Developing an innovation defence in European merger control

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Introduction

The European Commission has never approved a merger solely on the basis that its efficiencies outweigh the potential consumer harm. However, following the Draghi Report, and the Commission's consultation on its merger guidelines, there are signs of change. In this article, **Elena Zoido** and **Roman Fischer** explore how the current merger assessment process makes it prohibitively difficult for an "innovation defence" to succeed, and how it might be changed to better support innovation in Europe.

Key recommendations include:

a. **On merger-specificity**: When assessing whether claimed efficiencies genuinely require integration, the Commission considers whether other organisational arrangements – such as contracts or cooperation agreements – could achieve the benefits to the same degree as consolidation. Drawing on insights from organisational economics would help the Commission identify where other arrangements are likely to be as effective, and where that is unlikely.

b. **On verifiability**: Evidentiary requirements should be tailored to the specific sector and type of innovation to ensure that adequate evidence is provided, and the assessment should reflect the relevant time period over which benefits are expected to mature – recognising that high-impact innovations may take longer and are inherently uncertain. This will require earlier and more open communication on the evidence that is available and required. The introduction of a balancing test could also help guide how the Commission weighs small but certain harms against potentially large but uncertain transformative benefits.

c. **On benefits to consumers**: Often, beneficial innovations disrupt existing markets or have benefits that extend beyond the market that is immediately affected. So, to better capture the benefits of innovation, the Commission should consider where its assessment of benefits can reasonably extend beyond the relevant markets, particularly where they are narrowly defined.

d. **On dynamic competition**: Mergers shape competition and innovation by influencing future entry. The merger regime should permit acquisitions of innovative entrants where complementarities generate socially valuable innovation, while still guarding against anti-competitive consolidation.

The article proceeds as follows. First, we explain why innovation matters for EU merger policy. Section 3 sets out the economics of an innovation defence, highlighting the tension between accuracy and practicality in assessing innovation claims. Section 4 examines the shortcomings of the current assessment process and proposes specific improvements, including how to evaluate merger-specificity, verifiability, consumer welfare, and how to take into consideration the impact of the merger control regime on the (ex-ante) incentives for entry in anticipation of a buyout.

Why innovation matters in merger policy

Innovation fuels growth. New ideas, technologies and processes lead to better goods and services or more efficient production methods. In turn, that drives productivity gains and raises living standards. By some estimates, innovation delivers social returns of 20–50% annually.[2]

Europe lags behind on key innovation metrics. The OECD estimates that businesses in the EU spend roughly half as much on R&D as a percentage of GDP (1.4%) than those in the United States and Japan (2.7%).[3] On its Innovation Output Indicator,[4] the European Commission found that the EU is trailing many OECD countries – such as Switzerland, the US, South Korea, Israel, Japan and the UK – with others looking poised to close the gap soon, most notably China.[5]

In April 2024, the Draghi Report on EU competitiveness warned that without policy reform – including a stronger emphasis on dynamic competition and innovation – Europe risks settling into a low-growth equilibrium.[6] Mergers and acquisitions are at the heart of this discussion as, depending on the specific circumstances, consolidation can either help or hinder innovation, and because mergers provide an important dynamic incentive that enhances competition by providing the payoff (or "exit strategy") for entrepreneurs who are considering entering an industry.

Among its proposals to revamp competition policy, Draghi (2024) called for EU merger policy to "emphasise the weight of innovation and future competition in [its] decisions, enhancing progress in areas where the development of new technologies would make a difference for consumers". Specifically, it recommended that the Commission changes its operating practices and updates its guidelines to explain:

a. how the authority assesses the impact of competition on incentives to innovate; and

b. what evidence merging parties can present to prove that their merger increases the ability and incentive to innovate, allowing for an "**innovation defence**".[7]

Draghi (2024) also noted the need for constraints on such a defence: recognising that evidence on the innovation-enhancing effects of a merger must be specific and substantial enough to limit the risk that companies abuse it. It warned that an "innovation defence" should not be used to justify further concentration by already dominant companies or in cases in which the concentration poses significant risk of entrenching a dominant position, ultimately harming effective competition.[8]

The (perceived) need for such a recommendation is itself instructive. Technically, merger control in Europe already allows an innovation defence. For instance, the Horizontal Merger Guidelines ("**HMG**" or **"Guidelines"**) acknowledge that mergers may lead to lower prices or improved products through innovation and that those efficiencies can be considered in the competitive assessment.[9] However, its application to date has been minimal. According to the Commission's consultation papers on the reform of its current merger guidelines:[10]

a. Over the past 20 years, merging parties have only submitted sufficiently developed efficiency claims with respect to mergers in certain sectors (most notably, telecoms).

b. No merger has ever been approved solely on the basis that efficiencies outweighed potential consumer harm.[11]

The most immediate barrier that merger control poses for innovation, therefore, is a matter of process, not principle. To explore why, this article examines the economics behind an innovation defence, the

shortcomings in the current assessment process, and the changes that might help the Commission better promote innovation while maintaining its core mission: safeguarding competition.

