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Competition dynamics in evolving communication markets and the connectivity ecosystem

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Abstract

Communication markets and the wider connectivity ecosystem underpin digital transformation, driving competitiveness, productivity and economic security. They are undergoing profound transformation as artificial intelligence (AI) and frontier technologies become more pervasive and capable, increasing demand for high-quality, resilient and affordable connectivity. In response, policymakers and regulators are actively debating about the effects of market consolidation in communication markets and the wider connectivity ecosystem, its implications for investment and innovation, and the role of merger control in addressing related competition concerns. This paper examines how policymakers, communication regulators and competition authorities can promote competition and investment in communication markets within an increasingly complex connectivity ecosystem, focusing on the latter two bodies' respective roles, remits and co-ordination.

Keywords: competition, connectivity, telecoms, telcos, investment, competition and investment, network, digital, communication markets, merger control, dynamic efficiencies

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List of acronyms

Acronym	Definition
AI	Artificial Intelligence
CAP	Content and Application Provider
CDN	Content Delivery Network
D2D	Direct-to-Device
DNS	Domain Name System
DSL	Digital Subscriber Line
FTTH	Fibre-to-the-Home
FTTN	Fibre-to-the-Node
FWA	Fixed Wireless Access
GEO	Geostationary Earth Orbit (satellite)
IaaS	Infrastructure as a Service (cloud)
IMT	International Mobile Telecommunications
IoT	Internet of Things
IP	Internet Protocol
ISP	Internet Service Provider
IXP	Internet Exchange Point
LEO	Low Earth Orbit (satellite)
LTE	Long-term Evolution (4G)
MEO	Medium Earth Orbit (satellite)
MNO	Mobile Network Operator
MOCN	Multi-Operator Core Network (infrastructure sharing agreement)
MORAN	Multi-Operator Radio Access Network (infrastructure sharing agreement)
MSS	Mobile Satellite Service (radio spectrum band)
MVNO	Mobile Virtual Network Operator
OEM	Original Equipment Manufacturer
OTT	Over-the-Top (service or player)
PoP	Point of Presence
RAN	Radio Access Network
SMS	Short Message Service
SNO	Satellite Network Operator

Executive summary

Changes across the connectivity ecosystem are reshaping competition in communication markets

Communication networks underpin the digital transformation of our economies and societies: households, firms and governments rely on them to work, learn, access public services and use artificial intelligence (AI). Rapid technological change and rising demand for high-quality connectivity are reshaping communication markets and the wider connectivity ecosystem. At the end of 2025, fibre accounted for 51% of fixed broadband subscriptions across OECD countries, and 5G for 43% of mobile broadband subscriptions in countries with available data. Satellite connectivity, including low earth orbit constellations and direct-to-device services, is one of the fastest-growing segments, particularly in rural and remote areas.

AI and other data-intensive services are bringing new business models and actors into the connectivity ecosystem. Resilient, future-proof digital infrastructure requires sustained investment and policy frameworks that keep markets open and contestable. This paper uses “communication markets” for fixed and mobile communication service markets, and "the connectivity ecosystem” for the wider digital infrastructure, services and actors providing connectivity. These actors include communication operators, infrastructure providers, technology companies, financial investors and governments, which collaborate and compete across increasingly integrated layers.

Three trends stand out for competition. First**,** communication operators continue to compete by deploying and upgrading networks, differentiate through bundled services and co-operate through co-investment and infrastructure sharing. Second, infrastructure-only business models, such as tower companies and wholesale fibre networks, often backed by financial asset managers. They can support sharing and free capital for last-mile connectivity by separating wholesale network assets, although overlapping financial interests may influence competition. Third, technology companies are investing in submarine cables, data centres and cloud infrastructure and partnering with operators, linking networks more closely with computing.

As a result, competition increasingly depends on adjacent digital infrastructure markets as well as communication markets, with implications for policymakers, communication regulators and competition authorities. Over-the-top (OTT) voice and messaging services and satellite connectivity can add pressure on traditional operators, but how far they substitute for fixed and mobile networks depends on coverage, capacity, quality (including latency) and price.

This paper addresses two questions:

1. How can policymakers, communication regulators and competition authorities promote both competition and investment in communication markets as the connectivity ecosystem becomes more complex?
2. What roles should communication regulators and competition authorities play, and how can they best co-ordinate?

Communication market structures are changing through entry, exit and consolidation

Between 2023 and 2025, 21 of the 38 OECD Member countries reported 53 transactions affecting communication market structures: 29 domestic mergers (24 horizontal and 5 vertical integration cases), 14 asset divestments or transactions involving financial asset managers, three cross-border mergers, four cases of market entry, and three cases of market exit. Consolidation is taking place alongside entry, such as a fourth mobile operator in Belgium and a new entrant in Portugal, and restructuring, such as Telefónica's divestments in Latin America.

A central policy question is whether consolidation is needed to sustain investment in next-generation networks. Merging parties increasingly argue that scale is needed to finance network roll-out, as in recent mobile mergers in the United States and the United Kingdom. In the European Union, the debate also concerns operator scale across largely national markets (Box 1). Most OECD countries have three or four mobile network operators (MNOs), and most recent four-to-three mergers were allowed to proceed with remedies. Yet the number of operators is only one indicator of competitive intensity: difference in operator size, barriers to entry and expansion, consumer switching, service quality and investment also matter.

Policymakers seek to promote both competition and investment in communication markets

Sound institutional and regulatory frameworks set the conditions for both. Independent and predictable regulation, efficient spectrum management, effective wholesale access and lower deployment costs help competitors enter and grow, and give investors long-term certainty.

Competition and investment can reinforce each other, depending on market conditions. Experience across OECD countries links market entry and pro-competitive regulation to lower prices, wider coverage and better quality in communication markets. Empirical studies most consistently associate mobile mergers that reduce the number of operators with higher prices at least in the short to medium term, while the effects on investment and network quality are harder to measure, and the evidence is more mixed. Higher investment by merging operators does not by itself mean consumers are better off; what matters is its effects on prices, quality (including network coverage and upgrades), and innovation. This points to the value of market-specific analysis rather than presumptions based on the number of operators or concentration levels.

Merger assessment requires considering both static effects, including on prices, and dynamic effects on investment and innovation. Consolidation may generate economies of scale, but may also raise prices, increase the risk of co-ordination among remaining operators, or weaken incentives to invest. High-fixed and sunk costs of network roll-out may also create significant barriers to entry and expansion. Claimed investment efficiencies must be verifiable, merger-specific, and likely to benefit consumers. Authorities may also consider whether realistic, less restrictive alternatives, such as network sharing and co-investment agreements, could deliver comparable benefits.

Where remedies are used to address competition concerns arising from a merger, they must be effective and enforceable. Structural remedies, such as spectrum divestments, are generally preferred for addressing horizontal concerns. Where behavioural remedies include investment commitments, it is important that they are specific, measurable, enforceable, and time bound. Such commitments should support the realisation of the expected investment-related efficiencies and their associated competitive benefits. They may require transitional measures to protect consumers in the short term. Monitoring and *ex post* evaluation are key to assessing whether these commitments are fulfilled, competition is preserved, and efficiencies materialise.

Convergence of connectivity, cloud infrastructure and AI may increase the relevance of vertical and conglomerate effects, which arise when firms operate at several levels of the value chain or in related markets. Bundles of fixed, mobile and OTT services, and links to adjacent services such as cloud or payments, may raise switching costs, so market definition may need to reflect bundles and ecosystems. Cross-layer transactions may generate efficiencies but may also enable firms with market power to restrict access to strategic inputs, favour their own services, limit interoperability or raise rivals' costs. Growing private equity involvement may also call for examining control and governance rights across tower, fibre, data centre and satellite assets.

The complementary roles of communication regulators and competition authorities

Regulatory frameworks are adapting. As competition develops in communication markets, regulators tend to lift rules that apply only to operators with significant market power (asymmetric *ex ante* regulation), such as obligations on incumbents to give rivals network access, and rely more on *ex post* competition enforcement. Rules applying to all operators (symmetric obligations), such as passive infrastructure sharing or in-building wiring, often remain. Lifting asymmetric rules does not mean all markets are ready for deregulation. Sector regulation retains a role in addressing bottlenecks, managing spectrum, lowering network deployment costs and entry barriers, and promoting resilient, high-quality and affordable connectivity. Many countries are updating communication regulatory frameworks to reflect new technologies, business models and actors, and some have extended regulators' mandates to OTT services, cloud, AI, and digital security.

Competition authorities play a central role in protecting competition in communication markets. They conduct market studies and advocacy activities, investigate anticompetitive behaviour and assess mergers, and in the context of merger review, they may prohibit or challenge transactions where remedies cannot adequately address concerns.

Co-ordination between authorities is increasingly important, because communication regulators and competition authorities **have distinct, but closely interrelated** powers and expertise. Arrangements can help them choose the most proportionate tool, avoid duplication and reach consistent outcomes, including when designing and monitoring merger remedies These include memoranda of understanding, co- ordination where responsibilities overlap or where powers are concurrent, information sharing and joint technical analysis.

Looking ahead, further OECD work could deepen the evidence on the effects of recent mergers and remedies, and on how new forms of competition, such as satellite connectivity and cross-layer partnerships, are changing competitive dynamics. The challenge for policymakers is to remain grounded in evidence, preserving competition while carefully assessing claims that consolidation is needed to deliver the networks of the future.

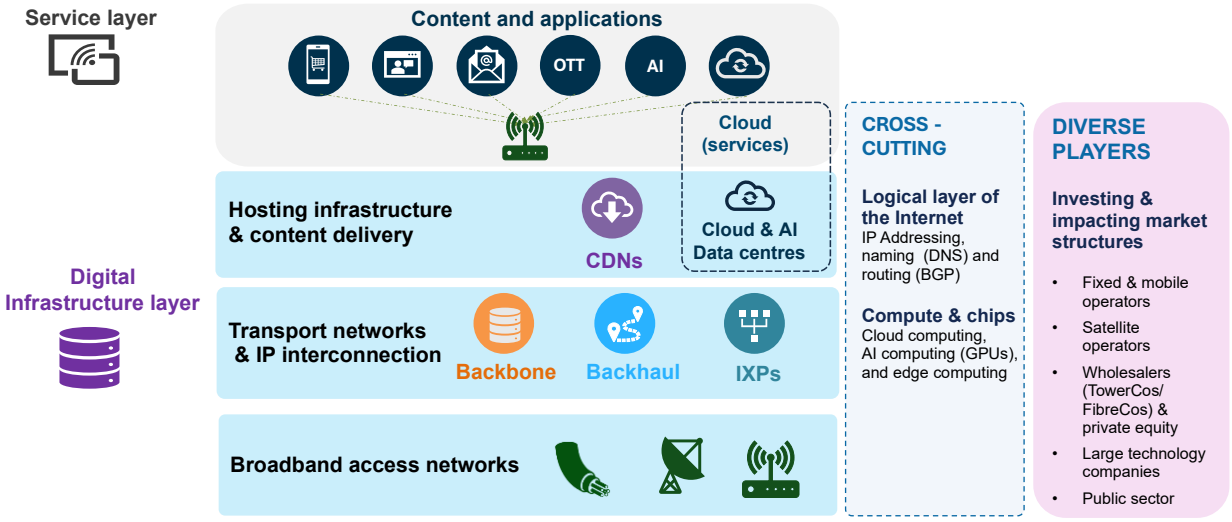
1 The evolving connectivity ecosystem

1.1. Changes in the communication market landscape: Components and roles of different players in the evolving connectivity ecosystem

1. The communication landscape has undergone substantial transformation in technologies, the number and types of participating actors, business models and services, reshaping market structures across the connectivity ecosystem (Figure 1) in OECD Member countries and beyond. Previous OECD work examined changes shaping networks, such as virtualisation, cloud integration, the growing prevalence of private networks and greater use of artificial intelligence (AI) in network operations, driven by demand for flexible, cost-effective and high-quality connectivity services (OECD, 2022[1]; 2024[2]).

2. These trends point to a new era in which established and new actors coexist across the connectivity ecosystem. Alongside communication operators, technology companies, financial asset managers and the public sector increasingly develop and invest in communication infrastructure (OECD, 2024[3]), while satellite providers and other actors (e.g. over-the-top [OTT] players) are expanding their role in service provision. This report analyses how these developments are reshaping competition dynamics and market structures in communication markets.

Figure 1. Mapping the evolving connectivity ecosystem



Note: The figure distinguishes the infrastructure and service layers for analytical purposes. Original (telecom) equipment manufacturers (OEMs) and semiconductors also form part of the broader ecosystem, but are excluded for simplification and fall outside the scope of this report.

3. The connectivity ecosystem can be understood as a layered system of digital infrastructure, services and actors operating within and across these layers. Digital infrastructure comprises three main components: 1) broadband access networks; 2) transport and backbone networks, including fibre backbone and backhaul,

as well as Internet Protocol (IP) interconnection through Internet exchange points (IXPs); and 3) hosting and content delivery infrastructure, including data centres, cloud infrastructure and content delivery networks (CDNs). Cross- cutting logical functions, such as routing through the Border Gateway Protocol (BGP), IP addressing, and the Domain Name System (DNS), together with compute capacity, support data flows and digital services, including AI ("infrastructure for AI"). The service layer includes digital content and applications, such as online platforms and over-the-top (OTT) media and communication services, as well as cloud services, AI models and other services accessed through broadband subscriptions (Figure 1).

4. A growing range of actors operate across these layers: communication operators and service providers, including fixed internet service providers (ISPs),[1] mobile network operators (MNOs), satellite network operators (SNOs), and mobile virtual network operators (MVNOs);[2] wholesale infrastructure-only operators, such as tower companies, fibre wholesale operators; technology companies; financial investors and public sector entities.[3] Their overlapping roles in network deployment, wholesale access, content delivery, compute capacity and network financing, shape traffic flows, investment incentives and the scope for retail and infrastructure-based competition (OECD, 2021[4]; 2024[3]; BEREC, 2024[5]; Wik Consult, 2022[6]). Figure 1 and Table 1 summarise the main components, functions and actors.

Table 1. Components and actors across connectivity ecosystem

Layer	Component	Role and examples	Relevance for connectivity and competition	Main actors
Digital infrastructure	Broadband access networks	Connect end users to the Internet through fibre-to-the-home, cable, digital subscriber line (DSL), mobile, fixed wireless access (FWA) or satellite.	Form the "last mile" of connectivity and the main basis for infrastructure-based competition. Retail-based competition through wholesale access to network components is also common.	**Communication operators**: fixed broadband (ISPs), MNOs, SNOs; **MVNO**s; **Infrastructure-only providers** (tower companies and wholesale fibre operators); **Public sector entities**.
	Transport networks and IP interconnection	**Backhaul and backbone networks**: Carry traffic between access networks, core infrastructure and international routes through terrestrial fibre, submarine cables and points of presence (PoPs). **Internet exchange points (IXPs)**: Allow networks to interconnect and exchange IP traffic.	Transport networks shape the capacity and resilience of networks and ensure international connectivity. IXPs can lower latency and reduce reliance on third-party paid IP interconnection (transit).	Communication operators; backbone and submarine-cable operators; IXPs; **technology companies**; wholesale infrastructure providers, **financial asset managers** (private equity, pension funds, hedge funds).
	Hosting and content delivery infrastructure	**Data centres and cloud infrastructure:** Provide storage, processing and computing capacity, including for AI workloads. **Content delivery networks (CDNs):** Bring content closer to users through distributed edge servers and caches.	Data centres increasingly influence traffic flows, service quality and investment needs. CDNs improve latency and throughput and may reduce transit costs.	Data centre and cloud providers; technology firms (content and application providers); communication operators; financial investors.
Services	Broadband connectivity services	Fixed, mobile and satellite Internet access subscriptions.	The main gateway to digital services and retail communication services.	Fixed and mobile operators; MVNOs; SNOs.
	Content and applications	Video streaming, gaming, social media, AI tools, e-commerce and other online services.	Drive demand for connectivity and shape traffic patterns.	**Content and application providers** including online platforms and OTT communication and media providers.
	Cloud services[8]	Scalable computing, storage and data processing delivered as infrastructure, platform or software as a service, including AI-related cloud services.	Increasingly interdependent with communication network infrastructure and performance.	Hyperscale and specialised cloud providers (tech firms); communication operators.

1.2. Competition dynamics and evolving business models in the connectivity ecosystem

1.2.1. Technological evolution of broadband networks, service differentiation, and changing communication market boundaries

5. At the broadband access level, competition increasingly depends on how communication service providers combine network technologies and service offerings to extend market reach and differentiate themselves in response to changing demand.

6. Network upgrades remain central to competition. At the end of 2025, fibre represented 51% of fixed broadband subscriptions across the OECD, up from 29% in 2020; 5G accounted for 43.2% of mobile broadband subscriptions in countries with available data; and the share of fixed subscriptions offering gigabit speeds had increased six-fold since 2020 (OECD, 2026[7]). By 2025, mobile data use across the OECD reached 17 GB per SIM per month, up by 130% from 7.4 GB in 2020, as users increasingly rely on mobile networks for data-intensive activities (OECD, 2026[7]). These investments support differentiation through capacity, coverage, quality and reliability.

7. Technological convergence where digital and communication services are provided over the same IP network, and growing demand for high-quality, reliable connectivity, have reshaped retail service offers. In 2025, 68.3% of fixed broadband subscriptions were purchased as part of a bundle, broadly unchanged since 2018 (OECD, 2026[8]), making bundling an established feature of retail offers and competition. Dual- play offers accounted for 34.3% of bundled subscriptions in 2025, followed by triple-play (30.5%) and quadruple-play bundles combining fixed and mobile services alongside television and voice services (18.9%) (OECD, 2026[9]). Bundles can improve convenience, quality and prices, but may favour integrated operators when smaller or non-integrated rivals cannot offer comparable packages (OECD, 2015[10]). As demand and partnerships evolve, including around new OTT services, bundle composition may also change.

8. Over-the-top (OTT) communication and audiovisual services exert competitive pressure on traditional communications services and increasingly shape consumer expectations.[4] Their substitutability for network-integrated services nevertheless depends on broadband quality and affordability, device access, reliability, universal reach and access to emergency communications. OTT services may therefore be substitutes in some uses and complements in others, requiring competition assessments to reflect specific services and market conditions (OECD, 2026[11]).

1.2.2. New forms of investment, co-operation and infrastructure provision

9. The expansion of infrastructure-only models, the growing role of financial asset managers, the deeper involvement of technology companies and the rapid development of non-terrestrial connectivity (e.g. low earth orbit [LEO] satellite constellations and direct-to-device [D2D] models), are diversifying ownership, investment and service provision across communication and adjacent digital infrastructure markets.

10. **Infrastructure-only models and financial investors.** Over the past decade, infrastructure-only operators,[5] particularly tower companies[6] and wholesale fibre networks, have expanded through the separation or divestment of passive assets by vertically integrated operators, as well as through operator-led subsidiaries and joint ventures. These providers own and lease passive and wholesale infrastructure such as towers, ducts, poles and fibre, and are often backed by financial asset managers, including private equity firms, hedge funds, infrastructure and pension funds, which also increasingly invest in distributed antenna systems (DAS), spectrum and data centres[7] (OECD, 2019[12]; 2021[4]; 2022[1]; 2024[3]). These models can unlock capital, lower deployment costs, improve asset use and support infrastructure sharing, non-discriminatory wholesale access and retail competition. At the same time, infrastructure consolidation, long-term contracts, governance rights, overlapping holdings and financing risks may weaken rivalry or

affect investment incentives,[8] switching and service conditions, which may warrant closer attention to control and cumulative acquisitions across related assets (OECD, 2024[3]; FTTH Council Europe, 2025[13]). The competition implications of financial investors' holdings may depend, in particular, on whether they create horizontal links between competitors or vertical links across the value chain, and on whether the investments are purely passive or confer strategic influence or access to commercially sensitive information (OECD, 2019[14]; 2009[15]; 2017[16]).

11. **Technology companies and cross-layer partnerships.** Technology companies, including content and application providers (CAPs), and cloud providers, invest in submarine and terrestrial cables, data centres and cloud infrastructure,[9][10] while generally not becoming Internet service providers (OECD, 2024[3]; OECD, 2026[9]). By placing cache servers within ISP networks ("on-net CDNs") or peering directly with operators, they bring content closer to users and reduce latency and traffic back to origin servers (BEREC, 2024[5]; Wik Consult, 2022[6]). Through routing, content delivery and traffic engineering, they also shape network use, operators' investment and interconnection arrangements (OECD, 2024[3])]. Such investments respond to growing demand for digital services, including data-intensive cloud services (OECD, 2025[17]), and can improve the quality and efficiency of Internet traffic delivery.[11] Co-operation with communication operators now ranges from joint infrastructure investment, cloud migration and edge computing to AI-enabled network operations, enterprise services and AI-ready infrastructure (BEREC, 2022[18]; 2024[19]; OECD, 2022[1]; 2025[17]), as illustrated by partnerships between communication operators with large technology companies (Microsoft, 2022[20]; Vodafone, 2024[21]; Deutsche Telekom, 2026[22]; OECD, 2025[17]; Anthropic, 2023[23]; Orange, 2024[24]; Fierce Network, 2025[25]).[12] These collaborations can strengthen innovation, scale, and efficiency, but may also increase reliance on a small number of providers, making interoperability and dependencies important areas to monitor (BEREC, 2024[19]; OECD, 2025[17]).

12. **Non-terrestrial connectivity.** SNOs use geostationary, medium and low earth orbit (GEO, MEO and LEO) systems to provide broadband, backhaul, maritime and aviation connectivity and, through partnerships, D2D[13] services that integrate satellite and mobile connectivity solutions. Lower-latency, higher-capacity LEO constellations have intensified competition in residential, enterprise, backhaul, mobility and government services. Entry and expansion in satellite markets depend on scale, launch capacity, spectrum and orbital resources. Although satellite remains a small share of fixed broadband connections, it is among the fastest-growing components of the OECD connectivity landscape: its share more than doubled from 0.5% in 2023 to 1.15% in 2025, while subscriptions grew by 122% (OECD, 2026[7]). While it remains primarily complementary to terrestrial networks, extending coverage, backhaul and resilience in remote areas, its substitutability varies with speed, latency, capacity, equipment costs and affordability. Emerging D2D partnerships between satellite and mobile operators may further integrate terrestrial and non-terrestrial networks (OECD, forthcoming[26]).

