



Resetting competition policy frameworks for the digital ecosystem

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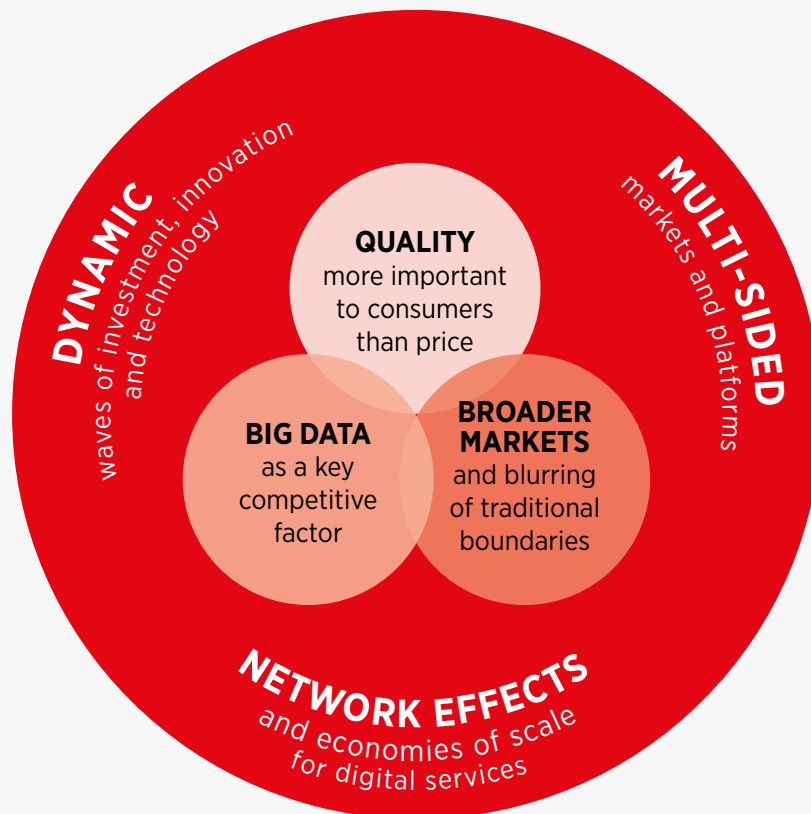
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Executive summary

The global economy is undergoing a major transformation. The rapid take-up of technologies including mobile communications, digital platforms, big data, cloud computing and social media are changing the nature of products and services and the way in which people interact. This transformation is disrupting existing business models and industries, while offering substantial potential to enrich lives and raise living standards.

The features of the digital market call for a different and more nuanced approach to competition policy



Competition in digital markets is characterised by waves of investment and innovation and rapid technological progress. Competitive dynamics are changing, with digital technologies reshaping existing markets and giving rise to new services. Consumers in digital markets often value quality and product features over low prices. The supply of digital services tends to be characterised by scale economies and strong network effects. Digital platforms can be two-sided or multi-sided, with distinct groups of users benefitting from the presence of the other. Collecting and analysing customer and supplier data may create a strategic advantage, especially when it helps to improve the quality of services.

These new features of the digital market call for a different and more nuanced approach to competition policy. Governments should ensure their competition and regulatory frameworks reflect how the market has evolved and provide a sound foundation for ongoing competition, investment, and innovation that benefits everyone.

In this report, we assess how governments and regulatory authorities can update competition and regulatory frameworks to realise the full potential of the digital economy. Our policy recommendations are grouped into four areas:

- Market definition and assessment of market power
- Adoption of a total welfare standard in place of the consumer welfare standard
- The balance between *ex ante* and *ex post* regulation
- Institutional arrangements

Recommendation 1: Adjust existing tools to account for specific features of digital markets

When defining relevant markets and assessing market power, competition authorities need to take the unique features of digital markets into account. Existing tools (e.g. the SSNIP test¹) may have certain shortcomings when applied to digital markets. Authorities should be flexible in the analytical tools they rely on to define certain markets. Generally, there will not be a compelling reason for authorities to dispense with a formal market definition stage, as this can be important when answering specific competition and regulation questions about digital markets. Ultimately, market definition should support an analysis of likely competitive effects.

It is important for authorities to consider the links between the different sides of platform markets (either during the market definition stage or in the subsequent competitive assessment). Adjusting the SSNIP test to two-sided or multi-sided markets can help with this.

Recommendation 2: Focus on actual substitution patterns

The focus of the market definition exercise should be on understanding and describing actual substitution patterns. Drawing clear boundaries around product features or technologies is often unhelpful and misleading when consumers themselves do not recognise them.

Recommendation 3: Use alternative tools to capture the main determinants of consumers' switching behaviour

In a standard market definition exercise, price is typically considered the main reason consumers switch products. However, in digital markets, differences in product features or functionality may be more relevant. When digital products are free and non-monetary factors, such as quality or privacy, are more important to consumers, authorities should consider alternative approaches to the SSNIP test to better capture and understand consumer switching behaviour.

Recommendation 4: Ensure market definition is sufficiently forward-looking, and revise and adapt policies to fully capture changes in the relevant market

Digital markets are extremely dynamic, which makes it important to define them in a way that captures the likely future effects of competition. The time horizon used in the definition should consider the period in which any remedy might impact the market. *Ex ante* market definition is likely to require a longer time horizon than that typically used by competition authorities for *ex post* enforcement.

Where evidence indicates that markets have changed or are likely to change and warrant deregulation, competition and regulatory authorities should revise their interventions, including establishing sunset clauses that define the temporary measures in place. It is best to be cautious when introducing new interventions or tightening existing ones, as operators may be less willing to invest and innovate if they are unable to recover their costs.

Recommendation 5: Focus on alleged anticompetitive conduct and its likely effects, rather than inferring market power from market structure

Structural indicators of market power can be misleading in digital markets since competition

1. The Small but Significant and Non-transitory Increase in Price (SSNIP) test determines whether particular products should be included

between a few players can be intense and displace market leaders relatively quickly. Competition authorities should instead focus on alleged anticompetitive practices and its likely (or actual) effects and not infer market power concerns from market structure. In digital markets, the main competition issue is usually the power to exclude, which is not necessarily associated with higher market share or profits.

Recommendation 6: Assess the extent to which big data confers market power

Large-scale data gathering and analysis have become important features of digital markets, with the potential to influence anticompetitive effects. Data per se need not be a competition concern. The impact of big data on market power depends on the product or service in question and is assessed on a case-by-case basis. The key issues are whether information can be replicated and the significance of data to competitive performance.

Recommendation 7: Maintain a high threshold for intervention based on collective dominance

Digital markets are dynamic and highly innovative markets. There are powerful network effects, as well as the potential for a winner-takes-all outcome. They are not well suited to coordination and collective dominance. Therefore, the threshold for intervention on the basis of collective dominance should remain high—much higher than that for single-firm dominance.

Recommendation 8: Adopt a total welfare standard to support long-term productivity growth and higher living standards

Adopting a total welfare standard to assess competition issues would support higher living standards over time. A total welfare standard would take all efficiency gains into account and explicitly weigh them against competition effects. Such an approach would be superior to measuring only the consumer welfare, which could wrongly result in efficiency-enhancing mergers being banned.

Authorities should allow mergers that are expected to increase total welfare, taking into account the likely effects on both competition and efficiency. Mergers that give rise to cost savings are also likely to benefit consumers in other markets where resources would be redeployed. Distributional concerns can be effectively addressed by weighting the benefits and costs differently for different groups of consumers and

through fiscal policy, with the gains in total welfare being used to help the most vulnerable groups.

Recommendation 9: Focus on dynamic effects when assessing mergers and competition in digital markets

Competition issues in the digital ecosystem generally require attention to dynamic effects, including changes in quality, innovation and efficiency. A number of analytical approaches can support this. These include providing clear explanations of projected harm or benefits, assessing how the merger or conduct would change the incentives and abilities of firms to innovate, relying on more independent industry and technical experts, and using approaches that weigh competing outcomes, such as when the merger or conduct is expected to increase prices but also improve quality.

Recommendation 10: Use better tools to assess efficiencies

The high burden of proof required to assess efficiencies is likely to prevent mergers that would otherwise benefit consumers and society as a whole. It is reasonable for authorities to discount claims that are not sufficiently substantiated, but should be able to be backed up with evidence. However, there may be genuine uncertainty about innovative business practices, and there is no compelling reason for authorities to impose a higher burden of proof on these than on short-term price effects. Competition authorities should improve how they approach verifying claims of efficiency. Useful approaches include seeking input from economic, technical and industry experts, evidence of similar efficiencies realised in earlier transactions or in other markets (including developing studies on cost pass-through) and analytical techniques such as Data Envelopment Analysis and Compensating Marginal Cost Reduction.

Recommendation 11: Review the thresholds for *ex ante* regulation to ensure balance between regulation and investment risks

The European regulatory framework for electronic communications identifies markets as being susceptible to *ex ante* regulation on the basis of three conditions: (i) the presence of high and non-transitory structural, legal or regulatory barriers to entry; (ii) the market structure does not tend towards effective competition within the relevant time horizon; and (iii) competition law alone is insufficient to adequately address the identified market failure(s). In practice, the European framework establishes a threshold for *ex ante* regulation based on a finding of significant market power.

Governments should review the thresholds established for *ex ante* regulation to ensure they balance any expected gains from regulation against the risks to investment and innovation. For example, the appropriate threshold for *ex ante* access regulation should balance the benefits from allowing competition based on regulated access versus the risks to investment by infrastructure investors. In markets where there are material risks to investment and innovation by either incumbent firms or entrants, the costs of *ex ante* regulation may outweigh the benefit or call for less intrusive forms of regulation. Importantly, investment risks should be taken into account by applying a sufficiently long time horizon in assessing the potential for competitive entry.

Recommendation 12: Focus *ex ante* regulation on enduring market power

Technological convergence should allow certain *ex ante* regulation to be removed, with remaining regulation focused on enduring market power when rival infrastructure (of any technology) is unlikely to be replicated. Where multiple infrastructures are present and put direct or indirect constraints on each other through competition at the retail level, access regulation is less likely to introduce material benefits that would outweigh the risks to further investment and innovation. Furthermore, the presence of another network operator, even one that does not offer wholesale services to third parties, can indirectly constrain competition with its retail offers. Governments should review the thresholds established for *ex ante* regulation to ensure these balance any expected gains against risks to competition, innovation and investment.

While many aspects of the digital ecosystem suggest that enduring market power will be relatively rare, a robust regulatory framework should allow regulation to be applied where new bottlenecks emerge, and where the expected benefits of regulation are greater than the costs. In dynamic markets with high levels of innovation, the authorities' focus should be on the firm's conduct to ensure that new bottlenecks do not reduce competition, rather than on price controls that might harm investment incentives.

Recommendation 13: Ensure regulation is streamlined and consistent with competition law

While competition law is likely to be effective in many circumstances in dealing with enduring market power, *ex ante* regulation may also have a role to play. A specialist regulator can, for instance, more readily determine the terms and conditions of access required

to protect competition in related markets. The relative merits of *ex ante* regulation and *ex post* competition law enforcement should be considered to determine the appropriate role for each.

Regulatory impact assessments should be undertaken when it is deemed that *ex ante* regulation might be better suited to deal with a particular competition problem. Such assessments ensure that the *ex ante* regulation is proportionate, that key effects are identified, and that the regulation will bring greater net benefits than alternatives. In dynamic, highly innovative and multi-sided markets, regulators should be cautious about intervening to change terms and conditions unless they can be confident that their intervention will bring net benefits.

Regulation should be streamlined to be competitively neutral. When a specialist regulator has determined that certain terms and conditions are not harming competition, they should not be found to be in breach of competition law. It is important, however, to ensure that there are not gaps in enforcement. Competition authorities should be able to act on matters that the regulator might have failed to consider properly. Regulators should adhere to a clear, long-term regulatory framework and commit to add, remove or modify regulation in accordance with changing circumstances.

Recommendation 14: Reassess institutional arrangements

Institutional arrangements and rules should be reassessed to ensure they are suitable to support the shift from *ex ante* regulation to *ex post* enforcement. This involves strengthening the independence of regulators and competition authorities through clear mandates and organisational set-up and an effective appeals process. Whilst the ideal institutional set-up is country specific, different institutional arrangements have been implemented across jurisdictions and each has its advantages and disadvantages.

It is important that competition and regulatory authorities collaborate to ensure regulatory and competition principles are applied consistently across sectors. Close cooperation will mitigate problems and, in particular, help to protect the competitive process and prevent regulatory powers from expanding.

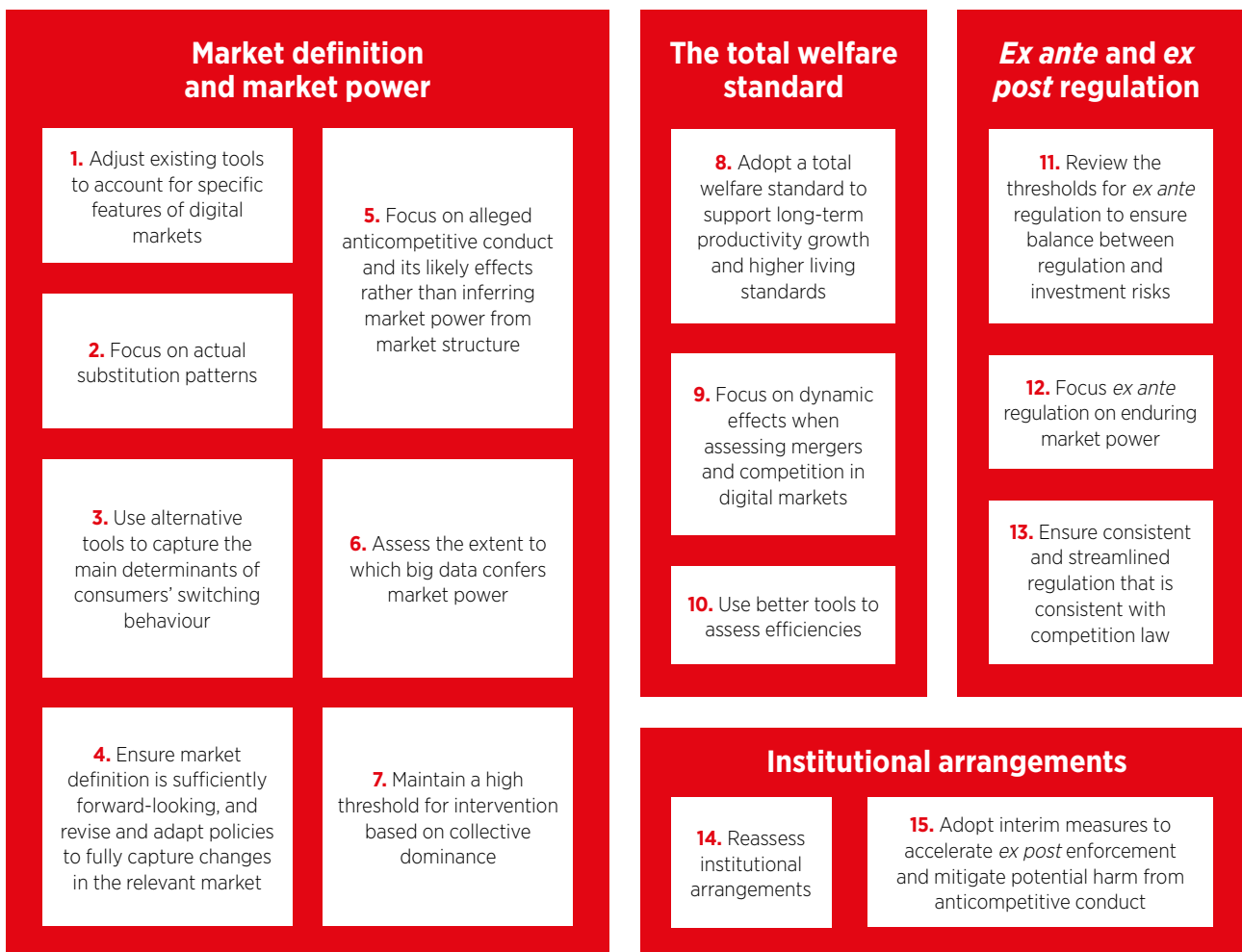
When there is more than one regulator, governments should create institutional arrangements that minimise overlap of responsibilities and avoid duplication. This can help to ensure regulatory consistency and avoid the uncertainty and resource costs arising from governments and multiple regulators looking at the same matter.

