere more profitably. [32]

63. This proposition is well supported empirically: mature sectors with limited high-return reinvestment opportunities consistently exhibit higher payout ratios than sectors where attractive investment opportunities absorb available cash flow. [33]

64. On this logic, the persistently high payout ratio documented by the authors for the European telecom sector does not necessarily indicate that operators have ample financial capacity to invest. It may equally signal that the investment opportunities available to operators—given the current market structure and the risk-return profile of next-cycle investments—do not offer expected returns sufficient to justify retaining earnings rather than distributing them.

65. Indeed, a narrow ROCE-WACC spread alongside a high payout ratio is precisely the financial profile one would expect of a sector in which the expected return on the available investment plan sits at or marginally above the cost of capital—high enough to keep the business viable, but not high enough to make large-scale, irreversible capital commitments preferable to returning cash to shareholders.

3. ROCE excluding goodwill overstates the ROCE-WACC spread

66. The study's headline ROCE-WACC spread is sensitive to a methodological choice in measuring capital employed: the treatment of goodwill. This choice has a direct bearing on the reported results.

67. Goodwill is the accounting value recorded when a company acquires another business for more than the fair value of its net assets. It broadly captures what the acquirer expects to gain from the combination that cannot be separately identified and valued, such as anticipated synergies and strategic benefits.

68. As explained, ROCE is computed as the ratio of profit generated by the business (the numerator) to the total capital employed (the denominator). Including goodwill means counting the acquisition premium as part of the capital invested. Excluding goodwill means removing those premia from the denominator, while leaving in the numerator the profits generated by the business, including the contributions of the acquired operations. Excluding goodwill, therefore, reduces the denominator, producing a higher ROCE.

69. The authors present ROCE both including and excluding goodwill. However, they treat ROCE, excluding goodwill, as their preferred specification, on the basis that it would better capture the operating performance of the operators' underlying network and commercial assets. If the purpose of the analysis is to draw inferences about operators' capacity to invest, ROCE including goodwill is, in our view, the more relevant measure. This is because investment capacity depends not on the efficiency of the core asset base in isolation, but on the firm's overall financial position, which reflects the totality of capital that has been committed. Goodwill represents capital that was deployed—whether financed through debt, equity or internal resources—and is therefore no longer available to fund network investment. Where acquisitions have been partly financed through debt—as is common in the telecom sector—the borrowing incurred to fund them remains on the firm's balance sheet. This may further constrain the capacity and/or cost to raise capital for future investment projects. [34]

70. Separately, excluding goodwill from capital

32. M. C. Jensen, Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers, *The American Economic Review*, Vol. 76, Issue 2, 1986, pp. 323–329; P. Vernimmen, P. Quiry, M. Dallocchio, Y. Le Fur and A. Salvi, *Corporate Finance: Theory and Practice*, 5th ed., Wiley, Chichester, 2017, ch. 38.

33. E. F. Fama and K. R. French, Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay?, *Journal of Financial Economics*, Vol. 60, Issue 1, 2001, pp. 3–43; H. DeAngelo, L. DeAngelo and R. M. Stulz, Dividend Policy and the Earned/Contributed Capital Mix: A Test of the Life-Cycle Theory, *Journal of Financial Economics*, Vol. 81, Issue 2, 2006, pp. 227–254.

34. Lenders assess a firm's existing indebtedness when deciding whether to extend new credit and on what terms. A firm that has already taken on significant debt to finance past acquisitions may find it more difficult to raise additional debt for new investments, or may only be able to do so at higher interest rates that reflect the increased risk perceived by creditors.

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employed without a corresponding adjustment to the WACC introduces a potential bias into the ROCE-WACC comparison. The WACC reflects the cost of financing the firm's entire capital structure—including the resources mobilised to fund past acquisitions. By measuring ROCE on a reduced asset base while leaving the WACC unadjusted, the study compares a return measured on a subset of assets against the cost of financing all assets. Where acquisitions have been partly debt-financed—as is typically the case in the telecom sector—the firm's current leverage is higher than it would be absent those acquisitions, which mechanically inflates the ROCE-WACC spread, potentially overstating the sector's ability to remunerate its invested capital. [35]

71. ROCE excluding goodwill, therefore, produces a more favourable picture that does not reflect the actual financial constraints operators face when making investment decisions.