13. These recent developments in the connectivity ecosystem point to growing diversification in the actors involved in infrastructure deployment, service provision and investment with an impact in communication market structures. Taken together, these trends point to a more interdependent connectivity ecosystem, where actors increasingly operate across infrastructure and service layers and where competition dynamics depend on both traditional communication markets and adjacent digital infrastructure markets.

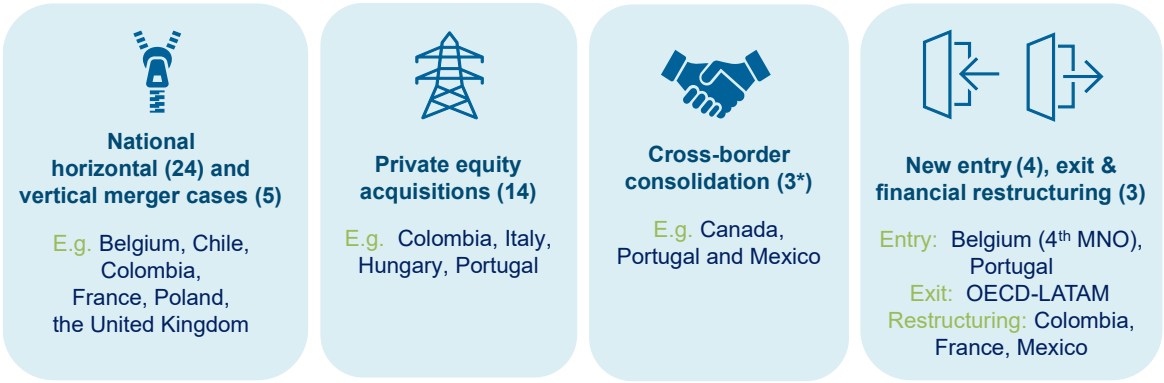
2 Market structure, competition and investment in communication markets

2.1. Changes in communication market structure due to entry, exit and consolidation

14. Since 2023, 29 OECD Member countries and partner economies (out of 41 OECD survey respondents) have reported changes in communication markets through entry, exit, financial restructuring, mergers and acquisitions, or emerging players having a more prominent role. Most involved communication services providers, including MVNOs, wholesale companies and satellite network operators; in some countries, it also involved either cloud or content and applications providers.

15. Twenty-one of 38 OECD Member countries reported 53 transactions affecting communication market structures: 29 domestic mergers (24 horizontal and 5 vertical integration cases), 14 asset divestments or transactions involving financial asset managers, three cross-border mergers, four cases of market entry, and three cases of market exit. Figure 2 groups these transactions by type; Annex A (Table A A.1 to Table A A.3) has the full list of recent transactions and merger decisions. Their competitive effects depend on the nature of the transaction. Mergers between direct or potential competitors, infrastructure divestments, cross-border consolidation, investment by financial asset managers and market exits can affect rivalry and investment incentives in different ways. Distinguishing among these patterns helps assess whether competition is likely to strengthen, remain unchanged or weaken.

Figure 2. Overview of recent changes in market structures due to M&A activity



Note: "Cross-border consolidation" refers to transactions between horizontally related telecommunications operators active in different national markets, including transactions facilitating entry into new markets. The classification is based on the geographic scope of operations rather than the headquarters of the parent companies. The Eutelsat/OneWeb merger is included. This list is not exhaustive.
Source: OECD based on the 2025 CSI regulatory questionnaire.

16. Some horizontal mergers involved MNOs acquiring MVNOs to strengthen their retail position and customer base.[14] Fixed-mobile convergence, a major driver of consolidation before 2019, has become less prominent as most OECD operators have already integrated fixed and mobile assets (OECD, 2021[4]).[15]

Vertical integration between communication service and content providers, including pay-TV and OTT providers, has also become less prominent (OECD, 2019[12]).[16] Cross-border mergers account for three of the 53 transactions reported since 2023.[17] Meanwhile, consolidation has also continued in the satellite segment among GEO and LEO constellations, with implications to spectrum holdings for D2D services.[18]

2.1.1. Consolidation trends in mobile communication markets

17. Many OECD countries have experienced a wave of entry, exit and mergers in the mobile communication markets since 2008. By Q3 2026, most OECD Member countries had three or four MNOs. To date, there is no OECD market with a monopoly or duopoly[19] of mobile network operators. The number of MNOs has contracted from four to three in some countries since 2018 (e.g. Colombia, Hungary, Lithuania, the United Kingdom and the United States), and in other countries there has been market entry, going from three to four MNOs (e.g. Belgium, Germany, Japan and Portugal). During the period 2008-2018, several markets experienced the entry of new players, particularly following 4G spectrum auctions (OECD, 2021[4]). Post 2018, there is a proliferation of data-only mobile plans with 4G network expansion, and 5G networks launched in 2019, which have increased their coverage in OECD countries during 2020-2025. This has further shifted mobile communication market structures (see Annex B, Table A B.1).

18. While the number of MNOs in a market can be one of the indicators of competitive intensity, it does not fully reflect the underlying market structure. Other structural conditions, such as barriers to entry, degree of asymmetry among players, market concentration, prices, service quality (speeds, latency), innovation, and performance measures (e.g. mark-ups, profits) are also critical in assessing competition (OECD, 2021[27]). For example, both market concentration along with the asymmetry of the players, among other factors such as barriers to entry, can limit the ability of entrants and challengers to compete and invest. The minimum efficient scale required to operate a nationwide mobile network is driven by factors such as population density, geography, spectrum costs, and investment needs (OECD, 2021[4]). Market structure inherently depends on a range of domestic conditions that impact costs, barriers to entry and incentives to invest, where the institutional and regulatory framework, including spectrum management, plays a crucial role.

19. In addition, fixed-mobile convergence and the growing importance of content, applications and OTT services are changing competitive interactions across the connectivity ecosystem (OECD, 2021[4]). This is why competition analysis looks beyond market shares and operator numbers to factors such as network quality and coverage, access to infrastructure, entry and expansion, and incentives to invest.

2.1.2. Where is the push for consolidation in mobile markets coming from?

20. The communication sector is characterised by high capital intensity and continuous investment requirements, particularly for successive mobile technology upgrades. MNOs have often justified consolidation strategies based on expected operational synergies and efficiency gains. These synergies typically arise from the integration of network assets, and the optimisation of spectrum holdings, leading to lower operating and capital expenditures. For example, consolidation may enable smaller MNOs to achieve a minimum efficient scale with cost efficiencies derived from combining radio access networks and spectrum resources while catering to a wider customer base. Operators also point to changing market dynamics, including growing data traffic, pressure on average revenues per user (ARPU) and the need for continued investment in capacity and technology upgrades, as factors that may affect investment conditions and incentives to consolidate. Their “efficiency defence” is that these gains could not be achieved to the same extent without the merger (OECD, 2025[28]).

21. Financial restructuring can also be a catalyst of consolidation or market exit. In some regions, operators have accumulated high levels of debt or witnessed decreasing revenues, shifting the strategy at the corporate level for some firms. For example, the Spanish operator Teléfonica exited seven Latin American countries since 2024, selling operations in Argentina, Chile, Colombia, Ecuador, Mexico, Peru and Uruguay (Telefonica, 2026[29]; BusinessWire, 2026[30]). In the United States, US Cellular decided to exit their wireless business (DOJ, 2025[31]).[20] In France, at the time of writing, Altice, SFR’s parent

company, had agreed in principle to sell and divide SFR among Orange, Bouygues Telecom and Free-Iliad to ease its financial constraints, subject to regulatory and competitive review (Altice, 2025[32]; Orange, 2026[33]; Autorité de la Concurrence, 2026[34]).

22. However, financial difficulties faced by individual operators should not be taken as evidence of sector-wide financial distress, and the financial situation may vary by regions and countries. Financial indicators in the mobile communication sector have varied across regions where OECD Member countries are located (Asia-Pacific, Europe, Latin America and North America) over the past decade (2014-2024). In 2024, average margins on earnings before interest, taxes, depreciation and amortisation (EBITDA) ranged from 30% to 41% across these regions,[21] according to data from GSMA Intelligence, while Latin America recorded the lowest average ARPU per mobile connection (OECD, 2026[11]). In Europe, the Body of European Regulators for Electronic Communications (BEREC) finds that European communication operators remain financially healthy overall, with generally stable operating margins, returns above their cost of capital and improving cash-flow prospects (BEREC, 2026[35]). On this basis, BEREC concludes that for the case of Europe, the sector's financial conditions do not provide a general justification for relaxing merger control, while recognising that individual operators may face different circumstances (BEREC, 2026[35]).

23. Even where financial pressures are real, the effects of consolidation depend on how transactions are structured and whether efficiencies reach consumers. In Colombia, the merger between Tigo (Millicom) and Movistar (Telefónica), approved bv the competition authority (SIC) with behavioural remedies in November 2025 (SIC, 2025[36]), followed Telefónica's divestments across Latin America and Millicom's 2024 financial restructuring. Authorities recognised that it could bring financial stability, lower costs, faster fibre and 5G roll-out, and a stronger challenger to the dominant operator. Yet some of these savings were already being achieved through network sharing, as the two operators had shared towers, spectrum and radio access networks across more than 700 municipalities since 2024 (OECD, 2026[11]). According to the CRC, the Colombian communication regulator, the merger also raised concerns: the combined entity would hold 38-43% of mobile subscriptions against 52% for the dominant operator, and the sector regulator warned that tacit co-ordination could raise mobile prices by up to 37% and leave mobile virtual network operators (MVNOs) almost fully dependent on the merged firm (CRC, 2025[37]). The competition authority concluded that the benefits would depend on whether efficiencies are "passed through to consumers" and "effective competition and open-access conditions are maintained" (OECD, 2026[11]; SIC, 2025[36]). Financial considerations are therefore best weighed against less restrictive alternatives, such as network sharing, and the scope of remedies. Moreover, financial distress or a parent company's strategic decision to withdraw from a market should also not, in itself, justify merger approval, although evidence of likely market exit may be relevant to the counterfactual under the applicable framework (Padilla, 2026[38]).

2.1.3. The role of mobile virtual network operators (MVNOs)

24. MVNOs purchase wholesale access from MNOs rather than fully owning network infrastructure. They support retail-based competition through predominantly low-cost plans and bundles with adjacent services, including finance (Revolut, 2025[39]), or retail services of grocery chains. Target segments include expatriates (LycaMobile, 2026[40]), price-sensitive users, or customers preferring app-based models.

25. Data in Annex B (Table A B.2) show wide cross-country variation in the role of MVNOs in OECD mobile communication markets. In 2024, MVNOs held almost 40% of mobile broadband subscriptions in Iceland and more than 20% in Germany, but less than 5% in several countries, including Australia, Colombia, Czechia, Lithuania, Luxembourg, New Zealand, Portugal, Sweden and Türkiye. Between 2018–2024, MVNO market shares grew in some OECD Member countries (e.g. Austria, Estonia, Germany, Iceland, Italy, the Netherlands, New Zealand, Norway, Portugal, Slovenia), and fell in others, including Australia, Belgium, Colombia, Czechia, Ireland, Lithuania, Luxembourg and Sweden.

2.2. Promoting both competition and investment in communication markets

2.2.1. A sound institutional and regulatory framework in the communication sector sets the scene for competition and investment

26. A robust legal, institutional and regulatory framework is central to promoting both competition and investment as the connectivity ecosystem grows more complex. As mentioned above, communication markets combine high fixed costs, long investment cycles, high barriers to entry, and reliance of scarce inputs such as spectrum and passive infrastructure. These features make prone to concentrated market structures, giving the institutional and regulatory framework a key role in shaping market outcomes (OECD, 2021[4]). The OECD Recommendation on Broadband Connectivity highlights that a sound institutional framework promoting competition is crucial to promote investment, and that regulatory decisions should be made in an independent, impartial, objective, proportionate and consistent manner (OECD, 2021[41]).[22]

27. Several elements of the institutional and regulatory framework of the communication sector support both competition and investment. Predictable and independent regulation provides the legal certainty needed for long-term investment and supports competitive neutrality where government-owned operators are present. Efficient spectrum management, including assignment procedures that weigh competition, coverage and investment objectives, influences which operators can enter and how quickly they can expand. Pro-competitive regulation, such as access to wholesale infrastructure and infrastructure sharing, allows multiple players to compete despite structural barriers, while measures that lower deployment costs and administrative barriers support efficient network rollout, including in rural and remote areas (OECD, 2025[42]). Where these foundations are weaker, both competition and investment suffer. Ultimately, sustained competition in communication markets depends on competitors being able to enter and grow, which is where a sound, predictable institutional framework plays a decisive role.

28. The institutional and regulatory framework also matters for merger assessment. It shapes the competitive conditions against which a transaction is assessed, the scope of entry and expansion after a merger, and the tools available to address competition concerns, such as access obligations, spectrum conditions or coverage requirements. It also determines whether less restrictive alternatives to consolidation, such as network sharing and co investment, are available in practice. The following sections examine the evidence of competition and investment, and how merger control assess these effects in communication markets.

2.2.2. Competition as a driver of investment and innovation

29. Upholding effective competition remains a central consideration for competition authorities and communication regulators. Across the OECD, pro-competitive regulation, merger control and competition enforcement have played a decisive role in reducing broadband prices, expanding network coverage and improving service quality (OECD, 2021[4]). As the vast majority of investment in connectivity infrastructure comes from private firms, frameworks that encourage investment and efficient infrastructure roll-out while maintaining competitive pressure are critical (OECD, 2024[3]).[23] Competition and investment can therefore be complementary rather than seen as a trade-off.

30. OECD broadband statistics show strong performance on broadband affordability, availability and quality (OECD, 2026[9]; 2026[7]), particularly in many countries with well-designed *ex ante* regulatory frameworks. Recent findings from BEREC point in the same direction: benchmarking EU countries against Australia, Canada, China, Japan, Korea, the United Kingdom and the United States, it finds that EU consumers pay some of the lowest connectivity prices among the jurisdictions examined, and highlights the role of EU's regulatory framework in supporting competition and delivering benefits to consumers (BEREC, 2026[35]).

31. Evidence from OECD Member countries continues to show competition as a powerful driver of improvements and expansion of broadband availability, affordability and quality, and that opening markets

to new entrants has often delivered significant benefits (OECD, 2026[43]). Following Mexico's 2013 telecommunication reform, which removed restrictions on foreign investment and enabled the entry of a new mobile operator, the country witnessed over 94 million additional mobile broadband subscriptions over the period from 2013 to (Q2)-2023, as well as a sharp decline in mobile broadband prices in Mexico ranging from 69% to 85% (according to OECD price baskets) over the 2013-2023 period (OECD, 2025[42]). Likewise, the entry of Free (Iliad) into the French market in 2012 significantly impacted competitive dynamics, stimulating innovation, broadening consumer choice and reducing prices (Berne, Vialle and Whalley, 2019[44]).

32. Some industry stakeholders argue that mergers generate efficiency gains that can support greater investment (Connect Europe & GSMA, 2026[45]), implying a possible trade-off between lower prices and higher investment. This debate gained prominence in certain regions of the OECD, particularly in Europe, notably following the publication of the "Letta Report" (Enrico Letta, 2024[46]) and the "Draghi Report" (Draghi, 2024[47]). While both reports affirm the importance of competitive markets as key drivers of innovation, investment, and competitiveness,[24] the telecommunications chapter of the Draghi Report, suggests that stringent competition rules and fragmented market structures may hinder the scale needed for long-term investment in the communication sector. This framing has been questioned (Box 1); but it has placed at the centre of policy discussions the question on whether consolidation in communication markets can help promote investment. The question is also relevant to the European Commission's review of its merger guidelines: the draft Merger guidelines published in April 2026 place greater emphasis on dynamic effects, including on investment, innovation and market entry, as well as efficiencies and economies of scale, which is particularly relevant to communication markets (European Commission, 2026[48]).

Box 1. The policy debate in Europe regarding the effect of communication market consolidation and investment incentives

The debate on whether consolidation could strengthen operators' ability to invest in communication networks gained traction in 2024 with the European Commission's White Paper on digital infrastructure (European Commission, 2024[49]), and the telecommunications chapter of the "Draghi report" (Draghi, 2024[47]). It is closely tied to the wider policy focus on competitiveness, which concerns how government action can improve the productivity, innovation, and international performance of firms and strategic sectors (OECD, 2024[50]). Competitiveness and competition are linked, but distinct: competitiveness is primarily associated with industrial policy and economic performance, whereas competition policy safeguards the competitive process, reducing costs, and protecting choice, quality and innovation, which in turn supports long-term competitiveness (Bokkerink, 2025[51]; Evans, 2025[52]; Capobianco and Marques, 2025[53]; Aghion, Dewatripont and Legros, 2025[54]; OECD, 2024[50]).

Views among stakeholders differ. Some industry participants call for greater consolidation, arguing that larger scale is essential to realise efficiency gains, sustain investment and remain competitive globally (BIAC, 2025[55]; Connect Europe & GSMA, 2026[45]). For example, in their joint response to the European Commission's consultation on its draft merger guidelines, Connect Europe and the GSMA argue that in-market scale is essential for investment in capital-intensive sectors, call for a longer time horizon for assessing dynamic effects, and question the use of market share and concentration thresholds as indicators of harm (Connect Europe & GSMA, 2026[45]). BEREC, by contrast, maintains that safeguarding effective competition, protecting consumers and preserving open Internet principles should remain central (BEREC, 2025[56]). Challenger operators, represented by the European Competitive Telecommunications Association (ECTA), similarly advocate for a robust pro-competitive regulatory framework that fosters competition, noting that diversity of market players can itself support innovation and investment, and that loosening regulatory safeguards could weaken long-term investment incentives (ECTA, 2024[57]).

Academics also caution that consolidation could raise prices and weaken innovation (Duso et al., 2024[58]).

Others question claims of structural underinvestment: Felten, Kenny and Webb (2025[59]) project 94% very-high-capacity network coverage and full 5G coverage by 2030, and find that many European countries compare favourably with advanced-country peers, attributing weaker performance in a few large countries to national factors rather than EU-wide regulatory constraints (Felten, Kenny and Webb[59]).

OECD data are consistent with the role of national factors. Of the eight OECD Member countries with fibre shares of fixed broadband above 80% in 2025, six are European: Iceland (96%), Spain (91%), Finland (85%), France (82%), Lithuania (82%) and Latvia (80%). Yet Europe also includes Austria, Belgium and Germany, where fibre remain below 20% of total fixed broadband subscriptions (OECD, 2026[7]).

2.2.3. Economic literature on the relationship between investment and competition in communication market mergers

33. Economic theory suggests that greater concentration in communication markets tends to lead to higher prices, lower quality and potentially lower incentives to invest, through unilateral and co-ordinated effects,[25] particularly where barriers to entry are high. For example, Motta and Tarantino (2021[60]) show in a theoretical model that, in the absence of efficiency gains, a horizontal merger between firms competing in both prices and investment leads the merging firms to raise prices and reduce investment. Under commonly used assumptions, total investment and consumer surplus fall, even though rivals may invest more in response. Only sufficiently large efficiency gains can offset these effects and make such a merger beneficial for consumers.

34. Empirical studies of mergers in communication markets are broadly consistent with these predictions on prices. Evidence on market entry points in the same direction: beyond the country experiences described in the previous section, academic studies of challenger operators such as Free in France, WOM in Chile and Iliad in Italy indicate that entry can contribute to lower prices, innovation and better service quality, at least in the short and medium term (Nicolle, Grzybowski and Zulehner, 2018[61]; Bourreau, Sun and Verboven, 2021[62]; Yang, Vialle and Whalley, 2025[63]).

35. Some industry stakeholders argue that beyond a certain level of competition in communication markets, the scale achieved through consolidation may generate efficiencies that support greater investment (BIAC, 2025[55]; Connect Europe & GSMA, 2026[45]). While this argument is plausible in theory, the evidence on the dynamic effects of mergers in mobile communication markets is mixed, whereas there is more consistent evidence that mergers raise prices, at least over the short and medium term covered by *ex-post* merger assessments. Some studies find that consolidation may stimulate investment by the merging operators, but the overall effect at the market level is not straightforward and depends on market conditions and each country's institutional framework.

36. The following subsections review the empirical evidence on the static and dynamic effects of mergers in communication markets (see Annex C, Table A C.1 for the full list of the papers reviewed).

Static effects on prices

37. Empirical studies of mobile-market consolidation in OECD countries find that some mergers have been associated with higher retail prices, particularly where the number of operators fell from four to three (OECD, 2021[4]). Results may, however, depend on market conditions, the price metrics available and the counterfactual considered. In Austria, the 2013 Hutchison 3G/Orange merger was cleared subject to spectrum divestment and wholesale access for up to 30% of network capacity. The national regulator, the Austrian Regulatory Authority for Broadcasting and Telecommunications (RTR), estimated long-term price increases of 22% and 31% for conventional users, compared with ten European countries without consolidation or entry (RTR-GmbH, 2016[64]). BEREC similarly found price increases, relative to a no-merger scenario, following the Hutchison/Orange merger in Austria (2013), Hutchison/O2 in Ireland (2014), and Telefónica/O2 and KPN/E-Plus in Germany (2014) (BEREC, 2018[65]). Research covering 33 OECD Member countries between 2002 and 2014 also associated concentration with price increases (Genakos, Valletti and Verboven, 2018[66]). These studies largely predate the shift to data-centric services and 5G, and

more recent merger reviews tend to assess price effects alongside dynamic effects, including potential impacts on investment, network quality and innovation.

38. More recent studies show more varied results regarding the effects on prices, highlighting the importance of the price measure and empirical approach used. A study commissioned by the European Commission finds that higher concentration in EU mobile markets leads to higher mobile prices with markets that have more mobile network operators tending to have lower prices (Lear et al., 2024[67]). BEREC's 2026 international benchmarking report reaches similar conclusions drawing on this same study and its own 2018 report (BEREC, 2026[35]). Studies using revenue-based measures find more mixed results. Grajek et al. (2019[68]) find that voice revenue per minute increased following mergers in Denmark and the Netherlands but decreased in Austria and Greece. Aimene, Jeanjean and Liang (2021[69]) find that consolidation increased voice revenue per minute but reduced data revenue per megabyte (MB), alongside growth in data traffic.[26] These results show that declining revenue per unit of data does not necessarily mean that the price of a comparable retail service has fallen, particularly when data consumption is rising.