Recommendation 15: Adopt interim measures to speed up *ex post* enforcement and mitigate potential harm from anticompetitive conduct

Authorities need to address the concern that *ex post* enforcement can take too long in highly dynamic industries. Taking interim measures can speed up the *ex post* process and prevent ongoing or future harm. Authorities should review

timeframes to ensure there is an appropriate balance between the speed of the competition proceedings and the quality of the investigation. This involves (i) prioritising urgent cases, (ii) enhancing data gathering and processing capabilities, (iii) making use of outside industry experts early on, (iv) using early settlements and commitments where appropriate and (v) ensuring a purposeful, streamlined appeal process.

The digital economy can make life easier, more productive and enjoyable for people around the world. Governments should ensure their competition and regulatory frameworks reflect the market changes underway and provide a sound foundation for competition, investment and innovation that benefits everyone.





Characteristics of the digital ecosystem

THE NATURE OF COMPETITION IN THE DIGITAL ECOSYSTEM

Digital technologies are rapidly reshaping existing markets, as well as giving rise to new markets based on innovative services and applications. While communication networks are the core infrastructure of the digital ecosystem, digital services are transforming industries across the economy by providing new ways to connect customers with suppliers, businesses with businesses, individuals with individuals and machines with machines.

Digital markets are often characterised by the following features:

- Waves of investment and innovation which lead to rapid technological progress.
- Quality and product features are often more important to consumers than price.
- Relatively contestable, allowing entrants to quickly reach a large segment of the market, although in some cases there may be strong network effects and economies of scale with the potential for a ‘winner-takes-all’ outcome that undermines market contestability.

- Two-sided, allowing two or more user groups to benefit from using the digital platform. For example, search engines are used both by individuals to access information on the internet and by advertisers to access viewers.
- Large-scale data gathering and analysis have become an important feature of digital markets, with the potential for anticompetitive effects. For example, data has the potential to be a strategic asset, particularly when it is important to the quality of the service and cannot be readily replicated by other providers.

Digital markets often give rise to competition driven by innovation, investment and entrepreneurship. Schumpeter has described this process of dynamic competition as “creative destruction”, whereby innovation and entrepreneurship create new industries, often with just one or a few large firms.² The ‘Schumpeterian’ nature of competition for the market as opposed to competition in the market is a recurring theme in the literature on the digital economy.³

1. J.A. Schumpeter (1942), “Capitalism, Socialism and Democracy”.

2. See, for example, “Competition and Markets Authority/Chisholm (2015), “Platform regulation - antitrust law versus sector-specific legislation: evolving our tools and practices to meet the challenges of the digital economy”; German Monopolies Commission, “Competition policy: The challenge of digital markets” (2015), Special Report No 68; European Policy Department (2015), “Cross- Competition Among Information (Digital) Platforms”, Study for the ECON Committee of the European Parliament; European Policy Department (2015), “Challenges for Competition Policy in a Digitalised Economy”, Study for the ECON Committee of the European Parliament; H. Shelanski (2013), “Information, Innovation, and Competition Policy for the Internet”, University of Pennsylvania Law Review, 161; Office of Fair Trading (2002), “Innovation and competition policy - Part I - Conceptual issues”, Economic Discussion Paper 3.

Competition in dynamic and highly innovative markets can lead to a very different outcome than standard textbook economic models. These models do not easily allow for technological changes and often view prices set above costs as socially undesirable. In particular, some traditional alarm signs for regulators, such as high-market concentration and high profits, have a very different interpretation when viewed through a Schumpeterian lens.

Dynamically competitive markets call for a different and more nuanced approach to competition policy. Where digital markets bring greater competition or contestability, the behaviour of individual firms is less likely to give rise to competition problems. Nonetheless, for dynamic competition to be effective, potential competitors should not be excluded from the market through mergers or the conduct of existing firms.

From this perspective, the critical competition policy question is not about predicting when or, indeed, if a firm with a dominant position in a digital market will ultimately see its position eroded. Instead, the focus should be on ensuring no source of market power is used to keep potential competitors from entering the market. In particular, competition policy should guard against the creation of barriers to entry, the leveraging of market power into adjacent markets, or preventing competitors from gaining access to essential information, data or resources for anticompetitive reasons, or through eliminating competition simply through acquisitions. These actions stifle innovation by making entry more difficult and costly, increasing the probability of failure and therefore lowering expected return.

If no regulatory constraints were imposed, whether *ex ante* or *ex post*, to prevent these practices, firms with existing market power would be able to slow the process of competitive change substantially.

In this section, we discuss some of the features of digital markets that are particularly relevant to current competition policy issues. In particular, we discuss:

- The rapid change and evolution characteristic of digital markets, where competition on quality and innovation matter more than price, and network effects may be significant.
- The multi-sided nature of these markets and the growth of big data, both of which are features of the broader digital ecosystem.
- The role of mobile services within the digital ecosystem.

Rapid change and evolution

The digital ecosystem has a highly dynamic nature. On the demand side, the products consumers see as substitutes change rapidly. Future markets may differ greatly from current markets, and in some instances the relevant product market may not yet exist or may be nascent (e.g. wearable technology).

On the supply side, cost reductions through digitisation allow companies to set up and expand their operations quickly and without requiring substantial resources. The German Monopolies Commission's recent report on digital markets noted that computers, and thus digital processes, are now part of almost every single transaction. This enables costs to be reduced, data to be collected and analysed, and product and service offers to be personalised.

The constant flow of new products and services challenges the position of incumbents or forces them to adapt. For example, Google has evolved from a pay-per-click advertising platform to a firm that competes with other e-commerce retailers via its pay-per-buy Product Ads model.⁴ Google has also broadened its activities into related business areas, including operating systems, hardware and household technology.⁵

4. See <https://www.google.co.uk/ads/innovations/productlistingads.html>
5. German Monopolies Commission (2015), *supra* note 3, paragraph 56.



The importance of quality and innovation

One of the major differences between the ‘traditional’ and ‘dynamic’ competition is whether competition is viewed as largely based on price with a given technology or it involves evolving technologies where firms compete with innovative new products. In the latter case, product features and functionalities are often more important to customers and competitive outcomes than price.

One digital market in which quality is important is the mobile sector, especially network coverage and service quality. From a mobile customer’s point of view, product features and functionality are what matter, not which technology is used to deliver the service. In the UK, research by the Consumer Communications Panel found that coverage was indeed more important to mobile subscribers than cost.⁶ The growth of data and the importance of smartphones is, if anything, increasing the importance of network quality.⁷ Similarly, research carried out by Nielsen in 2009 found that in India, the quality of a mobile phone provider’s network was the most important factor when choosing a carrier, with a Nielsen executive stating:⁸

“As Indian consumers consider network performance as a major selection and retention criterion, there is a huge opportunity for network leaders to educate consumers about the superiority of their network performance to gain subscriber base. This can be a huge marketing differentiator in an industry that is reeling under hyper competition.”

The search engine market is another where quality and innovation are considered important. In its investigation of Google’s search results of comparison shopping services, the European Commission raises a number of concerns that Google is abusing its dominant position in the market to the detriment of quality and innovation:

“The Commission is concerned that users do not necessarily see the most relevant results in response to queries—to the detriment of consumers and rival comparison shopping services, as well as stifling innovation.”

Given the importance of quality and innovation in the digital ecosystem, the analysis of these aspects of the market will often be critical to understanding competitive dynamics.

Network effects

Network effects are an important feature of digital markets and can contribute to strong market positions. An OECD report on the digital economy noted that although network effects are not unique to digital markets, they are particularly strong in the digital economy. The report describes network effects as “a variety of demand-side economies of scale”.⁹

Network effects can have both positive and negative effects, and therefore require analysis on a case-by-case basis. Network effects may generate a ‘positive externality’ that makes a product more valuable both to its direct users and other groups, such as developers of compatible products. In this case, higher market share may result in lower prices and improve product quality, benefitting consumers.

However, network effects may also be detrimental to competition. For example, they may raise barriers to entry or increase switching costs for consumers, perhaps even to a point that users may become locked in and find it difficult to switch providers.

Multi-sided platforms

Many digital platforms operate as multi-sided platforms¹⁰ that engage with more than one group of users or customers. Examples of such platforms are online search engines like Google, which bring together users, websites and advertisers or newspapers bringing together readers and advertisers.

Competition in multi-sided markets has features not seen in standard (one-sided) markets.¹¹ For example, one distinct feature of multi-sided platforms is that changes in price or quality on one side of the platform can impact customer outcomes on the other sides. Other features of multi-sided platforms relevant to competition policy include:

- exposure to competition on one side of the platform can restrict market power on other sides of the platform; and
- indirect network effects may restrict the substitutability of products, and thereby act as a barrier to entry.¹²

6. Consumer Communications Panel (2009), “Mobile coverage: the consumer perspective”, p.7.

7. http://www.pipelinepub.com/the_evolution_of_networks/quality_of_experience-QoE

8. <http://www.nielsen.com/us/en/insights/news/2009/network-quality-most-important-to-indian-mobile-customers.html>

9. OECD (2012), The Digital Economy, at page 8

10. We use the term ‘multi-sided’ to include ‘two-sided’ platforms.

11. For an overview of some of the economic issues arising in two-sided markets, see M. Rysman (2009), “The Economics of Two-Sided Markets”, *Journal of Economic Perspectives*, 23(3), pp. 125-143.

12. For a discussion of the consequences of indirect network effects in multi-sided platforms, see German Monopolies Commission (2015), *supra* note 3, paragraph 55.

Multi-sided platforms introduce considerable complexity to the analysis of a competition case. In a market definition, there may be questions over which price to focus on or whether a measure of the total price for all users should be considered. If the latter, how can the overall elasticity of demand be calculated? In multi-sided markets, many of the rules of thumb applied in traditional (single-sided) economic analysis are not relevant. For example, the basic tenet that competitive prices should approximate the cost of supply do not apply. In two-sided markets with externalities, it can be efficient for prices (on either side) to be above, at, or below marginal costs on one side of the market.¹³

A recent German Monopolies Commission report on competition in digital markets noted that the presence of multi-sided platforms creates significant complications in a competition analysis:¹⁴

“These platforms generally display a number of characteristics which have important implications for the actions of companies, competition and, hence, for competition policy. Effective and adequate economic analysis is complex. Conventional methods, considerations and correlations do not suffice in the analysis of online platforms... The unique characteristics of multi-sided platforms pose a significant challenge for competition policy. Competition authorities and courts of law (legal institutions) are required to take into consideration the fundamental interrelations and the complexity of multi-sided platform markets when assessing individual cases. It is important to consider all sides of a platform in the analysis, and to fully determine the direct and indirect network effects with regard to their economic significance...”

The presence of multi-sided platforms in digital markets poses significant challenges for competition authorities investigating these markets. Nonetheless, any competitive assessment of these markets must take these platforms into account.

The growth and importance of big data

Large-scale data gathering and analysis is an important feature of digital markets. The dissemination of data has been discussed as a hidden cost to consumers, who may pay for products offered free of charge ‘indirectly’ through disclosure of personal data.¹⁵

With regard to the role of data in digital markets and, in particular, the danger of leveraging a position of power from one market to another, the German Monopolies Commission stated:¹⁶

“Extending the breadth and depth of access to information and applications to users enables companies to respond to user preferences ever more effectively, thereby aiding product development and innovation. That said, it may be problematic from a competition policy perspective if dominant companies extend their positions of power from one market into other markets, for example through bundling product ranges and leveraging market power. Developments such as these may result in the stable, long-term, overarching systems, controlled by one key player...”

While it is true that leveraging market power into adjacent markets poses a competitive risk, this needs to be assessed on a case-by-case basis and weighed against any efficiency gains arising, for example, from more accurate search results. Data has the potential to be a strategic asset, particularly when it is important to the quality of the service and where it cannot be readily replicated by other providers.

In the US, the Federal Trade Commission examines competition and consumer protection issues separately, but explicitly recognises that privacy can be a non-price dimension of competition.¹⁷ A recent joint paper by the French and German national competition authorities (NCAs) focuses on the role of data in competition analysis. The report noted that the collection, processing, and commercial use of data has often been seen not as a competition law issue, but rather as a data protection issue. However, it was noted that several recent proceedings point to the fact that competition authorities have begun to look at possible competition issues arising from the possession and use of data. The report states:¹⁸

13. A newspaper distributed free to readers is a good example. Standard (‘single sided’) economic theory would say the reader should pay at least the marginal costs of production and distribution of their copy. However, from a two-sided platform perspective, a free newspaper paid for entirely by advertisers can be efficient, and may be more successful than a system that charges customers.

14. *Ibid.*, paragraphs S4-S5.

15. See, for example, C. J. Hoofnagle and J. Whittington (2014), “Free: Accounting for the Costs of the Internet’s Most Popular Price”, 61 UCLA Law Review 606, which states, “exchanges [of products offered free of charge] often carry a hidden charge: the forfeit of one’s personal information.”

16. German Monopolies Commission (2015), *supra* note 3, paragraph S7.

17. D. Feinstein (2015), “Big Data in a Competition Environment”, Competition Policy International.

18. Joint report of the French Autorité de la concurrence/Bundeskartellamt (2016), “Competition Law and Data”, p. 3.

“Recent developments in digital markets have led to the emergence of a number of firms that achieve extremely significant turnovers based on business models which involve the collection and commercial use of (often personal) data. Some of them enjoy a very high share of users in the service sector in which they are active ... This has spurred new discussions about the role of data in economic relationships as well as in the application of competition law to such relationships, in particular as regards the assessment of data as a factor to establish market power.”

As the joint French/German NCA report notes, the technological changes in the digital economy have revolutionised the possibility to collect, process, and commercially use data in almost every business sector. Much more attention therefore needs to be paid to the economic advantages that data can confer to firms competing in the digital economy. This is because while the collection and use of greater volumes of data helps to improve products and services and increase economic efficiency, in some instances it may also raise competition concerns.

THE ROLE OF MOBILE SERVICES IN THE DIGITAL ECOSYSTEM

With the increasing use of mobile broadband, mobile services are both a critical enabler of the digital ecosystem, and a competitor to other communications platforms, products, and services. The benefits of the digital ecosystem for all stakeholders and the economy overall are in part due to the massive investments in networks and network quality by mobile operators, which have enabled the development of the digital ecosystem.

As with other products and services in the digital ecosystem, mobile services have experienced successive waves of new technology that have brought large gains in capacity and service quality, as well as entirely new products, such as location-based services. Competition in mobile markets is generally well established, with interconnection implying that network effects are not generally an issue. Mobile operators often compete with new players (e.g. over-the-top

or OTT players) and may provide complementary products. Indeed, partnerships between operators and application providers are increasingly a source of competitive differentiation.

Recognising the competition, as well as the interdependencies, between the different parts of the digital ecosystem is important for understanding market outcomes. However, competition law or obsolete regulatory interventions based on a narrow view of markets risk damaging the competitive dynamics that can lead to new and better services over time. As with competition policy generally in the digital age, it is even more important to consider the potential effects of mergers and conduct in digital markets on a case-by-case basis, weighing not only the implications for pricing, but also quality, innovation, and overall economic efficiency.

Methodologies for defining markets and assessing market power

Market definition is a useful first step in framing the discussion of competition and regulation concerns. It plays a pivotal role in establishing whether a firm has dominance or significant market power, providing a framework for *ex post* competition analysis and merger control, and assessing whether *ex ante* regulatory intervention is needed.¹⁹ Assessments of market power (and a critical appraisal of its constraints) and more broadly, analyses of competitive effects, are typically undertaken with reference to the boundaries set by the relevant market definition.²⁰

In this section we discuss:

- The definition of the relevant market(s), which remains an important tool for answering specific competition/regulation questions in digital markets. The shortcomings of some of the more prominent tools (e.g. the SSNIP test) is not an argument against a formal market definition stage. However authorities should use their discretion to choose appropriate tools, which are often contained within the respective legislation or guidelines, and not just ‘tick the box’ to meet legal requirements.
- The key challenges of defining relevant markets and assessing market power based on the characteristics of the digital ecosystem. Throughout the discussion,

we recommend particular approaches to assessing competitive constraints. Not all of these challenges are a novel hurdle in the application of a traditional market definition framework. Many of the challenges related to two-sided or multi-sided markets or the absence of (monetary) prices arise in other industries and the “economic toolbox” is equipped to deal with them.

- Why measuring market power using traditional measures, such as market share or price/margins, is often not appropriate in digital markets. We also discuss the circumstances under which data may be a potential source of market power, and why the threshold for intervention on the basis of collective dominance should be high.