72. On the authors' own figures, ROCE including goodwill produces a narrower ROCE-WACC spread than the version excluding goodwill. In particular, ROCE including goodwill fell below WACC in 2014–2015 and again in 2020–2021, whereas the preferred metric excluding goodwill remained above WACC throughout 2014–2015 and 2020, only falling below WACC in 2021. The study's headline finding that the sector has consistently earned above its cost of capital is therefore considerably less robust when ROCE is measured on a basis that includes goodwill.

4. The ROCE-WACC spread has significant limitations as a measure of the industry's underlying economic performance

73. The authors' analysis rests—at least implicitly—on the assumptions that ROCE is a reliable measure of the return generated on invested capital, and that WACC is a reliable measure of the return required to support the investments. However, both ROCE and WACC are subject to well-known conceptual and practical limitations, and the comparison between them can therefore give a misleading impression of economic profitability. [36]

74. ROCE is an accounting ratio, not a direct measure of economic profitability. It measures operating profit relative to capital employed as recorded on the balance sheet, which typically fails to reflect the economic value of the assets needed to operate the business. This is, fundamentally, for two reasons.

75. First, capital employed depends heavily on depreciation, namely, the accounting process by which the cost of an asset is spread over its (assumed) useful life. Accounting standards give companies a degree of discretion in determining depreciation policies, including the depreciation method applied, the estimated useful life of each asset class, and the residual value assumed at the end of that useful life. Each of these choices determines how quickly the book value of an asset declines over time, and therefore how large the denominator of the ROCE is in any given year. This means that two companies with identical assets generating identical cash flows can report materially different ROCE figures simply because they apply different depreciation policies.

76. Second, capital employed is generally measured at historical cost, less depreciation. Assets are recorded on the balance sheet by reference to the cost incurred when they were acquired, less accumulated depreciation. That historical value may bear little relationship either to the current economic value of the existing assets or to the capital expenditure that would be required today to build assets capable of providing the same productive capacity.

77. In telecoms, this distinction is particularly important. [37] For some telecom assets—including

35. Debt is a cheaper source of financing than equity, in part due to the tax deductibility of interest payments. Adjusting the WACC to exclude acquisition-related debt would therefore increase the weight of equity in the capital structure, resulting in a higher WACC and a correspondingly narrower ROCE-WACC spread.

36. As an illustration, former Chief Economist of the European Commission's DG Competition Professor Massimo Motta notes that the use of accounting profitability indicators is "*fraught with conceptual difficulties (accounting profit reflect economic profit only in very specific, and often unrealistic, assumptions) and practical difficulties (vulnerability to accounting complications)*." *See* M. Motta and A. de Streel, Excessive Pricing in Competition Law: Never say Never? in *The Pros and Cons of High Prices (pp. 14-46), 2006, Swedish Competition Authority*, Kalmar, at page 37.

37. Telecom regulators commonly employ more forward-looking valuation approaches, such as current-cost accounting or modern-equivalent-asset (MEA) valuation, when setting cost-oriented access prices and assessing the efficient cost base against which regulated returns are measured. Current-cost accounting seeks to reflect the current value of the asset base. MEA values the asset by reference to the lowest-cost modern asset capable of providing equivalent functionality and output. For example, for Ofcom's approach to MEA pricing, *see* Ofcom's Leased Lines Charge Control: Proposals for a new charge control framework for certain leased lines services, Consultation, 5 July 2012, paras. 4.54–4.81, https://www.of-com.org.uk/__data/assets/pdf_file/0026/40688/llcc_2012.pdf (accessed on 22 September 2026).

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spectrum rights, tower infrastructure, and other passive infrastructure—the current cost of replicating equivalent network capacity may be significantly higher than the depreciated historical values recorded in the accounts. Where such assets remain on the balance sheet at low depreciated historical values, ROCE may therefore overstate the return that would be earned on an equivalent investment made today.

78. This matters directly for the policy question addressed by the study. If the objective is to assess whether the sector can sustain investment going forward, the economically relevant benchmark is not the return on capital that was committed in the past at historical prices, but the return that would be needed to justify committing capital at today's costs to build or extend network capacity. A ROCE calculated on depreciated historical cost cannot provide that assessment.