Dynamic effects on service quality and innovation (investment)

39. Dynamic effects on investment, innovation, and network and service quality are more complex to measure empirically than price effects. Competition authorities increasingly consider quality and innovation in their merger reviews (OECD, 2021[4]; OECD, 2025[70]). Investment, often measured as capital expenditure, is an input into network deployment and upgrades, rather than a direct measure of benefits to consumers. Economies of scale, network integration and less infrastructure duplication may allow operators to maintain or improve services without spending more; conversely, lower capital expenditure may reflect weaker incentives to expand or upgrade networks. Capital expenditure is therefore best assessed alongside coverage, capacity, service quality, innovation and prices (Ofcom, 2020[71]).

40. Building on this, it is useful to distinguish between three mechanisms through which consolidation may affect investment. First, a merger may generate investment efficiencies, for example by reducing the cost of deploying or upgrading networks through integration and less duplication, allowing the same or better network performance at lower cost. Second, a merger may change investment incentives by altering the profitability of investment for the merging firms and their rivals. These incentives may increase or decrease investment: reduced rivalry can weaken the pressure to invest, while higher expected margins may make some investments more profitable. Investment that rises because the merged firm expects to charge higher prices is, however, different from investment enabled by lower costs, and does not necessarily benefit consumers. Third, consolidation may strengthen a firm's balance sheet or improve its access to finance. Greater financial capacity does not, however, necessarily mean that the merger generates investment that would not otherwise have occurred, nor that it creates merger-specific efficiencies. Distinguishing between these mechanisms can help authorities assess claims that consolidation will lead to greater investment, and whether any resulting benefits are likely to be passed on to consumers, as discussed in Section 3.3.1 and 3.3.3 below.

41. Empirical findings on investment and network quality are mixed. Genakos, Valletti and Verboven (2018[66]) associate higher concentration in mobile markets with greater capital expenditure per operator, but find statistically inconclusive effects on total industry investment. Later cross-country analyses by Ofcom (2020[71]) and Lear et al. (2024[67]) associate higher concentration with lower total national capital expenditure in the sector, and Ofcom finds no statistically significant improvement in average download speeds. BEREC (2026[35]), based on their previous 2018 study and the report by Lear et al (2024), likewise concludes that the available evidence does not show that greater scale automatically leads to more investment, innovation or competitiveness in European markets.

42. Other studies reach different conclusions. Using data for European markets between 2011 and 2021, Bahia and Castells (2023[72])[27] find an inverted-U relationship between concentration and investment: new entry initially spurs investment as entrants seek to capture market share, but investment declines as competition intensifies. They report lower investment relative to revenues and per connection, and smaller improvements in network quality (download and upload speeds and latency), in four-operator

European markets than in three-operator markets. A GSMA Intelligence report of the same authors similarly associates higher concentration in Latin American markets with greater investment per connection, faster speeds and wider 4G and 5G coverage (GSMA, 2026[73]). These studies measure investment relative to revenues or connections rather than total capital expenditure, so they capture investment intensity per operator or user rather than overall investment in the sector. As with all cross- country studies, results depend on the empirical strategy and counterfactual used, and associations between market structure and performance do not, by themselves, establish a causal effect of individual mergers in specific market conditions and regulatory frameworks.

43. Theoretical and structural models, which rely on simulations rather than observed market outcomes, also examine the potential trade-off between higher prices and better quality. Simulations of four-to-three mergers in France find that faster networks do not offset the effect of higher prices on consumer surplus (Elliott et al., 2025[74]), whereas other models show that merger-specific reductions in investment costs can increase consumer surplus, depending on investment intensity and product differentiation (Bourreau and Jullien, 2018[75]; López, 2025[76]).

44. Beyond communication markets, Lefouili and Madio (2026[77]) review the broader economic literature on the relationship of consolidation and investment, covering mergers between competing incumbents, acquisitions of potential competitors and vertical integration. Their review, which includes several of the studies discussed above, finds that the effects of mergers on investment are theoretically ambiguous and depend on the type of investment, market structure and the presence of synergies. Although it focusses mainly on investment in research and development rather than network infrastructure, it offers a useful framework for weighing static and dynamic effects. Where a merger raises investment but also raises prices, the net effect on consumers is ambiguous, whereas a merger that both raises prices and reduces investment is unambiguously harmful to consumers. Higher investment following consolidation therefore does not, by itself, imply gains for consumers.

45. Taken together, these findings point to the value of market-specific analysis rather than a presumption based solely on the number of operators or concentration levels. The challenge for regulators and competition authorities is to preserve the conditions in which competition and investment reinforce each other, while adapting policy frameworks to a rapidly changing connectivity ecosystem.

3 Competition concerns, investment incentives and remedies in merger control

3.1. The competition assessment of mergers in communication markets

46. The growing convergence of communication networks, cloud services, content delivery and AI infrastructure identified above in Section 1 may give rise to competition concerns that extend beyond consolidation and structural changes in market concentration. As firms increasingly operate across different layers of the connectivity ecosystem, control over important infrastructure, services or technical inputs may provide opportunities to affect competition in related markets. For example, vertically integrated providers may have the ability and incentive to favour their own services or disadvantage rivals through discriminatory access conditions, tying or bundling conduct, or limitations on interoperability. These practices may raise rivals' costs, increase switching barriers or hinder market entry and expansion. Similarly, exclusive agreements or other contractual arrangements may affect access to important inputs, customers or distribution channels.

47. For instance, restrictions on data portability or interoperability may make it more difficult for customers to switch providers or use services supplied by multiple providers, while preferential access to computing infrastructure or other important inputs may affect competitive conditions in downstream markets. Addressing such concerns may require the application of antitrust enforcement and, where relevant, sector-specific or digital regulation, alongside merger control. Without diminishing the importance of these issues, the following sections focus specifically on merger control and structural market changes, which have been central to the debate over whether consolidation may enhance investment, efficiency and competitiveness in the communication sector.

3.2. Characteristics of communication markets and market definition

48. Competitive outcomes depend not only on the number of operators, but also on their competitive strength, the scope for entry and expansion, the regulatory framework and the characteristics of each market. Communication service markets exhibit structural features that can significantly impact competitive dynamics. The provision of fixed and mobile networks typically requires substantial, often sunk, investment, access to scarce or difficult-to-replicate infrastructure and connectivity inputs, and long planning and deployment cycles (OECD, 2021[4]). These characteristics may create barriers to entry and expansion and contribute to concentrated or oligopolistic market structures, particularly at the infrastructure level. Competition is also shaped by sector-specific regulation, such as wholesale access obligations, infrastructure sharing, or spectrum policy. For example, spectrum policy and auction design can influence, in practice, the number and types of operators able to enter and compete effectively in a market (OECD, 2022[78]).

49. At the same time, the competitive landscape is evolving beyond traditional communication operators. OTT voice and messaging services, satellite connectivity, and the growing involvement of digital

platforms and cloud providers in communication infrastructure may introduce new sources of competition or change existing competitive constraints. However, the extent to which these services compete with traditional connectivity providers varies. For example, satellite connectivity may provide a competitive alternative to terrestrial networks in certain geographic areas or for particular customer segments, while complementing them in others.

50. At the user level, demand-side characteristics may also weaken competitive constraints (Dutta-Powell, Powell and Chappell, 2019[79]). Consumers' inertia may play a role, even when suitable alternatives exist, and consumers can also face switching costs arising from a variety of factors, including the length of contracts and their termination conditions, bundled services and equipment, and the complexity of comparing offers (BEREC, 2026[80]). It is important to analyse how readily consumers can respond to changes in prices or quality by switching providers, taking account of the differences between customer segments, and the costs and difficulties associated with switching.

51. These developments also have implications for market definition. While technological convergence may blur the boundaries between traditional communication services and emerging alternatives, different technologies or business models do not necessarily belong to the same relevant market. In interconnected markets and multi-product ecosystems, authorities may define separate markets for related products or, where appropriate, a market encompassing a bundle of products or services, depending on the characteristics of the products concerned, the competitive relationships between products and customers' purchasing and switching behaviour.[28]

52. Geographic market definition also remains case-specific, even where communication operators are active across several countries and may benefit from economies of scale arising therefrom. For instance, the supply of broadband satellite capacity may, depending on the circumstances, be considered worldwide in scope, while retail mobile services markets have generally been defined as national, reflecting differences in spectrum licensing, network coverage, regulation and competitive conditions across countries.[29]

53. The significance of these supply-side and demand-side characteristics varies across countries and market segments. High barriers to entry or expansion, combined with limited customer switching, may weaken the competitive constraints faced by operators and increase the likelihood or persistence of anticompetitive merger effects. Merger assessment therefore requires examining not only market concentration, but also the strength of existing competition, barriers to entry or expansion, the ability of consumers to switch providers, and competition from emerging technologies, including, if relevant, from outside the relevant market. In interconnected markets and multi-product ecosystems, the assessment may also need to consider how network effects, interoperability and customer lock-in influence competition within and across markets, including the potential for firms to extend market power into adjacent markets, as well as possible efficiencies and consumer benefits. Such effects should therefore be assessed on a case-by-case basis.

3.3. The competition assessment and main theories of harm in merger control in communication services

54. Merger control assesses whether a proposed transaction is likely to significantly impede effective competition or substantially lessen competition, considering the characteristics of the markets concerned and how competitive conditions would be expected to evolve without the merger. This prospective, case-specific assessment differs from *ex post* empirical studies examining the effects of completed mergers or past consolidation, although findings from such studies, as well as other empirical evidence and relevant economic theory, may help inform the analysis.

55. In horizontal mergers, i.e. mergers between actual or potential competitors in the same market, the two main theories of harm concern unilateral and co-ordinated effects. Unilateral effects may arise

where the merger eliminates head-to-head competition between the merging firms or otherwise weakens competitive constraints, enabling the merged firm to raise prices, reduce quality or slow down innovation. Co-ordinated effects may arise where the transaction makes it more likely that firms will co-ordinate their behaviour across the relevant market or makes existing co-ordination more stable or effective.

56. Vertical mergers arise when the merged firms operate at different levels of the supply chain and may lead to anticompetitive effects such as input and customer foreclosure or raising rivals' costs. Vertical mergers are relevant in communication and connectivity markets, because retail services often rely on access to network infrastructure and wholesale inputs that are controlled by other market players. This can happen, for instance, where the merged entity controls network access, backhaul, roaming, interconnection, passive infrastructure, customers or distribution channels and has both the ability and incentive to disadvantage rivals, with potentially adverse effects on competition.[30] In some circumstances, vertical integration may also facilitate horizontal co-ordination among firms operating at one level of the supply chain by increasing transparency, aligning incentives or providing access to commercially sensitive information (OECD, 2019[14]).

57. Conglomerate merger concern firms whose products may be related or complementary, but that are neither competitors nor in a vertical relationship. Conglomerate theories of harm may arise where the merged entity can leverage market power in one market into another, including through tying, bundling[31] or interoperability restrictions on complementary products. These theories of harm have featured less prominently in merger enforcement in the communications sector to date, but they may become more relevant as communication operators expand into complementary cloud, streaming and AI-related services, and as firms from adjacent sectors enter connectivity markets.[32]

58. For both vertical and conglomerate mergers, the assessment typically focusses on whether the merged entity would have the ability and incentive post-merger to foreclose rivals in a way that limits competition and harms consumers. Vertical and conglomerate mergers may offer scope for certain efficiencies, including lower transaction costs, better co-ordination of investment, the elimination of double marginalisation and the development of integrated services. However, the existence and magnitude of these potential efficiencies cannot be presumed and need to be assessed on a case-by-case basis.

59. Across merger types, the assessment considers both static and dynamic competitive effects. Mergers can have static effects, which generally concern shorter-term outcomes, such as prices, output, choice and current service quality, and dynamic effects, which relate to medium- and long-term outcomes such as investment, innovation, future network quality and the ability of firms to adapt to technological change, which may materialise over a longer period. These effects may interact and their relative importance depends on the characteristics of the transaction and the relevant market, including market contestability and the competitive pressure preserved after the transaction (OECD, 2021[4]; OECD, 2025[70]).

60. Competition authorities assess which competitive constraints would be eliminated or weakened by the merger, compared to a situation where the merger is not happening (the counterfactual analysis), and whether sufficient competitive pressure would remain to prevent anticompetitive effects. Depending on the transaction, relevant factors may include the closeness of competition between the merging parties, customers' ability and incentive to switch to alternative suppliers, countervailing buyer power, barriers to entry and expansion, the availability and access to spectrum, network infrastructure, and other essential inputs, technological developments, and the applicable regulatory framework.

61. The analysis of a merger's dynamic effects on investment and innovation, including any resulting improvements in the quality of networks and services, tends to be more complex than the assessment of shorter-term effects, such as those on prices. It requires a forward-looking assessment of how investment incentives and outcomes are likely to evolve with and without the merger, taking account of the uncertainties associated with future technological and market developments.

62. An investment-related theory of harm may arise when a merger is likely to reduce competitive pressure to invest or weaken market participants' ability to invest, thereby reducing incentives or opportunities to expand capacity, deploy infrastructure, improve quality or adopt new technologies. In Hutchison 3G UK/Telefónica, for instance, concerns that the transaction could hamper the development of UK mobile-network infrastructure, particularly through its effects on existing network-sharing arrangements, were part of a broader assessment (European Commission, 2016[81]).

63. Mergers may also generate efficiencies, including cost savings, economies of scale and scope, as well as improvements in network deployment and utilisation. These are discussed in more detail in Section 3.3.1.

3.3.1. Efficiencies in merger control: A focus on investment-related efficiencies in communication markets

64. A prominent element of the current debate on consolidation in the communication sector concerns the role of dynamic efficiencies in merger control. Against a backdrop of growing concerns about investment needs, economies of scale and competitiveness, calls have emerged to give greater consideration to innovation and investment effects in merger control, including in the communications sector (Draghi, 2024[47]).

65. It is useful to distinguish three related aspects that are often conflated in the current debate on consolidation in the communication sector. First, a transaction may affect innovation competition broadly, including the merging parties' and their rivals' incentives and ability to invest or innovate. Where those effects are negative, they may form part of an innovation- or investment-related theory of harm, which the competition authority must establish, as discussed in Section 3.3 above. Second, a transaction may generate innovation efficiencies by strengthening the merged firm's ability or incentive to develop, commercialise or diffuse new or improved service or technologies. Third, a transaction may generate investment-related efficiencies, such as lower network-deployment costs, or faster network roll-out. These categories may overlap to some extent: investment can enable innovation, while changes in innovation incentives may affect future investment. Also, innovation and investment benefits may be strongly interlinked. However, investment-related efficiencies have been particularly prominent in the current debate on telecommunication consolidation, and they are, therefore, examined in more detail in this section.

66. In merger control, authorities assess efficiency claims advanced by the parties, including relating to dynamic efficiencies, as part of the competitive assessment (OECD, 2025[70]). Such claims must satisfy the applicable legal framework, which typically require that the efficiencies are verifiable, merger-specific, and of a kind and magnitude likely to benefit consumers, including through improvements in prices, quality or innovation (i.e. they are passed on to consumers). The burden of producing evidence to substantiate claimed merger efficiencies typically lies with the merging parties (OECD, 2021[4]).

67. To date, competition authorities across jurisdictions have considered efficiency claims in merger assessments but have rarely found them sufficient to offset identified anticompetitive effects, either because the claimed efficiencies were not adequately substantiated or because they were insufficient to outweigh those effects (OECD, 2025[70]; CMA, 2024[82]; CADE, 2014[83]). This practice has contributed to calls for greater consideration of innovation and investment-related efficiencies in merger control,[33] particularly in the communication sector, with a view to advancing competitiveness. The European Commission's ongoing review of its Merger Guidelines also aims to address such concerns, with the draft Guidelines introducing the concept of a 'theory of benefit', under which merging parties may put forward evidence that a transaction is likely to generate efficiencies or positively affect other competition parameters, including investment and innovation benefits, that may be capable of preserving or enhancing effective competition and consumer welfare, alongside the assessment of any other effects (European Commission, 2026[48]).

68. Arguments that consolidation is needed to create globally competitive firms often rely on expected efficiency gains and investment resulting from greater scale. As discussed above in Section 2.2.3, however, experience in communication markets shows that scale does not automatically translate into higher investment or better outcomes (BEREC, 2026[35]).

69. A central question in this debate is thus whether, and under what circumstances, greater market concentration would lead to increased investment and improved consumer outcomes. In this respect, it is necessary to distinguish three claims in relation to communication markets: that concentration increases (i) investment per operator; (ii) total industry investment; or (iii) investment in ways that benefit consumers through lower prices, higher quality or innovation. As noted above in Section 2.2.3, some empirical evidence suggests that greater concentration may be associated with higher investment per operator and higher consumer prices, while the effect on total industry investment is not clearly confirmed (Genakos, Valletti and Verboven, 2018[66]). The third claim, (iii), requires establishing a link between the capital expenditure and the effects on consumers. Although higher capital expenditure, when it is accurately measured, can be a useful indicator of investment activity, it is not in itself a measure of increased consumer benefits. Moreover, it may be an imperfect measure of investment activity itself, being sensitive to accounting practices, procurement costs and technology deployment cycles.

70. Competition authorities examine how a specific transaction is likely to affect competition, including the investment incentives of the merging parties, and, where relevant, their competitors. Where the parties claim investment-related efficiencies, authorities may also assess whether those efficiencies are sufficiently substantiated, merger-specific and likely to be passed on to consumers under the applicable legal framework. This requires considering both the anticompetitive effects of the transaction (including potential effects on investment incentives) and any efficiencies that may counteract them.

71. As noted in a study prepared by Oxera for the European Commission (2026[84]), a merger between competitors can affect investment incentives through several, potentially opposing, mechanisms. A merger may weaken investment incentives by reducing competition between the merging firms but may also strengthen them through merger-specific synergies or changes in expected returns on investment. The net effect depends on the nature of the transaction and the relevant market (European Commission, 2026[84]). A merger may also affect the investment incentives of non-merging competitors. Rivals may have stronger incentives to invest in response to improvements in the merged entity's network, or weaker incentives where the merger reduces competitive pressure or their ability to compete effectively. For example, the UK CMA examined the potential effects on rival operators' investment incentives in Vodafone/Three (CMA, 2024[82]).

72. The overall effect of the merger on investment incentives depends on the interaction between changes in competitive pressure, any potential expected returns on investment and any merger-specific synergies. Where additional investment is driven primarily by greater market power and higher expected prices, the same mechanism that strengthens investment incentives may also harm consumers. Increased investment therefore does not necessarily imply an overall consumer benefit.

73. Importantly, increased investment does not automatically constitute a merger-specific efficiency or translate into consumer benefits. The analysis of efficiencies can therefore be important, as it allows authorities to consider specifically i) whether the claimed benefits constitute genuine efficiencies, rather than gains arising from reduced competition or the exercise of increased market power of the merged firm; ii) whether those efficiencies are verifiable and likely to materialise; iii) whether those efficiencies are merger-specific, meaning they arise directly from the merger and could not be achieved to a similar extent through reasonably practicable, less anticompetitive alternatives (see Section 3.3.2 below on merger specificity); and iv) whether they are sufficient to offset the identified anticompetitive effects (e.g. an increase in prices) and benefit consumers (see Section 3.3.3 below on pass-through to consumers).

3.3.2. Merger specificity in investment-related efficiencies and possible alternatives to mergers

74. As mentioned above in Section 3.3.1, for an efficiency to be attributed to a merger, it should arise from the transaction itself rather than from developments that would probably occur without it. This requirement, described as merger specificity, ensures that the claimed benefit is causally linked with the merger. This matters because similar efficiencies may be obtained in ways that are less restrictive of competition than the merger proposed by the parties. If the claimed efficiencies could be achieved through a realistic, practicable and less restrictive alternative within a comparable period and to a comparable extent, the efficiency is unlikely to be considered merger-specific.

75. In connectivity markets, relevant alternatives may include co-investment, network and infrastructure sharing, joint deployment, spectrum leasing or sharing, wholesale access agreements, commercial roaming or other types of joint ventures (see Section 4.3.1). These arrangements can improve efficiency while preserving some dimensions of competition, although their effects depend on their scope, market conditions and regulatory safeguards. Deeper forms of sharing may reduce operators' ability to differentiate their networks or increase the risk of co-ordination, while co-investment and sharing arrangements may not generate the same efficiencies as full integration. Their competitive effects, and whether they represent a realistic alternative to consolidation, should therefore be assessed case-by-case.

76. When determining whether the claimed efficiencies could be achieved through less anticompetitive alternatives, the assessment considers the feasibility, costs, risks and governance requirements of those alternatives, rather than whether they are merely conceivable. For example, where two mobile operators claim that a merger would reduce network costs and accelerate deployment, the authority may examine whether passive or active network sharing could deliver comparable benefits while preserving greater independence in retail pricing, service design and other competitive decisions. OECD analysis indicates that network sharing can significantly reduce deployment costs, particularly when operators face demands to expand coverage or roll out new technology (OECD, 2021[4]). High fixed costs, economies of scale or avoidable network duplication may support certain forms of co-operation, but do not by themselves establish that full ownership integration is necessary.

77. The comparison should nevertheless reflect the practical limitations of the alternatives considered. Network-sharing agreements may preserve retail rivalry but reduce the parties' autonomy in network design, infrastructure quality or deployment schedules. Contractual co-operation may also entail negotiation costs, incomplete alignment of incentives, technical incompatibility, delays or complex governance, and may create information exchange or co-ordination risks of its own.

78. The degree of merger specificity may vary across the different elements of an efficiency claim. Some cost savings may be achievable through infrastructure sharing, while deeper integration may be needed to combine spectrum portfolios, eliminate incompatible systems or co-ordinate investment and network management across the entire business. The authority may therefore distinguish between benefits that would occur without the merger, benefits obtainable through realistic less restrictive arrangements, and incremental benefits genuinely dependent on the transaction. Benefits that would occur absent the merger should generally not be recognised as merger-specific. Likewise, benefits that could realistically be achieved through less restrictive arrangements may warrant limited or no weight in the assessment. By contrast, incremental benefits genuinely dependent on the transaction are more likely to be recognised as merger-specific. This avoids an all-or-nothing assessment of merger specificity and allows the authority to recognise the portion of the claimed benefit properly attributable to the merger.