MARKET DEFINITION IN DIGITAL MARKETS

The main purpose of market definition is “*identifying the competitive constraints acting upon a supplier of a given product or service.*”²¹ If consumers can easily switch to competitive products and services, or if a firm’s activities are otherwise constrained by existing or potential competitors, then there is no issue in competition law and no need for *ex ante* regulation.²² We discuss the constraints which are typically considered part of a market assessment in Annex A.

19. As the definition of the relevant market(s) is a key step in different areas of competition policy and regulation, it is important to note that the definition of relevant market may differ depending on the competitive or regulatory question being asked. The OECD recently recognised this: “*Market definition adopted by regulatory authorities (RAs) in the course of an ex ante intervention might be different from definitions adopted ex post by competition authorities in a merger or abuse of dominance case. Since in each of these cases the starting point of the competition analysis is different, it is not surprising that definitions of the relevant market may not coincide.*” (OECD, 2014, “Defining relevant market in telecommunications”, p. 10).

20. The relevant market has a product dimension (i.e. the set of products that constrain the behaviour of suppliers of the product under consideration) and a geographic dimension (i.e. the location of suppliers of the products that act as constraints), with the former typically being analysed first.

21. Office of Fair Trading (2004), “Market Definition - Understanding competition law”, OFT Competition Law Guidelines, paragraph 21.

22. In practice (but not in substance), the process of defining the relevant market differs slightly between ex post competition law and ex ante regulation. In the former, authorities typically start with the smallest possible product and/or service and considers whether competitive constraints exist such that the definition should be expanded. In ex ante regulation, the EC Recommendation on Markets sets out four (originally fourteen, and then seven) markets in which NRAs need to determine whether any firm has SMP before the NRA can impose ex ante regulation. Thus, if SMP is not found in one of these markets, there is no point expanding the market since SMP will not be found in the wider market. However, NRAs may find SMP in markets that are narrower than those set out by the Commission. In this case, the Commission reviews the decision of the NRA to apply ex ante regulation in the narrower market(s). See the European Commission’s “Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC”.



The complexities of digital markets make the practical application of market definition tools challenging. Competition authorities are tasked with answering questions about the digital market with tools originally

designed for traditional (often physical) products or services. One example (mentioned earlier) is the conceptual tool, Small Significant Non-transitory Increase in Price test, or the SSNIP test. See Box 1 below.

Box 1 The SSNIP test: Undue prominence?

One common approach to defining a relevant market is the SSNIP or “hypothetical monopolist” test, which focuses the definition of a relevant market on the smallest set of products/services, such that a hypothetical monopolist would not find it profitable to increase prices above competitive levels by five to ten percent.

The SSNIP test features prominently in the guidelines of various jurisdictions.¹ Regulatory and competition authorities generally consider the conceptual framework provided by the SSNIP test “as a way of approaching market definition, rather than a tool to definitively determine market boundaries.”² Through a process of narrowing or widening the market, authorities then derive the relevant geographic and product market, which comprises all goods/services that are interchangeable and thereby place a competitive constraint on one another.

However, its prominence does not mean that a SSNIP test is necessarily the most appropriate tool in every circumstance, and there are risks of using it to define a relevant market. The hypothetical monopolist test is set forth as “**one way of making this determination**” (emphasis added)³ in the European Commission Notice on market definition. In practice, it is seldom that the SSNIP test is formally applied. A 2003 study for the European Commission states that the EC has only used the SSNIP test in 11% of its definitions of relevant product markets.⁴

1. The test features, for example, in the Mexican ‘Market Definition: Assessment of the Relevant Market in Competition Matters’, Section 2.3(D); in the U.S. ‘Horizontal Merger Guidelines (2010)’, Section 4.11; in the U.K. Competition Commission and Office of Fair Trading ‘Merger Assessment Guidelines (2010)’, Section 5.2; or in the Australian Competition and Consumer Commission ‘Merger Guidelines (2008)’, Section 4.19-4.22
 2. Australian submission to OECD (2009), “Two-Sided Markets”, Roundtable, p. 83.
 3. European Commission (1997), “Notice on the definition of the Relevant Market for the purposes of Community competition law”, Official Journal C 372, paragraph 15.
 4. Copenhagen Economics (2003), ‘The internal market and the relevant geographical market’, p. 7.

Authorities can, and should, make full use of their discretion in choosing assessment tools, which are often contained within the respective legislation or guidelines. For example, the European Commission’s Notice on the definition of a relevant market indicates that a wide range of evidence can be considered in a market definition exercise:²³

“There is a range of evidence permitting an assessment of the extent to which substitution would take place... The Commission follows an open approach to empirical evidence ... The Commission does not follow a rigid hierarchy of different sources of information or types of evidence.”

Given the flexibility allowed, there is no compelling reason for authorities to dispense with a formal market definition stage because of the shortcomings of some of the more prominent tools (we discuss some of these shortcomings in the next section).²⁴ For example, with regards to the SSNIP test, the New Zealand Competition Commission notes in its “Mergers and Acquisition Guidelines” that while a SSNIP test can often not be quantitatively applied, the tool still provides a “useful way of analysing the evidence and judging the extent of substitution between products or locations.”

23. European Commission (1997), “Notice on the definition of the Relevant Market for the purposes of Community competition law”, Official Journal C 372, paragraph 25.
 24. For a discussion of arguments for “market power without market definition”, see, for example, D. Crane (2014), “Market Power Without Market Definition”, Notre Dame Law Review.

Defining a relevant market is not an end in itself,²⁵ but rather aims to provide a framework in which the competitive aspects of anticompetitive agreements, abuses of dominance, mergers, or the need for regulation can be analysed. As stated in the U.S. Merger Guidelines, the purpose of defining the market and measuring market shares is to “illuminate the evaluation of competitive effects.”²⁶

This role of market definition is also highlighted in a 2001 speech by then-EU Competition Commissioner Mario Monti, who stated:²⁷

“...market definition is a cornerstone of competition policy, but not the entire building. Market definition is a tool for the competitive assessment, not a substitute for it. What is ultimately important is to understand the nature of the competitive situation facing the firms involved in a certain practice or in a proposed merger. The market definition is a first—and very important—step in the analysis.”

A cautionary yet flexible approach is ultimately necessary when trying to use existing tools in digital markets characterised by rapid change and innovation. Market definition should not be a ‘tick-the-box’ exercise to meet legal requirements. Although there are accepted procedures for defining products and geographic markets which can also be conceptually applied in the digital economy, it is important to note that how useful or necessary a market definition is, will depend on how well it accommodates/answers the particular competition question of interest.

CHALLENGES FOR APPLYING TRADITIONAL TOOLS IN DIGITAL MARKETS

Conceptually, the appropriate tools for defining digital markets will be similar to those used in traditional ‘offline’ industries.²⁸ However, the specific features of digital products have implications for the practical application of existing tools.

Challenge 1: Digital markets are dynamic and fast evolving

The European Commission emphasises the importance of accounting for the dynamic nature of innovative

markets in market definition. However, due to rapid change and innovation, assessing competitive constraints can be difficult.²⁹ The Commission notes that:³⁰

“The methodology for defining technology markets follows generally the same principles as the definition of product markets. However, it can be more difficult to compare technologies, to assess their substitutability or to take into account technologies that are currently only used in-house and/or are not or only to a very limited extent being licensed.”

- Regarding demand-side substitution, consumer views on the interchangeability of products may not yet be well established.³¹ Changes in customer preferences makes the task of assessing which products and services are deemed substitutes inherently more difficult compared to traditional or more stable industries.
- Regarding supply-side substitution, the fast pace of innovation in the digital ecosystem makes the assessment of potential supply-side substitution arguably even more speculative than in traditional industries. Competition authorities need to determine whether supply by other firms would be technologically feasible.
- Regarding prospective entrants, predicting future competitive dynamics and potential entry is inherently difficult. The assessment of future competitors is therefore typically incorporated in the assessment of market power,³² rather than in the identification of the relevant market.

There is also a time dimension in the traditional market definition exercise. For example, the European Commission’s Notice on relevant markets states that supply-side substitution has to be considered “*in the short term*”,³³ i.e. within “*a period that does not entail a significant adjustment of existing tangible and intangible assets*”.³⁴ Likewise, substitution on the demand side is typically considered within a certain timeframe.³⁵

The time dimension in the traditional market definition exercise may be inappropriate in dynamic digital

25. See, for example, the 2013 New Zealand Mergers and Acquisitions Guidelines, which state “New Zealand courts have reiterated that market definition is a tool to aid in competition analysis, rather than an end in itself. We have adopted this approach in these guidelines. In particular, we have moved away from defining markets as a first step in the analysis and recognise that relevant markets need not always be defined precisely.”

26. U.S. Department of Justice / Federal Trade Commission (2010), “Horizontal Merger Guidelines”, p. 9.

27. Speech by then-Competition Commissioner Mario Monti (2001), “Market definition as a cornerstone of EU Competition Policy”, Workshop on Market Definition.

28. In both types of industry, the competition authority will need to establish which products are ‘close enough’ substitutes to pose a competitive constraint on each other.

29. Having to predict future market evolution is not unique to the digital economy, and in the past regulators and competition authorities have not always got it right. For example, the UK’s former Monopolies and Mergers Commission stated in 1995 that “*Nintendo and Sega remain well placed to retain their dominant position in the market and derive profit from it.*”, see Monopolies and Mergers Commission (1995), “Video games: A report into the supply of video games in the UK”. Sega’s market position proved to be short-lived and today it has largely left the market for consoles.

30. Contribution of the European Commission to OECD (2012), “Market definition”, Roundtable, p. 339.

31. C. Pleatsikas and D. Teece (2001) discuss how, in new product life cycles, the relationship between price and performance, rather than the absolute level of prices is of interest to buyers. See C. Pleatsikas and D. Teece (2001), “The Analysis of Market Definition and Market Power in the Context of Rapid Innovation”, International Journal of Industrial Organization, 19, p. 8).

32. For example, the UK Merger Guidelines state that “*Authorities may consider entry or expansion within less than two years as timely, but this is assessed on a case-by-case basis, depending on the characteristics and dynamics of the market, as well as on the specific capabilities of potential entrants.*” See U.K. Competition Commission and Office of Fair Trading (2010), “Merger Assessment Guidelines”, paragraph 5.8.11.

33. European Commission (1997), *supra* note 24, paragraph 20.

34. European Commission (1997), *supra* note 24, paragraph 58.

35. It is generally accepted in economics that the longer the time period considered, the higher the ‘elasticity of demand’ is likely to be. This is because over a longer time period, consumers typically have a greater ability to adjust their behaviour in response to relative price or quality changes. This might be due to information effects, e.g. (more time to identify substitutes and for competitors to market their alternatives), or because short term restrictions on switching are removed. Short-run restrictions might include factors like customer contracts (e.g. a contracted cellular subscription), or the lifecycle of a smartphone with the purchase of a new generation of phone enabling access to new OTT applications, for example.

markets where it is necessary to ensure that the time horizon is sufficiently forward looking. Historically, the time horizon used in market definitions has been relatively short (particularly in merger analysis), around one to two years.³⁶ A longer time horizon may be more appropriate in *ex post* enforcement in digital markets.

Another consequence of the dynamic nature of digital markets is that legal precedents may be of limited use. While there is an understandable desire to be consistent with previous practice, competition authorities should not rely on past market definitions without careful consideration. As more and more markets become digital, formerly unrelated product markets can become increasingly interlinked. This necessarily limits the value of precedents. Even worse, relying on ‘outdated’ market definition precedents, or transferring conclusions from historic circumstances to new competition questions risks missing actual interdependencies. The European Commission seems to have acknowledged that the value of market definition precedents may quickly be eroding in dynamic markets:³⁷

“Given the pace of technological change in this sector, any attempt to define particular product markets in this notice would run the risk of rapidly becoming inaccurate or irrelevant.”

Market definitions should not be treated as carved in stone, and where evidence indicates that markets have changed, competition authorities should use legal precedents with caution and national regulatory authorities (NRAs) should not hesitate to revise and adapt, and to break old rules. NRAs should pay particular attention to removing legacy rules where they are no longer needed and should be cautious in introducing new regulation.

Challenge 2: Many products are potential substitutes in digital markets

A key criterion for market definition is whether consumers see products/services as relevant substitutes or viable alternatives. Whereas in traditional industries, markets are often defined around physical products of similar characteristics, markets in the digital

ecosystem tend to include a broad range of services/products with different capabilities which customers treat as substitutes. The traditional boundaries between products and services defined by the technology used to deliver or produce them have begun to disappear. Indeed, unstable market boundaries, continuously being reshaped by new emerging technologies, mean that regulators need to be careful when defining new *ex ante* regulation since regulation may quickly become outdated and no longer ‘fit-for-purpose’.

As a guiding principle, authorities should not conclude that the relevant product market coincides with the product or technology offered by the firms under investigation. For example, from a customer perspective, it may be irrelevant whether their internet connection is established via copper lines, fibre, WiFi, LTE, or satellite. Instead, authorities should consider actual substitution patterns. This requires some flexibility in terms of what constitutes a market. Some competition authorities explicitly recognise this in their guidelines, for example, the U.S. DoJ/FTC Guidelines state that *“Relevant markets need not have precise metes and bounds”*.³⁸ Different technologies may belong to the same market if customers see the final product as interchangeable.³⁹ This view also reflects that of the Austrian Regulatory Authority for Broadcasting and Telecommunications, which concluded that mobile broadband would (for residential customers) be a substitute for fixed DSL broadband, based on price correlation, evidence from customer surveys, and the fact that fixed and mobile broadband markets do not differ with respect to their functionalities.⁴⁰

In the Facebook/WhatsApp merger, the European Commission initially considered a broad “market for consumer communications services”. While the exact product market definition was left open, even the narrowest relevant product market considered (i.e. the *“market for consumer communications apps for smartphones”*) contained apps with different functionalities, ranging from Twitter to Skype to messaging applications like Blackberry Messenger. This reasoning points towards a finding that in markets where technology is rapidly changing, functional substitutability and supply-side flexibility are likely to become more important. While this can be considered

36. The U.S. Department of Justice “Horizontal Merger Guidelines” of 1984 that introduced the SSNIP test stated *“the Department in most contexts will use a price increase of five percent lasting one year.”*

37. European Commission (1998), “Notice on the application of the competition rules to access agreements in the telecommunications sector - framework, relevant markets and principles”, paragraph 47.

38. U.S. Department of Justice / Federal Trade Commission (2010), *supra* note 27.

39. M. Peitz, H. Schweitzer, and T. Valletti (2014), “Market Definition, Market Power and Regulatory Interaction in Electronic Communications Markets”, Centre on Regulation in Europe study, p. 40, argue that *“all providers of these different technologies are competing in the same market.”*

40. Compare the discussion in Box 3 of the OECD report, “Defining relevant markets in telecommunications”, 2014.

part of the market definition exercise, it can also be dealt with during the assessment of market power.⁴¹

Related to the discussion of substitutability based on functionalities is whether bundles are a separate market. Increasingly, competition takes place across bundles, rather than individual products (e.g. a bundle of fixed and mobile broadband, telephony and TV content, or smartphones and apps). In the recent BT/EE merger in the UK, the CMA rejected the suggestion to define the relevant product market as a bundle of fixed and mobile services, on the grounds that single product services outside the bundle can be a competitive constraint which makes a small price increase unprofitable.⁴² However, as bundles become more important, products may no longer be viewed in isolation and it may be appropriate to define a market as a bundle of goods/services. Ultimately, the extent to which consumers view bundles as substitutes for one another, and as compared to sourcing individual products, will have to be investigated on a case-by-case basis.⁴³

Challenge 3: Digital markets display characteristics of multi-sided markets

An isolated analysis of pricing behaviour on one side of a multi-sided market risks ignoring interactions between different sides of the platform. A hypothetical monopolist that operates in a two-sided or multi-sided market will take overall profits (i.e. the sum of the profits from each side) into account. To fully understand the competitive constraints faced by a hypothetical monopolist, who can raise two prices, one for each side, authorities also need to account for cross-externalities and the nature of demand in the respective customer groups on each side of the platform.