The economic foundations of an innovation defence

In essence, an innovation defence would permit a merger if it increases the parties' incentives and ability to innovate to an extent that the merger as a whole benefits consumers. However, assessing that claim with respect to a particular consolidation is challenging. The relationship between competition and innovation is complex, influenced by many factors that have opposing effects and are difficult to measure empirically.

The relationship between competition and innovation

The broad relationship between competition and innovation is heterogenous, but relatively intuitive. Schumpeter (1942) argued that firms need market power to fund risky R&D through quasi-rents.[12] In contrast, Arrow (1962) argued that monopolists have fewer incentives to innovate than competitive firms because they already enjoy high profits – and therefore their **incremental benefit of innovating is smaller** than for a competitive firm for which all post-innovation profit is incremental.[13]

Aghion et al. (2005) synthesized these views into the "inverted U" hypothesis: at low levels of product market competition, increasing competition raises innovation incentives by firms seeking to escape rivals, but at high levels of competition it reduces innovation incentives by eroding the rents of innovation – producing an overall inverted-U relationship between competition and innovation.[14]

These considerations already make assessing the potential effect of a specific merger challenging in any case. But further complicating matters, economic theory shows that the net impact of mergers on innovation is positive or negative depending on which factors apply and how they interact in a particular set of circumstances.[15] Opposing forces are at play in all contexts:

a. **Horizontal mergers**: Mergers can reduce the returns on cost-saving or quality-improving R&D.[16] But they can also eliminate duplicative research, help exploit scale economies, internalise externalities increasing the incentives to invest, accelerate the speed of diffusion and, create synergies through the integration of labs, data, and expertise.[17]

b. **Acquisitions of innovative entrants:** The picture is further complicated when large firms acquire innovative entrants - the prospect of these acquisitions may encourage R&D investment to attract potential buyers, or they may result in (reverse) killer acquisitions that terminate promising projects of the target (or acquirer).[18]

c. **Non-horizontal mergers**: Vertical and conglomerate mergers may also have opposite impacts on innovation, depending on the circumstances. Vertical mergers improve coordination between complementary assets and might therefore be expected to raise investment.[19] However, this may not always be the case and, in particular, depends on the reaction of non-integrated competitors (e.g., a non-integrated app competing with an app purchased by a large platform).[20]

Moreover, measuring this relationship empirically is challenging:[21]

a. First, measuring the relevant economic phenomena in markets for innovation can be difficult. Innovation and knowledge spillovers can only be measured by proxies like R&D spending, scientific publications or patent citations – all of which have limitations and only provide partial insights into the types and value of inventions being pursued by firms.

b. Second, isolating the sources of variation that establish compelling counterfactuals is particularly challenging: measures of research investment vary across technologies over time for many reasons, some of which – such as the relative cost of different technologies – are unobservable.

These difficulties explain why the empirical evidence on the impact of mergers on innovation is relatively scarce. The results are highly context specific. By way of example, horizontal mergers have been found to reduce R&D expenditures and new patents in pharma[22], but in the hard disk drive industry, they led to increases in R&D and reductions in the number of patents (which is interpreted as a reduction in duplication and defensive patenting), alongside an increase in the citation intensity of the patents (i.e., higher quality).[23] The same applies to acquisitions of innovative entrants: on the one hand, some kill overlapping projects[24], yet on the other, banning all deals would reduce startup entry.[25] Overall, the effects depend on market structure, technology, and synergies, making predictions difficult.

The challenge when assessing the innovation defence

The nature of the economic relationship between innovation and competition, therefore, creates an inherent tension in the merger control process.

The assessment of claimed benefits should be *accurate*. An effective process must recognise that mergers can enable innovation. A merger control regime that only considers short-term price effects risks blocking mergers that strengthen incentives to innovate and risks allowing others that undermine them, reducing long-term welfare. So, we should be concerned if merger control *never* recognised any cases where a merger promotes innovation. However, while some mergers promote innovation and welfare, others inhibit them. So, a merger control that assumes all mergers promote innovation would not support the objective of protecting and enhancing consumer welfare. This suggests that simple rules are unlikely to protect consumer welfare, and that a careful case-by-case assessment of the relevant factors that affect innovation is needed.

But the assessment also needs to be *practical*. Merging parties need a degree of legal certainty and a reasonably predictable and simple process to avoid deterring potentially beneficial investments. An effective process therefore requires a clear and predictable policy framework – yet this is difficult to reconcile with the complexity and heterogeneity of the potential effects of mergers on innovation.

In the next section we consider how the current assessment process manages this tension, and how to improve it.