79. Relevant evidence by the parties may include pre-merger strategy documents, network and engineering plans, investment approvals, financial models, previous attempts at contractual co-operation, costed comparisons of alternative structures and contemporaneous assessments of implementation risks. Evidence prepared before the transaction may be particularly useful in assessing whether the claimed

efficiencies genuinely depend on the merger or could realistically be achieved through less restrictive arrangements (OECD, 2025[28]).

3.3.3. Pass-through to consumers

80. The assessment of pass-through to consumers may also need to reflect differences across consumer groups, services and geographic areas, rather than relying only on market-wide averages. For example, new rural coverage may bring substantial benefits to previously underserved users while offering limited value elsewhere. Depending on the applicable framework, relevant considerations may include the overlap between those who benefit and those who bear the competitive harm, the magnitude and timing of the expected benefit, the alternatives available and the nature of the service concerned.

81. Useful evidence may come from internal documents referring to consumers' acquisition and retention, willingness-to-pay studies and customer surveys. Switching and churn data, service-quality indicators, and patterns of take-up and usage following network upgrades may also help.

82. Further, the scope for consideration of additional public benefit considerations going beyond the consumer welfare or economic efficiency, such as territorial cohesion, emergency access, digital inclusion or regional development, depends on the applicable framework. Such objectives may be addressed through specific public interest considerations, where applicable, or through other regulatory tools, including universal service obligations, or coverage obligations in spectrum licences.

3.4. Merger remedies in communication markets

83. Where a merger raises competition concerns, remedies may be identified to address the specific harm identified by the competition authority. If these remedies effectively resolve those concerns, the transaction may be allowed to proceed. Remedies may seek, where appropriate, to preserve merger-specific efficiencies, including potential investment-related benefits. Their purpose is not, however, to address wider market problems or pursue broader public policy objectives unrelated to the competitive effects of the merger.

84. Structural remedies are particularly effective in addressing the merged company's increased ability and incentive to harm competition post-merger (OECD, 2025[70]). By transferring a viable business or divesting the overlapping assets, they seek to restore or preserve the competitive constraints that would otherwise be lost as a result of the transaction. The divested assets (e.g. spectrum, sites, infrastructure) allow rivals to exert competitive pressure on the merged company.[34] In communication markets, the effectiveness of structural remedies depends, in particular, on the viability of the divested business, the suitability of the purchaser, including its ability and incentives to compete effectively, and the successful implementation of the divestiture.

85. Depending on the nature of the identified concern, behavioural remedies may sometimes be considered in vertical or conglomerate cases (European Commission, 2008[85]), for instance where the concerns relate to access to infrastructure, inputs or interoperability. In communication markets, they may take the form of access remedies, such as access to network or sites, MVNO hosting, wholesale access obligations, and, in some cases, national roaming.[35] Their suitability depends on the nature of the concern identified and the extent to which the remedy can be expected to preserve competitive constraints in practice. Their effectiveness depends, among other factors, on the availability of capacity, technical and commercial conditions of access, service quality, pricing, and the ability and incentives of actual and potential rivals to take up the access offer.

86. However, unlike structural remedies, they require medium to long-term monitoring, which increases the resources required to ensure their effectiveness. This is because, with behavioural remedies, there may be a risk that the company may not deliver on its commitments. Generally, therefore, structural

remedies are strongly preferred to address horizontal concerns. If no effective remedy is available to solve the competition concern, the merger will be prohibited.

87. Competition authorities have also relied on hybrid remedy packages, combining structural measures, such as divestitures, with behavioural commitments, such as access obligations, to address different competition concerns and ensure the effectiveness of remedies (European Commission, 2016[81]; CMA, 2024[82]).

88. Behavioural remedies or hybrid remedy packages may, in some specific cases, include investment commitments intended to support investment-related efficiencies and improvements in competitive capabilities that are expected to arise from the merger. For such remedies to be effective, however, they must address the anticompetitive harm identified in the assessment, for instance by strengthening the merged entity's ability and incentive to compete effectively in the future. When applying these remedies, competition authorities may assess whether additional measures are needed to preserve competition and protect consumers during the period needed for any expected benefits to materialise (see below Box 2).

89. The feasibility of relying on investment commitments may also depend on the institutional context. In regulated sectors, sector regulators may be able to assist competition authorities in assessing, monitoring or enforcing certain obligations, subject to their statutory powers and responsibilities. Where investment commitments are used, they should preferably be designed to be specific, measurable and time-limited, supported by independent monitoring, regular reporting and effective enforcement. Monitoring and evaluation should distinguish between compliance with the investment obligations and the achievement of the competitive outcomes that justified acceptance of the remedy and should, where possible, be complemented by *ex post* evaluation of the effects on competition.

3.4.1. Recent mergers in mobile communication markets

90. In the context of the wave of mergers in mobile markets in recent years, scrutiny of new acquisitions remains a central concern for regulatory authorities and competition agencies (Table 2). Since 2019, most transactions have taken place in Europe, but consolidation has also occurred in the United States, Chile and Israel during the same period (see Annex A Table A A.1, for the full list of transactions).

Table 2. Examples of remedies of recent mobile market mergers (2020-2025)

Year	Country	Parties	Market Structure change	Outcome
2020	United States	Sprint/T-Mobile	4 to 3	Approved subject to remedies. Remedies: structural (prepaid business divestiture, spectrum divestment to DISH, wholesale access, coverage and quality obligations) (FCC, 2019[86]).
2020	Israel	Golan Telecom/Cellcom	6 to 5	Approved without remedies (Minister of Communications, 2020[87])
2020	Lithuania	Bite Lietuva/Mezon	4 to 3	Approved subject to remedies. Remedies: behavioural commitments (Lietuvos Respublikos Konkurencijos Taryba, 2020[88])
2022	Poland	Play(Illiad)/UPC Polska	5 to 4	Approved without remedies (European Commission, 2022[89])
2023	Canada	Freedom Mobile/Videotron	4 to 4	Approved subject to remedies. Remedies: behavioural commitments (Canada, Competition Bureau, 2023[90]). Shaw and Videotron networks did not overlap so the Quebecor acquisition of Shaw's wireless business led to one nearly national 4th player from two regional 4th players.
2024	Spain	Orange/MásMóvil	4 to 3* (with DIGI entry via remedy)	Approved subject to remedies. Remedies: structural (Spectrum divestment, national roaming option to DIGI) (European Commission, 2024[91])
2024	Hungary	Vodafone Hungary/Digi Hungary	4 to 3	Not subject to competition review*
2024	United Kingdom	Vodafone/Three UK	4 to 3	Approved subject to behavioural remedies (network investment commitment, retail price caps and MVNO safeguards). The CMA also took into account the separately negotiated spectrum divestment to VMO2 under the revised Beacon 4.1 network-sharing agreement, which was expected to strengthen competition but was not imposed as a formal remedy (CMA, 2024[82])

Year	Country	Parties	Market Structure change	Outcome
2024	Portugal	Vodafone/Nowo	4 to 3	Prohibited (AdC, 2024[92])
2024	Italy	Fastweb/Vodafone	5 to 4	Approved subject to remedies. Remedies: behavioural commitments (AGCM, 2024[93])

Note: A more comprehensive list of mergers since 2005 is provided in Annex A. A transaction classified as "not subject to competition review" was not assessed under merger-control procedures, for example because it did not meet notification thresholds, involved an intra-group reorganisation or benefited from a statutory exemption. *For the case of Spain, Digi acquired 60 MHz of spectrum across three bands (1 800 MHz, 2 100 MHz and 3.5 GHz) a remedy to the Orange/MásMóvil merger approved by the European Commission in February 2024 and after that signed a 16-year national roaming and RAN-sharing agreement with Telefónica on a commercial basis. Digi activated its first proprietary mobile antenna in July 2024 and formally transitioned to MNO status in January 2025. It remains a hybrid operator: The 60 MHz of spectrum acquired -all in mid and high frequency bands- is insufficient to deploy a full, nationwide mobile network, as it lacks the low-band spectrum necessary for broad coverage. As long as this spectrum portfolio remains unchanged, Digi will continue to rely heavily on its wholesale agreement with Telefónica, functioning in practice as a hybrid MNO/MVNO. *Hungary: The government designated the underlying acquisitions as being of "national strategic importance" and the merger received exemption from notification to the Hungarian Competition Authority (GVH).
Source: OECD elaboration based on news reports; Table 4 of (OECD, 2021[4]) "Emerging trends in communication market competition" https://doi.org/10.1787/4ad9d924-en.

91. Most four-to-three mergers were reviewed by competition authorities, often subject to remedies to maintain or restore competition in the market. These may include structural measures, behavioural commitments, access obligations, price-related safeguards or investment commitments, depending on the competition concerns identified and the expected effects of the transaction. Spectrum divestments remained one of the most frequently used structural measures. For example, the United States Department of Justice resolved its challenge to the 2020 T-Mobile/Sprint merger through a settlement requiring, among other remedies, the divestment of all of Sprint's 800 MHz spectrum holdings to support DISH's entry as a fourth nationwide facilities-based MNO (Brito and Vasconcelos, 2023[94]), while earlier European cases such as Hutchison 3G Italy/Wind required divestments across several frequency bands to support a fourth operator (Langeheine et al., 2020[95]).

92. Investment-related commitments can form part of a remedy package to address identified competition concerns. Where expected benefits take time to materialise, interim safeguards may be necessary to address competitive harm during implementation, as illustrated by the Vodafone/Three case (Box 2). Such remedies can be complex to design and monitor, as technology, demand and costs may change during implementation. Obligations should specify measurable deployment and service-quality requirements and be supported by effective monitoring and enforcement. Their assessment should focus on the expected improvements in coverage, capacity, quality and competition, rather than expenditure alone. Co-operation between competition authorities and sector regulators can combine merger-control expertise with technical supervision, as was done by the CMA and Ofcom in the Vodafone/Three case. *Ex post* assessment can also help identify weaknesses in remedy design and implementation and inform future cases (OECD, 2023[96]; CMA, 2024[82]).

Box 2. Examples of recent mergers of mobile communication operators

The Vodafone/Three Merger (2024)

In June 2023, Vodafone and CK Hutchison agreed to combine their UK operations, Vodafone UK and Three, the United Kingdom's third- and fourth-largest mobile network operators. The CMA found that the merger would substantially lessen competition in retail and wholesale mobile markets, as it identified risks of higher retail prices and less favourable wholesale terms for MVNOs. It considered potential efficiencies arising from the parties' proposed GBP 11 billion network investment plan and the separately negotiated network-sharing arrangement with VMO2, which included a spectrum divestment. However, it concluded that the merged entity would lack incentives to implement the investment plan fully without enforceable commitments, and that the efficiencies otherwise expected would be insufficient to offset the adverse effects on competition (CMA, 2024[82]).

On 5 December 2024, the CMA cleared the merger subject to behavioural remedies comprising an eight-year network investment commitment and time-limited retail and wholesale safeguards. The final undertakings included caps on selected retail tariffs and pre-set wholesale prices and contract terms for MVNOs; these safeguards were expected to apply for three years, with their withdrawal conditional on confirmed delivery of the year 3 network commitment milestone. The CMA expected increased network capacity and lower capacity-expansion costs, alongside improvements in network quality, to strengthen competition over time. Its assessment considered the effects on both the merged entity and VMO2, including their ability and incentives to compete for retail and wholesale customers. It also found that the network commitment would bring significant and long-lasting quality improvements for consumers. However, it considered interim protections necessary because these benefits would materialise progressively and would not adequately address competitive harm during the initial implementation period.

The network commitment specifies deployment milestones for years three, five and eight, including requirements for upgraded sites and spectrum configurations. It was also incorporated into a spectrum licence, giving Ofcom enforcement powers alongside the CMA. Ofcom has primary responsibility for monitoring the network commitment, while the CMA monitors and enforces the retail and wholesale safeguards (CMA and Ofcom, 2025[97]). The merged entity must also publish annual reports on progress in implementing the network plan.

The T-Mobile/Sprint Merger (2018-2020)

The T-Mobile/Sprint merger combined two of the four nationwide facilities-based MNOs in the United States. The US Department of Justice (DOJ) challenged the transaction. It alleged that removing Sprint would eliminate head-to-head competition and risk higher prices, lower quality and less innovation. It also alleged that the merger would make co-ordination among the remaining operators more likely, and would end competition between the two firms in supplying wholesale access to MVNOs (DOJ, 2019[98]). The DOJ (DOJ, 2020[99]) resolved its challenge through a settlement, entered as a Final Judgment in April 2020, designed to enable DISH to enter as a fourth nationwide facilities-based operator. The remedy required: 1) divestiture of Sprint's prepaid business, including Boost Mobile and Virgin Mobile; 2) the sale of Sprint's 800 MHz spectrum to DISH; 3) access for DISH to at least 20 000 decommissioned cell sites and hundreds of retail locations; 4) wholesale network access for DISH for at least seven years while it built its own network.

The DOJ stated that commitments made to the Federal Communications Commission (FCC) in its parallel review, together with DISH's own build-out commitments, were determinative in shaping this remedy. The FCC approved the transfer of licences subject to commitments (FCC, 2019[100]) (DOJ, 2020[99]), including:

- 5G coverage of 97% of the US population within three years and 99% within six years;
- rural coverage of 85% and 90% over the same periods;
- minimum speeds;
- a three-year commitment to offer the same or better rate plans.

Subsequent developments show the implementation risks of creating a new facilities-based rival. DISH met its 2023 FCC milestone of covering at least 70% of the US population. However, it did not acquire Sprint's 800 MHz spectrum, as it was unable to finance the purchase of roughly USD 3.6 billion. T- Mobile instead sold the spectrum to Grain Management in August 2026 (Grain Management, 2026[101]). DISH also struggled to meet separate FCC spectrum build-out requirements, putting valuable spectrum licences at risk. Following EchoStar's planned spectrum sales to AT&T and SpaceX, the DOJ concluded that DISH could no longer operate its own nationwide network. In July 2026, a court approved DOJ's request to remove this obligation, while retaining the remaining provisions of the merger settlement (DOJ, 2026[102]). The effectiveness of such remedies may therefore depend not only on the assets made available to an entrant, but also on its continuing ability to finance spectrum and network investment.

Notes: A coalition of state attorneys general, co-led by New York and California, continued to challenge the merger after the federal remedies had been agreed. In February 2020, the US District Court for the Southern District of New York declined to block it (State of New York et al., 2019[103]). The Court found that high concentration established a prima facie case. It concluded, however, that the presumption was rebutted by several factors taken together: 1) merger-specific and verifiable efficiencies, including greater network capacity and a faster transition to 5G; 2) Sprint's weakened competitive position; 3) the DOJ and FCC remedies, including DISH's anticipated entry. The Court treated the efficiencies as one element of the overall assessment rather than as decisive on their own. Today, the merger also remains the subject of private antitrust litigation. In Dale et al. v. Deutsche Telekom AG et al. (Dale et al, 2025[104]), a proposed class of AT&T and Verizon customers alleges that the reduced competition caused them to pay inflated prices. As of 2026, the claims had not been decided on their merits (Dale v. Deutsche Telekom AG, 2026[105])
Source: Competition Market Authority (CMA), Ofcom, Department of Justice (DOJ), FCC.

4 Regulatory responses to the evolving connectivity ecosystem

4.1. Observed shifts from ex-ante to ex-post approach in communication policy

93. Alongside the debate on consolidation, questions have been raised as to whether certain forms of *ex ante* regulation in communication markets could be reduced in favour of greater reliance on ex post competition enforcement and merger control. Ongoing OECD work suggests that, as competitive conditions improve, asymmetric *ex ante* obligations on incumbent operators tend to be relaxed, giving way to more targeted *ex post* oversight through competition enforcement and merger control, often combined with symmetric *ex ante* regulatory obligations applying to all operators, such as access to passive infrastructure or in-building wiring (OECD, 2026[9]).

94. For example, in the European Union, the list of communication markets subject to ex-ante regulation has fallen from 18 three decades ago to two wholesale markets: local access at a fixed location (e.g. copper, cable or fibre loops) and dedicated capacity (e.g. leased lines or dark fibre) (European Commission, 2020[106]). Several OECD Member countries and partner economies have deregulated wholesale access in certain markets or geographical areas, or have adopted a lighter regulatory approach, primarily for fixed-location wholesale access over copper and fibre-to-the-node (FTTN) local loops (e.g. Czechia, France, Italy, Korea, Latvia, Slovenia, Spain, Sweden, Bulgaria and Croatia) (OECD, 2026[9]).

95. Interconnection markets, including wholesale fixed and mobile call termination, have also seen deregulation. However, OECD communication markets are at different stages of development and competition, which may warrant continued or new access obligations. Some OECD Member countries have therefore maintained or introduced wholesale access regulation. Canada's revised wholesale high-speed access (HSA) framework aims to support competition while preserving infrastructure investment: the largest telephone companies must provide workable wholesale fibre access, while the largest Internet service providers (ISPs), including cable companies, must use their own networks in their traditional service areas (CRTC, 2024[107]). Israel has also applied wholesale obligations to very high-speed networks.

4.2. Observed changes to sectoral legal and regulatory frameworks

96. OECD Member countries are adapting sectoral legislation, regulatory regimes and communication regulators' responsibilities to changing market conditions in the connectivity ecosystem (OECD, 2026[9]).

97. Wholesale broadband access regulatory changes include Canada's HSA framework described above (CRTC, 2024[107]). Ireland adjusted significant market power (SMP) obligations through market reviews, introducing new or amended remedies (ComReg, 2024[108]; 2024[109]). Portugal implemented extensive changes to wholesale access rules across ducts, poles, optical fibre and dedicated capacity offers, in an effort to strengthen non-discrimination, transparency and cost-oriented access to essential facilities (ANACOM, 2024[110]).

98. New Zealand amended its telecommunications framework to give it explicit extraterritorial effect, bringing offshore LEO satellite broadband providers within national obligations on transparency, service quality and sectoral funding (MBIE, 2025[111]). Further developments remain underway in Korea and Peru. Korea is reviewing its Telecommunications Business Act in light of market changes and next-generation services, with the direction still under consideration. Peru established a multisectoral working group to consider updating its Telecommunications Law due to technological developments (MTC, 2024[112]).

99. In January 2026, the European Commission proposed the Digital Networks Act (DNA) (European Commission, 2026[113]), a major overhaul of the EU regulatory framework for electronic communications. The proposal replaces and consolidates the European Electronic Communications Code, BEREC Regulation, Radio Spectrum Policy Programme and core parts of the Open Internet Regulation into a single directly applicable regulation. It seeks to reduce regulatory fragmentation across 27 countries with different national licensing and spectrum management regimes. The proposal has triggered policy discussions on how to balance regulatory simplification, investment incentives, spectrum certainty, infrastructure-based competition and consumer choice within the future EU framework. The proposal remains subject to the ordinary legislative procedure in the European Parliament and Council (European Commission, 2026[108]).

100. Another key development is the European Commission's 2025 Revision of the Recommendation on Relevant Markets [Recommendation (EU) 2020/2245], which provides updated guidance on markets susceptible to *ex-ante* regulation and reflects major technological and competitive developments across the EU's connectivity ecosystem. BEREC's June 2025 input addressed emerging competitive dynamics and national implementation (BEREC, 2025[56]). These initiatives affect the 22 OECD Member countries in the EU and raise questions of simplification, competition and spectrum policy relevant across the OECD.

4.3. Options for regulatory alternatives to mergers that may promote investments with less restrictions on competition

101. Previous OECD work (OECD, 2014[114]; 2021[4]), has highlighted that prior to considering the approval of a merger in the communication sector, countries should first assess whether alternative remedies or market arrangements exist that may deliver efficiencies that increase both short term and long term competitive dynamics, including retail-based competition and increased investment to improve network coverage and quality. Such alternatives include co-investment and infrastructure sharing, which can reduce deployment costs without reducing the number of competitors; wholesale access obligations and mobile virtual network operator (MVNO) frameworks, which can preserve competition while enabling investment cost recovery; and spectrum policy reforms, such as longer licences, harmonisation and predictable renewals, which can improve investment certainty without requiring consolidation. These measures are not always equivalent to consolidation in scope, feasibility or the efficiencies they generate, and their effectiveness depends on market conditions, governance arrangements, investment incentives and the relevant counterfactual.

4.3.1. Co-investment and infrastructure sharing

102. Co-investment involves operators jointly financing new infrastructure and sharing investment risks, while infrastructure sharing concerns the joint use of passive assets, such as sites, towers, ducts and poles, or active network elements, such as radio access networks and, in some cases, spectrum. Both can accelerate network expansion and reduce deployment costs while preserving independent retail operators Across the OECD, infrastructure sharing agreements are increasingly used and remain an important complement to infrastructure-based competition, provided they do not hinder competition. Co-investment is mostly negotiated commercially rather than mandated by regulation,[36] although several countries report limited use to date.[37]

103. Passive infrastructure sharing, which involves the joint use of non-electronic network elements such as sites, masts, ducts, poles and cabinets, is the most common form of sharing and is widely promoted across OECD Member countries either through reference offers under significant market power (SMP) regulation or through commercially negotiated agreements. Some countries rely mainly on commercial agreements, with regulators intervening in disputes, as in Finland and Germany. Others, including Portugal, Spain and the United Kingdom, require SMP operators to provide access to ducts and poles at cost-oriented prices under transparent and non-discriminatory reference offers. Portugal also applies symmetric access rules to certain public infrastructure.

104. Active sharing, which extends to electronic network elements such as antennas, base stations, radio network equipment, is also increasingly common, particularly in mobile networks, although its scope and oversight vary due to potential competition concerns. In a multi-operator radio access network (MORAN), operators share radio equipment while using separate spectrum; in a multi-operator core network (MOCN), they also share spectrum and some core functions (GSMA, 2019[115]). Both models of radio access network sharing are permitted in most OECD Member countries,[38] however, some countries require regulatory approval for MOCN arrangements. Full core-network sharing remains less common and is prohibited in countries including Italy and Mexico.