Ultimately, whether one (integrated) or multiple (separate) product markets should be defined depends on the competition or regulation question to be answered. At times, it may be appropriate to define single markets for each side of the platform and consider the interdependencies at a later stage of the competition assessment. This was the approach taken by the Australian Competition and Consumer Commission in Fairfax Media Limited/Rural Press

Limited, where the ACCC defined separate markets for the supply of advertisements, for the acquisition of content from content producers, and for the supply of content to customers. The relationship between advertisements and content was then considered separately.⁴⁴

It is worth noting that the issue of defining relevant markets with two-sided platforms is not unique to the digital ecosystem. In fact, it resembles the issue in relation to auction houses, or media outlets (newspaper, television).⁴⁵ There is also substantial literature examining whether traditional tools of market definition, in particular the SSNIP test, are still valid or need to be reformed to consider both sides of the market and their interactions (see Box 2).

The “economic toolbox” is capable of dealing with the specific problems of multi-sided platforms.⁴⁶ For example, it has been suggested that a two-sided SSNIP test be applied to the total network price while allowing the relative prices on each side of the market to be adjusted.

In a recent paper, “Market power of platforms and networks”, the German Federal Cartel Office observes that there are two types of two-sided markets:⁴⁷

- two-sided markets where users interact on different sides of the platform, resulting in a single price (e.g. on eBay, where sellers and buyers interact with each other directly via the platform); and
- two-sided markets with indirect effects and no interaction, such as newspapers or TV outlets, where the users on each side (readers/viewers, advertisers) do not directly interact with each other and users on different sides of the platform may encounter different prices.

41. In its recent discussion paper on internet platform markets, the German Federal Cartel Office recognised that functional substitutability and supply-side flexibility may be useful concepts. See German Federal Cartel Office (2015), “Digital economy: Internet platforms between competition law, privacy and consumer protection”.

42. For a discussion of the market definition in this case see also <https://competitionpolicy.wordpress.com/2016/01/20/btee-merger-theimportance-of-market-definition/>.

43. The European Commission noted in 2007: “...consumers may have a preference for a bundle if there are significant transactional costs. In this case, consumers may prefer to purchase the services as a bundle and from a single supplier. Hence the bundle may become the relevant product market”. (https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/sec_2007_1483_2_0.pdf).

44. “The ACCC has typically approached market definition in the presence of two-sided platforms by defining separate markets for each customer class. The impact of indirect network effects is normally taken into consideration as part of the competition analysis” – see OECD (2009), “Two-Sided Markets”, Roundtable, p. 82.

45. For TV, the UK Competition Commission’s 2007 decision in *BSkyB/ITV* recognised the two-sided nature of the markets, but defined one market for all TV (including free-to-air and pay-tv).

46. In this regard, it should be noted that, contrary to its prominence in competition guidelines, authorities seem to be reluctant to apply the SSNIP tests, even in one-sided markets. Increasing the complexity of SSNIP tests, by introducing modifications is not likely to increase usage.

47. <http://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Berichte/Think-Tank-Bericht-Zusammenfassung.html?nn=3591568>



Box 2 The problem with applying a SSNIP test in two-sided markets

The main concern with applying the SSNIP test in multi-sided markets is that when applied mechanically, it fails to take indirect network externalities into account. For example, assume that a newspaper can increase its price to readers, and that an investigation of the likely demand response from readers indicates that a 5% increase in price would be profitable, as the extra revenue per reader outweighs the reduction in newspaper copies sold.

However, assume that the newspaper generates substantial revenues from advertisement and that these revenues drop significantly in response to fewer readers. Such externalities may turn a formerly profitable one-sided SSNIP into an unprofitable two-sided SSNIP when the response from the other side (and ultimately total profits) are taken into account.

The potential inadequacy of traditional approaches in multi-sided markets has been addressed by the UK competition authorities:¹

“The implementation of the hypothetical monopolist test may be more complicated when products are two-sided... It may therefore be difficult to conduct a hypothetical monopolist test because: (i) there is no single price to both sets of customers to which to apply a SSNIP; (ii) the effect of a SSNIP on the demand of one set of customers may be exacerbated by indirect network effects; and (iii) the constraints on the merger firms’ products may come not only from other two-sided intermediaries but also from ‘one-sided’ firms serving one set of customers.”

In the same manner, the OECD 2009 Policy Roundtable on Two-sided Markets describes the problem as follows:²

“Mechanical market definition exercises that exclude one side usually lead to errors. Since two-sided platforms face a different profit maximization problem from the one that single-sided firms face, the traditional competition analysis methods and formulas from single-sided analysis, like the hypothetical monopolist test, do not apply to two-sided markets unless they are modified.”

A general scepticism of mechanically applying the SSNIP test was also expressed in a recent discussion paper by the German Federal Cartel Office, in which the authority states that the SSNIP test, both in its original and “modified” versions cannot, or at least not without problems, be used for the purpose of defining a relevant market for internet platforms.³

1. Office of Fair Trading/Competition Commission (2010), *supra* note 32, p. 34.

2. OECD (2009), *supra* note 38, p. 11.

3. See http://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2015/05_10_2015_AKK.html. For an English-language discussion of the working paper, see <http://kluwercompetitionlawblog.com/2015/10/16/the-fco-publishes-discussion-paper-on-internet-platform-markets-part-one/>.

In markets with indirect effects, competition authorities should define two interrelated markets and check the profitability of a price increase on each side, taking into account the feedback effects on the other side of the market. However, in matching markets “one should

*instead check the profitability of an increase in the price level (i.e. the sum of the prices paid for the transaction by the two parties). Ideally, in both cases one should allow the hypothetical monopolist to adjust the price structure.”*⁴⁸ A single-sided SSNIP test provides

48. L. Filistrucchi, D. Geradin, E. van Damme, and P. Affeldt (2013), “Market Definition in Two-Sided Markets: Theory and Practice”, TILEC Discussion Paper No. 2013-009, p. 37.

evidence on the lower bound to the relevant market, which may be uninformative in digital markets. A two-sided SSNIP would provide evidence for an upper bound to the market.

In digital markets, a precise relevant market definition is less important than making sure the linkages between the two sides, and the complexity of the relationships among customer groups, are taken into account (either at the market definition stage, or subsequently during the competitive assessment). This has been noted in the joint submission to the OECD *Policy Roundtable on Two-Sided Markets* by the UK competition authorities, which states:⁴⁹

“Overall the OFT’s approach tends to reduce the importance of market definition and to increase the importance of other substantive analysis where the case concerns two-sided markets.”

In terms of assessing market power, an immediate consequence of the two-sided nature of the digital ecosystem is that competitive constraints on one side of a platform may also restrict the market power that a firm potentially has on the other side of the platform. Therefore, the competitive constraint does not necessarily come from other firms, which are active on both sides of the market.⁵⁰

Another consequence is that the profit maximising pricing rule in two-sided markets may differ substantially from one-sided markets. In a traditional market, prices that are either significantly above or significantly below production cost can raise competition concerns. In a two-sided market, a highly skewed pricing structure may be efficient if low prices on one side greatly expand usage which is then also valued by users on the other side even if they face higher prices. In general, if one group gets more value from interacting with the other group than vice versa, platforms will tend to charge that group more.⁵¹

Challenge 4: Consumers may not pay a (monetary) price

Digital products and services are frequently offered “free of charge” to consumers. This is often a business strategy in markets with rapidly changing technologies and significant network effects, where firms may decide to price at zero (or below the short-term profit maximising price) to gain market share and install a

user base ahead of potential late entrants. The set price may also be zero on one side of a two-sided market, while the other side bears the full burden of generating profits (e.g. a free newspaper generates revenues through advertisements sold on the other side of the market).

In a traditional market definition exercise, price is typically treated as the key reason for substitution. However, in digital markets, differences in product features or functionality may be more relevant to determining why customers switch. The lack of a monetary price and/or where competition is over non-price factors such as quality, means the traditional SSNIP test cannot be applied.⁵² This point has also been recognised by Gebicka and Heinemann and the OFT, amongst others:

“A cautious approach to the SSNIP test is indeed advisable. A price-related test must fail in situations where the price is not the decisive parameter for the purchasing decisions of the clients... the SSNIP test is designed for conventional markets where monetary charges apply. It does not work where the remuneration takes another form, for example attention or personal data.”⁵³

“...the SSNIP procedure for market definition is focused on ‘small’ price changes whereas competition in new economy markets focuses much more on product features that have proven to be of enormous value to consumers. These differences in features or functionality are often of such value that they totally dominate small changes in prices.”⁵⁴

Pleatsikas and Teece (2001)⁵⁵ argue that where non-price competition is more important than price competition, the appropriate price change for anti-trust analysis will be substantially larger than the 5–10% usually applied. The authors argue that even at 20%, the SSNIP test may still define markets too narrowly.

Where competition occurs in areas other than price, a potential modification of the SSNIP test would be to consider whether a hypothetical monopolist could reduce the quality of its service (to reduce competition), or increase its data collection (as an indirect price to be paid by the consumer). Where this is the case, recent literature advocates the use of a Small but Significant and Non-transitory Decrease

49. OECD (2009), *supra* note 45, at page 140. For example, the OFT/CC state “We believe that by being cognisant of the potential inaccuracies inherent in defining markets which are two-sided, errors are avoided in practice. This includes thinking through the impact of a price increase on the demand response of the other side of the market”.

50. For example, the UK Office of Fair Trading recognised that in two-sided markets the constraints on a platform “may come not only from other two-sided intermediaries but also from ‘one-sided’ firms serving one set of customers”. OFT/Competition Commission (2010), *supra* note 33.

51. M. Armstrong (2006), “Competition in Two-Sided Markets”, *Rand Journal of Economics*, 39(3), pp. 668–691.

52. One practical concern with applying the SSNIP test to products offered free of charge is that the test uses competitive prices as a starting point from which the effects of a hypothetical 5 to 10 percent increase are assessed, and one cannot compute the impact of a 5 to 10 percent price increase when the starting price is zero.

53. A. Gebicka and A. Heinemann (2014), “Social Media & Competition Law”, *World Competition*, 37(149), p. 157.

54. Office of Fair Trading (2002), *supra* note 3, paragraph 4.58.

55. C. Pleatsikas and D. Teece (2001), *supra* note 32, pp. 665–693.

in Quality test (the SSNDQ test), which, similar to the SSNIP test, asks whether a decrease in quality would be profitable.⁵⁶ We discuss the concept underlying the SSNDQ in more detail in Annex B.

In *Tencent vs. Qihoo*, China's Supreme Court recognised that competition was based on non-price factors, and suggested the use of a SSNDQ test. The Supreme Court noted the difficulty in evaluating quality and expressed that a SSNDQ test should be conducted as a qualitative exercise. For example, in analysing whether emails and SMS are in the same relevant market, the Supreme Court considered whether instant messaging users would switch to other types of services if there was a decline in quality.

Products for which consumers do not pay a (monetary) price have been considered in the past. For example, in *Microsoft/Skype*⁵⁷ the European Commission identified a distinction between enterprise communication services (for which firms pay) and consumer communications services, which are offered free of charge. In the competitive assessment, the Commission then recognised that *“since consumer communications services are mainly provided for free, consumers pay more attention to other features. Quality is therefore a significant parameter of competition.”*

Other examples include media outlets, where competition authorities had to consider whether pay TV and free-to-air TV were in the same market. For example, the UK Competition Commission's 2007 decision in *BSkyB/ITV* recognised the two-sided nature of the markets, and defined one market for all TV (including free-to-air and pay TV), since consumers may switch to free-to-air in response to an increase in the price of pay TV. The German Federal Cartel Office, however, took a different approach in its decision in *Springer/ProSieben.Sat1* (2006). In this case, the authority did not define a free-to-air viewer market, on the basis that viewers do not pay for the service.

ASSESSING MARKET POWER IN DIGITAL MARKETS

Once the relevant product and geographic market and the boundaries in which the competitive assessment will be undertaken have been identified, authorities typically rely on quantitative measures to determine whether a firm is dominant (in the relevant market) before engaging in a competitive assessment of abuse

of dominance. Customary measures of dominance (and the presumption of abuse of a dominant position) following a structure-conduct-performance (SCP) paradigm⁵⁸ include:

- (i) market shares,⁵⁹ and
- (ii) price levels or profit margins.

The challenge is not so much whether a firm in a digital market has market power (as indicated by a high market share or profit margin), but whether this power gives rise to competitive concerns through the exercise of exclusionary power. Anticompetitive conduct cannot be inferred from market power, but needs to be investigated on a case-by-case basis (often following a complaint against certain conduct).

Another challenge is that both market share and profit margin are of little use as measures of market power in highly innovative and dynamic markets. For example, in its discussion of challenges for competition policy in a digital economy, the Policy Department for Economic and Scientific Policy of the European Parliament stated:⁶⁰

“Because of the strong feedback effects in digital markets, market power and dominance are fleeting attributes that depend on the behaviour of the firm and the behaviour of others. As such, market shares or profit margins are less useful for determining market power. It is better to use indicators that inform about contestability, such as the presence of entry barriers, the availability of alternative routes to reach end-users, and the extent to which both incumbents as well as challengers are trying to create new markets by engaging in innovation in unexplored technologies/services.”

However, competition authorities have yet to fully acknowledge the dynamic dimension of competition and its related efficiencies, particularly when it comes to the methodology it used to assess mergers. Such an upgrade is necessary to adapt competition policy to the digital ecosystem.

In the following section, we will briefly address the shortcomings of both market share and price/profit margin as measures of market power.

56. See, for example, Gebicka/Heinemann (2014), *supra* note 55, p. 156. See also M. Gal and D. Rubinfeld (2015), “The hidden cost of free goods: Implications for antitrust enforcement”, p. 35. Another suggested modification is the “small but significant and non-transitory changes in costs” test (the SSNIC test),⁵⁸ which considers that consumers incur non-monetary costs (such as reduced data privacy), although in reality it will be difficult to quantify those costs. See the discussion of cost in J. Newman (2014), “Antitrust in Zero-Priced Markets”.

57. Case no. COMP/M.6281 Microsoft/Skype.

58. The SCP paradigm assumes that market structure (e.g. level of concentration) determines firms conduct (e.g. their price setting behaviour), which determines performance.

59. See, for example, <http://www.icregulationtoolkit.org/en/toolkit/notes/PracticeNote/2880>.

60. European Policy Department (2015), *supra* note 3.

Market share

Generally in dynamic markets, it is inappropriate to establish that a firm has market power solely based on high market share.⁶¹ For example, the UK's OFT/CMA Guidelines on the Assessment of Market Power state that:⁶²

"... market shares alone might not be a reliable guide to market power, both as a result of potential shortcomings with the data ... In a market where undertakings compete to improve the quality of their products, a persistently high market share might indicate persistently successful innovation and so would not necessarily mean that competition is not effective. For example, effective competition in innovation might mean that, in order to stay ahead of its rivals, the market leader must improve its products and processes on a regular basis."

In highly dynamic and innovative markets, high market share does not necessarily imply market power, but there should also be no presumption that market share will remain high. In these markets, incumbents are often challenged by new entrants (e.g. in music delivery and "browser wars"). Technological change can end up eroding a dominant firm's market share fairly quickly (e.g. Blackberry). Another example is the market for printed classified directory advertising (commonly known as yellow pages). In 2006, the UK Competition Commission identified high barriers to entry through network effects and mandated price controls on the market leader (who had a market share of over 75%), despite the potential constraint of the internet. In a 2013 review, the Competition Commission recognised that technological and behavioural changes due to the growth in internet access had caused a significant decline in usage and revenues from traditional print directories.⁶³

The potential rapid changes in market share was also considered in the Microsoft/Skype merger case, when the European Commission stated:⁶⁴

"Market shares only provide a limited indication of competitive strength in the consumer communications services markets. As explained ... consumer communications services are a nascent and dynamic sector and market shares can change quickly within a short period of time. Furthermore, almost all communications services are offered free of charge."

Issues also arise around how to calculate market shares when the price is zero and no market share based on revenue/turnover can be calculated. In the *Microsoft/Skype* case, the Commission considered market share by volume since "*market shares in volume constitute better indicators than market shares in value as most of the consumer communications services are provided free of charge.*"

Where markets have a zero price (or competition based on quality), any rebuttable presumption of dominance based on market share (e.g. over 40%) should be amended to include a "share of supply" measure. This would take the special features of the digital economy into account: in particular, the lack of meaningful turnover. For example, an instant messaging provider may not have a high turnover as the product is offered free of charge, but may still have a significant share of the supply for messaging services, which may raise dominance concerns. Another advantage of a share of supply measure relates to merger regulation, where transactions in which one dominant firm buys a potential rival that has not yet established a high turnover should arguably still be subject to merger control review.⁶⁵

While it is not appropriate to infer market power from large market share alone, we recommend that it still be used as a proxy. Where firms are below the turnover and share of supply threshold, they should generally not be investigated further. Where a firm is found to be dominant, the case for intervention can then be established on the basis of an assessment of the likelihood of anticompetitive effects.