79. A related complication, particularly relevant for an industry undergoing successive technological cycles, is that aggregate ROCE combines capital employed across several generations of technology. Capital committed to earlier generations (2G, 3G and much of 4G) would be expected to be substantially depreciated by now, which would tend to lower the book value of those assets relative to the revenue such networks continue to generate. On the contrary, capital committed to 5G, and particularly 5G standalone, has for the most part only recently been capitalised. As legacy vintages are progressively replaced by newly capitalised 5G assets, a ROCE blended across these vintages is unlikely to be a reliable guide to the returns the sector is earning, or is likely to earn, on the investment that matters most for the debate at hand. [38]

80. WACC also has important limitations. WACC is an estimate of the minimum return required by capital providers to finance a company—lenders, who provide debt, and shareholders, who provide equity. It combines the cost of debt and the cost of equity according to the assumed mix of debt and equity in the firm's capital structure. Each element is derived from a combination of market data and modelling assumptions, several of which involve significant discretion. [39]

81. More fundamentally, WACC is usually a firm-level average. It reflects the blended cost of financing the firm's activities across different services, asset classes, geographies, etc. However, as discussed in section II.2, the investments relevant to the policy debate are expected to have a different risk-return profile from this firm-level average. Using the firm's average WACC as the benchmark for these specific investments may therefore understate the economically relevant cost of capital.

82. All in all, the ROCE-WACC spread should not be treated as a robust indicator of economic performance. By extension, it cannot by itself support conclusions that an industry is financially strong, earning excess returns or capable of funding future investments. It is, at most, a high-level accounting diagnostic, which needs to be interpreted alongside its limitations and supplemented by more directly relevant evidence. This caution is particularly important where, as in the study, the reported ROCE-WACC spread is narrow; a spread that appears positive in the accounting data may be narrower or even negative in economic terms, once the limitations of the underlying measures are considered.

IV. Conclusion

83. The Tarantino et al. study provides evidence that a sample of large European telecom groups has generally earned returns sufficient to cover their estimated cost of capital over the past decade. This does not address the central question in the merger-policy debate: whether consolidation would foster operators' ability and incentive to invest.

84. The fact that ROCE exceeded WACC tells us, at best, that EU telecom operators did not systematically commit capital to investments expected to be unprofitable; in effect, it suggests that

38. Public accounts do not report capital employed or profit by technology generation, making the return on 5G-specific capital impossible to verify directly from the blended, group-level figure.

39. Key sources of discretion include: for the cost of equity, the choice of which government bond to use as the baseline "risk-free" return, the time period and frequency of data used to measure how sensitive the firm's share price is to market movements (which determines beta), and the method used to estimate the additional return investors demand for bearing equity risk—a parameter that is not directly observable. For the cost of debt, the main choice is whether to use the interest rates on bonds the firm issued in the past (which may reflect very different market conditions) or the rate at which the firm could borrow today. For the relative weights of debt and equity, the choice is whether to measure them using balance sheet figures or stock market valuations—which can differ substantially, particularly when share prices are volatile. Each of these choices can shift the resulting WACC meaningfully.

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these companies have made rational investment decisions, subject to the constraints they face, including present and expected depressed ARPUs. Crucially, it does not tell us whether operators can finance the next cycle of investments—which are expected to be larger in scale, longer in payback and more uncertain in their returns—or whether existing market structures generate the incentives to do so. Nor does it tell us whether specific transactions may unlock additional investment as a result of scale and financial synergies.

85. Even regarding the narrower issue of the industry's financial robustness, the study's own data are less clear-cut than its main conclusion implies. The ROCE-WACC spread is small, has decreased over time, and has even gone negative in some years. Given that the sector involves large, mostly irreversible investments with long payback periods and significant demand uncertainties, earning only slightly above the cost of capital may not, according to standard investment theory, justify new capital commitments. It could mean that operators are rationally postponing investment because their expected risk-adjusted returns do not sufficiently surpass the hurdle rate.

86. The persistently high dividend payout ratios lend weight to this alternative reading. Firms with attractive investment opportunities retain earnings to fund them. A pattern of sustained high distributions is therefore more consistent with a scarcity of projects that clear the hurdle rate than with a sector confidently deploying capital into the next investment cycle.

87. The evidence is, on balance, more consistent with the concern that, under the existing market structure, European telecom operators lack sufficient incentive to commit retained earnings—let alone external capital—to long-term investment projects of the scale and risk profile required by the next network investment cycle.

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