Why current practice undervalues innovation – and how to change it

Under current EU merger control procedures, it is extremely difficult for innovation-related efficiencies to play a meaningful role. As Draghi (2024) notes, the barrier that merger control poses to innovation is (mostly) not one of principle. The Commission regards dynamic competition and innovation as an important mechanism of economic growth[26], and the Guidelines acknowledge that mergers can deliver efficiency gains, including in R&D and innovation.[27] The barrier is (mainly) procedural – i.e., how the Commission assesses the potential benefits and trade-offs of a merger in practice.

This, in our experience, creates a “bad equilibrium”. The kind of certainty that the Commission seeks on the benefits of innovation seems to be an impossible hurdle, so merging parties routinely omit them from merger filings altogether[28] or only submit limited evidence, given the high costs and uncertainty of assembling it to the standard the Commission demands. That, in turn, means the Commission has limited evidence to assess and – understandably – does not find it compelling. And so, the cycle continues.

In this section, we step through four aspects of the current process to set out how it operates, why that forms a barrier to innovation in practice, and suggest how updated guidelines might help find a better equilibrium – one that gives parties a fair opportunity to justify the intended benefits of the merger, without risking that companies abuse this strategy.[29]

The first three aspects relate to each of the substantive criteria that parties must satisfy for the Commission to recognise efficiencies – that the benefits are (a) **merger specific**, (b) **verifiable**, and (c) **accrue to (relevant) consumers**. We also consider the specific question of the **acquisitions of innovative firms**.

Merger-specificity assessments ignore insights from organisational economics

Under the current Guidelines, efficiencies must be merger specific. They are only considered if they are a direct effect of the merger and can *only* materialise if the merger takes place. If there is a realistic and less anticompetitive way to achieve the same benefits, they don't count.

How the process currently operates

The Commission interprets merger-specificity such that "*efficiencies are […] a direct consequence of the notified merger and cannot be achieved to a similar extent by less anticompetitive alternatives*".[30] The onus is on the merging parties to demonstrate that efficiencies are merger specific.

Efficiencies failed this test in many decisions because the Commission considered that contractual arrangements between independent parties could provide the benefits without formal consolidation. For dynamic efficiencies related to innovation, the Commission typically considers that mechanisms such as cross-licensing or co-development agreements are less anticompetitive and would deliver the same benefits.

To illustrate, consider the following examples.

a. In *Western Digital/Hitachi*, the parties claimed the combination of complementary assets would benefit consumers. In particular, the combination of the parties' R&D resources would lead to greater and faster product development and improve the combined entity's ability to initiate and implement large technology transitions required to continue developing faster and higher-capacity HDDs at lower prices. They argued that the additional investments would broaden their product portfolio and allow them to invest in fundamental research and the development of the latest generation HDD components.[31] One of the reasons the Commission dismissed these claims was that such complementarities could be achieved through a **cooperation agreement**.[32]

b. In *Aurubis/Metallo* the parties submitted that the transaction would improve the quality of scrap metal recovery by combining the parties' know-how and technologies.[33] The Decision accepted these efficiencies.[34] However, it then went on to reject their relevance for an efficiency defence on the basis that (i) the party gaining access to IP/know-how could **develop an alternative independently**[35], or that (ii) the parties could have reached **a licensing agreement**.[36]

c. In *Hutchison/WIND*, the parties claimed that the JV would enable the parties to roll out faster a third high-quality network characterised by higher coverage and speed.[37] The Decision accepts that "*in principle, offering a better network to consumers would benefit consumers*"[38], but rejects the parties' efficiency claim on the basis that network sharing agreements could bring the same or similar benefits to consumers, as the parties belong to groups that have entered into **network sharing agreements** in other markets and have themselves considered several times entering into a network sharing agreement in Italy several times.[39]

Why is the test a barrier to innovation?

The main challenge with the merger-specificity test is that, in our experience, there is limited consideration given to how practical the alternatives to a merger would be and, crucially, how *effective* they would be compared with the merger. Rather, **contracts**, **sharing agreements**, or **independent activity** are considered equally possible and effective alternatives with relatively limited assessment.

In contrast, the economics literature has long asked why certain activities are more effective when coordinated through some organisational structures rather than others – and specifically, why some activities are better inside a firm, rather than being carried out by independent parties.[40] The short answer is that activities are better coordinated through a firm when they are exposed to "hold-up" risks, asymmetric information, and the need to coordinate complementary assets. Essentially, the firm internalises the risk and benefits that might otherwise degrade cooperation or deter it altogether.

In some cases, these barriers can be overcome by alternative arrangements, such as licensing and other contractual agreements, but, not necessarily to the same standard. The extent to which the risks and benefits can be fully anticipated and internalised by a contract are matters of degree. The greater the complexity and uncertainty of the operating environment, the harder it is for contractual arrangements to coordinate activities between independent parties as effectively as a single firm would coordinate those activities.