Price and profit margins

In dynamic markets and/or markets characterised by endogenous sunk costs, prices above a 'competitive' level and high-profit margins are also poor indicators of market power. In dynamic and highly innovative markets, firms are expected to recover their sunk costs through high margins at the time when they are (temporarily) the 'winner'.

When market shares or profit margins are applied to market definition or the assessment of market power, authorities are relying too heavily on the structure-conduct-performance paradigm. Authorities should be aware of the pitfalls of focusing on concentration and profitability measures alone to infer outcomes (or performance). Academic work over the past 40 years has demonstrated the problems of this approach. One example is the work of Sutton (1991),⁶⁶ who shows

61. The use of market shares as a measure of market power has been subject to critical discussion in academic literature, for example, L. Kaplow (2011), "Market Share Thresholds: On the Conflation of Empirical Assessments and Legal Policy Judgments", *The Journal of Competition Law and Economics*, 7.

62. Office of Fair Trading (2004), "Assessment of Market Power", OFT415, paragraph 4.4 and footnote 19.

63. Competition Commission (2013), "Review of undertakings given by Hibu plc (formerly Yell group plc) in relation to its yellow pages printed classified directory advertising services business".

64. Case No COMP/M.6281 *Microsoft/Skype*, at paragraph 78.

65. As stated in the U.S. Merger guidelines: "*The measurement of market shares and market concentration is not an end in itself, but is useful to the extent it illuminates the merger's likely competitive effects.*"

66. Sutton, J., "Sunk costs and market structure", (1991).

that in homogenous goods industries characterised by exogenous sunk costs, and where firms compete on prices, a negative relationship exists between market size and concentration (i.e. as market size/demand increases, concentration decreases). However, where there is competition on endogenous sunk costs (quality, research and development, brand and advertising, etc.) rather than price, this negative relationship breaks down. There is a lower bound below which concentration cannot fall even as market size increases, and we would expect to see high price-cost margins or profitability over time to recover expenditures on endogenous sunk costs.

DATA AS A POTENTIAL SOURCE OF MARKET POWER

Large-scale data gathering and analysis has become an important feature of digital markets, with potential for anticompetitive effects. The rise in the use of internet for e-commerce, online streaming, and social networking has made data collection a valuable strategic asset for market players in the digital ecosystem. In this fast-developing environment, providers of content and new data services have adopted a wide variety of business models that facilitate data collection, including pay-per-use, subscription services with no usage charges, and services which are free to access and funded by advertising income.

In establishing the extent to which data can contribute to market power, authorities need to consider the following two factors:

- The ease with which information from data sets can be replicated; and
- The significance of the scale/scope of data for competitive performance.

Greater access to data could translate into market power if it reduces the competitive constraint from other firms. In general, it is the information content of the data and the lack of access to important data insights (e.g. personal data that allows businesses to improve their offers and services, such as directed online advertisements) that may allow companies to use data to squeeze out competitors. Access to unique data insights may in some cases lead to barriers to entry for potential new rivals (as in the case of *Bazaarvoice/PowerReviews*, where it was determined that new entrants into the ‘market for reviews’ did not have access to reviews made by existing customers, which placed them at a competitive disadvantage) and

may also lead to market concentration or even market dominance due to economies of scale or scope, or network effects.

The extent of the impact of big data on market power depends on the product in question and needs to be assessed on a case-by-case basis. This is captured well in the following example from the CMA:⁶⁷

“... larger online platforms may have some competitive advantage if there is proprietary data to which they have access. To the extent such data is inaccessible to rivals, it may confer a form of ‘unmatchable advantage’, making it hard for competitors to compete although this depends on the facts of the particular case.”

Authorities are beginning to pay more attention to how greater access to data might affect competition and contribute to market power. Over the last five to ten years, competition authorities have considered a number of mergers and conduct involving the potential harm of big data. As the recent joint French/German NCA report notes:⁶⁸

“In all of these cases, the competition authorities involved, i.e., the US authorities and the European Commission, considered that the data advantage potentially enjoyed by the new entity did not lead to any risk for competition on the considered markets.”

In previous decisions, authorities have concluded that holding data does not necessarily imply that companies can successfully keep competitors out. Authorities have concluded that if data is widely available and competitors can easily access the data, then greater access to data does not provide a competitive advantage. For instance, in the Google/DoubleClick⁶⁹ decision, the Commission considered that the possibility of combining DoubleClick’s and Google’s data collections did not offer an advantage to the new merged entity as competitors can easily access similar data, and there are already competitors that run both a search engine and offer ad services. In this case, even though the parties had access to valuable data, the Commission concluded that data was not unique and did not create a competitive advantage that other competitors could not easily replicate. The Federal Trade Commission (FTC) also concluded, (with one commissioner issuing a dissenting statement), that the Google/DoubleClick acquisition was unlikely to substantially lessen competition. The dissenting statement noted that the FTC should have

67. CMA response to the European Commission’s “Consultation on the regulatory environment for platforms, online intermediaries, data and cloud computing and the collaborative economy”, 2015, p. 6.

68. Joint report Autorité de la concurrence/Bundeskartellamt (2016), “Competition Law and Data”, p. 33.

69. European Commission (2008), Case COMP/M. 4731 *Google/DoubleClick*. www.ec.europa.eu/competition/mergers/cases/decisions/m4731_20080311_20682_de.pdf, at paragraphs 359- 366.

conducted a fuller analysis of the parties' post-merger data intentions or requested that the parties make commitments.

Similarly, in the Facebook/WhatsApp merger, the European Commission analysed the extent to which access to WhatsApp's data would allow Facebook to strengthen its position in the market. While the Commission acknowledged that network effects could sometimes pose a barrier to entry in communications markets, this concluded that *"this particular transaction was not likely to raise barriers to entry."*⁷⁰ and that *"there are currently a significant number of market participants that collect user data alongside Facebook,"*⁷¹ including Google, Apple, Amazon, eBay, Microsoft, AOL, Yahoo, Twitter, IAC, LinkedIn, Adobe, and Yelp.

The extent to which big data enhances market power depends on scale economies from acquiring additional data. For instance, in the Microsoft/Yahoo! Search Business decision,⁷² the Commission concluded that a greater scale of data collection would be helpful in reinforcing the competitive pressure that the merged entity could exert on Google.

COLLECTIVE DOMINANCE

Two possible scenarios should be considered when discussing market power in the digital economy:

- The market is characterised by a single dominant firm with a large market share and market power.
- The market is characterised by a more concentrated market and a limited number of firms. No single firm has significant market power, but together the firms may possess 'collective dominance'.

With the second scenario, there is a suggestion that collective dominance is unlikely or short lived, and it is important to take the conditions of the digital ecosystem into account. We discuss this in the following section.

Collective dominance and regulation

A central principle of the New Regulatory Framework (NRF) is that national regulators may only impose *ex ante* regulation on operators that have been found to have significant market power (SMP),⁷³ with SMP defined as equivalent to the concept of dominance in competition law. The adoption of a dominance-based standard was put forward as a deregulatory step that

would raise the threshold for regulation from the old Open Network Provision 25% test. Then-Competition Commissioner, Mario Monti, explained the NRF's underlying philosophy as follows:⁷⁴

"It is our strong belief that the application of fundamental competition law notions, such as market definition and dominance, in an ex ante environment represents the best means to ensure a smooth transition towards a fully liberalised electronic communications market, in which, hopefully one day, only the competition rules will apply."

Together with the concept of single firm dominance, the NRF also introduced the notion of collective dominance as a basis for regulation. The Framework Directive defines joint dominance (or equivalently collective dominance) in the following terms:⁷⁵

"Two or more undertakings can be found to enjoy a joint dominant position not only where there exist structural or other links between them but also where the structure of the relevant market is conducive to coordinated effects, that is, it encourages parallel or aligned anticompetitive behaviour on the market."

Competitive conditions in digital markets are not conducive to collective dominance

There are important differences between collective and single firm dominance. In particular:

- A single dominant firm is in a better position to pursue its own interests at the expense of consumers than a group of firms that need to reach agreement to pursue their collective interests.
- Even if an agreement can be reached in the short term, it can be very difficult to sustain over time.

Even in traditional markets, there is not consensus on how to apply a framework to identify collective dominance in particular cases. These issues tend to be particularly challenging in digital markets. In the late 1990s, regulators used to tick off 'checklists' based on market characteristics,⁷⁶ for example, on whether a merger would increase or decrease the number of factors conducive to coordination being present in the market. The European Commission was rightly chastised in *Airtours*⁷⁷ for taking this approach, since it ignores the relative importance of different factors. For instance, the impact of one factor (e.g. the absence

70. European Commission (2014), "Case COMP/M.7217 - Facebook/WhatsApp", http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf

71. *Ibid.*

72. COMP/M.5727 (18 February 2010), "Microsoft/Yahoo! Search Business", http://ec.europa.eu/competition/mergers/cases/decisions/M5727_20100218_20310_261202_EN.pdf

73. There are some exceptions to this general rule, such as the requirement for all operators to interconnect with one another.

74. Speech by Mario Monti, Conference on the Economics of Antitrust in the Telecommunications Sector, Brussels, 2002.

75. European Commission (2002), "Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services (Framework Directive)", Office Journal L 108, paragraph 26.

76. A similar approach is enshrined in Annex II to the Framework Directive (2002), *supra* note 77.

77. *Airtours v. Commission* (2002), Case T-342/99.



of barriers to entry or expansion) may be sufficient to prevent coordination even when all other factors may support it.

Economic theory (now incorporated in case law and the EC's practice) recognises four necessary conditions for collective dominance:⁷⁸

- (i) Firms must be able to reach a coordinated position;
- (ii) The coordinating firms must be able to monitor each other's adherence to the coordinated position;
- (iii) The coordination must be sustainable in the sense that it is costly or, at the very least, firms do not perceive that they could gain even if they are not detected deviating⁷⁹; and
- (iv) The reactions of other firms and customers must not be able to undermine the coordination.

The nature of competition in digital markets will rarely be well suited to establishing and maintaining collective dominance:

- When competition is based on rapidly changing product features rather than price, there is little scope for agreement between firms on what the standard features of a product should be. On the contrary, there are significant incentives for firms to differentiate their products, both to soften competition and create a superior product that ultimately delivers a commanding market position. In short, *"the dynamic nature of digital markets makes collusion unlikely."*⁸⁰
- Competition can come from 'outside' the market (e.g. from other platforms and technologies) disrupting any potential coordination. For example, Voice over IP has reached a stage where there is significant uptake and with it substantial downward pressure on fixed and mobile voice call prices. In its recent Strategic Review of Digital Communications, Ofcom in the UK noted that fixed and mobile networks are becoming more and more interchangeable for calls and messaging services, and both are under pressure from services delivered over the internet, such as Skype and WhatsApp.⁸¹
- When network effects are significant and there is a tendency for a single firm or platform to dominate the market, there are strong incentives to become the leader, which undermines the incentive to collude in nascent markets.⁸²
- There is little incentive to collaborate on developing a new technology when superior products have a

significant impact on customer acquisition and can lead to a firm leapfrogging its competitors.

- Firms with high fixed and common costs have strong incentives to gain market share.⁸³ It has been argued that this is what happened with the Orange/T-Mobile merger in the UK, combined with the deployment of 4G technology, when EE was allowed to gain a significant first mover advantage and become a leader over rivals Vodafone and O2.⁸⁴

It may be possible to overcome incentives to deviate from coordinated market outcomes if there was an effective disciplining mechanism (i.e. a way to punish a firm deviating from any tacit agreement). However, it is difficult for competitors to retaliate when a rival 'cheats' on investment in product quality or innovation. In addition, short-term price discounting will have limited impact on a rival with a superior product, while catching up technically will rarely be possible in the short term. Indeed, in the case of 'winner-takes-all' digital platforms, it may not be possible to catch up at all.

Instead of providing incentives to collude, the conditions in digital markets noted above tend to provide incentives for firms to invest/innovate in an attempt to be a market leader. Collective dominance is therefore likely to be difficult to achieve in digital markets precisely because firms differentiate and compete on quality and product features. In digital markets characterised by waves of innovation, firms can be expected to try to take a temporary lead by introducing new products in advance of their competitors, destabilising any coordination. It is therefore unlikely that collusion will be a problem in digital markets, and even less likely that any collusion that might arise can be sustained. The threshold for intervention on the basis of collective dominance, therefore, should be high—much higher than in the case of single firm dominance.

SUMMARY OF POLICY RECOMMENDATIONS

While the specific characteristics of the digital ecosystem give rise to a number of challenges, not all of these characteristics are a novel hurdle to applying the traditional market definition framework. Instead, many of the challenges related to two-sided or multi-sided markets or the absence of (monetary) prices have occurred in other industries. Market definition and market power assessment still have an important role to play in answering specific competition/regulation questions in digital markets. However, authorities

78. *Airtours v. Commission* (2002), Case T-342/99, paragraph 61.

79. While this condition is sometimes characterised as the need for a credible punishment mechanism, this need not imply a deliberate policy on the part of other firms to punish the firm that has been detected as deviating. For instance, if one firm deviates by cutting its price to seek to gain market share, the other firms may now find it in their interest to also cut prices to protect their market share.

80. European Policy Department (2015), *supra* note 3, p. 58.

81. Ofcom (2016), "Making communications work for everyone". Initial conclusions from the Strategic Review of Digital Communications, paragraphs 1.64-1.65.

82. Office of Fair Trading (2002), *supra* note 3, p. 27.

83. Office of Fair Trading (2002), *supra* note 3, paragraph 1.28.

84. R. Feasey (26 May 2016), "A few thoughts on mobile competition and consolidation". At <http://bit.ly/1NRp6xi>.

need to exercise the flexibility they already have to find appropriate procedures for defining product and geographic markets, and take an open approach to different types of evidence. There is no compelling reason for authorities to dispense with a formal market definition stage because of the shortcomings of some of the more prominent tools (e.g. the SSNIP test).

We recommend that:

- Careful attention should be paid to taking substitution relationships and the interdependences of demand on different sides of the market/platform into account. This can be done either at the market definition stage or at the competitive assessment stage. If authorities decide to conduct a SSNIP test, they should adjust the SSNIP test to reflect the two-sided or multi-sided nature of the market.
- The focus of the market definition exercise should be on understanding and describing actual substitution patterns. Drawing bright line boundaries around product features or technologies is unhelpful and misleading when consumers do not perceive these boundaries.
- Where goods and services are provided free of charge, authorities need to consider changes in quality levels or non-monetary costs, such as through the use of a SSNDQ test.
- Where evidence indicates that markets have changed, NCAs and NRAs should not hesitate to revise and adapt their market definitions.
- Market definition and market power assessment must be sufficiently forward-looking. The appropriate time horizon should reflect the likely timeframe for analysis and period in which any remedy might impact the market. Market power assessment should use a longer time horizon.

When assessing market power, authorities need to consider that digital markets are often prone to high concentration and that margins are required to recover the costs of innovation and investment. However, competition between the few can be intense, with market leaders often being displaced within a few years. This means that market share and profit are less useful indicators of market power than in traditional homogenous goods markets. The competition issue of concern is the power to exclude competitors, which is not necessarily associated with higher market share or profits. Authorities should focus on alleged anticompetitive conduct and its likely effects.

Authorities should also consider the potential anticompetitive effects of big data. Authorities need to consider the ease with which information can be replicated and the significance of the scale/scope of data for competitive performance.

The impact of big data on market power depends on the product or service in question and needs to be assessed on a case-by-case basis. Large-scale data gathering and analysis has become an important feature of digital markets and has the potential to have anticompetitive effects. However, regulators need to bear in mind that data in and of itself is not a competition concern.

Finally, the features of electronic markets are not well suited to collective dominance. We therefore argue that the threshold for intervention on the basis of collective dominance should remain high.



Adopting a total welfare standard in digital markets

In digital markets, the competitive behaviour of firms often has an impact not only on prices, but also on quality, innovation, and overall economic efficiency. When authorities assess the effects of competition and possible interventions, either via competition law or regulation, it is important to take into account the full range of impacts on market outcomes.

In this section, we set out the case for authorities to consider whether or not to intervene with a total welfare standard, rather than focusing only on the impact on consumers in the market where a firm is active. We then identify current issues in assessing the effects on quality, innovation, and efficiency. We recommend particular approaches to make these assessments more robust.

WHAT STANDARD SHOULD BE APPLIED TO ASSESSING THE EFFECTS OF COMPETITION?