105. These differences reflect the competition concerns that active sharing can raise. Under some conditions, it may weaken infrastructure-based competition, network differentiation and investment incentives, or facilitate co-ordination among retail competitors. In particular, it may facilitate to a different degree the exchange of commercially sensitive information on investment plans, network capacity and future deployment, align investment decisions, increase transparency in ways that support tacit co-ordination, and disadvantage operators outside the arrangement. These risks tend to increase the deeper sharing extends into the network, and are particularly relevant for spectrum pooling and extensive joint network management. Enabling frameworks are therefore often paired with safeguards, including non-discrimination, transparent reference offers, third-party access, dispute resolution mechanisms, information barriers and closer scrutiny of deeper active sharing arrangements or spectrum pooling (Bourreau, Hoernig and Maxwell, 2020[116]; OECD, 2022[1]; 2014[114]; 2024[2]; 2021[4]).

106. Where consolidation is justified on grounds of deployment efficiencies, authorities may wish to consider, case by case, whether co-investment or infrastructure sharing could achieve comparable benefits with fewer structural effects. BEREC (2026[117]) similarly notes that many of the efficiencies associated with consolidation can also be achieved through network sharing, infrastructure co-operation, wholesale access or joint ventures, without reducing the number of independent competitors.

4.3.2. Spectrum policy as a means to promote investment and competition

107. Radio spectrum is a scarce national resource enabling our digital world, underpinning mobile broadband as well as satellite, broadcasting and a wide range of wireless communication services across the economy (OECD, 2025[42]). As a key input, the way spectrum is assigned shapes which communication operators can enter the market, how quickly they can expand and the resources available for network roll-out., Therefore, spectrum policy remains central to promote both competition and investment in broadband networks with assignment procedures needing to weigh competition, coverage and investment objectives simultaneously. Auctions remain the gold standard for mobile broadband, and their design can embed pro-competitive tools such as spectrum caps or blocks reserved for new entrants. Experience across the OECD has shown that spectrum should be assigned through well-structured, transparent licensing and market-based mechanisms to encourage innovation and network growth, and regulatory certainty around licence duration and renewals remains essential for enabling operators to undertake long-term investments. Secondary spectrum markets and spectrum-sharing arrangements can also facilitate market entry and improve the efficient use of spectrum (OECD, 2022[78]). Appropriate spectrum pricing, where licence holders pay a price that reflects the value of the spectrum, can promote its efficient use, whereas fiscal

revenue maximisation should not be a guiding principle. High reserve prices or high annual fees on top of auction payments can result in unsold spectrum and less competition in the market (OECD, 2022[78]).

108. In Mexico, for example, the structure and cost of spectrum licensing have contributed to a deterioration of competition and to operators exiting the market (OECD, 2022[78]; 2025[42]). The Mexican Government has relied heavily on high recurring annual spectrum fees determined by the Ministry of Finance, which have accounted for 70-90% of total spectrum costs placing overall spectrum prices at nearly twice the international median. This has contributed to entrench market concentration, has created significant barriers that limited the development of alternative operators, and has resulted in low auction participation (OECD, 2026[118]; 2022[78]; 2017[119]). As a consequence of persistent structural barriers, Mexico has seen operators return spectrum and Telefónica sold its remaining assets in 2026 (BusinessWire, 2026[30]).

109. Looking ahead, spectrum allocation and assignment decisions are likely to carry even higher stakes as demand for connectivity grows and countries run out of unassigned spectrum in prime ranges. The rise of LEO constellations, and their integration with mobile networks through direct-to-device (D2D) models, is bringing new competitive dynamics to the connectivity ecosystem (OECD, forthcoming[26]), where access to spectrum and orbital slots may play an important role in shaping future market entry. These new considerations for spectrum assignment are expected to feature prominently as countries prepare for the 2027 World Radiocommunication Conference (WRC-27) of the International Telecommunication Union (ITU) (ITU, 2026[120]), where decisions on spectrum allocation could shape investment and competitive conditions for years to come.

4.4. The role of regulators and competition authorities in evolving communication markets and the connectivity ecosystem

4.4.1. Regulatory communication market reviews, market studies and other assessments of relevant markets in the connectivity ecosystem

110. In most OECD jurisdictions, communication markets may be typically subject to at least three different forms of competition analysis. Competition authorities may analyse markets in antitrust enforcement and merger control cases, and across a sector when conducting market studies. Communication regulators, for their part, carry out periodic regulatory market reviews of relevant communication markets to assess whether *ex ante* regulation is warranted. These reviews typically define relevant product and geographic markets, assess market power and determine whether intervention is needed. On this basis, regulators may impose or adjust obligations on operators with SMP, such as access, transparency or price control, to promote connectivity and competition, support investment and protect consumers. Regular reviews also allow regulators to adapt frameworks as technologies, business models and competitive dynamics evolve.

111. Between 2022 and 2024, twenty-six OECD Member countries and five partner economies (i.e. Brazil, Bulgaria, Croatia, Peru and Romania) conducted regulatory market reviews in the communication sector. In the European Union, such reviews are embedded in the communication sector regulatory framework, which requires national regulatory authorities to periodically assess relevant electronic communications markets and determine whether *ex ante* obligations remain justified. In most cases, reviews focussed on fixed and mobile markets at both retail and wholesale levels. In Ireland, the Commission for Communications Regulation (ComReg) reviewed the Physical Infrastructure Access (PIA), Wholesale Local Access (WLA) and Wholesale Central Access (WCA) markets to determine whether regulation is necessary and in what form (ComReg, 2024[108]; 2024[109]). Comparable exercises were undertaken in Belgium, Iceland, Italy and Korea. In Finland, Hungary, New Zealand and Peru, regulators extended their assessments to satellite broadband and fixed wireless access (FWA). New Zealand, for example, included both in its assessment of wholesale and retail broadband markets, recognising their

growing importance in rural and remote areas (ComCom, 2025[121]). In the United States, the FCC must publish a Communications Marketplace Report every two years (FCC, 2024[122]).

112. A small number of countries (Japan, Mexico and New Zealand) also extended their broadband market assessments to non-conventional players. Japan and New Zealand considered the role of over-the-top (OTT) providers and the substitutability between new and legacy communication services (MIC, 2023[123]; ComCom, 2025[121]), while Mexico and New Zealand analysed the activities of tower companies (IFT, 2024[124])).

113. Beyond conventional communication markets, eight countries undertook targeted competition assessments of the broader connectivity ecosystem. Cloud markets were examined in France, the Netherlands, Spain, Türkiye and the United Kingdom, focussing on issues such as market concentration, interoperability and barriers to entry. Brazil analysed competition in the data centre market (Anatel, 2024[125]), while Austria and Türkiye assessed digital platforms and online advertisement (RTR, 2024[126]; Rekabet, 2023[127]).

114. Regulatory market reviews and competition authorities' market studies draw on related concepts. However, they differ in their analytical frameworks and objectives. Regulatory market reviews generally assess the need for intervention through obligations such as access, non-discrimination, transparency or price controls. Market studies by competition authorities, which look at the functioning of markets in a chosen sector, typically provide recommendations to address market failures, anticompetitive concerns or, if the competition authority conducting it has such powers, impose remedies. They may often lead to advocacy, competition or consumer protection remedies, further investigation or enforcement, or recommendations on the legal and regulatory framework; where the authority has such powers, they may also lead to the imposition of remedies.

115. The concepts applied by competition authorities in case-specific enforcement, merger analysis or market studies are closely related, but do not necessarily coincide fully with those used by communication regulators (European Commission, 2020[128]). The distinction between SMP and market power illustrates this. SMP is a regulatory designation defined by reference to a position equivalent to competition law dominance, but functions as a legal threshold that, once met, triggers the application of regulatory obligations. Market power, by contrast, is an economic concept concerning a firm's ability to exercise a certain degree of influence on competitive parameters, without being sufficiently constrained by competitors, consumers or entry. It is assessed with reference to several factors, such as market shares, barriers to entry and expansion, economies of scale and scope, network effects and the absence of countervailing buyer power, typically in *ex post* competition assessments or merger control. These factors may support or weaken a finding of market power, which by itself does not establish an infringement, and may also inform an SMP assessment.

4.4.2. Expanding communication regulators' mandates

116. Communication regulators across the OECD and in partner economies in the accession process to the OECD[39] often have mandates extending to broader digital issues. The most commonly reported areas of full or partial responsibility are end-user devices (74.4%), OTT services (69.8%), the Internet of Things (IoT) and artificial intelligence (AI) (67.4%), and digital security (62.8%) (OECD, 2026[9]).

117. Since 2023, around two-thirds of OECD Members and accession countries have reported changes to their regulators' responsibilities (OECD, 2026[9]). Most stem from the transposition into national law of EU legislation, including the Digital Services Act (European Union, 2022[129]), the Digital Markets Act, affecting 22 OECD Member countries. Other changes include broader responsibilities for digital security in Costa Rica and Croatia, for online streaming services in Canada and the United Kingdom, and online piracy in Italy. In France, a national law implementing the DSA, the DMA and the Data Governance Act gave the regulator certain competences related to cloud services (Government of France, 2024[130]).

118. Some of these new mandates have spurred organisational changes within the regulator (OECD, 2026[9]). In Germany, new EU legislation, including the DMA, the DSA, the Data Act and the AI Act, led to the creation of a new department within the communication regulator, the Bundesnetzagentur (BNetzA). In Portugal, the communication regulator, ANACOM, is intended to supervise the EU AI Act. The Swiss Federal Office of Communications (OFCOM) created two new units on digital security, while the US Federal Communications Commission (FCC) created a "space bureau" to support national leadership in the emerging space economy and improve co-ordination with other agencies on issues related to space (FCC, 2026[131]).[40]

119. As responsibilities expand and players across the connectivity ecosystem diversify, regulators may face new information asymmetries, particularly where critical data on network performance, traffic patterns or service quality is held by players outside their conventional remit. Proportionate access to information and reporting mechanisms may become increasingly relevant to support an understanding of these markets.

4.4.3. Promoting competition and maintaining fit-for-purpose regulatory frameworks

120. As the connectivity ecosystem evolves, policymakers increasingly ask whether existing regulatory frameworks still reflect market realities. The growing interdependence between digital infrastructure components and players raises issues that cut across conventional silos, making effective, proportionate and future-ready regulation more complex.

121. A key challenge for policymakers will be ensuring that regulatory frameworks remain sufficiently flexible to adapt to new forms of competition and co-operation. Markets are increasingly shaped by interactions between actors that operate simultaneously at different layers of the ecosystem. Regulatory frameworks therefore need to be capable of addressing risks without constraining beneficial forms of evolution or deterring investment.

122. A further issue is the growing number of actors that fall outside the usual scope of regulatory frameworks but nonetheless influence connectivity outcomes. While many bring valuable capabilities and capital, their growing role may raise questions about transparency and regulators' ability to maintain oversight of the ecosystem as a whole. Given the critical nature of communication networks, policymakers may also need to take security interests into account when considering regulation of the connectivity ecosystem.

123. Whether current frameworks adequately reflect market realities therefore remains an open question. Regulatory flexibility grounded in robust monitoring and multi-stakeholder, cross-sector dialogue and regulatory co-operation will be central to keeping pace with market developments without undermining innovation or creating unnecessary burdens.

4.4.4. Co-operation between communication regulators and competition authorities

124. As new actors, partnerships and changing value chains reshape communication markets, effective co-operation between communication regulators and competition authorities is becoming increasingly important. Each brings distinct and complementary expertise and tools, Clear mandates, combined with close co-operation, can help these authorities identify and address issues that may prevent markets from functioning well, take closer account of the wide effects of regulatory or enforcement action, and reach consistent, well-informed decisions.

125. Where institutional mandates overlap, a clear allocation of responsibility helps the authorities to co-ordinate their interventions, considering the different objectives they are pursuing. While competition authorities typically focus on preserving effective competition across different sectors, and sometimes have consumer protection powers, sector regulators may focus on connectivity, network resilience, consumer protection and universal access. When communication regulators also have a competition mandate concurrently with the competition authority, or a general commitment to promoting competition within their mandate, a pre-arranged agreement on how to co-ordinate operationally can support the choice of which

authority is best placed to take the lead or provide guidance on how both authorities will deal with the matter in parallel.

126. Co-operation is also important to co-ordinate the effectiveness of *ex ante* regulation and *ex post* or *ex ante* competition enforcement, to ensure that these activities reinforce each other and form part of a complementary and cohesive design. Normally the more competitive markets become, the more their supervision can be left to competition authorities, reducing the role of communication regulators, but there may be specific forms of market failures that can be best addressed by regulation. Co-ordination between authorities enables to choose the most appropriate and most proportionate tool to address the specific concern.

127. Institutional or process co-ordination can reduce the risks of duplicating roles or reaching inconsistent outcomes. Practical examples could be joint or co-ordinated parallel investigations, information-sharing arrangements, early notification of new matters, regular co-ordination meetings, consultation or provision of opinion and advice, joint technical analysis or staff exchanges.

128. A good practice example of co-ordination is provided by the Memorandum of Understanding (MoU) between the United Kingdom's CMA and Ofcom, which have concurrent competition powers in electronic communications, broadcasting and postal services (CMA and Ofcom, 2016[132]). The two institutions also have a separate MoU in place since 2024 to co-ordinate their role in relation to digital regulation (CMA and Ofcom, 2024[133]). For further examples of methods of co-operation in general or in the context of remedies, see OECD (OECD, 2025[134]; 2022[135]).

129. While different co-ordination models can work in different countries, an MoU between a competition authority and a regulator can ensure clarity around the respective roles, procedures to follow, points of contact and allocation of work. More informal opportunities to engage and exchange among authorities can instead support strategic discussion, horizon scanning and looking for convergent approaches on common problems.

5 Conclusion

130. The connectivity ecosystem is becoming more diverse, integrated and interdependent. Communication operators are adapting their strategies, and infrastructure-only models and financial investors are reshaping ownership. Technology companies are extending their role into network and computing layers, and satellite connectivity is emerging as a viable option in some market segments. These developments create opportunities for investment, innovation and better connectivity. They also mean that competitive pressure, and potential bottlenecks, may increasingly lie across layers rather than within traditional communication markets alone. Competition assessments may therefore need to account for competitive interactions across interconnected markets (e.g. ecosystem approach), while carefully assessing substitutability between emerging and traditional services, including terrestrial and satellite communication services and between network-integrated and OTT communications.

131. On the first question set out in this report, how to promote both competition and investment, the evidence suggests that their relationship depends on several factors, including market structure, the type of technology, the impact of regulation and investment incentives. Consolidation may generate efficiencies, for instance through potential cost reductions, economies of scale or more efficient spectrum use but may also weaken incentives to invest or innovate by removing rivalry between independent players. Assessments therefore need to distinguish integration that improves the merged firm's ability and incentives to compete from arrangements that may foreclose rivals, entrench market power or reduce independent investment. Depending on the type of transaction and the theory or theories of harm under consideration, this may also involve examining, in communication markets, access to infrastructure, spectrum, wholesale inputs, interoperability and data, and, in satellite communications, access to orbital resources.

132. Where parties claim that a merger will enable greater investment, the claim should be assessed alongside the merger's likely competitive effects and tested against evidence to determine whether it is verifiable, merger-specific and likely to benefit consumers. In these markets, changes in network capacity, coverage, quality and costs should always be assessed by reference to their likely effects on competition. Investment effects should be assessed in terms of consumers' benefits, such as improvements in coverage, capacity, quality and affordability, and the analysis should account for effects on the investment and competitive incentives of both the merged entity and its rivals. Where investment commitments are used, these may be accompanied by measures to offset short-term anticompetitive harm, measurable deployment and service-quality milestones and thorough monitoring to ensure they materialise.

133. Authorities should also consider whether claimed efficiencies could be achieved to a comparable extent and within a comparable period, through realistic less restrictive alternatives, such as infrastructure sharing, co-investment and wholesale access. Predictable spectrum policy and measures that lower deployment costs can also support investment without reducing rivalry.

134. The growing integration of connectivity, cloud infrastructure and AI may increase in the future the relevance of vertical and conglomerate theories of harm in these markets. Access and interoperability commitments may therefore be used in some cases, although structural remedies should remain the preferred solution where they can address the identified competition concerns more effectively and durably.

135. On the second question, the roles of communication regulators and competition authorities increasingly intersect, especially as connectivity converges with content, cloud services and other parts of the digital ecosystem. Regulatory market reviews, market studies, antitrust enforcement and merger control each offer complementary insights that can inform one another, while not always automatically transferable because of different legal tests, time horizons or available measures. Closer co-operation between communication regulators and competition authorities can improve the consistency and effectiveness of the respective assessments and outcomes, while information sharing and proportionate access to data from actors that materially affect connectivity outcomes helps both keep pace with the evolving competitive dynamics of the connectivity ecosystem.

136. Looking ahead, further OECD work could build on this paper in two directions. The first is empirical: *ex post* evaluation of recent mergers and remedies in data-centric and 5G markets, drawing on the OECD communication price baskets and comparable measures of quality and investment. The second concerns the ecosystem: how satellite connectivity, direct-to-device services, infrastructure-only models and cross-layer partnerships are changing market boundaries and competitive dynamics. Both would help regulators and competition authorities keep digital infrastructure and communication markets accessible, resilient and contestable, so that the substantial investment it requires continues to deliver high-quality, resilient, innovative and affordable connectivity for all.

Annex A. Overview of recent transactions, merger control decisions and remedies

Table A A.1. Select examples of recent transactions in communication markets since 2023

Year	Country	Transaction	Type of transaction	Cross-border operation (Yes or No)	Asset managers involved (Yes or No)	Status	Note	Link
2023	Belgium	Orange BE acquired VOO/Brutélé	Horizontal	No	No	Approved with remedies	Provision of access to VOO's fixed networks in Wallonia and Brussels to Telenet, the country's largest cable broadband provider, as well as access to Orange's to-be-rolled out FTTP network.	https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1722
2024	Bulgaria	United Group acquired Bulsatcom	Horizontal	No	No	Approved with remedies	Regulated access to Vivacom physical (passive) infrastructure	https://www.crc.bg/bg/statii/2639/pazar-na-edro-na-dostap-do-pasivna-fizicheska-infrastruktura-pazar-koyto-do-momenta-na-priemane-na-reshenie-220-ot-30-07-2024-g-na-krs-ne-e-vklyuchen-v-spisak-s-pazari-ot-preporaka-na-evropeyskata-komisiq
2023	Canada	Rogers / Shaw merger	Horizontal	No	No	Approved with remedies	Vidéotron maintained ownership of the Freedom Mobile licences for at least 10 years and offered prices for wireless services in Ontario and Western Canada comparable to its current prices in Quebec	https://decisions.ct-tc.gc.ca/ct-tc/ord/en/item/521164/index.do
2025	Canada	Bell acquired Ziply Fiber	Horizontal	Yes	No	Approved		https://ziplyfiber.com/news/press-release/ziply-bce
2023	Chile	OnNet Fibra bought Entel FTTH network	Vertical	No	Yes	Approved with remedies	Divest Entel's FTTH infrastructure in 8 communes (Santiago, Providencia, Vitacura, Lo Barnechea, Las Condes, La Reina, Concón and Calama) and to enter into a wholesale service agreement with the buyer to supply FTTH wholesale services to Entel in these areas. The parties also offered to modify some of the vertical wholesale agreement clauses that the	https://www.fne.gob.cl/en/fne-aprueba-la-compra-de-la-infraestructura-de-fibra-optica-de-entel-por-parte-de-onnet-fibra-sujeta-a-la-desinversion-de-red-en-8-comunas-y-otras-medidas-de-mitigacion/

Year	Country	Transaction	Type of transaction	Cross-border operation (Yes or No)	Asset managers involved (Yes or No)	Status	Note	Link
							FNE deemed anticompetitive: Reduced the length of an exclusivity clause from 15 to 5 years; modified a wholesale non-compete clause from 15 to 2 years, and removed a right of first offer clause, a right to match clause and a retail non-compete clause.	
2024	Chile	América Móvil acquired ClaroVTR	Horizontal	No	No	Approved with remedies	In 2022 (Claro VTR joint venture) with behavioural (access and transparency obligations) and structural remedies (divestment and spectrum return). When AMX acquires full control in 2024, no new remedies, but previous remedies were still binding.	https://lla.com/sites/default/files/2024-10/Ame%CC%81rica Mo%CC%81vil Acquires a Controlling Interest in ClaroVTR.pdf
2026	Chile	Millicom (Tigo) / NJJ acquired Telefonica	Horizontal	No	Yes	Approved	N/A	https://www.globenewswire.com/news-release/2026/02/10/3235418/0/en/Millicom-Tigo-acquires-Telefonica-operations-in-Chile-jointly-with-NJJ-structured-to-capture-strategic-value-while-protecting-its-balance-sheet.html
2023	Colombia	Movistar & Tigo spun off UNIRED (shared RAN)	Horizontal	No	No	Approved with remedies	Non-discriminatory access conditions	https://www.millicom.com/media-center/blogs/tigo-and-movistar-sign-agreement-to-develop-a-shared-mobile-access-network-in-colombia
2025	Colombia	SUR Holdings acquired WOM	Private Equity / Investment	No	Yes	N/A	N/A	https://www.datacenterdynamics.com/en/news/sur-holdings-acquires-colombias-wom/
2025	Colombia	Tower sales to PTI/ATP & Towernex	Private Equity / Investment	No	Yes	N/A	N/A	https://ionanalytics.com/insights/infralogic/atp-closes-colombian-towers-deal/
2025	Colombia	Tigo+Movistar merger	Horizontal	No	No	Approved with remedies	Wholesale access conditions, roaming, technical safeguards, retail offering protection.	https://img.lalr.co/cms/2025/11/14113524/2025094169RE0000000001-1-1.pdf
2025	Colombia	UFINET/Azteca wholesale fibre	Horizontal	No	No	Withdrawn: Proposed in March 2025 and withdrawn in April 2025 due to financial restructuring of Azteca	N/A	https://www.bnamericas.com/en/news/ufinet-drops-bid-to-acquire-azteca-comunicaciones-colombia
2021	Czechia	PPF bought	Private	No	Yes	N/A	N/A	https://www.reuters.com/