To illustrate why these theories matter, consider the following examples:

a. **Example 1: independent operation.** Firms often buy clusters of complementary assets rather than reinventing them one by one. If every new product developer had to hire each employee, secure each supply contract, and build each distribution channel from scratch – instead of acquiring a company that already has those elements – innovation and adaptation would slow down.

b. **Example 2: mobile network sharing**. Operators sometimes share towers or radio equipment to cut costs, but because they remain separate firms, cooperation rests on contracts. These can allocate costs and duties, yet they cannot cover every case where incentives diverge – such as the pace of upgrades or coverage priorities. By contrast, if the operators merge into a single entity, those responsibilities and incentives are naturally aligned and coordination is smoother.

What should change?

The current Guidelines and practice pay no attention to these issues. However, they are central in the theory of the firm, contract theory, and organisational economics. They are also critical to judging whether claimed efficiencies require a merger or could be achieved *to the same degree* by other means, such as contracts or joint ventures.

The assessment of merger-specificity should draw on the theory of the firm and organisational economics to identify which efficiencies truly need integration and to distinguish them from those that could be delivered just as well via other arrangements.

Additionally, both the efficiencies and the harm should be evaluated against the same counterfactual. For example, consider the assessment of efficiencies in a hypothetical merger. If the Commission considers similar benefits could be reached with a cooperation agreement, it should also assess the loss of competition relative to the same counterfactual to ensure that it does not block mergers which leave consumers better off than the most plausible counterfactual absent the merger.

Verifiability assessments lack evidence due to weak incentives and evaluation framework

Authorities should be able to verify that the claim is accurate and that the efficiencies are likely, timely and sufficient to counteract the mergers' potential anticompetitive harm.

How the process currently operates

The verifiability criterion establishes that "*the Commission can be reasonably certain that the efficiencies are likely to materialise, and be substantial enough to counteract a merger's potential harm to consumers*". The parties should, in a timely manner, provide evidence (such as internal documents) quantifying the efficiencies. When this is not possible, "*it must be possible to foresee a clearly identifiable positive impact on customers, not a marginal one*". Moreover, "*the longer the start of the efficiencies is projected into the future, the less probability the Commission may be able to assign to the efficiencies actually being brought about*."[41]

Parties frequently fail to meet the evidential burden required to verify claimed innovation efficiencies. Examples include:

a. In *Telia Sonera /Bonnier*, the parties argued that the merger would lead to synergies from the merged entity's improved audiovisual services. However, the Decision concluded that the merging parties had **not shown concrete evidence** of innovative projects or plans on how the combined workforce would increase innovation and rejected the claims due to non-verifiability.[42]

b. In *TomTom/Tele Atlas*, the parties claimed that the merger would allow the merged entity to produce better and faster maps, as the integration of TomTom's data would improve Tele Atlas' map databases.[43] To support this claim, the parties submitted two studies, the first one assessing the cost savings that could be achieved post-merger to provide the pre-merger level of map database quality, and the second one calculating the additional costs that would be necessary to achieve the same level of map database quality post-merger with the pre-merger technology. The Decision found **these estimates were *"not particularly convincing"***, as the first approach does not correspond to the likely post-merger outcome, where the merged entity would more likely use TomTom's data to improve map databases than to save on cost, and the second approach likely overestimated the value of better map databases, since it would not be profitable for Tele Atlas to produce the post-merger level map database quality with pre-merger technology.[44]

Why is the test a barrier to innovation?

Even when efficiencies could be large, proving their magnitude in a specific case may prove challenging. Without clear evidence, agencies may reject genuinely value-creating deals. However, the Commission, understandably, needs some degree of certainty that the claimed efficiencies are genuine – to guard against speculation, whether in good faith or otherwise.

Verifying benefits is especially difficult for innovation. Broadly, there are three distinct challenges:

a. **First, the quality of the evidence**: The Commission seeks compelling evidence. The types of evidence that the Commission has accepted to support efficiency claims are relatively broad, including historical data, internal documents, inputs from participants in merger investigations and external data. The detail it requires from parties to verify claimed efficiencies, understandably, tends to be high. Often, as illustrated above, parties' expectations on innovation are not documented (or documentable) to the standard required by the Commission to consider these verifiable.

b. **Second**, **the scope of the benefits.** The Commission limits the scope over which benefits can occur when considering if they are verifiable. For instance, efficiencies are typically required to materialize within about two to five years. Beyond that, benefits are broadly considered uncertain, whereas innovation payoffs often require longer time horizon.

c. **Third, the benefits of innovation are inherently uncertain.** The benefits of innovation are not guaranteed. Investors accept a degree of risk that their investments may not bear fruit to the extent that they hoped. The Commission cannot be expected to have the same risk appetite as investors; it has different responsibilities and objectives. But neither can it expect innovation efficiencies to be verified with certainty. That limits the number and quality of qualifying innovations considerably – for instance, to minor incremental improvements, while rejecting potentially large transformative but uncertain efficiencies. Further, by demanding greater assurance than the investors themselves require, the Commission exacerbates the challenge of verifying those benefits.