In this section, we set out the case generally accepted by economists for competition policy interventions to be assessed with reference to a total welfare standard. We also consider whether there would be any practical difficulties in applying a total welfare standard rather than the consumer welfare standard, which is more commonly adopted.

Consumer welfare versus total welfare: An economic perspective

The difference between the consumer’s valuation of a good or service (i.e. the price a consumer is willing to pay for a good represented by a demand curve) and the price actually paid is the “consumer surplus”. The aggregate measure of the surplus of all consumers is consumer welfare or consumer surplus. Figure 1

represents consumer welfare in relation to a specific product, with the triangle positioned below the demand curve and above the market price.

Producers may also gain from selling a good or service, and the surplus of an individual producer is the price (or revenue) they receive less the cost of producing the good (i.e. the surplus a firm receives is the economic profit it makes).⁸⁵ Producer surplus is the sum of all profits made by producers in the industry. Producer surplus is illustrated in Figure 1 as the rectangle rising from (price – costs) X (quantity sold).

Total welfare in society is the sum of consumer and producer surplus. Economists are in general concerned with increasing *total* welfare, since society as a whole will become better off if total welfare increases. For example, if a particular policy proposal leads to producers being better off while consumers are worse off, as long as the gains to producers are greater than the losses to consumers, there is a net gain from ‘trade’ and transfers can be made to consumers to ensure they are no worse off.

In *Economies as an Anti-Trust Defense*, Oliver Williamson used a “trade-off model” (see Figure 1) to illustrate that a merger leading to a price increase (i.e. from P1 to P2) and a decrease in costs (i.e. from AC1 to AC2) would reduce consumer surplus (i.e. the smaller size of triangle *abc* compared with *adf*, with the reduction being the area *bdfc*), while increasing producer surplus (i.e. from zero when price P1 equals cost AC1 to the rectangle *bchg*).⁸⁶ Total welfare in society is the sum of consumer and producer welfare. In Figure 1, total welfare would be increased by the merger if the gain to producers is greater than the loss to consumers. This would be the case when the shaded

85. In a textbook model of competition, firms in perfectly competitive markets make zero economic profit. This does not mean that firms make zero accounting profits since costs in the economic definition include a ‘normal’ return on investment. In highly innovative markets, firms may earn high margins, but this may just reflect the higher than normal returns required for firms to recoup their innovation and/or investment costs. As discussed in this report, high margins in dynamic and highly innovative markets should therefore not be taken as an indicator of market power or a problem with competition.

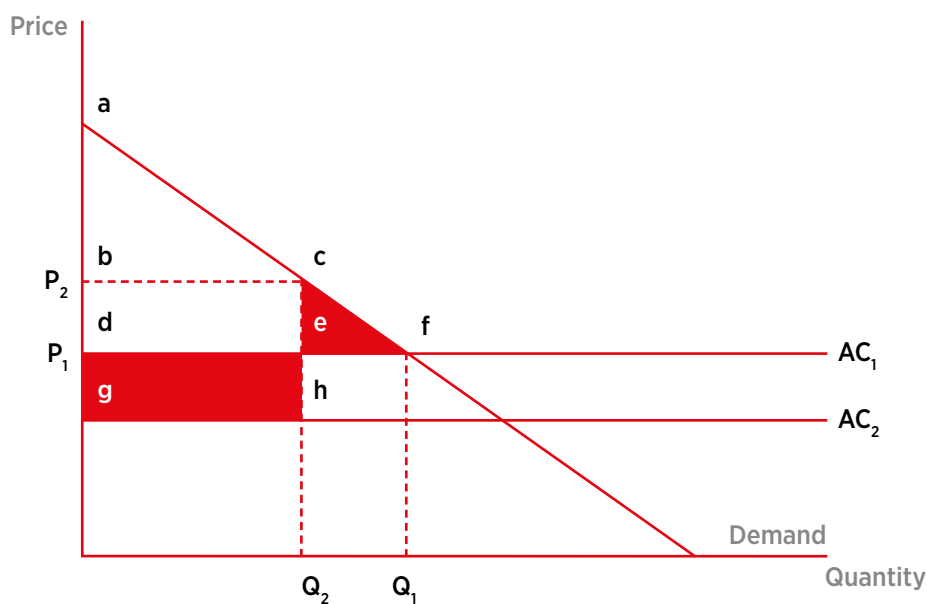
86. Oliver E. Williamson (1968), “Economies as an Antitrust Defense: The Welfare Tradeoffs”, *American Economic Review*, 58(1), pp. 18–36.

rectangle *dehg* is greater than the shaded triangle *cfe*. Williamson showed that even a relatively small percentage cost savings would be sufficient to increase total welfare, i.e. the gain to society from producing with lower costs exceeds the loss to society from increasing prices to a point at which some customers

no longer buy the product, even though they value it above the cost of production). As one commentator noted, “rectangles tend to be larger than triangles.”⁸⁷ Williamson concluded that “a merger that promises non-trivial economies (say greater than two percent) will generally yield a net allocative efficiency gain.”⁸⁸

Source: Williamson, Oliver E (1968), “Economies as an Antitrust Defense: The Welfare Tradeoffs”, *American Economic Review*, 58(1), pp.18-36.

Figure 1 Williamson’s trade-off model



Williamson’s simple model is useful for illustrating the potential of efficiency-enhancing mergers to raise total welfare while reducing consumer surplus.⁸⁹ It should not be taken to imply that most mergers giving rise to efficiencies will increase overall welfare. For example, it is more likely that total welfare would be negatively affected when prices before the merger were already significantly above marginal cost or where cost reductions are limited to a smaller share of the market. Also, mergers may positively or negatively affect other outcomes such as quality, innovation, and product variety.

As a first principle, competition policy and regulation should be concerned with the welfare of all people in society. It would be arbitrary for a government to adopt an approach which attaches no weight to the welfare of some people in society. This would be even more

the case given that the people “producing” are also consumers, whether they are shareholders who receive dividends, employees who stand to capture some of the higher profits in the form of higher wages, or investors such as those with pension funds. Also, when a merger (or the conduct of a firm in general) reduces the amount of resources used to supply the industry, it frees those resources to be used to produce other goods and services. A merger between two mobile operators, for example, might free up land that is used for the towers, offices, and shops of multiple operators, as well as free up labour and capital. In effect, the merger may enable society overall to produce more from its limited resources, and for consumers in other markets to benefit from the resources that are freed up to supply other products at lower prices and/or in greater quantities. Overall living standards in this case would be higher.

87. M. Whinston (2007), “Antitrust policy towards horizontal mergers”, *Handbook of Industrial Organization*, 3, pp. 2371–2436.

88. Williamson, Oliver E., “Economies as an Antitrust Defense: The Welfare Tradeoffs”, *American Economic Review*, 58(1), (1968), pages 18-36

89. While Williamson’s model relates to a merger, there are likely to be a range of cases where the conduct of firms has the potential to increase total welfare while reducing consumer surplus.



A total welfare standard, or at least consideration beyond only consumer welfare, is recognised in some regulation and parts of competition law. For example, the European Union Framework Directive sets out objectives that include encouraging efficient investment in infrastructure, as well as ensuring that users derive maximum benefit and the European Commission’s State Aid rules permit aid that delivers a positive overall balance when weighing the objectives of common interest against distortions to competition and trade.

Why might a consumer welfare standard be adopted instead of a total welfare standard?

Given that a total welfare standard would offer at least the potential for higher productivity and higher living standards over time, we will now discuss the reasons why governments might still prefer to stick with a consumer welfare standard.

One argument is a distributional one, i.e. that producers (particularly shareholders) might tend to be wealthier than consumers. However, there are two main objections to this argument.

- First, the distributional effects of mergers are not straightforward to determine, as the affected consumers (such as for luxury products) might have higher incomes than the people who would gain from higher profits (such as pension fund holders and government beneficiaries who might gain from higher government taxation revenues).
- Second, a merger that increases the overall welfare of society would offer the potential for taxation and government spending, which could raise the living standards of the neediest.⁹⁰

Even if governments want to retain their power to prohibit extreme cases in which mergers were considered to have harmful distributional impacts (and these could not be remedied by other means), this could be addressed by combining a total welfare standard with a requirement for authorities to also ensure the merger would not significantly harm particularly disadvantaged consumers. For example, regulators such as Ofcom have assessed regulatory proposals with regard to efficiency and competition and the impact on disadvantaged consumers. The Canadian merger test also allows the welfare of different groups to be weighted differently when assessing whether a merger would be beneficial overall. Such an approach would be an improvement

over the use of a consumer welfare standard since only efficiency-enhancing mergers likely to have significant adverse distributional impacts would be blocked.

A second argument is that the consumer welfare standard is easier to apply and is now well established in a number of jurisdictions and would be costly to abandon the precedent. However, Kenneth Heyer, former Economics Director of the Antitrust Division of the US Department of Justice, argues for the adoption of a total welfare standard on the basis that:

- adopting a total welfare standard would allow large efficient-enhancing mergers to take place, while the costs of educating the courts and lawyers about what is meant by total welfare are likely to be relatively small;
- a total welfare standard would avoid the considerable time spent assessing whether cost savings relate to marginal costs rather than fixed costs;
- in many cases, the merger-specific cost savings may be of sufficient magnitude to exceed any plausible deadweight welfare loss; and
- where efficiencies are not able to be substantiated by the parties, the authority could revert to considering the effect on final consumers alone.⁹¹

A third argument is that a consumer welfare standard is better because consumer interests might not be equally represented in comparison to firms’ interests.⁹² However, this is a weak argument since authorities are currently capable of assessing the effect on consumer welfare. It is not clear therefore why they should not be able to assess such effects under a total welfare standard. Further, there are a number of countries that already adopt a total welfare standard (including Australia, Canada, and New Zealand), and even in countries using a consumer welfare standard for mergers, regulators and competition authorities reasonably assess total efficiency effects in other contexts.

Whinston (2007) notes that:⁹³

“...it is striking that while most economists would regard maximization of aggregate surplus as the natural standard for merger review, most merger reviews around the world actually apply something close to a consumer surplus standard.”

90. This response, and the responses to the next two possible objections are made by K. Heyer, who called for the adoption of a total welfare standard. See K. Heyer (2006), “Welfare standards and merger analysis: Why not the best?”.

91. *Ibid.*, pages 14-16.

92. OECD (2012), “Dynamic efficiencies”, p. 6.

93. Whinston, M., ‘Antitrust policy towards horizontal mergers’, *Handbook of Industrial Organization*, 3, (2007)

Massimo Motta, ex-chief competition economist at the European Commission, has also stated *“Like most economists I also prefer the welfare standard.”*⁹⁴ When almost all leading economists, including from the competition authorities, call for the adoption of a total welfare standard, the adoption of such a standard appears a prime candidate for modernising competition law to better support a growth strategy that raises productivity and overall living standards.

What is the significance of adopting a consumer welfare standard in practice?

A key difference between using a consumer welfare standard rather than a total welfare standard is the issue of fixed costs. In digital markets, fixed costs are often large (e.g. network costs, technology, and IP) while marginal costs can be relatively low. Attention to fixed costs in competition law and regulation is therefore often critical to understanding market outcomes and determining the case for any intervention.

Merger regulation, however, often gives little weight to the potential for savings in fixed costs. For example, the European Commission’s guidelines on horizontal mergers state:

“cost efficiencies that lead to reductions in variable or marginal costs are more likely to be relevant to the assessment of efficiencies than reductions in fixed costs; the former are, in principle, more likely to result in lower prices for consumers.”

The Commission in practice holds that only reductions in marginal costs will benefit consumers and thus given weight in an assessment. For example, in the T-Mobile/teleging merger case (2006), the Commission stated:

“...the notifying party argued that the proposed merger would generate efficiencies. It cites the TKK’s [regulator’s] official report to the effect that network integration leads to better capacity utilisation and would therefore allow the company to achieve increased fixed-cost depression as compared with the pre-merger situation. Specifically,

T-Mobile states that the better frequency spectrum allocation post-merger will mean that building up its own network will generate lower costs for T-Mobile than with a smaller frequency allocation, that the merger will reduce the costs of the necessary renewal and improvement of the infrastructure, that the number of cells can be reduced and the quality of service improved and that the merger will reduce costs per customer for customer service and administration. However, the Horizontal Guidelines stipulate that efficiencies put forward by the parties must benefit consumers, which is more likely in the case of variable or marginal costs than in the case of fixed costs. The reduction in costs referred to by T-Mobile relates to fixed costs, in particular for building up and maintaining the network. It cannot be assumed that this kind of cost saving will be passed on to consumers by the notifying party.”

The likelihood of significant savings in fixed costs from mobile mergers means choosing a welfare standard is likely to be more significant to the mobile industry than other industries with less significant fixed costs.

Given some merger decisions will be blocked or never brought forward because a consumer welfare standard is adopted rather than a total welfare standard, the question remains how a total welfare standard would perform in practice. Some insight can be gained by considering the decisions of authorities that consider broader issues than just consumer surplus.

94. M. Motta (2004), “Competition Policy: Theory and Practice”.



Case study **New Zealand**

The New Zealand Commerce Commission (NZCC) administers mergers under the Commerce Act (1986). The Act prohibits mergers and acquisitions that substantially lessen competition, and the vast majority of mergers in New Zealand are assessed against this standard (i.e. a consumer surplus standard). Within this process, the Commission grants ‘clearance’ where it is satisfied that the proposed acquisition will not, or would not be likely to, substantially reduce competition in a market. Otherwise the proposed merger is declined.⁹⁵

In this regard, the process in New Zealand is very similar to most jurisdictions operating under a consumer surplus standard. However, there is a key difference in New Zealand competition law. The Commerce Act allows for the possibility that an anticompetitive transaction may lead to sufficient public benefits that would outweigh competitive harm and should therefore be allowed on the basis of public interest. Where the parties to an acquisition believe this is the case, they are able to request that the Commission undertakes a special alternative procedure known as an ‘Authorisation’. During an Authorisation procedure, the Commission analyses the proposed merger to see whether it should authorise the transaction on the grounds that the deal “... *would be likely to result in such a benefit to the public that it should be permitted even though it may substantially lessen competition*”.⁹⁶ Relevant public benefits have been defined by New Zealand’s courts as consisting of:⁹⁷

“...anything of value to the community generally, any contribution to the aims pursued by the society including as one of its principal elements (in the context of trade practices legislation) the achievement of the economic goals of efficiency and progress.”

The NZCC website provides copies of all merger decisions whether decided by a ‘conventional’ clearance process, or via an authorisation process. The documents reveal a number of points of interest:

- First, since 1 January 2014, there have been 28 clearance decisions,⁹⁸ but only two authorisation decisions. Furthermore, since 1 January 2000, there have only been six authorisation decisions (whether granted or declined). This shows that allowing efficiencies to be considered using a total welfare standard has not opened the floodgates to a tide of anticompetitive merger proposals in New Zealand.
- Second, although the process of balancing harm and benefits is undoubtedly more complex than a standard merger procedure, the New Zealand Commission—a relatively small competition authority with limited staff resources—is able to produce well-reasoned analysis and competently address the relevant issues.⁹⁹

The New Zealand experience shows both that it is practical to consider a total welfare analysis even within the resource constraints of a relatively small NCA, and that offering the ability to conduct such an analysis does not imply that it will become the default procedure.

95. See short summary of steps in merger assessment at <http://www.comcom.govt.nz/business-competition/mergers-and-acquisitions/>

96. New Zealand Commerce Commission (2013), “Mergers and Acquisitions Guidelines”, at X3.2.

97. *Ibid.*, at paragraph 35.

98. One, Fairfax New Zealand Limited, was in process at time of writing this report.

99. The NZCC’s authorisation decisions are publicly available at <http://www.comcom.govt.nz/business-competition/mergers-and-acquisitions/authorisations/merger-authorisation-register/>.

Case study **Canada**

Section 96 of Canada's Competition Act allows the Competition Tribunal to authorise a merger that has brought about or is likely to bring about gains in efficiency that *"will be greater than, and will offset, the effects of any prevention or lessening of competition"*¹⁰⁰ resulting from the merger. In practice, mergers are assessed under either a total welfare approach or a balancing weights approach where the Tribunal explicitly assigns weights to the affected consumers and shareholders.¹⁰¹ An example of the Canadian approach was the merger of Superior Propane and ICG Propane, Canada's two largest distributors of propane and related equipment. The Competition Tribunal found that, while the merger would lead to higher prices and produce a deadweight loss to the economy of around \$6 million per year, the merger would produce much more substantial cost savings from efficiencies of \$29.2 million per year.