Year	Country	Transaction	Type of transaction	Cross-border operation (Yes or No)	Asset managers involved (Yes or No)	Status	Note	Link
		30% CETIN from GIC (100%)	Equity / Investment					world/ppf-sells-30-stake-cetin-singapores-gic-2021-10-18/
2023	Czechia	CETIN acquired Nej.cz	Horizontal	No	Yes	Approved with remedies	Behavioural commitments concerning a wholesale fixed internet access + investment commitment	https://www.ppf.eu/en/press-release/cetin-a-s-agreed-to-acquire-nej-cz
2024	Czechia	CETIN acquired Nordic Telecom (regional ISP)	Horizontal	No	Yes	Approved with remedies	Maintain wholesale offer / investment commitment	https://uohs.gov.cz/en/information-centre/press-releases/competition/3986-merger-of-ppf-group-and-nordic-telecom-may-take-place-subject-to-commitments.html
2024	Czechia	Vodafone acquired SAZKAmobil (MVNO)	Horizontal	No	No	Approved	N/A	https://www.vodafone.cz/nejen-pro-media/tiskove-zpravy/uohs-schvalil-prodej-mobilniho-operatora-sazkamobil/
2024	France	Bouygues acquired La Poste Mobile (MVNO)	Horizontal	No	No	Approved	N/A	https://www.bouygues.com/wp-content/uploads/2024/11/bouygues-telecom-acquires-the-mvno-la-poste-mobile-.pdf
2023	Greece	Wind Hellas merged with Nova	Vertical	No	Yes	N/A	N/A	https://telecomtalk.info/nova-greece-completes-integration-with-wind-unlimited/655274/
2024	Hungary Bulgaria/ Slovak Republic/ Serbia	PPF Group sale to Emirates Telecommunication Group	Private Equity / Investment	No	Yes	Approved with remedies	Set of commitments: Do not deviate from ordinary UAE bankruptcy law, A prohibition of any financing from the EIA and e& to PPF's activities in the EU internal market, subject to certain exceptions concerning non-EU activities and "emergency funding", which will be subject to review by the Commission, as well as the requirement that other transactions between those companies take place at market terms. A requirement that e& inform the Commission of future acquisitions are not notifiable concentrations under the FSR.	https://ec.europa.eu/commission/presscorner/detail/en/ip_24_4842
2024	Hungary	Vodafone Hungary/Digi Hungary	Horizontal	No	No	Approved	N/A	https://www.edisongroup.com/research/completion-of-vodafone-hungary-acquisition/31927/
2025	Hungary	4iG acquired PR-Telecom	Horizontal	No	No	Approved with remedies	Behavioural commitments concerning safeguards to preserve competitive pricing and temporary	https://www.gvh.hu/en/press_room/press_releases/press-releases-2025/gvh-clears-the-acquisition-of-

Year	Country	Transaction	Type of transaction	Cross-border operation (Yes or No)	Asset managers involved (Yes or No)	Status	Note	Link
							restrictions on promotional activities in the event of market entry by a competitor.	pr-telecom-by-4ig-group-subject-to-strict-conditions
2025	Hungary	URSUS bought ViDaNet	Private Equity / Investment	No	Yes	Approved with remedies	Structural remedies: Full divestiture of ViDaNet. No reacquisition to control of ViDaNet for 10 years. No sensitive information sharing. Reporting obligations.	https://bse.hu/newkibdata/129188865/MagyarTelekom_announcement_24Jan2025.pdf
2024	Italy	KKR acquired TIM NetCo & FiberCop	Private Equity / Investment	No	Yes	Approved	N/A	https://ec.europa.eu/commission/presscorner/detail/es/ip_24_2993
2025	Italy	Swisscom Italia (Fastweb) bought Vodafone Italy	Horizontal	No	NO	Approved with remedies	Behavioural commitments concerning wholesale access, information sharing. 3-years duration.	https://www.agcm.it/dettaglio?db=41256297003874BD&uid=B1F4114ACA0A83F6C1258BFB00782247&view=&title=C12659-SWISSCOM%20ITALIA/VODAFONE%20ITALIA&fs=16
Ongoing	Latvia	Telia MoU to sell Tet & LMT stakes	Vertical	No	No	Ongoing	Buyers are Latvenergo group a utility and LVRTC a wholly state-owned company offering data storage on physical servers and cloud platforms, data transmission, reliability services, and cyber defence solutions	https://www.teliacompany.com/en/press-releases/telia-company-signs-mou-to-divest-latvian-operations-2025-07-17-16-15-00
2024	Luxembourg	InfraRed Capital Partners acquires Proximus Luxembourg Infrastructure	Vertical	No	yes	N/A		https://www.ircp.com/news/infrared-capital-partners-acquires-proximus-luxembourg-infrastructure-for-e108-million/
2022	Mexico	Blackstone Infrastructure Partners Acquires Stake in Phoenix Tower International	Private Equity / Investment	No	yes	Approved	Approved with no conditions	https://www.ift.org.mx/sites/default/files/conocenos/pleno/sesiones/acuerdoliga/vp21022179confidencial.pdf
2023	Mexico	Eutelsat merged with OneWeb	Horizontal	Yes	no	Approved	Approved with no conditions	https://www.ift.org.mx/sites/default/files/conocenos/pleno/sesiones/acuerdoliga/vp01032365confidencial.pdf
2025	Mexico	Green Bridge acquired an addition 5% stake in Telefónica	Private Equity / Investment	No	Yes	Approved	Approved with no conditions	https://www.ift.org.mx/sites/default/files/conocenos/pleno/sesiones_pleno/acuerdo_liga/vp_111224_784_confidencial.pdf
2024	The Netherlands	KPN acquired Youfone (MVNO)	Horizontal	No	No	Approved		https://www.acm.nl/en/publications/acm-clears-acquisition-youfone-kpn

Year	Country	Transaction	Type of transaction	Cross-border operation (Yes or No)	Asset managers involved (Yes or No)	Status	Note	Link
2020 – 2025	The Netherlands	KPN bought 7+ small fixed operators	Horizontal	No	No	Approved	Below thresholds	https://www.acm.nl/en/publications/acm-further-investigation-needed-acquisition-deltas-fiber-optic-networks-kpns-joint-venture
2025	The Netherlands	KPN acquired Open Tower Company	Vertical	No	Yes	Approved with remedies	Remedies to prevent self-preferencing, including: Access is non-discriminatory and of same quality. Access on first come, first serve base. Protection of current agreements with non-related MNOs. Implementation of a fast-track dispute resolution procedure.	https://www.acm.nl/nl/publicaties/kpn-mag-open-tower-company-onder-voorwaarden-overnemen-eindmededeling
2026	The Netherlands	Glaspoort (a KPN and pension provider APG joint venture) buys part Delta's fibre optic network	Horizontal	No	Yes	Blocked	Delta is KPN's largest fibre optic competitor in the Netherlands. The acquisition would have eliminated an important competitor in areas covering around 200 000 households, leaving customers with only two MNO options and MVNOs to rely entirely on KPN's network. The transaction would also strengthen KPN's dominant position in fiber networks at the national level.	https://www.acm.nl/en/publications/acm-blocks-acquisition-deltas-fiber-optic-networks-kpns-joint-venture
2023	New Zealand	Connexa bought 2degrees passive towers	Private Equity / Investment	No	Yes	Approved	Approved but required the granting of a regulatory clearance by the Commerce Commission	https://comcom.govt.nz/news-and-media/media-releases/2023/media-release-issued-5-may-2023-commission-grants-clearance-for-passive-mobile-tower-assets-deal
2022	Poland	Play (Iliad) bought UPC Polska	Horizontal	No	No	Approved	Approved with no conditions	https://ec.europa.eu/competition/mergers/cases1/202224/M_10515_8353093_258_3.pdf
2024	Portugal	Vodafone to acquire Cabonitel (NOWO)	Horizontal	No	No	Blocked	Vodafone, which is the 3rd largest electronic communications operator, notified the AdC of its intention of acquiring Cabonitel who owns the 4th largest operator (NOWO). Commitments proposed (spectrum sold to new entrants and wholesale access of Vodafone's fibre network) were deemed to not	https://www.concorrencia.pt/en/articles/adc-prohibits-vodafonenowo-proposed-merger-due-significant-impediments-competition-and

Year	Country	Transaction	Type of transaction	Cross-border operation (Yes or No)	Asset managers involved (Yes or No)	Status	Note	Link
							adequately address the competitive concerns (unilateral and co-ordinated effects, entry barriers)	
2024	Portugal	ON Tower PT bought NOS tower infrastructure	Private Equity / Investment	No	No	Approved	Approved with no conditions	https://extranet.concorrencia.pt/PesquisAdC/Page.aspx?IsEnglish=True&Ref=Ccent_2024_54
2024	Portugal	Digi acquired NOWO	Horizontal	Yes	Yes	Approved	Approved with no conditions. Digi entered the market by acquiring the 4th largest operator (NOWO)	https://extranet.concorrencia.pt/PesquisAdC/Page.aspx?IsEnglish=True&Ref=Ccent_2024_53
2025	Portugal	EQT Fund Management Acquired part of Eutelsat	Private Equity / Investment	No	Yes	Approved	The "Target Business" consists of Eutelsat Group's passive earth station infrastructure business and includes assets that enable data transmission between the Earth and orbiting satellites located or used in teleports owned and operated by the Eutelsat Group (located in France, Italy and Portugal), teleports owned and used by third parties (in various jurisdictions), and OneWeb Satellite Network Portals (in various jurisdictions). In Portugal, the Target Business will use an earth station located in Caniçal, Madeira and OneWeb SNP in Portugal.	https://extranet.concorrencia.pt/PesquisAdC/Page.aspx?IsEnglish=True&Ref=Ccent_2024_93
Ongoing	Slovenia	Telemach Slovenia to acquire	Horizontal	No	No	N/A	Telemach Slovenia has signed a share purchase agreement with Garnol for the acquisition of business shares in T-2; Telemach Slovenia will initially acquire a non-controlling stake of 24.9% of T-2's equity. After obtaining approval from the relevant regulators, Telemach Slovenia is set to acquire at least 98.06% of the shares in T-2 as per the terms of the signed share purchase agreement.	https://united.group/telemach-slovenia-signs-agreement-to-acquire-t-2/
2024	Spain	Orange and MásMóvil created a joint-venture to merge their business in Spain	Horizontal	No	Yes	Approved with remedies	Spectrum divestment to Digi to build its own mobile network and to exert a strong competitive constraint on the joint venture and an optional national roaming	https://ec.europa.eu/commission/presscorner/detail/en/ip_24_928

Year	Country	Transaction	Type of transaction	Cross-border operation (Yes or No)	Asset managers involved (Yes or No)	Status	Note	Link
		(MasOrange)					agreement, which Digi can decide to use or not.	
2024	Spain	Zegona Communications acquired Vodafone Spain	Private Equity / Investment	No	Yes	Approved	The acquirer, Zegona, is a company operating as an investment vehicle in the European technology, media and telecommunications industry	https://www.cnmc.es/sites/default/files/editor_contenidos/Notas de prensa/2024/20240201_NP_Zegona_Vodafone_en_GB.pdf
2024	Spain	Inveready acquired Avatel Telecom	Private Equity / Investment	No	Yes	Approved		https://www.cnmc.es/sites/default/files/5734428.pdf
Ongoing	Spain	Orange to acquire Masmovil shares in the joint-venture	Horizontal	No	No	Ongoing		https://www.orange.com/en/press-release/orange-devient-actionnaire-a-100-de-masorange-loperateur-leader-en-espagne-476438-476438
2024	The United Kingdom	Vodafone/Three Merger	Horizontal	No	No	Approved with remedies	Behavioural remedies covering network investment commitment, price caps, MVNO safeguards and spectrum divestment to VMO2 under pre-existing network sharing agreement	https://www.gov.uk/government/news/cma-clears-vodafone-three-merger-subject-to-legally-binding-commitments
2024	Türkiye	Albaraka Portföy acquired Millenicom	Private Equity / Investment	No	Yes	Approved	Approved with no conditions	https://www.rekabet.gov.tr/Karar?kararId=dd669ac4-6eee-4d12-847e-fcc08eec30a6

Note: "Type" classifies the transaction as a horizontal merger (between direct competitors), a vertical merger (between firms operating at different levels of the value chain), or private equity/investment (acquisition of stakes in a communications provider by a financial asset manager). "Cross-border operation" refers to mergers and acquisitions between horizontally related telecommunications operators active in different national markets, including transactions facilitating entry into new markets. The classification is based on the geographic scope of operations rather than the headquarters of the parent companies. "Asset manager involved" identifies whether a financial investor or investment vehicle participated in the deal. "Status" reflects the outcome of the competition authority's merger review (e.g., approved, approved with remedies, blocked, or ongoing).
Source: OECD based on 2025 CSI regulatory questionnaire and desk research. While the questionnaire focussed on transactions exceeding USD 500 million, it also captured transactions below this threshold where they were considered significant in the context of national market size.

Table A A.2. Recent examples of transactions involving infrastructure-only operators or financial asset managers

Year	Country	Players involved	Notes	Category
2021	Australia	Telstra – Amplitel-Future Fund Commonwealth	Telstra launched Amplitel, a new legal entity managing mobile infrastructure assets, following the sale of 49% stake in Telstra InfraCo Towers to a consortium comprising the Future Fund, Commonwealth Superannuation Corporation and Sunsupe (Telstra, 2021[136])r.	Subsidiary
2025	Colombia	Movistar (Telefónica) – Tigo (Millicom)	Movistar and Tigo launched Unired, a jointly owned mobile infrastructure company.	Operator-led joint-venture
2021	Czechia / Europe	GIC – Cetin	GIC, to acquire a 30% stake in CETIN Group, an owner and operator of towers and fibre cables, as well as data center points-of-presence, in the Czechia, Bulgaria, Hungary and Serbia. PPF Group, to sell 30% interest to GIC and to retain a majority	Asset divestment

Year	Country	Players involved	Notes	Category
			70% ownership in CETIN Group (PPF, 2021[137]).	
2021	Europe and LATAM	Telefónica – American Tower (Telxius Towers)	Telefónica sold its subsidiary Telxius Towers to American Tower Company (ATC). The agreement involves 30 722 telecommunication tower sites across Argentina, Brazil, Chile, Germany, Peru and Spain (RCR Wireless, 2021[138]).	Asset divestment
2023	Germany / Austria	Deutsche Telekom (DT) – Digital Bridge – Brookfield – GD Towers	DT sold 51% of its tower business (GD Towers) to Digital Bridge and Brookfield (Deutsche Telekom, 2023[139])	Asset divestment
2024	Hungary / Europe	PPF Group / Emirates Telecommunication Group Company	PPF Group has completed the sale of a 50% plus one share in its PPF Telecom Group assets in Bulgaria, Hungary, Serbia, and the Slovak Republic to Emirates Telecommunication Group Company (e&'s), establishing a new venture, e& PPF Telecom Group (PPF, 2024[140]).	Asset divestment
2022	Ireland	Eir – InfraVia – Fibre Networks Ireland	Eir and investment firm InfraVia Capital created a FibreCo focussed on the deployment of FTTH across Ireland. InfraVia holds 49.99% interest in the entity while eir holds the remaining 50.01%).	Subsidiary
2024	Italy	TIM (Telecom Italia) – KKR – Netco	TIM divested its fixed infrastructure (NetCo) to private equity firm KKR (TIM, 2024[141])	Asset divestment
2022	LATAM	America Movil - Sitios Latinoamerica	America Movil, spinned off its mobile infrastructure in Sitios Latinoamerican an independent subsidiary owning 36 000 telecommunications towers in Argentina, Brazil, Chile, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, the Dominican Republic and Uruguay.	Subsidiary
2025	Luxembourg	Proximus-Infrared Capital Partners	Proximus sold 100% of its tower infrastructure to Infrared Capital (Proximus, 2025[142]).	Asset divestment
2022	Mexico	Blackstone Infrastructure Partners Acquires Stake in Phoenix Tower International	Blackstone Infrastructure Partners have purchased a 35% stake in Phoenix Tower International (PTI), a leading private cell tower platform in the Americas and Europe, from Manulife Investment Management (Blackstone, 2022[143]).	Asset divestment
2022	New Zealand	Spark– Connexa– Ontario Teachers' Pension fund	Spark sold 70% of its tower business (Connexa) to Ontario Teachers' Pension Plan.	Asset divestment
2023	New Zealand	2degrees – Connexa– Ontario Teachers' Pension fund –	Mobile operator 2degrees divested 1 124 mobile tower sites throughout New Zealand to Connexa (2degrees, 2023[144]).	Asset divestment
2024	New Zealand	Spark – CDPQ – Connexa	Spark sold its remaining stake (17%) in Connexa, New Zealand's leading mobile tower infrastructure business,to global investment group CDPQ (Spark, 2025[145])	Asset divestment
2024	Portugal	NOS-Cellnex (On Tower)	NOS sold six macro-sites for the placement of mobile telecommunications equipment to On Tower Portugal, the local subsidiary of Cellnex	Asset divestment
2023	Slovenia	Telemach-Tawal	Telemach has sold its mobile towers infrastructure in Slovenia, Bulgaria and Croatia to the Saudi company Tawal (The Slovenia Times, 2023[146])	Asset divestment
2022	Spain	Telefónica – Vauban Infrastructure Partners – Crédit Agricole Assurances (Bluevia)	Creation of Bluevia, a neutral wholesale FTTH operator by Telefónica, Vauban Infrastructure and Crédit Agricole ASSURANCES; The operator retains control of Bluevia with a 55% stake while investment partners share the rest (Telefónica, 2022[147]).	Subsidiary
2024	Spain / Europe	Vodafone – KKR – GIP – Vantage Towers	Vodafone reduced its stake in Vantage Towers following earlier co-control partnership with KKR and GIP (Vodafone, 2024[148]).	Asset divestment
2025	Colombia	Tigo Colombia – KKR – Nexo LatAm	KKR partnered with digital infrastructure platform NEXO LatAm to launch Towernex acquiring roughly 1 100 wireless telecom towers from Tigo Colombia (Capacity Global, 2024[149]) .	Asset divestment

Source: OECD elaboration based on news reports.

Table A A.3. Mergers (accepted and blocked) of mobile network operators in OECD countries, 2005-2026

Year	Country	Players involved in the merger	Change of players	Was the merger Cleared or Blocked?
2009	Australia	Vodafone/Hutchison-3 (Q2 2009)	4 to 3	Cleared
2018	Australia	Vodafone Australia/TPG (intended merger)	4 to 3	Cleared. Federal Court in 2020 overturned ACCC challenge and determined merger between Vodafone and TPG would not substantially lessen competition
2006	Austria	T-Mobile/Tele.ring	5 to 4	Cleared. Remedies: Divestment of spectrum and sites
2013	Austria	Hutchison 3G/Orange (Q2)	4 to 3	Cleared. Remedies: Divestment of spectrum, MVNO-access
2016	Belgium	Telenet acquisition (intended merger)	4 to 3	Cleared. Remedies: incl. access and wholesale conditions to MVNOs
2023	Canada	Freedom Mobile/Videotron	4 to 4	Cleared. Remedies: Commitment to 9 undertakings including plans freeze, extend service to new areas (Manitoba), investments / rollout.
2005	Chile	Telefonica/Bellsouth	5 to 4	Cleared
2026	Chile	Millicom (Tigo)/ NJJ / Telefonica	4 to 4	Cleared
2014	Colombia	Tigo (mobile) merged with UNE (fixed and mobile)	4 to 3	Cleared. Remedies: Spectrum divestment
2014	Denmark	TeliaSonera/Telenor (intended merger)	4 to 3	Transaction withdrawn
2015	Denmark	Telia/Telenor/IV Hutchison 3G/Telefonica (intended merger)	4 to 3	Blocked by the European Commission in 2016 (decision announced Jan 2020)
2010	Estonia	Tallinn Mobile (ProGroup) Merged Q4 2010*	5 to 4	Cleared
2012	Estonia	KOU (Telework) merged (Q1)	4 to 3	Cleared
2014	Germany	Telefonica/E-Plus (KPN) (Q4)	4 to 3	Cleared. Remedies: MVNO-access (e.g., mobile bitstream access for MBA), divestment of spectrum, and improving commercial terms for MVNOs (e.g. national roaming to MVNOs)
2006	Greece	TPG IV/Apax/Q-Telecom	4 to 3	Cleared. No remedies
2012	Greece	Vodafone/Wind Hellas (intended merger)	3 to 2	Blocked
2024	Hungary	Vodafone Hungary/Digi Hungary	4 to 3	Cleared
2014	Ireland	Hutchison 3G/ O2 (Telefonica) (Q3)	4 to 3	Cleared. Remedies: MVNO-access, divestment of spectrum, switching MVNO to Hutchison
2020	Israel	Golan Telecom/Cellcom	6 to 5	Cleared
2016	Italy	Hutchison 3G/WIND	4 to 3	Cleared. Remedies: New MNO entry with divestment of spectrum
2025	Italy	Fastweb/Vodafone	5 to 4	Cleared. Remedies: Behavioural commitments covering wholesale service market.
2012	Japan	Softbank purchases Access	5 to 4	Cleared
2014	Japan	Access merges with Willcom and becomes Ymobile (Merged Q2)	5 to 4	Cleared
2015	Japan	Ymobile/Softbank (Q2 2015)	4 to 3	Cleared
2020	Lithuania	Bite Lietuva/Mezon	4 to 3	Cleared. Remedies: Behavioural commitments.
2019	Luxembourg	Telindus/Tango	4 to 3	Cleared
2015	Mexico	AT&T acquires Iusacell and Nextel	4 to 3	Cleared
2011	Norway	Tele2 buys Network Norway (Q4)* (Tele2 entered market in January 2011)	5 to 4	Cleared
2015	Norway	Tele2/TeliaSonera (Merged Q1 2015)	4 to 3	Cleared. Remedies: Divestment of infrastructure, and spectrum to ICE; Specific conditions for co-location;