What should change?

It is reasonable for the Commission to expect extensive and compelling evidence. However, the nature of that evidence will vary by sector. In those with structured development pipelines, compelling evidence is possible – particularly, if the process incorporates engineers, technologists, and industry experts from the start. These experts can assist evaluating which technical fixes or R&D synergies really require a merger and which could be delivered through partnerships, licensing, or contracts. In other sectors, it is more challenging, especially in transformational mergers seeking to unlock investment or innovation rather than incrementally improve existing operating performance.[45]

Achieving a compelling evidence base requires communication between the Commission and parties – both on what is available, and what the Commission requires. Early collaboration would help gather the right data, ask the right questions, and draw sound conclusions about both efficiency claims and competitive risks. Parties will not invest to provide the detail the Commission needs if it is unclear to them what is necessary and that it will be given a reasonable assessment. At the same time, the Commission cannot assess efficiency claims adequately unless sufficient and relevant evidence is provided. Moving away from the current bad equilibrium needs both sides to cooperate.

The time horizon for assessing efficiencies is often too limited for innovation. Increasing it would allow the Commission to assess the potential harms and benefits of a merger over the appropriate timeline – accepting that longer time horizons may still be challenging for parties due to uncertainty and the time value of money.

The Commission should introduce a balancing test that weighs relatively small but more certain harms against potentially large, though uncertain, transformative benefits. A structured balancing test would help ensure that bold, high-impact innovations are not dismissed because their outcomes cannot be proven in advance.[46]

In addition, remedies may be necessary in such situations to secure benefits for consumers. First, “bridging” remedies designed to limit the impact of consolidation on consumers before the projected benefits from innovation emerge, and second – as recommended in the Draghi report – parties must commit to their investment plans, subject to ex post monitoring and enforcement.[47] Both types of remedy are key features of the CMA’s approval of Vodafone/3 in the UK.[48]

The assessment of benefits to consumers can be too restrictive

A final (and critical) aspect of the evaluation of efficiencies under the current Guidelines is whether consumers in the relevant market will not be worse off because of the transaction. The efficiencies must benefit consumers in the specific markets in which concerns have been identified.

How the process currently operates

Efficiencies have often been dismissed on this basis. For example:

a. In *Siemens/Alstom*, the Decision concluded that a re-allocation of R&D efforts may have allowed the merging parties to conduct R&D projects, but that (i) such projects would result from the elimination of duplicative research efforts and may **hurt consumer choice** and that (ii) in those markets/tenders for which both Siemens and Alstom would have conducted R&D independently, customers would likely face **a loss of variety** after the transaction (to the extent that the R&D efforts of the parties were differentiated) or, in any event, the loss of one independent competitor.[49]

b. In *Dow/Dupont*, the parties argued that the merger would allow the combination of complementary skills and knowledge in ways that were not feasible pre-transaction. This paired with an increase in the reward of innovation by reducing information spillovers to (and imitation by) competing firms, and by allowing the merged entity to capture greater sales and hence appropriate more of the value of innovation (proportional to sales), leading to an increase in innovation and growth. The Decision concluded that there was no evidence that these efficiencies would benefit consumers to a sufficiently large extent.[50]

Why is this a barrier to innovation?

The current Guidelines rule out any efficiencies that lie outside the specific relevant market which the Commission worries might become less competitive. This is a rigid boundary that ignores the fact that mergers often involve trade-offs – one activity may shrink while another, higher-value one, expands. This is particularly problematic in the context of innovation efficiencies, as the greatest benefit often comes from disruptive innovation instead of incremental improvement.

For example, mergers may lead to the development of new products and services may launch outside the narrowly defined "relevant market" used for static analysis, creating a discrepancy between the consumers affected by the short-term restrictions to competition and those benefitting from the innovative products.

Imagine a firm buying a manufacturing plant only to convert it to a more advanced production line. Or a consultancy acquiring a small agency to reassign its experts to new, fast-growing client sectors. In each case, competition in the original market declines – but competition and productivity rise where firms redeploy resources to more valuable uses.

What should change?

By considering only the lost rivalry and never the gains from a better allocation of resources, the Commission risks blocking precisely the transactions that put assets to their highest and best use.

From a purely economic perspective, an approach that fully embraced out-of-market benefits, would better support innovation in the EU and consumers as it would focus on consumer welfare generally, not constrained to specific markets. This, however, is not an approach that the Commission can introduce through its Guidelines alone and carries additional policy risks. For example, approving a merger where harm in one Member State is offset by benefits elsewhere could undermine the legitimacy and political neutrality of the process.