A 2005 review of the treatment of efficiencies in Canada found that efficiency claims are not regularly considered because most mergers either do not raise competition concerns or the parties do not wish them to be seen as raising competition concerns.¹⁰² Nonetheless, the Panel recommended that:

- Competition policy should play a role in supporting productivity, including through permitting for mergers that would produce sufficient efficiency gains to offset reductions in competition;
- The government should clearly set out the standard for weighing efficiency gains against competition effects and that an efficiency defence should not be permitted in the case of a merger to monopoly;¹⁰³

- The Competition Bureau should also regularly consider the potential for pro-competitive efficiency gains when assessing mergers and should recognise dynamic efficiency gains (at least qualitatively).

The Canadian review of this approach to efficiency recommended it should be the role of Parliament to determine how to weigh potential harm to competition against gains in efficiency, as this involves weighing benefits to one segment of the community and costs to another. As such, it might be that different governments decide that different weights are appropriate.

We consider a framework that allows for efficiency gains to be taken into account and explicitly weighed against competition effects is superior to a consumer welfare standard that would ban efficiency-enhancing mergers, even where the distributional effects are immaterial or even desirable.

Regulators are also often required to consider a range of objectives. In cases where there are conflicts between objectives, it would be unusual that the magnitudes of the effects would make it difficult for the regulator to identify an appropriate course of action. For example, the UK regulator Ofcom assessed the case for the adoption of a long-run incremental approach to mobile termination against four criteria: economic efficiency, competitive impacts, distributional effects on vulnerable consumers, and commercial and regulatory consequences.¹⁰⁴ The advantage of such an approach is that mergers would be allowed that bring large gains in overall living standards while having relatively few distributional effects.

100. Canadian Competition Act (1985), Section 96.

101. Paragraph 91 of <http://scc-csc.lexum.com/scc-csc/en/item/14603/index.do>.

102. Report of the Advisory Panel on Efficiencies (2005), p.4.

103. Although we note that a failing firm defence (which is not the same as an efficiency defence) should be allowed.

104. Ofcom (2011), "Wholesale Mobile Voice Call Termination Statement".



ISSUES IN ASSESSING CURRENT EFFECTS ON QUALITY, PRODUCT VARIETY AND INNOVATION

Tests for whether a merger should be prohibited tend to refer to a general reduction in competition. The guidelines that authorities follow when assessing mergers recognise that competition encompasses not only price, but also the effects on quality, product variety and innovation.¹⁰⁵ In practice, however, merger assessments tend to focus on price effects while only making a limited analysis of effects on quality, variety and innovation.¹⁰⁶ For example, assessments of many recent mobile mergers in Europe have heavily focused on Upward Pricing Pressure (UPP) calculations (see Box 3).

Merger reviews that focus on (often short-term) price effects can be a particular problem for digital markets. In digital markets, firms offer differentiated products and consumers may attach more importance to quality than price, so innovation has the potential to significantly improve quality over time. At one extreme, some products may be offered for zero-price to customers on one side of the market. It is therefore critical to rigorously assess the likely effects on quality, variety and innovation to understand how mergers in these markets would affect competitive outcomes.

Using UPP to assess likely price effects of mobile mergers

Analysis of recent mobile mergers both in Europe and the US¹ have featured UPP calculations, which appear to have been a significant factor leading to substantial remedies being imposed or mergers being blocked. There have been significant issues with calibrating and interpreting these models,² and it is questionable whether great weight should be attached to an analysis that focuses only on price in an industry where network quality is an equally important—if not the most important—aspect of competition.

UPP calculations also may capture relatively short-term effects, which can dissipate over time as firms reposition products, new entries occur, and efficiencies are realised. We note that the Austrian authorities have released reports on the effects of the 2012 merger of H3G and Orange, which found that while prices rose in 2013–14, they have since fallen due to MVNO entry using the merger remedy access provisions.³

There is a growing recognition that mobile mergers can have important effects on investment as well as price effects. Genakos, Valletti and Verboven (2015)⁴ found that while mergers in mobile markets might increase prices in some cases, they can also have positive effects on investment at the operator level. Because mobile markets are dynamic and consumer welfare is clearly affected by quality and innovation, this is a serious omission. It can be informative to consider investment effects, but this analysis needs to be sufficiently detailed to understand how the investment changes are likely to impact welfare. For example, mergers can help eliminate inefficient cost duplication and also result in investment that improves the quality of service, which can potentially lead to new services being introduced. Ultimately, it is the final outcomes that matter, rather than whether total investment is lower or higher.

1. Berek (2015), "Recent mobile telecommunications mergers", BoR (15) 41, and Y. Li and R. Pittman (2012), "The proposed merger of AT&T and T-Mobile: Are there unexhausted scale economies in U.S. mobile telephony?", which discusses the role of efficiencies in this merger, including with reference to UPP calculations.
2. A discussion of calibration and interpretation issues in the context of cellular mergers can be found in L. Wiethaus and R. Nitsche (2014), "Upward Pricing Pressure Analysis: Critical Issues in Recent Applications", *Journal of European Competition Law & Practice*.
3. Austria RTR-GmbH (2016), "Ex post analysis of the merger between H3G Austria and Orange"; "The Austrian Market for Mobile Telecommunication Services to Private Customers, An Ex post Evaluation of the Mergers H3G/Orange and TA/Yesss!", BWB/AW-393, 2016.
4. C. Genakos, T. Valletti and F. Verboven (2015), "Evaluating Market Consolidation in Mobile Communications", Report for CERRE.

105. For example, the European Commission Merger Regulation assesses whether a merger "...would significantly impede effective competition, in particular as a result of the creation or strengthening of a dominant position" while Section 7 of the US Clayton Act prohibits mergers if "in any line of commerce or in any activity affecting commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly."

106. The OECD notes that the lack of a widely agreed framework for analysing quality often renders its treatment by competition authorities superficial. See OECD (2013), "The role and measurement of quality in competition analysis", p. 1.

Commentators like Motta (2015) and Lyons (2015) acknowledge that key dimensions are still missing from merger analysis: in particular, investment and quality are not adequately accounted for.¹⁰⁷

A number of recent decisions by the European Commission on proposed mergers in the mobile industry show the current problems that exist in assessing quality. While it is difficult to forecast longer-term competitive dynamics, it would be expected that competitive analysis of mobile mergers should take potential scenarios for a higher quality of service into account, including:

- A network offering greater coverage than the two separate networks (i.e. customers of each network would benefit if the other network covered areas not covered by their existing network, such as in rural areas or black-spots, and a greater pool of customers could make it more economic to extend coverage to low-demand areas);¹⁰⁸
- Reduced congestion and better service quality because both network's cell sites could be used in congested areas (e.g. networks have differing capacity available in different areas, so network integration can help ease congestion currently affecting either network); and
- Better services could potentially be offered by pooling each operators' spectrum¹⁰⁹ and by spreading the cost of network and service upgrades (including new commercial partnerships) over more customers.

These effects should create a presumption that mobile mergers are likely to improve service quality; hence, an overall assessment of the impact of mergers on consumers should take this effect into account as well as any price effect. However, the European Commission has generally rejected such arguments, as the following recent decisions demonstrate:

- In the *T-Mobile/Orange* merger in the UK, the European Commission's key concern was that the merger would allow the parties to launch LTE technology before other operators. The Commission stated that *"this could result in a bifurcation of the market in the years to come, with the JV being the only MNO in the UK able to offer LTE technology at the best possible speeds with full coverage and the*

remaining MNOs offering a much inferior product."¹¹⁰

The decision offers little analysis of what harm could come to consumers from the JV bringing LTE to market before other operators¹¹¹ or whether there would be harm overall from LTE services being made available sooner. The Commission's short-term concern is also shown by the fact that substantial additional spectrum suitable for LTE services would be made available within the next few years. Indeed, the JV launched LTE services in October 2012, while the 4G auction was held in February 2013.

- In the merger of Hutchison 3G and Telefonica in Ireland, the European Commission rejected the statements from the parties that the merger would lead to quality improvements. The Commission rejected the parties' arguments that the merged entity would achieve greater LTE coverage as non-verifiable and not merger-specific, on the grounds that it would expect O2 to deploy a competitive 4G network in the absence of a merger. The decision did not consider how a larger customer base may have altered marginal decisions to invest in additional coverage. The Commission also argued that *"the merged entity will have more subscribers and its network will have higher levels of congestion than the networks of O2 and Three in the absence of the merger."*¹¹² This is an odd conclusion, given that the merger would bring the subscribers together as well as the capacity of the two networks—and in an area where one network was congested and the other was not, then the merger should ease congestion.
- In the merger of Hutchison 3G and Orange Austria, the European Commission noted the potential for higher quality but rejected taking these into account as being insufficiently proven by the parties. The Commission also noted that *"the fact that higher network quality would be experienced directly by subscribers does not mean that they would have a net benefit from the merger. In particular, if not constrained by enough competitive pressure, the merged entity could in principle increase prices so as to partially or wholly claw back any benefits at the customer level."*¹¹³ The Commission's assessment of the competitive effects was focused on its Upward Pricing Pressure analysis, rather than considering longer-term competitive dynamics.

107. See, for example, M. Motta (2015), "Mobile mergers: What have we learned?", presentation to ACE Annual Meeting, Università Bocconi Milan, slide 18. B. Lyons (2015), "The Use and Misuse of Economics in Merger Control: Ten Years After", presentation to ACE Annual Meeting, Università Bocconi Milan, slide 6.

108. Network sharing agreements may sometimes be an alternative way to achieve the benefits of network integration. Such agreements are normally subject to competition law, in which case the potential benefits of greater coverage should be part of the assessment. Nonetheless, network sharing agreements may not always be commercially possible as they rely on the existence of two parties who can reach agreement on arrangements to share the benefits and ongoing costs which may be difficult where the parties have networks at different stages of development.

109. For example, quality of service of LTE is optimised with 2 x 20 MHz of spectrum.

110. European Commission, *Case No COMP/M.5650 - T-Mobile/Orange, 2010*, paragraph 121.

111. For example, in addition to the direct consumer benefits of LTE being available from the JV, other operators may have responded to the JV's launch of LTE by reducing the price of their services to remain competitive until they could launch their own LTE services.

112. European Commission (2014), *Case No COMP/M.6992 - Hutchison 3G UK/Telefonica Ireland*, paragraph 553.

113. European Commission (2012), *Case No COMP/M.6497 - Hutchison 3G Austria/Orange Austria*, paragraph 424.



Economic theory supports assessing how mergers can improve quality and efficiency

While limited, the economic literature on the relationship between market concentration and quality shows that in some cases, greater concentration may increase quality. A report for the UK Office of Fair Trading that reviews the literature provides the following summary:

“When suppliers choose prices as well as quality levels, the theoretical literature predicts an ambiguous effect of competition on quality. This is because increased competition affects suppliers’ incentives to provide quality in two countervailing ways. On the one hand, it incentivises suppliers to increase quality for given prices in order to be more attractive to customers. On the other hand, competition tends to reduce suppliers’ profitability and may undermine their incentives to invest in improving quality. The overall impact of increased competition on quality will depend on the net impact of these two effects.”¹¹⁴

The studies also show that increased concentration can lead to increases in both quality and prices. In this case, the overall effect on consumer welfare will depend on the balance of the two effects.¹¹⁵ Another recent study found that network integration as a result of a mobile merger can improve service quality, although the overall effect on consumer welfare also requires taking possible negative effects into account, e.g. on prices and product variety.¹¹⁶ Furthermore, mergers need not imply a loss in product variety. A study of radio broadcasting mergers in the US found that consolidation increased the overall variety of programming formats available to listeners. Stations spread their formats apart to avoid cannibalizing advertising revenues from each format, while reducing inefficiency associated with the total fixed industry costs.¹¹⁷

There is a substantial economic literature examining the relationship between market concentration and innovation. This literature finds that large firms operating in concentrated markets play a key role in technological innovation, and also identifies opposing effects of market concentration on innovation.¹¹⁸ On the one hand, competition can give players the incentive to innovate and ‘leapfrog’ competitors.

This might allow smaller players to capture existing monopoly rents in the market, as well as any additional returns from the innovation itself. On the other hand, the incentive for innovation may depend on some expectation of market power to generate profits if the innovation is successful.

Larger firms may also be able to generate greater and quicker returns from R&D, since they are able to spread the fixed cost of innovation over a larger volume of sales. A general review of empirical studies of market structure and innovation finds that:

- There is a relationship between R&D expenditures and firm size (which seems to reflect R&D cost spreading), although innovative output does not proportionately increase with firm size; and
- There is little relationship between market concentration and R&D intensity.¹¹⁹

Concentration can affect innovation in different ways, so caution should be taken about making general inferences about proposed mergers and conduct.¹²⁰ There is a risk that existing firms may seek to protect their position by thwarting innovation through acquisition or foreclosing entry. However, selling the results of R&D to existing firms may be the motivation for R&D in the first place or may be critical to realising its benefits. A fact-based analysis of the specific market circumstances is required to discover which effects are likely to be relevant to a particular case.

Assess effects on quality, variety and innovation

The following analytical approaches can help authorities carry out case-by-case investigations of potential non-price effects on quality, variety and innovation:

- Existing literature should be reviewed to see if it offers insight into the likely direction and size of non-price effects, given the market’s particular features. In identifying whether mergers would be likely to promote or impede innovation, commentators have proposed that authorities follow these guiding principles:¹²¹
 - Does the merger change the incentive to innovate in terms of potential gains or protecting profitable sales by providing greater value?¹²²

114. Office of Fair Trading (2014), “Competing on quality – literature review”, paragraph 1.11.

115. In the other direction, the growth of low-cost airlines has arguably led to both lower average prices and lower quality across the industry as full service airlines have reduced their offerings to compete more effectively.

116. P. Sun (2015), “Quality competition in mobile telecommunications: evidence from Connecticut”, NET Institute Working Paper No. 14– 05.

117. S. Berry and J. Waldfogel (2001), “Do Mergers Increase Product Variety? Evidence from Radio Broadcasting”, Quarterly Journal of Economics, 116.

118. Schumpeter (1942), *supra* note 2, pp. 102–103.

119. W. Cohen (2010), “Fifty years of empirical studies of innovative activity and performance”, Handbook of the Economics of Innovation, 1, pp. 153–154.

120. The history of innovation shows contributions from start-ups, the R&D laboratories of large companies such as Bell Labs (formerly owned by AT&T and now by Nokia) and IBM’s Zurich Research Laboratory and, more recently, smaller companies that have grown large and manage digital ecosystems, such as Apple and Google, which provide platforms for innovation by smaller firms.

121. The first three principles are proposed by C. Shapiro (2011), “Competition and innovation: Did Arrow hit the Bull’s Eye?”, in NBER *The rate and direction of inventive activity: revisited*. The fourth proposition was put forward by in a comment by M. Whinston on Shapiro’s paper.

122. For example, in a more contestable market where a small firm can grow rapidly, it may have sufficient incentives to innovate whereas incentives for innovation in a less contestable market may rely more on the ability for innovation to be acquired by larger firms.

- Does the merger change the incentive to innovate in terms of firms' ability to take advantage of the social benefits arising from innovation?¹²³
- Does the merger combine complementary assets that would enhance the ability to innovate and spur innovation?
- The direct effect on the merging firms' R&D can generally indicate the overall market effect on R&D, but to determine the overall welfare, it is necessary to consider how other firms' R&D would be affected by a merger that could offset effects on other variables (such as prices).
- If authorities have difficulty in assessing likely technical effects in-house, they can seek technical expertise from independent industry experts. Technical expertise may be useful not only in verifying the parties' claims but also in identifying whether the technical objectives can be achieved with modifications or remedies that pose less risk to competition.
- Authorities should clearly set out the potential positive or negative effects (i.e. theories of benefit and harm) of the merger or conduct and assess whether the theories are consistent with the market characteristics and empirical evidence, are consistent with the parties' incentives, and are logically consistent;¹²⁴
- To inform future cases, authorities should conduct *ex post* evaluations of what the actual effects of mergers and conduct have been in practice. For example, while there have been a number of recent post-merger evaluations in mobile markets, they have tended to focus on relatively short-term price effects or even somewhat poor proxies for price.¹²⁵ Authorities or sectoral regulators may be best able to obtain the data to undertake such assessments.
- Where there are expected to be price rises but also beneficial non-price effects, authorities will need to assess the relative size of each effect on welfare to determine whether the merger should be allowed. There are a number of techniques to estimate the price equivalent of quality attributes, including Hedonic Pricing Methods (which use pricing data for products with varying quality to estimate customers' willingness to pay for marginal changes in quality) and Contingent Valuation Methods (which survey customers about how much they would be prepared to pay for products with different quality levels).¹²⁶

BETTER TOOLS TO ASSESS EFFICIENCIES

Efficiencies must be sufficient for the merger to benefit consumers or society overall. Parties are often required to substantiate that the efficiencies are verifiable and merger-specific (i.e. that they cannot be obtained through other means with less risk to competition). In practice, the burden on parties to provide evidence leads to authorities rejecting giving weight to efficiencies. One commentator notes that for US authorities: *"The DOJ and FTC typically adopt a fairly high hurdle for claimed efficiencies because it is relatively easy for firms to claim that efficiencies will be generated by a merger and relatively hard for antitrust enforcers to evaluate the likelihood that those efficiencies will be realized."*¹²⁷

In this section, we identify tools that can help address the information problems and give greater weight to efficiencies in practice.