Year	Country	Players involved in the merger	Change of players	Was the merger Cleared or Blocked?
				Commitment to MVNO access to Norwegian mobile operators; Time-limited transfer of spectrum to ICE, among others
2022	Poland	Play (Illiad)/UPC Polska	5 to 4	Cleared.
2025	Portugal	Vodafone/Nowo	4 to 3	Blocked
2024	Spain	Orange/MásMóvil	4 to 4	Cleared. Spectrum divestment, national roaming option to DIGI.
2010	Sweden	Tele2/Spring Mobil (Swefour) Merged Q3	5 to 4	Cleared
2008	Switzerland	Tele2/TDC Sunrise (Q4 2008)	4 to 3	Cleared
2010	Switzerland	Orange/TDC Sunrise (intended merger)	5 to 3	Blocked
2005	The Netherlands	KPN/Telfort	5 to 4	Cleared
2007	The Netherlands	T-Mobile/Orange	5 to 4	Cleared. No remedies
2024	The United Kingdom	Vodafone/Three UK	4 to 3	Cleared. Remedies: Behavioural commitments covering network investment commitment, price caps, MVNO safeguards and spectrum divestment to VMO2 under pre-existing network sharing agreement.
2010	United Kingdom	T-Mobile/Orange (they form EE)	5 to 4	Cleared. Remedies: National roaming; divestment of spectrum
2016	United Kingdom	Base (KPN) sells to Liberty Global (Liberty Global, full MVNO)	4 to 3	Cleared. Remedies: Acquisition approved by the European Commission on 6 February 2016. Liberty Global committed to be full MVNO; divesture (divestiture) imposed by BASE, and provision of BASE's network capacity to Liberty Global
2011	United States	AT&T/T-Mobile (intended merger)	4 to 3	Blocked
2013	United States	T-Mobile purchases MetroPCS; Softbank purchases Sprint and Clearwire; AT&T purchased Allied Wireless	4 to 3	Cleared
2014	United States	AT&T purchases Leap	4 to 4	Cleared
2019	United States	Sprint/T-Mobile	4 to 3	Cleared

Source: OECD elaboration based on news reports; Table 4 of (OECD, 2021[4]) "Emerging trends in communication market competition", https://doi.org/10.1787/4ad9d924-en

Annex B. MNO and MVNOs market shares

Table A B.1. Mobile market structure (number of national MNOs) in OECD countries, 2008-2026

Country	2008	2014	2016	2018	2020	2022	2024	Q3 2026	Market share, main MNO, 2025	Notes
Australia	4	3	4*	4	3	3	3	3	52%	Vodafone (Merged Q2 2009). *In April 2017, TPG enters the mobile market. TPG Telecom and Vodafone Hutchison Australia (Merged Q1 2020).
Austria	4	3	3	3	3	3	3	3	39%	Hutchison 3G and Orange (Merged Q1 2013).
Belgium	3	3	3	3	3	3	4	4	45%	Digi enters the market in Q4 2024.
Canada	3	4	4	4	4	4	4	4	29%	
Chile	4	3	4	4	4	4	4	4	39%	Wom (challenger firm) enters 2015 by acquiring Nextel Chile. In 2024, América Móvil acquired a controlling interest in ClaroVTR.
Colombia	3	4	4	4	4	4	4	3	46%	In 2021, WOM entered the market after acquiring AVANTEL. Telefónica has completed the sale of its entire 67.5% to Millicom (Tigo) (Millicom (Tigo), 2026[150]). Acquisition of the remaining 32.5% took place on 27 April 2026 (US SEC, 2026[151]).
Costa Rica¤						3	3	3	41%	Kolbi (ICE), Claro, Liberty (formerly Movistar)
Czechia	3	3	3	3	3	3	3	3	42%	
Denmark	4	4	4	4	4	4	4	4	36%	
Estonia	5	3	3	3	3	3	3	3	41%	KOU (Televork) (Merged Q1 2012); Tallinn Mobile (ProGroup) (Merged Q4 2010).
Finland	3	3	3	3	3	3	3	3	39%	
France	3	4	4	4	4	4	4	4*	32%	Free (Iliad, challenger firm) enters market January 2012. Bouygues Telecom, Free-Iliad Group and Orange confirms ongoing discussions with the Altice Group in connection with a potential transaction to acquire a large part of the telecommunications activities of the Altice Group in France (Orange, 2026[33])
Germany	4	3	3	3	3	3	4	4	30%	1&1 completed migration of all its MVNO customers onto direct network service using 5G spectrum won in March 2019 auction, while still relying on national roaming (1&1 AG, 2025[152]).
Greece	3	3	3	3	3	3	3	3	52%	
Hungary	3	3	3	4	4	4	3	3	46%	MVM Net enters 2017. Digi and Vodafone (merged Q4 2024).
Iceland	3	3	3	3	3	3	3	3	36%	
Ireland	4	3	3	3	3	3	3	3	33%	O2 (Telefonica) (Merged Q3 2014);
Israel	4	5	5	6	5	5	5	5*	34%	Iliad (Golan Telecom, challenger firm) enters market in 2012; We4G (018 Xfone) enters market in April 2018; Golan Telecom and Cellcom merged Q3 2020. Telephone signed a non-binding MOU to acquire Wecom on 14 July 2026, subject to a definitive agreement and approvals (Bezeq, 2026[153]).
Italy	4	4	4	4	5	5	5	4	26%	Wind merged with Three in December 2016, with Illiad entering the market at the same time. Fastweb merged with Vodafone in Q1 2025.
Japan	5	4	3	3	4	4	4	4	37%	Rakuten Mobile launched LTE in April 2020, followed by 5G services in October 2020.
Korea	4	4	4	4	4	4	4	4	38%	
Latvia	4	4	4	4	4	3	3	3	39%	Triatel left market in 2020.
Lithuania	3	3	4	4	3	3	3	3	42%	Bitė Lietuva and Mezon (mobile internet only provider) merged in Q4 2020.
Luxembourg	4	4	4	4	3	3	3	3	41%	Telindus and Tango (both owned by Proximus) merged in Q1 2019.
Mexico	4	4	3	4	3*	3*	3*	3*	51%	AT&T enters Mexico in 2015 and acquires Nextel; Altan Redes starts operations in June 2018 where MVNOs operate. Between 2019 and 2022 Telefonica completed the migration of

Country	2008	2014	2016	2018	2020	2022	2024	Q3 2026	Market share, main MNO, 2025	Notes
										its mobile traffic to AT&T's network in Mexico and has handed back the last of its spectrum to the regulator. Telefonica sold all remaining assets in Mexico in 2026. *Altan redes, a state-owned wholesale mobile network in the 700 MHz band, provides retail services in rural areas and capacity to MVNOs.
Netherlands	3	4	4	3	3	3	3	3	57%	Tele2 and T-Mobile Merger, Q2 2017.
New Zealand	4	4	4	4	4	4	3	3	41%	In May 2024, Dense Air had ceased its New Zealand business (Commerce Commission New Zealand, 2024[154])
Norway	5	4	3	3	3	3	3	3	42%	Network Norway (Merged Q4 2011) and Tele2 enters the market in 2011; Tele2 (Merged Q1 2015).
Poland	6	5	5	5	5	4	4	4	27%	Nordisk Polska (Merged Q3 2009); Aero2 (Merged Q4 2011); Aero2 (Midas) (Merged Q2 2016). Play (Iliad) acquired UPC Polska in Q2 2022.
Portugal	4	3	3	3	3	3	4	4	36%	Digi Portugal launched commercial operations in Q4 2024.
Slovak Republic	3	3	4	4	4	4	4	4	33%	4ka (SWAN Mobile) enters the market in March 2015.
Slovenia	3	4	4	4	4	4	4	4	42%	T-2 enters market June 2008.
Spain	4	4	4	4	4	4	3*	3*	41%	MasMovil/Orange merger q1 2024 followed by entry of Digi Mobil. While Digi owns 60MHz of spectrum across multiple bands, this is insufficient to deploy a full, nationwide mobile network, therefore relying on wholesale agreement with Telefonica, and functioning in practise as hynrid MNO/MVNO. In 2026, press reported Vodafone Spain, MasOrange and Telefonica have been holding talks on the possibility of joining their mobile networks to create a RANCo (IEEE, 2026[155]).
Sweden	5	4	4*	4*	4*	4*	4*	4*	29%	Spring Mobil (Swefour) (Merged Q3 2010). *Four MNOs are active on the Swedish market. However, given that active infrastructure sharing (RAN) is used in Sweden, the number of mobile access networks are rather three (i.e. Tele2 and Telenor have a joint company Net4Mobility with national 2G and 4G network, and both Tele2 and Telenor have their own core networks).
Switzerland	4	3	3	3	3	3	3	3	56%	Tele2 entered January 2005 and merged Q4 2008; in&phone (Unify) (Closed Q1 2012).
Türkiye	3	3	3	3	3	3	3	3	39%	
United Kingdom	5	4	4	4	4	4	3	3	32%	Orange (Merged Q2 2010); June 2014 Relish Broadband enters the Market; Relish Broadband (UK Broadband) (Merged Q2 2017). Vodafone UK and Three (Q4 2024).
United States	4	4	4	4	3	3	3	3	35%	Sprint Corporation and T-Mobile US merged (Q2 2020)

Legend: Green highlight means the increase of MNOs; orange highlight means the decrease of MNOs.
Note: The table only covers market structure changes until end of Q 2026. ¤Costa Rica joined the OECD in 2021. Market share values have been rounded to the nearest whole unit for ease of presentation. Market share in terms of subscriptions.
Source: OECD elaboration using GSMA Intelligence (2025[156]), *Data and Analysis for the Mobile Industry (database)*, https://data.gsmaintelligence.com (accessed on 20 February 2026); Table 3 of (OECD, 2021[4]) "Emerging trends in communication market competition". https://doi.org/10.1787/4ad9d924-en.

Table A B.2. MVNOs market share in OECD countries, 2018 vs. 2024

	Share of MVNO subscriptions over total MBB subscriptions (%)		Change between 2018 and 2024 (%)
	2018	2024	
Australia	12.6	1.0	-11.6
Austria	7.3	19.1	11.8
Belgium	7.6	5.1	-2.5
Canada*	1.4	..	..
Chile	1	..	..
Colombia	7.1	2.5	-4.6

	Share of MVNO subscriptions over total MBB subscriptions (%)		Change between 2018 and 2024 (%)
	2018	2024	
Costa Rica		..	..
Czechia	7.2	3.0	-4.2
Denmark	..	..	..
Estonia	0	5.5	5.5
Finland	..	..	..
France	9.2	5	4.2
Germany*	20.1	21	0.9
Greece	0.4	..	..
Hungary	1.23	..	..
Iceland	2.7	39.9	37.2
Ireland	9.4	8.1	-1.3
Israel	..	..	..
Italy	8.2	15.7	7.5
Japan*	10.7	..	..
Korea	12	..	..
Latvia	..	..	..
Lithuania	2.3	0.7	-1.6
Luxembourg	3.7	0.7	-3.0
Mexico	..	12	..
Netherlands	16.9	19.3	2.4
New Zealand	1.1	3.9	2.8
Norway	1.3	5.3	4.0
Poland	4.6	..	..
Portugal*	1.5	4	2.5
Slovak Republic	..	..	..
Slovenia	3	6.1	3.1
Spain**	9.1	4.1	-5
Sweden	3.7	1.7	-2.0
Switzerland	3	..	..
Türkiye	0	0.1	0.1
United Kingdom	16.9	20.4	3.5
United States	9.4	..	..

Note: Data for 2024: Share of MVNO subscriptions over total MBB subscriptions (%) and the Number of MVNOs is calculated using data for the end of 2024 collected in February 2025. Total mobile broadband subscriptions correspond to data collected in September and October 2025. Values are rounded to the nearest 0.1 percentage point. *Data for MVNO subscription shares for 2018 - Canada: The number of subscribers reported above includes figures from MVNO and resellers/re-billers; Germany: Total number includes subscribers of "managed service providers" and mobile virtual network operators; Japan: Data for March 2019. Portugal: Data for December 2025. **For Spain, the fall in independent MVNO share reflects Digi's growth and subsequent reclassification as a hybrid MNO/MVNO. Including Digi, the combined share of Digi and independent MVNOs increased from 9.1% in 2018 to 15.6% in 2025.
Source: OECD data.

Annex C. Literature review

Table A C.1. Literature review on impact of consolidation in the mobile market

Year	Study	Type of author	Geographic/ Temporal Scope / Methodology	Price measure	Main Findings
2014	**Affeldt and Nitsche** (2014[157]). A price concentration study on European mobile telecom markets: Limitations and insights.	Consultancy / academic Working paper	27 European mobile markets; 2003-2012 Empirical - Cross-country panel analysis	Voice revenue per minute; ARPU	**Prices**: Finds no positive association between market concentration and mobile prices; some specifications suggest a negative association. The study does not identify the effects of individual mergers.
2015	**Csorba and Papai** (2015[158]). Does one more or one less mobile operator affect prices? A comprehensive ex-post evaluation of entries and mergers in European mobile telecommunication markets.	Academic / consultancy Working paper	27 EU Member States; 2003-2010 Empirical - Ex-post-merger and entry evaluation	OECD retail basket prices (low, medium and high usage)	**Prices**: Finds no robust price reduction following entry into initially two-operator markets. Entry of a fourth operator reduces prices, particularly when the entrant is multinational. Four-to-three mergers are associated with higher long-run prices; no comparable increase is found for five-to-four mergers.
2015	**Houngbonon** (2015[159]). The impact of entry and merger on the price of mobile telecommunications services.	Academic Conference paper	France and Austria; entry and merger events in 2012-2013 Empirical - Comparative merger and entry analysis	Retail tariffs (Teligen database)	**Prices**: Estimates that fourth-operator entry in France increased the unit price of mobile data by USD 4/GB, while the Austrian merger reduced it by USD 6/GB. The author interprets these estimates as evidence that dynamic efficiencies can offset static competition effects.
2015	**Jeanjean** (2015[160]). *What causes the megabyte price drop in the mobile industry?*	Industry research (Orange) Peer-reviewed article	20 mobile markets worldwide; 2006-2012 Empirical - model-based using observed market data	Data revenue per MB	**Prices**: Attributes the decline in average revenue per MB primarily to investment-driven growth in mobile data traffic, which outpaced revenue growth. **Investment**: Competition lowers margins and unit revenue directly, but its overall effect is ambiguous because investment varies non-linearly with competitive intensity. The study does not estimate the effect of an individual merger.
2016	**RTR** (2016[64]). *Ex-post analysis of the merger between H3G Austria and Orange Austria*. Austrian Regulatory Authority for Broadcasting and Telecommunications.	Institution (RTR) Regulatory report	Austria; 2011-2014 (merger completed in 2013) Empirical - Ex-post-merger assessment	Retail basket prices	**Prices**: Finds substantial post-merger price increases for smartphone and traditional mobile users before mobile virtual network operator remedies became effective. Long-run prices for traditional users increased by an estimated 22-31%.
2018	**Aguzzoni et al.** (2018[161]). Ex-post analysis of mobile telecom mergers: The case of Austria and the Netherlands.	Institution / academic Peer-reviewed article	Austria (2006) and the Netherlands (2007) mergers Empirical - Ex-post-merger evaluation	Retail basket prices (low, medium and high usage)	**Prices**: The T-Mobile/Tele.ring merger in Austria, approved with remedies, was not followed by higher prices relative to control countries. Prices increased after the T-Mobile/Orange merger in the Netherlands, although the contribution of an earlier Dutch merger cannot be separated.
2018	**Bourreau and Jullien** (2018[75]). *Mergers,*	Academic Peer-reviewed	General two-firm model; no geographic sample or	Modelled product prices;	**Prices**: A merger to monopoly increases prices in the model.

Year	Study	Type of author	Geographic/ Temporal Scope / Methodology	Price measure	Main Findings
	investments and demand expansion.	article	observation period Theoretical - Analytical model of prices and network coverage	no observed price series	**Investment and welfare**: Total network coverage expands, but the area served by both products contracts. Consumer surplus and total welfare may increase despite higher prices, depending on demand-expansion effects.
2018	**Genakos, Valletti and Verboven** (2018[66]). *Evaluating market consolidation in mobile communications*.	Academic / institution Peer-reviewed article	33 OECD countries; 2002-2014 Empirical - Cross-country panel and merger counterfactuals	Retail basket tariffs (OECD/Teligen usage profiles)	**Prices**: Higher concentration is associated with higher end-user prices. **Investment**: Higher concentration is associated with greater capital expenditure per operator, but the effect on total industry investment is statistically inconclusive.
2018	**Nicolle, Grzybowski and Zulehner** (2018[61]). *Impact of competition, investment, and regulation on prices of mobile services*: Evidence from France.	Academic Peer-reviewed article	France; 2011-2014 (fourth-operator entry in 2012) Empirical - Entry evaluation	Retail tariffs; hedonic quality-adjusted price index	**Prices**: Quality-adjusted prices fell by approximately 43% after 4th operator entry. The study attributes much of the decline to competition accompanying the entry of a low-cost operator and to the deployment of 4G technology. The analysis attributes around 23% of the decline to competition and 56% to 4G investment.
2019	**Grajek et al.** (2019[68]). *Static or dynamic efficiency: Horizontal merger effects in the wireless telecommunications industry*.	Academic Peer-reviewed article	17 European mobile markets; 1998-2011 Empirical - Ex-post analysis of five mergers	Voice revenue per minute	**Prices**: Ex-post-merger estimates for voice revenue per minute vary by market, increases in Denmark and the Netherlands and decreases in Austria and Greece. **Investment**: The study finds heterogeneous merger effects rather than a single general relationship between consolidation and investment.
2019	**Houngbonon and Jeanjean** (2019[162]). *Investment and market power in mobile mergers*.	Industry research (Orange) Peer-reviewed article	18 European mobile markets; 2007-2015 Theoretical - Economic model calibrated with market data	ARPU; data revenue per MB	**Prices and welfare**: A merger can increase average revenue per user while investment-induced traffic growth may lower revenue per MB where dynamic cost efficiencies outweigh higher mark-ups. **Investment**: Merger-related investment can offset some market-power effects; the model estimates that consumer surplus is highest with three symmetric operators.
2019	**Wellmann** (2019[163]). *Hello ... Are you still there? An empirical analysis of how market structure affects the quality of mobile networks*.	Academic Conference paper	14 European countries; 2011-2016 Empirical - Cross-country network-quality panel	Price dimension not assessed (network quality)	**Network quality**: Fewer operators are associated with better network quality, including more 3G/4G connections and more connections exceeding 1, 2 and 3 Mbps.
2020	**GSMA Intelligence** (2020[164]). *Mobile market structure and performance in Europe: Lessons from the 4G era*. GSMA Intelligence report.	Industry association (GSMA) Research report	29 European countries; 2011-2018 Empirical - Cross-country panel analysis	ARPU	**Prices**: The report finds no statistically significant association between concentration and prices, while noting that the available unit-pricing data are insufficient for a conclusive analysis. **Investment**: More concentrated markets are associated with higher

Year	Study	Type of author	Geographic/ Temporal Scope / Methodology	Price measure	Main Findings
					capital expenditure per operator. **Network quality:** After 4G coverage exceeded 90%, estimated download speeds were 3.3 Mbps higher in three-operator markets. No significant effect is found on 4G coverage, upload speeds or latency.
2020	**Ofcom** (2020[71]). *Market structure, investment and quality in the mobile industry*. Economics Discussion Paper Series, No. 1.	Institution (Ofcom) Discussion paper	28 European countries; 2000-2018 Empirical - Cross-country panel and synthetic controls	Price dimension not assessed (investment and network quality)	**Investment**: Higher concentration is associated with lower total national capital expenditure. **Network quality**: No statistically significant improvement in average download speeds is identified.
2020	**Woroch** (2020[165]). *Spectrum concentration and performance of the U.S. wireless industry*.	Academic Peer-reviewed article	United States; 2012-2013 Empirical - Spectrum and network-performance regressions	Price dimension not assessed (network performance)	**Network quality**: Higher concentration of spectrum holdings is associated with greater penetration, reliability, download speeds and 4G coverage in the observed sample.
2021	**Aimene, Jeanjean and Liang** (2021[69]). *Impact of mobile operator consolidation on unit prices*.	Industry research (Orange) Peer-reviewed article	21 European countries; 2011-2018 Empirical - Difference-in-differences analysis	Voice revenue per minute; data revenue per MB	**Prices**: Difference-in-differences estimates indicate that consolidation increases voice revenue per minute but decreases data revenue per MB; data traffic also rises.
2021	**Bourreau, Sun and Verboven** (2021[62]). Market entry, fighting brands, and tacit collusion: Evidence from the French mobile telecommunications market.	Academic Peer-reviewed article	France; 2011-2014 Empirical - Entry evaluation	Average monthly mobile-service expenditure, by product/tariff category.	**Consumer welfare**: Estimates consumer-surplus gains of approximately EUR 4.6 billion over 2012–2014 from Free's entry and the associated introduction of incumbents' low-cost brands.
2021	**Frontier Economics** (2021[166]). *The impact of mobile market consolidation on quality.*	Consultancy Commissioned report	30 European countries; 2009-2020 (investment and other indicators), 2011-2019 (speeds) Empirical - Cross-country panel and merger case studies	Price dimension not assessed (investment and network quality)	**Investment and network quality**: Finds no statistically significant average effect of mergers or entry on capital expenditure per subscriber or download speeds. Country case studies suggest that coverage and quality gains may emerge with a delay after consolidation. Report prepared for Three UK.
2021	**Motta and Tarantino** (2021[60]). *The effect of horizontal mergers, when firms compete in prices and investments*.	Academic Peer-reviewed article	Theoretical - Analytical oligopoly model	Modelled product prices; no observed price series	**Prices**: The model predicts higher prices for merging firms following a horizontal merger. **Investment and welfare**: Absent merger-specific efficiencies, merging firms reduce cost-reducing investment, while outsiders may increase theirs; total investment and consumer surplus fall under the standard demand models examined.
2021	**Vuong and Baranes** (2021[167]). *Competitive effects of horizontal mergers with asymmetric firms*.	Academic Peer-reviewed article	Theoretical - Analytical model of a merger between two symmetric firms facing a lower-cost rival	Modelled product prices; no observed price series	**Prices**: Following a merger between the two similar-cost firms, the non-merging rival lowers its price while the merged entity raises its prices. **Investment and welfare:** The rival increases investment while the merging firms reduce theirs; total investment and consumer surplus may rise if the rivals cost advantage is sufficiently large, even without