However, it may not be necessary to constrain the benefits of innovation to existing markets in the narrowest terms. In principle and practice, the issues that underpin market definition are less simple, binary, and narrow than the process can make it seem.[51] The updated Guidelines could provide helpful advice on where seemingly 'out-of-market' benefits are sufficiently close to permissible consideration, and where they are too distant to be considered relevant.

Assessments of acquisitions of innovative entrants may constrain incentives for entry and innovation

How the process currently operates

EC jurisdiction is determined by whether a concentration has an EU "Community dimension" based on specific turnover thresholds.[52] However, should an acquisition fall below these turnover thresholds, it can rely on a national competition authority to refer the case up to the EC for review through Article 22 of the EUMR.

Since publishing its guidelines on Article 22 (since withdrawn), the EC has made it a policy priority to capture so-called killer acquisitions that fall below the turnover threshold.[53] This culminated in the Illumina/Grail judgement where the CJEU clarified some limits on the EC's call-in powers; however, the EC has continued to activate Article 22.[54]

Why is this a barrier to innovation?

The current Guidelines contain no discussion of incentives for entry in anticipation of buyout premiums, which are a central channel for dynamism and innovation in many sectors. A merger regime should reflect that the prospect of a buyout can be a key motivation for entry, especially for startups.

In particular, new firms entering largely because they expect to eventually be bought out play a crucial role in dynamic competition. In industries like pharmaceuticals and digital technology, many start-ups would not enter but for the promise of a profitable acquisition. As a result, the number and capabilities of potential entrants at the time of any merger are endogenous to how tough regulators are likely to be.

The following trade-off arises:

a. On the one hand, if firms can count on buyouts because the merger policy is lax, they may enter inefficiently, incurring fixed costs without creating much real competition.[55] A strict merger regime, by signalling that buyouts won't be allowed, discourages this wasteful entry and actually serves consumer welfare by preventing excessive entry. Thus, barring so-called "killer acquisitions" of disruptive rivals would also deter inefficient entry in the first place.

b. On the other hand, some start-ups invest in complementary innovations – e.g., new drug candidates, software plug-ins, or process improvements – that incumbents could not develop on their own. For these firms, the prospect of a buyout spurs socially valuable R&D. A policy that prevents these deals would harm consumers.

What should change?

An optimal merger policy should be more permissive of acquisitions where the target's products or capabilities complement rather than substitute for those of the acquirer. Such a differential approach channels investment away from areas of excessive and toward under-supplied innovations.[56]

Conclusion

Mergers and acquisitions are a fundamental driver of innovation: they shift resources into valuable new uses, bring together R&D teams, and help scale up breakthrough technologies. For this reason, a merger regime that focuses only on price effects and sidelines these dynamic efficiencies risks blocking beneficial deals and trapping Europe in a low-growth cycle.

Although an explicit "innovation defence" is permitted by the EU Merger Guidelines in principle, the current process ensures that it inevitably fails in practice. By effectively ignoring dynamic gains, the *status quo* entails risks:

a. **Deterrence of welfare-enhancing deals:** Potentially pro-competitive mergers – those combining complementary R&D, enabling scale for global competition – aren't pursued or are abandoned, because the existing hurdles of merger-specificity, verifiability and narrow focus on benefits to consumers are in practice insurmountable.

b. **Risk of excessive intervention:** When dynamic claims *do* surface, emphasis on traditional structural remedies may result in divestitures of overlapping assets - even where those very assets (e.g., R&D labs, talent pools) may be necessary for future breakthroughs. Splitting them may undermine rather than preserve emerging innovations.

By weighing static harms and dynamic gains side by side, using consistent counterfactuals, drawing on insights from organisational economics and contract theory, and allowing conditional approvals backed by enforceable R&D commitments, regulators could protect consumers today and promote growth tomorrow to help ensure that Europe's competition policy keeps markets open while fostering the innovations that are needed for its growth.

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2 See Jones, B. F. and Summers, L. H. (2022). "A Calculation of the Social Returns to Innovation." *Innovation and Public Policy*; Bloom, N., Schankerman M., and Van Reenen J. (2013). "Identifying Technology Spillovers and Product Market Rivalry." *Econometrica, 81*(4), 1347–1393.

3 There are substantial differences across EU countries: business expenditure on R&D as a percentage of GDP was also 2.7 in Sweden and above 2 in countries like Austria, Belgium, Finland or Germany. See data from the OECD Main Science and Technology Indicators (MSTI database), available here: https://www.oecd.org/en/data/datasets/main-science-and-technology-indicators.html.

4 The Innovation Output Indicator (IOI) measures how effectively countries turn innovation into economic value, jobs, and technological capabilities. See Bello, M., Ravanos, P. and Smallenbroek, O. (2024). "Tracking country innovation performance: The Innovation Output Indicator 2023", available here: https://publications.jrc.ec.europa.eu/repository/handle/JRC137117.

5 See European Commission, "How is the EU performing in innovation?", dated 27 June 2024, available here: https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/how-eu-performing-innovation-2024-06-27_en.

6 See Draghi M. (2024). "The Future of European Competitiveness" (Part A), 5–6, available here: https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en.

7 See Draghi M. (2024). "The Draghi report: In-depth analysis and recommendations (Part B)", p.299, available here: https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en.

8 See Draghi M. (2024). "The Draghi report: In-depth analysis and recommendations (Part B)", p.299, available here: https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en.

9 HMG, para. 81.

10 See European Commission, Review of the Merger Guidelines, Topic F: Efficiencies, available here: https://competition-policy.ec.europa.eu/mergers/review-merger-guidelines_en.

11 In some instances, efficiency claims were partially accepted and balanced against the competition harm (M.4267 – Deutsche Börse / Euronext, M.6905 – Ineos / Solvay / JV, M.7421 – Orange / Jazztel and M.7278 – GE / Alstom).

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16 See, for example, Motta, M., & Tarantino, E. (2021). "The Effect of Horizontal Mergers, When Firms Compete in Prices and Investments." *International Journal of Industrial Organization*, *78(C)*.

17 Denicolò, V. and Polo, M. (2018). "Duplicative Research, Mergers and Innovation." *Economics Letters, 166*, 56–59; Jullien, B. and Lefouili, Y. (2020). "Mergers and investments in new products." TSE Working Paper.

18 Cunningham, C., Ederer, F., and Ma, S. (2021). "Killer Acquisitions." *Journal of Political Economy, 129*(3), 649–702. For a discussion of "reverse killer acquisitions", see Caffarra, C., Crawford, G., and Valletti, T. "'How tech rolls': Potential competition and 'reverse' killer acquisitions". CEPR/VoxEU blog, date 11 May 2020, available here: https://cepr.org/voxeu/blogs-and-reviews/how-tech-rolls-potential-competition-and-reverse-killer-acquisitions.

19 CMA Microeconomics Unit (2025) Investment and competition over the business lifecycle, 11.24-11.28

20 D'Annunzio, Anna, Antonio Russo, and Shiva Shekhar. Digital Ecosystems: The Adtech Tax and Content Quality. No. 11400. CESifo Working Paper, 2024; Affeldt, Pauline, and Reinhold Kesler. "Big tech acquisitions—towards empirical evidence." Journal of European Competition Law & Practice 12.6 (2021): 471-478.

21 See Bryan, K. A. and Williams, H., (2021). "Innovation: Market Failures and Public Policies." NBER Working Paper No. 29173, for a more detailed discussion.

22 Ornaghi, C. (2009). "Mergers and innovation in big pharma." *International Journal of Industrial Organization*, 27(1):70–79.

23 Bennato, A. R., Davies, S., Mariuzzo, F., and Ormosi, P. (2021). "Mergers and innovation: Evidence from the hard disk drive market." *International Journal of Industrial Organization*, 77:102755. Igami and Uetake (2020) examine this industry as well. They find that the relationship between competition and R&D investments is likely to be increasing, but plateaus as the number of firms grows. Specifically, the incentive to innovate increases drastically when moving from a monopolistic market structure to a duopolistic/triopolistic market. However, starting from the fourth firm, the incentive to invest becomes less sensitive to the increase in the number of firms. Igami, M. and Uetake, K. (2020). "Mergers, innovation, and entry-exit dynamics: Consolidation of the hard disk drive industry, 1996–2016." *The Review of Economic Studies*, 87(6):2672–2702.

24 Cunningham, C., Ederer, F., and Ma, S. (2021). Op. cit. at 18.

25 Eisfeld, L. (2024). Entry and acquisitions in software markets. *Mimeo*.

26 See European Commission, Competitiveness Compass, dated 29 January 2025, available here: https://commission.europa.eu/topics/eu-competitiveness/competitiveness-compass_en.

27 Paragraphs 80 and 81 of the HMG note that mergers may lead to lower prices or improved products through innovation and that efficiencies from joint ventures or R&D collaborations can be considered.

28 See European Commission, Review of the Merger Guidelines, Topic F: Efficiencies, paragraph 100, available here: https://competition-policy.ec.europa.eu/mergers/review-merger-guidelines_en.

29 Some of our suggestions reflect the views in Kaplow, L. (2025). "Improving Economic Analysis in Merger Guidelines." *Journal of Economic Perspectives, 39*(1), 29–52. We have also drawn some examples from this paper.

30 HMG, paragraph 85.

31 Case COMP/M.6203 – Western Digital Ireland / Viviti Technologies, paragraph 992.

32 In particular, the Decision observes that R&D cooperation agreements are frequent on the relevant HDD markets (for instance cross-licensing agreements between HDD competitors and joint research and development programmes with HDD component suppliers). COMP/M.6203 – Western Digital Ireland / Viviti Technologies, paragraphs 1010 and 1011.