Year	Study	Type of author	Geographic/ Temporal Scope / Methodology	Price measure	Main Findings
					merger-specific efficiencies.
2022	**Asker and Katz** (2022[168]). *The Sprint/T-Mobile merger.* Research paper.	Academic Research paper	United States; 2016-2022 (merger completed in 2020) Empirical - Descriptive price-index analysis; no merger counterfactual	Wireless CPI and PPI (nominal and real price indices)	**Prices**: The nominal wireless consumer price index rose by 3.6% in the three months after closing, then resumed its earlier downward trend. The authors suggest the initial increase partly reflects Sprint leaving the price index. Without a no-merger counterfactual, no causal price effect is identified.
2023	**Bahia and Castells** (2023[72]). *The dynamic effects of competition on investment: The case of the European mobile communications industry*.	Authors from GSMA Intelligence, research arm of Industry association (GSMA) Peer reviewed journal article	European mobile markets; 2011-2021 Empirical - Cross-country operator-level panel	ARPU; retail basket prices	**Investment**: Four-operator markets exhibit lower investment intensity than three-operator market curves. The relationship between concentration and investment is non-linear, with lower investment incentives estimated in more fragmented markets. **Network quality:** Four-operator markets exhibit smaller improvements in download and upload speeds and latency.
2023	**Padilla et al.** (2023[169]). *Do four-to-three mobile mergers harm consumers?* Compass Lexecon report and analysis.	Consultancy (Compass Lexecon) Commissioned report	Austria (2013), Ireland (2014), Germany (2014), Italy (2016), the Netherlands (2018) and United States (2020); data to approximately 2022 Empirical - Ex-post comparison of six mergers	Data revenue per GB; retail price indices	**Prices**: Revenue per GB fell faster after the Austrian and Irish mergers, at a similar rate in Germany, Italy and the United States, and more slowly in the Netherlands. **Network quality**: Reviews coverage and speed improvements in several merger markets but does not establish a single causal estimate of industry-wide investment. The research was commissioned by Vodafone UK and Hutchison 3G UK in the context of the Vodafone-Three merger.
2024	**Lear et al.** (2024[67]). *Exploring aspects of the state of competition in the EU*. Report for the European Commission, Directorate-General for Competition.	Consultancy / academic EC-commissioned report	29 countries (23 EU and 6 non-EU) ; 2009-2019 Empirical - Cross-country panel analysis	ARPU (main); retail basket prices	**Prices**: Higher concentration is associated with higher retail mobile prices. **Investment**: Higher concentration is associated with lower national capital expenditure. One additional mobile network operator is associated with approximately 10% more total investment; an additional mobile virtual network operator with approximately 0.3% more.
2025	**Čihák** (2025[170]). *Competition in the Slovak mobile telephony industry: Effects of new entry*.	Academic Peer-reviewed journal article (Telecommunications Policy)	Slovak Republic; 2010-2020 (fourth operator entered in 2015) Empirical - Ex-post fourth-operator entry analysis	ARPU; voice revenue per minute; data unit revenue	**Prices**: Entry of a fourth operator reduced voice revenue per minute and average revenue per user in the short term, but increased data revenue per unit.
2025	**Ciriani and Jeanjean** (2025[171]). *Is Draghi report really wrong about telecoms? An overview of academic papers on telecom market structure and mergers*.	Industry research (Orange) Working paper for conference	27 European mobile markets; 2007-2024 Empirical - Comparison of voice/data price measures and literature review	ARPU; voice/data unit prices; price indices	**Prices**: Finds data demand substantially more price-elastic than voice demand. Descriptive comparisons suggest that the relationship between average revenue per user (ARPU) and mobile data unit prices turned negative in the later data-driven period, making

Year	Study	Type of author	Geographic/ Temporal Scope / Methodology	Price measure	Main Findings
					ARPU an unreliable standalone proxy for prices.
2025	**Elliott et al.** (2025[74]). *Market structure, investment, and technical efficiencies in mobile telecommunications*.	Academic / institution Peer-reviewed article in Journal (Journal of Political Economy)	France; 2015 (consumer, tariff and network data) Theoretical/Structural-Estimated demand/network model and merger simulations	Retail plan prices (handset-adjusted); simulated prices	**Prices**: In model simulations, reducing the number of operators increases retail prices. **Network quality and welfare:** Network-pooling efficiencies can increase download speeds, but the simulated four-to-three mergers reduce consumer surplus.
2025	**Hazlett and Crandall** (2025[172]). *Competitive effects of T-Mobile/Sprint: Analysis of a 4-to-3 merger*.	Academic / research Law-review article (Michigan Business & Entrepreneurial Law Review)	United States; 2017-2023 (merger completed in 2020) Empirical - Descriptive ex-post merger assessment	Real wireless price indices; ARPU	**Prices**: Reports falling real wireless prices and average revenue per user following the merger. The authors interpret the wider evidence as consistent with consumer benefits.
2025	**Lopez** (2025[76]). *Horizontal mergers in industries with congestion effects and capacity-enhancing investments*.	Academic Working paper	Theoretical - Analytical and numerical models of prices, capacity investment and congestion	Modelled prices; no observed price series	**Prices and investment:** Without efficiencies, the model predicts higher prices and lower investment by merging firms, with reduced consumer surplus. Merger-specific reductions in investment costs can increase investment and total surplus; consumer surplus may also increase under some assumptions about investment intensity and product differentiation.
2026	**GSMA Intelligence** (2026[73]). *Assessing operator scale in the mobile data era in Latin America.* GSMA Intelligence report.	Industry association (GSMA) Research report	Latin American mobile markets; 2010-2024 Empirical - Regional data on mobile operators	ARPU; data revenue per MB; retail tariffs	**Prices**: Finds no evidence of higher consumer prices associated with consolidation; real price measures were broadly stable or declined in the later period. **Investment and network quality**: Higher concentration is associated with greater investment per connection, faster speeds and wider 4G/5G coverage.
2026	**GSMA Intelligence** (2026[173]). *Efficient operator scale in European mobile markets.* GSMA Intelligence report.	Industry association (GSMA) Research report	European mobile markets; 2010-2025 (emphasis on 2018-2025) Empirical - Cross-country panel	ARPU; data unit revenue; retail basket prices	**Prices**: Finds no statistically significant price premium in more concentrated markets. **Investment**: Three-operator markets have approximately 48% more capital expenditure per connection than four-operator markets. The report associates consolidation events with 28-38% higher capital expenditure. **Network quality:** The report associates consolidation events with approximately 25% higher network speeds.
2026	**Jeanjean and Ciriani** (2026[174]). *Towards an effective merger control policy in a dynamic context*.	Industry research (Orange) Peer-reviewed journal article (European Competition Journal)	General oligopoly model; no geographic sample or observation period Theoretical - Cournot model with endogenous cost-reducing investment	Modelled unit prices; no observed price series	**Prices**: Consolidation may lead to lower prices where investment-driven cost reductions and other efficiencies are sufficiently large. **Investment and welfare**: The model predicts that mergers increase investment and reduce marginal costs; faster technical progress makes consumer gains more likely.

Year	Study	Type of author	Geographic/ Temporal Scope / Methodology	Price measure	Main Findings
2026	**Lin, Tang and Xiao** (2026[175]). *Estimation of discrete games with incomplete information and endogenous states*.	Academic Working paper	United States; 2015-2018 data (hypothetical merger simulation) Theoretical - Estimated merger and counterfactual	Price dimension not assessed (network deployment and coverage)	**Investment and network quality**: The simulated T-Mobile/Sprint merger reduces 4G deployment occurrences by 21.88% and increases the population served by no more than one LTE operator by 23.15%. Modelled divestiture remedies partly mitigate these effects.

Note: GSMA Intelligence is the research and analytics arm of the GSMA, an industry association representing mobile network operators and other companies in the mobile telecommunications ecosystem.
Source: OECD.

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Notes

[1] In past years, alternative network providers ("Altnets") have expanded in some countries, notably the United Kingdom, offering both retail broadband services and wholesale fibre access as substitutes for incumbent operators. Their deployment strategies have frequently relied on substantial debt and equity financing, contributing to the growing involvement of investment funds in fibre infrastructure markets, as documented in previous OECD work (OECD, 2024[3]). In the United Kingdom, some Altnets are facing financial pressures linked to higher inflation, rising cost structures and evolving commercial strategies, which have affected rollout strategies and, in some cases, the pace of deployment. As a result, consolidation trends have begun to emerge, with some Altnets entering restructuring processes or becoming targets for acquisition.

[2] MVNOs offer retail mobile services over other operators' networks under wholesale agreements, and may strengthen retail competition through niche or low-cost offers (OECD, 2021[4]).

[3] Several OECD Member countries' governments also hold minority stakes in their national incumbent communication service provider (e.g. Austria, Belgium, France, Greece, Hungary, Japan and Latvia, among others). Governments of Norway, Slovenia and Türkiye hold majority ownership stakes in their national incumbent operators, respectively, Telenor (53.9%), Telekom Slovenije (64%), and Turk Telecom (61.7%). In some countries, public ownership or investment may also occur at subnational level, for example through regional or municipal entities involved in broadband deployment or infrastructure ownership. Furthermore, governments also invest strategically in emerging communication technologies, critical or cross-border infrastructure projects to strengthen national digital capabilities and long-term competitiveness. France and the United Kingdom, for example, have both recently increased or maintained their stake in the European satellite operator Eutelsat to 29.99% and 10.89% respectively (Reuters, 2025[203]). The Swedish Government owns 100% of Teracom, a network operator with a focus on critical civilian and military systems. At the EU level, the launch of the Infrastructure for Resilience, Interconnectivity and Security by Satellite (IRIS) project reflects a broader strategic push to support governmental communications, crisis response, and broadband access across Europe (European Commission, 2026[204]).

[4] In many OECD Member countries, OTT communication services have significantly reduced the use of voice and SMS text communications. In the EU, an external study by the Body of Regulators of Electronic Communication (BEREC) analysed consumers behaviours when it comes to switching between these services. The study revealed that both complementarity and substitution patterns can be observed (BEREC, 2021[205]). Across OECD countries, substitution between OTT and traditional voice and messaging services appears to be context-dependent and influenced by factors such as network quality, data affordability and device penetration. In this regard, legacy communication services continue to play a complementary role in ensuring service reliability, universal reach and access to emergency communications, particularly for vulnerable users or in areas with limited broadband coverage (OECD, 2026[11]).

[5] Several countries have shown early developments of wholesale-only operators (Australia, Czechia, France, Ireland, Italy, Mexico, New Zealand, Sweden, Switzerland, and Singapore) (OECD, 2019[12]) and are now present in a growing number of OECD Member countries and partner economies. Two broad approaches can be distinguished: the divestment of infrastructure assets to an independent legal entity, and operator-led vehicles, such as subsidiaries or joint ventures with competitors, through which incumbents retain some control and strategic influence over the infrastructure. In both cases, financial asset managers may help operators unlock capital from mature assets while securing long-term access through wholesale or service agreements (OECD, 2024[3]).

[6] Independent tower companies have expanded both through greenfield deployment of new mobile sites and through the acquisition of existing sites from smaller competitors or MNOs (WIK, 2023[180]).

[7] Financial asset managers such as Vauban Infrastructure Partners, Brookfield, Macquarie and KKR have become central actors in the infrastructure layer of the connectivity ecosystem, attracted by long-lived assets and long-term contracts that can support relatively predictable cash flows when tenancy and take-up evolve as expected (OECD, 2024[3]). Over the past five years, however, the investment context has shifted. After a period of rapid investment (FTTH Council Europe, 2025[13]), many markets have entered a more mature phase, with slowing rollout and growing challenges in sustaining utilisation growth in fixed and mobile infrastructure (McKinsey, 2026[178]), while higher interest rates and tighter financing conditions have raised the cost of capital and refinancing risks. In Italy, for example, weaker-than-expected fibre take-up and customer losses at KKR-backed FiberCop led the fund to forgo dividends in favour of reinvestment (The Financial Times, 2025[179]). This reflects growing uncertainty around demand and cash-flow stability as copper networks are retired and customers can choose between competing fibre operators, and has contributed to more cautious investor sentiment, including on build costs (Infrastructure Investor, 2024[181]).

[8] Infrastructure-only providers seek to maximise utilisation and tenancy ratios, which can promote infrastructure sharing and coverage expansion. Concerns may arise, however, where consolidation reduces the scope for infrastructure-based competition in certain segments.

[9] By deploying edge infrastructure closer to end users, such as local points of presence (PoPs) and caching servers, technology companies can reduce latency, increase reliability and optimise the delivery of their content and applications. Analysys Mason estimates cumulative spending by technology companies of USD 883 billion on communication infrastructure (data centres, submarine cables, peering and caching) from 2011 to 2028, and finds that CAP investment in transport and delivery networks reduces broadband operators' network costs by USD 5 billion to USD 6.4 billion annually (Analysys Mason, 2025[183]). End users benefit from a better experience, while operators can achieve efficiency gains, mainly through savings on transit costs (BEREC, 2022[18]).

[10] Recent subsea investments include Meta's 50 000 km Project Waterworth (Meta, 2025[188]), Google's Google's Grace Hopper and Nuvem systems (Network computing, 2025[195]), Amazon's Fastnet system and planned Ireland-United States landing (Amazon, 2025[189]), and Microsoft's participation in dozens of new subsea projects through 2027. In parallel, global data-centre investment reached USD 455 billion in 2024, up 51% year on year, with hyperscalers accounting for more than half of capital expenditure, driven largely by the expansion of their AI services (Dell'Oro Group, 2025[193]). Looking ahead, Amazon projects capital expenditure of up to USD 200 billion in 2026 (CNBC, 2026[190]), Meta has announced a USD 600 billion AI-focused data-centre build-out for 2026-28 (DataCentreMagazine, 2026[191]), and Microsoft plans up to USD 50 billion in new data-centre deployments worldwide (Datacenters.com, 2025[192]).

[11] Beyond infrastructure, technology companies have invested in software- and hardware-based optimisation technologies such as advanced video codecs, which compress (encode) and decompress (decode) video. Although not connectivity infrastructure as such, these technologies can improve user experience while reducing the network capacity needed to deliver content, and may offer communication service providers potential cost savings and network optimisation as Internet Protocol (IP) traffic grows (Analysys Mason, 2022[185]). For example, the AV1 codec, developed with the involvement of Google, Apple, Amazon and Microsoft, can reduce bandwidth requirements by around 30% at similar video quality, depending on content and encoding conditions (Meta, Vodafone and Youtube, 2025[194]), and is increasingly used by Netflix, YouTube and Meta (SINGH, 2025[184]).

[12] For example, partnerships between AT&T and Microsoft Azure, Vodafone and Microsoft, Deutsche Telekom and Google Cloud, SK Telecom and AI providers, and Orange and Telefónica with content and application providers.

[13] D2D allows standard mobile devices to connect directly to satellites without requiring specialised terminals. This capability enables basic connectivity services such as messaging, emergency communications and, eventually broadband applications (although the latter is still at the trial stage with a first success reported by Vodafone UK in January 2025 (GSMA, 2025[182]) in areas without terrestrial mobile coverage.

[14] Examples include Vodafone's acquisition of SAZKAmobil in Czechia, Bouygues Telecom's acquisition of La Poste Mobile in France and KPN's acquisition of Youfone in the Netherlands.

[15] Recent examples include Swisscom's acquisition of Vodafone Italia, which, together with Fastweb, creates a fully converged operator in Italy (Swisscom, 2025[186]), and Play's acquisition of UPC Polska, which strengthened its converged position in Poland (European Commission, 2022[89]).

[16] Several operators, including Orange, AT&T and BT, have scaled back or unwound such strategies (Telecoms.com, 2023[197]).

[17] For example, Romania-based DIGI Communications expanded into Portugal by acquiring Nowo, the country's largest MVNO at the time.

[18] For example, Viasat acquired Inmarsat in 2023 (Viasat, 2023[198]), while Eutelsat merged with OneWeb (Eutelsat, 2023[199]) and EchoStar merged with Dish Network (EchoStar, 2024[200]) in the same year. SES announced its acquisition of Intelsat in 2024 and completed the transaction in 2025 (SES, 2025[201]), combining geostationary and medium-Earth-orbit assets. In April 2026, Amazon acquired Globalstar (Globalstar, 2026[202]), including its globally harmonised mobile satellite service spectrum, an important input for D2D services.

[19] Mexico has two full MNOs and a national state-owned wholesale mobile network, Altan redes, providing retail services in rural areas and capacity to MVNOs across the country.

[20] This was after concluding that its limited scale and the growing investment required to remain competitive placed it at a structural disadvantage relative to larger nationwide operators. Its wireless operations and part of its spectrum portfolio were sold to T-Mobile, while additional spectrum holdings were subsequently sold to AT&T and Verizon (DOJ, 2025[31]).

[21] Regional figures are simple averages of OECD Member countries only, grouped as follows. Asia-Pacific: Australia, Japan, Korea and New Zealand. Europe: Austria, Belgium, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, the

Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom. Latin America: Chile, Colombia, Costa Rica and Mexico. North America: Canada and the United States. Figures are adjusted for inflation using the OECD annual consumer price index (CPI), with 2024 as the base year, and converted to US dollars (USD) at current exchange rates.

[22] Where these foundations are weaker, investment and competition may suffer. In Mexico, for example, strengthening the rule of law, the de facto independence of institutions and judicial effectiveness would enhance contract enforcement and investor confidence, while guaranteeing the full autonomy of the communication regulator and competition agency would further support competition, innovation and investment (OECD, 2026[118]).

[23] Public intervention can therefore remain targeted, with funding directed primarily towards areas in which commercial deployment is not economically viable, complemented where appropriate by public–private partnerships (OECD, 2025[42]).

[24] Draghi report Part A, http://doi.org/10.2872/1823372: See page 13: “Promoting competitiveness should not be seen in a narrow sense of a zero-sum game focused on conquering global market shares and raising trade surpluses. It should also not lead to policies of defending “national champions” that can stifle competition and innovation, or using wage repression to lower relative costs.” Page 17: “The evidence is overwhelming that **competition stimulates productivity, investment and innovation**.” [Emphasis added].

[25] Unilateral effects arise when a merger removes important competitive constraints between firms, allowing the merged entity and other market participants to increase prices, reduce quality or weaken investment and innovation incentives without needing to co-ordinate with competitors. Co-ordinated effects arise when a merger makes it easier for firms to co-ordinate their competitive behaviour, or makes existing co-ordination more stable or effective, potentially leading to higher prices, lower quality or reduced investment and innovation.

[26] Aimene, Jeanjean and Liang (2021[69]) include two researchers affiliated with Orange at the time of writing; the views expressed are the authors’ own.

[27] These researchers are from GSMA Intelligence, the research arm of the GSMA (the global association of mobile operators).

[28] European Commission (2024[210]) , Commission Notice on the definition of the relevant market for the purposes of Union competition law, Official Journal of the European Union, C/2024/1645, paras. 99-104. See, also, US Department of Justice and Federal Trade Commission (2023[209]), Merger Guidelines, https://www.justice.gov/atr/merger-guidelines, Section 4.3.D.5.

[29] E.g., European Commission (2023), Case M.10807, Viasat/Inmarsat; European Commission (2013), Case M.6990, Vodafone/Kabel Deutschland.

[30] For instance, broader access-related foreclosure concerns were raised in the proposed acquisition of Time Warner Cable by Comcast (DOJ, 2015[206]).

[31] For example, the merger case Vodafone/Liberty Global examined bundling and conglomerate effects (European Commission, 2019[208]).

[32] For example, in 2025, in Telia/Bonnier Broadcasting (European Commission, 2025[95]),

[33] For example, the UK CMA revised its Merger Assessment Guidelines in September 2026, also to clarify the assessment of dynamic and rivalry-enhancing efficiencies, including those relating to investment and innovation (CMA, 2026[212]); and Australia's ACCC adopted new Merger Assessment Guidelines in 2025 within a broader reform of its merger control framework (ACCC, 2025[211]).

[34] The remedies accepted in the Hutchison 3G Italy/WIND joint venture, for instance, supported the entry of Iliad as a fourth MNO by providing spectrum, access to sites, transitional roaming and the option of network-sharing arrangements (European Commission, 2016[207]).

[35] MVNO hosting and national roaming differ in the type of access provided and their implications for competition. MVNO hosting requires an MNO to provide wholesale network access to an operator without its own radio access network, primarily supporting service-based competition. National roaming allows an MNO, typically a new entrant, to use another operator's network in areas where it has not yet deployed its own infrastructure, thereby facilitating network entry and infrastructure-based competition. The scope of these obligations may differ considerably, particularly in terms of geographic coverage, wholesale pricing and duration. National roaming obligations may be temporary and linked to network deployment commitments, while MVNO hosting arrangements can provide longer-term wholesale access.

[36] For example, in Austria, Chile, Estonia, Japan, the Netherlands, Portugal, Romania and the United Kingdom. For OECD Member countries within the European Union, Article 76 of the European Electronic Communications Code (EECC) allows operators with significant market power (SMP) to offer open co-investment commitments for new very high-capacity networks under defined conditions, although several countries report limited use to date (European Union, 2018[196]).

[37] For example, Belgium, Estonia, Finland, Hungary, Luxembourg, Norway and the Slovak Republic.

[38] Recent examples of radio access network sharing include Fastweb and TIM’s agreement to deploy 5G across Italy and the 2023 MORAN agreement between O2 and Slovak Telekom (RCR Wireless News, 2026[176]; O2 Slovakia, 2023[177]).

[39] Of the eight accession countries to the OECD (Argentina, Brazil, Bulgaria, Croatia, Indonesia, Peru, Romania, Thailand), five were sent the OECD communication policy and regulatory questionnaire, to which all responded (Brazil, Bulgaria, Croatia, Peru and Romania). Argentina, Indonesia and Thailand were not sent the questionnaire, due to their advancement in the accession roadmap and in an effort to avoid additional burden on national administrations.

[40] This decision responded to increased applications for satellites that featured new commercial models, players and technologies. The FCC has also adopted rules to shorten the deorbiting period for LEO satellites from 25 to 5 years. In December 2022, it issued a Notice of Proposed Rulemaking to streamline its review processes for satellite applications (OECD, 2024[187]). Furthermore, in March 2023, the FCC proposed a new framework (Notice of Proposed Rulemaking) to facilitate innovative collaborations between satellite operators and mobile providers. It will allow space-based services to connect directly to smartphone users in remote, unserved and underserved areas (OECD, 2024[187]).