33 Case COMP/M.9409 – Aurubis / Metallo Group Holding, paragraphs 835 and 844.

[34] Case COMP/M.9409 – Aurubis / Metallo Group Holding, paragraph 843.

[35] The Commission took a similar stance in Case COMP/M.6905 – INEOS / Solvay, where the parties argued that the merger would lead to production optimisation savings. The Commission argued that "the Notifying Parties have failed to present any convincing explanation as to why" each of the party could not individually develop an equivalent know-how (see paragraphs 1187 and 1188).

[36] Case COMP/M.9409 – Aurubis / Metallo Group Holding, paragraphs 851 and 852.

[37] Case COMP/M.7758 – Hutchison 3G Italy / WIND, paragraph 1448.

[38] Case COMP/M.7758 – Hutchison 3G Italy / WIND, paragraph 1465.

[39] Case COMP/M.7758 – Hutchison 3G Italy / WIND, paragraph 1630.

[40] Coase, R. H. (1937). "The Nature of the Firm." *Economica*, *4*(16), 386–405; Williamson, O. E. (1975). *Markets and Hierarchies: Analysis and Antitrust Implications*; Williamson, O. E. (1985). *The Economic Institutions of Capitalism*; Hart, O. and Moore, J. (1990). "Property Rights and the Nature of the Firm." *Journal of Political Economy, 98*(6), 1119–58.

[41] HMG, paragraph 86.

[42] Case COMP/M.9064 – Telia Company / Bonnier Broadcasting Holding, paragraph 1296.

[43] Case COMP/M.4854 – TomTom / Tele Atlas, paragraphs 245 and 246.

[44] Case COMP/M.4854 – TomTom / Tele Atlas, paragraphs 247 and 248.

[45] See Nilausen, L. "Lessons from the life and death of merger efficiency claims: Merger rationales v merger efficiencies", page 12, The Analysis, dated 28 November 2023, available here: https://www.compasslexecon.com/insights/publications/lessons-from-the-life-and-death-of-merger-efficiency-claims-merger-rationales-v-merger-efficiencies and *Efficiencies in merger control*, OECD Roundtables on Competition Policy Papers, dated 5 May 2025, available here: https://www.oecd.org/en/publications/efficiencies-in-merger-control_f4ce548f-en.html.

[46] This is aligned with the recommendation of a "balance of harms" test for merger assessment in digital markets. See *Unlocking Digital Competition: Report of the Digital Competition Expert Panel,* 13 March 2019, available here:
https://assets.publishing.service.gov.uk/media/5c88150ee5274a230219c35f/unlocking_digital_competition_furman_review_web.pdf

[47] See Draghi M. (2024). "The Draghi report: In-depth analysis and recommendations (Part B)", p.299, available here: https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en.

[48] ME7064/23 - Vodafone / CK Hutchison JV merger inquiry, Final Undertakings, Annexes A and B

[49] Case COMP/M.8677 – Siemens / Alstom, paragraph 1276.

[50] Case COMP/M.8677 – Siemens / Alstom, paragraphs 3283 and 3294.

[51] Market definition in principle and practice: https://www.compasslexecon.com/insights/publications/market-definition-in-principle-and-in-practice

[52] Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings, Art 1

[53] Communication from the Commission Guidance on the application of the referral mechanism set out in Article 22 of the Merger Regulation to certain categories of cases 2021/C 113/01

[54] Joined cases C-611/22 P and C-625/22P; Case COMP/M.11766 - Nvidia/Run:AI

[55] Rasmusen, E. (1988). "Entry for Buyout." *The Journal of Industrial Economics, 36*(3), 281–99. Extensions by Gowrisankaran, G. (1999). "A Dynamic Model of Endogenous Horizontal Mergers." *The RAND Journal of Economics*, *30*(1), 56–83; Mermelstein, B., Nocke, V., Satterthwaite, M. A., and Whinston, M. D. (2020). "Internal versus External Growth in Industries with Scale Economies: A Computational Model of Optimal Merger Policy." *Journal of Political Economy, 128*(1), 301-341; and others confirm this result in richer dynamic settings, provided certain market structures and timing assumptions hold.

[56] More broadly, mergers are part of the dynamic ecosystem that includes entry, investment, competitive interaction, and exit, which is essential for the allocation of capital and scarce resources to its most productive uses. In some of those circumstances, they are a more efficient exit mechanism than bankruptcy or liquidation (e.g, *zombie* firms that are in financial distress but unlikely to exit but for the merger or markets where there is excess capacity and the merger prevents inefficient exit). In those cases, the merger regime should help ensure that exit costs are low and have a positive impact on entry and investment *ex ante*.