In general, merging parties should be able to provide substantial information about the expected magnitude, likelihood and timing of claimed efficiencies.

Economists in competition authorities should also be aware of potential general economic efficiencies, such as the elimination of double-marginalisation (e.g. by jointly setting the price of complementary products). Tools that could be used to help identify/substantiate efficiencies include:

- Independent technical experts to assess efficiencies.
- Evidence of similar efficiencies gained in earlier transactions or in other markets that can help verify efficiencies and pass-through.
- Analytical techniques such as Data Envelopment Analysis and Compensating Marginal Cost Reduction that can also help verify efficiencies.¹²⁸
- Post-merger evaluations of efficiencies that may help authorities improve their assessments over time.
- Efficiencies from innovation may be harder to substantiate, but better decisions are likely to be made if authorities can assign probabilities to the range of gains that might be generated from innovation, rather than disregarding these efficiencies altogether.

123. For example, rapid imitation by competitors may deter innovation whereas a merger might encourage more innovation by allowing firms to capture more of the returns for innovation.

124. For a discussion of the use of theories of harm by authorities see H. Zenger and M. Walker (2012), "Theories of harm in European Competition Law: A progress report", in "Ten Years of Effects-Based Approach in EU-Competition Law", Jacques Bourgeois and Denis Waelbroeck, eds., (2012), pp. 185–209.

125. Few recent studies have looked at the effects on both prices and investments and found that while there is an effect on investment, the effects on prices are ambiguous at the very least. See for example, Genakos, Valletti and Verboven (2015), "Evaluating market consolidation in mobile communications", CERRE; and HSBC (2015), "Supercollider".

126. Another approach to integrating quality changes was provided by the parties in the proposed AT&T/T-Mobile merger in the US where a price equivalent to the quality improvement was estimated on the basis of the extent to which churn decreases as quality improves (see D. Carlton and M. Israel (2011), "Explanation of the Compass Lexecon Merger Simulation Model").

127. M. Whinston (2007), "Antitrust policy towards horizontal mergers", Handbook of Industrial Organization, 3, p. 2396.

128. OECD (2012), *supra* note 94, p. 2396.



Tools to assess efficiencies

Data Envelopment Analysis (DEA) can assess the likely efficiency gains of a merger. DEA generally uses data of costs and output for companies in the same industry to identify an efficiency frontier showing the lowest level of costs achievable for different levels of output. The potential efficiency gains from a merger can then be estimated by determining how much the costs of the merging parties would be reduced, taking into account the increased scale and any potential created by the merger to share best practices (i.e. an efficient, relatively low-cost firm could share best practices with a higher cost firm after they merge). This approach has the advantage that efficiency estimates are based on the observed performances achieved by similar firms. However, it does rely on significant industry cost data, which may not always be available.

Compensating Marginal Cost Reduction (CMCR) approach assesses whether a particular level of efficiencies would be sufficient to offset any increase in market power resulting from a merger. The level of required efficiencies expressed as CMCRs can be readily calculated by using the pre-merger information of the merging parties. Indeed, the only information required are the pre-merger data on mark-ups and diversion ratios of both merging parties. The Swedish Competition Authority has used this approach for recent merger assessments, such as *Office Depot/Svanströms* (2011), *Arla/Milko* (2011), *Cloetta/Leaf* (2012) and *Eniro/Teleinfo* (2012).

While differences in information between the authorities and parties may explain the current practice, there is a risk that it can lead to rejecting efficiencies even when they would be pro-competitive. This may be a particular problem with dynamic efficiencies, which can be harder to substantiate in advance. Rather than imposing a higher burden of proof on the acceptance of efficiencies, authorities should adopt a more balanced approach to make a judgement about the likely prospect and magnitude of effects in a particular case. While it is reasonable for authorities to discount claims that parties should be able to substantiate, authorities should not adopt a formal bias against efficiencies that are inherently difficult to substantiate in advance. Crane (2011) reviews and rejects the arguments for imposing a higher burden of proof on efficiencies and concludes that the probability adjusted net present value of merger risks should be treated symmetrically with the probability adjusted net present value of merger efficiencies.¹²⁹

In assessing whether efficiencies are merger-specific, guidelines often state that only reasonably practical alternatives will be considered. They generally identify these with the practices of other firms in the same or similar markets. However, care should be taken in assuming that just because another firm was able

to implement an arrangement, it would be possible for the merging parties to also do so. In addition to intellectual property rights, there may be other less obvious barriers preventing the merging parties from obtaining similar efficiencies. For example, it may be easier to reach mobile network sharing agreements when operators are both entering a market or have networks that complement each other, but it may be harder where there are substantial differences in their current networks or their abilities to fund further network investment.

SUMMARY OF POLICY RECOMMENDATIONS

Countries can support productivity gains and higher living standards over time by adopting a total welfare standard. In particular, merger regulation should be modified to allow mergers that are expected to increase total welfare, taking into account the likely effects on both competition and efficiency. Distributional concerns can be better addressed through fiscal policy, with the gains in total welfare providing the means for greater assistance to vulnerable groups. Mergers that save costs are also likely to free resources that investors can redeploy in other markets and benefit consumers in these markets. If governments are concerned that, in some cases, a total welfare standard could lead

129. D. Crane (2011), "Rethinking merger efficiencies", *Michigan Law Review*, 110:3, pp. 347–91.



to significant adverse distributional concerns, they should ensure that efficiency is taken into account along with competition effects. They should also set out the weights that authorities should assign to each effect when they are assessing mergers that will affect different segments of the community in different ways.

Competition issues in the digital ecosystem show how important it is to take a more rigorous approach to assessing quality, innovation and efficiency. Different analytical approaches can better identify the potential non-price effects of mergers, including how a merger would change firms' incentives and abilities to innovate. They offer a clear exposition of any theory of harm or benefit and provide a range of approaches to weigh opposing effects where mergers are expected to lead to price rises but also improvements in quality.

Finally, the high burden of proof applied to efficiencies is also likely to prevent some mergers from taking place that would bring benefits to society and even to consumers. There is no compelling reason for authorities to impose a higher burden of proof on

efficiencies than on competition effects, although it is reasonable for authorities to discount claims that parties should be able to substantiate. Competition authorities are improving how they verify efficiencies. Analytical approaches that can help include the use of economic, technical and industry experts, evidence of similar efficiencies being realised in earlier transactions or in other markets (including references to the developing studies on cost pass-through) and analytical techniques such as Data Envelopment Analysis and Compensating Marginal Cost Reduction.

Rebalancing *ex ante* and *ex post* regulation

The digital ecosystem is bringing together market participants that are subject to extensive *ex ante* regulation as well as players from other sectors that are only subject to general *ex post* competition law. Where these players compete with each other, the question arises of whether *ex ante* regulation is still required and, if retained, whether it needs to be modified to avoid distortions and deterring investment. In this section, we identify approaches to modernising *ex ante* regulation and recalibrating the balance between *ex ante* regulation and *ex post* competition law enforcement.

COMPARING *EX ANTE* AND *EX POST* REGULATION

Sectoral regulation and competition law were developed to deal with problems that might arise from market failure and/or market power. *Ex ante* regulation of electronic communications was to address the existing market power of incumbent operators as well as sector-specific objectives, including the efficient use of spectrum and achieving universal access to telecommunications, access to emergency services and telecoms numbering.¹³⁰ Modern competition law was, particularly with the US Sherman Act, to address the growth of large conglomerates that risked creating market power by restraining and attempting to monopolise trade. In restraining market power, there is a potential for competition law to be a substitute for *ex ante* regulation. Considering the relative merits of each can provide guidance about the circumstances best suited to each of them.

Where a firm has existing and enduring market power, then regulation is likely to be more effective at preventing monopoly pricing. The appropriate level of a price cap, for example, can be estimated using economic and technical expertise and may require judgments such as balancing static and dynamic efficiency. The way in which fixed and common

costs are to be recovered is often an important and contentious matter. A court without specialist expertise may have difficulty determining efficient price levels and in monitoring day-to-day compliance. In addition, using competition law to address monopoly pricing would put businesses at risk of being penalised even where there is significant uncertainty over the appropriate price level.

While there is a case for *ex ante* regulation where there are enduring sources of market power, the role for *ex ante* regulation is likely to be limited.

- Regulation should be targeted at the economic activity where there is no potential for competition and should allow for competition in other parts of the value chain, as competition will be more effective than regulation in leading to innovative new services and ways of delivering existing services over time.
- The potential for competition should be assessed over a sufficiently long timeframe, with milestones established for the removal of regulation to attract new entry if possible. This would help to avoid unnecessary, self-perpetuating regulation.
- The benefit of regulation that can result from correcting market failures should be weighed against the costs. Careful consideration should be given to the risk of regulatory failure and associated costs resulting from setting prices inefficiently or mandating a particular quality level that result in fewer offers when customers would benefit from more differentiated offers.
- Where investment is subject to significant *ex ante* risk (e.g. highly uncertain demand or the use of an unproven technology), then it may be necessary to refrain from regulation for a period of time, due to the difficulty of setting terms and conditions that will not damage the incentive for future investment.¹³¹

^{130.} We do not consider the other potential roles for *ex ante* regulation, which are unrelated to market power and outside the scope of this report.

^{131.} For example, governments generally recognise that it would harm dynamic efficiency to cap the return to patent holders.

- Where the service is provided to customers with significant countervailing bargaining power, *ex ante* regulation may not be needed to prevent the use of market power.¹³²

Ex post competition law enforcement is much better suited to dynamic markets, where the risks of regulatory failure are high. Competition law is inherently more flexible than *ex ante* regulation because it does not specify what firms should do, but only what they should not do. Competition law therefore allows firms the freedom to set terms and conditions within a potentially wide range of acceptable behaviour. This can be important in digital markets, where markets may change rapidly and firms may wish to introduce a range of differentiated offers with various combinations of prices, product features and quality of service. Regulators that are a step removed from customers would have significant difficulties in trying to regulate complex service offerings in such circumstances. Competition law, targeted at actual problems, also reduces the risk of deterring innovative investment and the risk of distorting competition by applying asymmetric obligations on competing firms.

Regulation can become self-perpetuating, particularly if it reduces the incentive for entry based on new business models and technologies. Therefore, the need for regulation should therefore be assessed on a forward-looking basis, with regulation being withdrawn where there is potential for entry to lead to effective competition. If the regulation is not forward-looking enough, there is a risk that *ex ante* regulation will create the lack of investment and competition that justifies ongoing regulation. Where there are competing firms, removing regulation can also improve efficiency by allowing them to compete on a level playing field.

A perceived drawback of *ex post* enforcement is the length of investigations before remedies can be imposed. However, as we discuss later, this drawback can be addressed by improving how competition law is implemented—not by reverting to *ex ante* regulation. *Ex-ante* regulation does not necessarily provide a timely solution to an emerging problem.¹³³

MODERNISING EX ANTE REGULATION

Ex ante regulation in the digital ecosystem continues to focus on telecommunications networks and markets generally defined by specific technologies. While there have been some examples where regulators have recognised significant competition between technologies and have wound back regulation, in a

number of cases regulation has been put forward without clear evidence of market power. The problems that can arise from the blanket application of *ex ante* regulation can be seen by considering how it was applied in the form of Net Neutrality rules.

While there is not a single agreed definition of Net Neutrality, it generally refers to rules designed to ensure some form of non-discriminatory access to the internet. As such, Net Neutrality rules can potentially apply to a wide range of business models and practices, including pricing, quality of service and network management. The danger of imposing blanket *ex ante* Net Neutrality rules is twofold. First, the failure to take specific demands of different customers into account (e.g. different aspects of quality of service may be more or less important to particular customers). Second, the failure to account for the specific circumstances of operators (e.g. efficient network management is likely to vary between operators that use different technologies and have different available capacity).

One commentator has recently noted that a coherent policy to Net Neutrality:

“...requires the inherent flexibility of competition rules, especially in terms of their ability to balance welfare and efficiency benefits against losses to competition. Moreover, what needs to be better understood (and will be, over time) is that a competition-style approach to Net Neutrality is better able to address the range of potential anticompetitive effects that might flow from agreements or commercial relationships which involve market actors other than ISPs. By contrast, a narrowly constructed ex ante approach which purports to cover a multitude of commercial practices through blanket prohibitions of certain types of conduct (as opposed to a discrete and well understood forms of access or interconnection in the traditional world of telecommunications), only succeeds in skewing competitive dynamics in a classic multi-sided market such as the Internet. It does so by artificially constructing theories of market failure solely by reference to the responsibilities born by ISPs. However, given the interplay of many complex factors and many diverse market actors in the provision of Internet-based services, recourse to a traditional regulatory approach raises significant risk that a Type I error could occur.”¹³⁴

132. For example, Australia applies such a light-handed approach to airport services provided to airlines (see Productivity Commission, “Economic regulation of airport services”, 2011).

133. For example, Ofcom’s final statement regulating BT’s margin in relation to Virtual Unbundled Local Access was published in March 2015, whereas the remedies were first consulted on in July 2013. Ofcom’s decision was then appealed with the UK Competition Appeal Tribunal referring the pricing issues to the UK Competition and Markets Authority, which made its final decision in June 2016.

134. P. Alexiadis (2016), “EU Net Neutrality Policy and the Mobile Sector: the need for competition law standards”, p. 32.



In the remainder of this section, we discuss how the *ex ante* regulatory framework can be improved so that it remains fit for the digital age.

Reviewing the threshold for *ex ante* regulation

The European regulatory framework for electronic communications identifies three conditions that make markets susceptible to *ex ante* regulation:

- (i) the presence of high and non-transitory structural, legal or regulatory barriers to entry;
- (ii) a market structure that does not tend towards effective competition within the relevant time horizon; and
- (iii) where competition law alone is insufficient to adequately address the identified market failure(s). In practice, the European framework establishes a threshold for *ex ante* regulation based on a finding of significant market power.

A different and, in practice, higher threshold is applied under Australia's national third party access regime. This threshold provides regulated access subject to a set of conditions including that:

- (i) access would promote a material increase in competition;
- (ii) it would be uneconomic for anyone to develop another facility to provide the service;
- (iii) the facility is of national significance; and
- (iv) access to the service would not be contrary to public interest.

The Australian criteria are much closer to the essential facilities doctrine in competition law than the European criteria. They limit access regulation to circumstances where no other firm could duplicate the infrastructure. On the contrary, the European framework results in regulation applying to one operator even in areas where another well-established provider supplies competing services.¹³⁵ In these circumstances, *ex ante* regulation would not apply under Australia's national third party access regime.

Ultimately, the appropriate threshold for *ex ante* regulation should balance the benefits from promoting competition based on regulated access versus the risks to investment and innovation by infrastructure investors. Technological convergence within the digital ecosystem should allow for some *ex ante* regulation to be removed, with remaining regulation focused on enduring market power where rival infrastructure (of any technology) is unlikely. Regulating firms that

are competing with other firms that are not subject to regulation is not only unnecessary to safeguard consumers, but risks inefficient distortions. For example, some innovations may require investments by players in different parts of the value chain. To develop and deploy these innovations, it may be essential that players have the ability to reach customised deals with negotiated outcomes for the division of investment, risk and returns. If regulation prevents parties from receiving adequate compensation for their investment risks, these innovations may not take place.¹³⁶

In markets where there are material risks to investment and innovation by either incumbent firms or entrants, the costs of *ex ante* regulation may outweigh the benefit or call for less intrusive forms of regulation. The European Commission has recognised this to some extent by recommending that wholesale access to superfast broadband be governed by protections against margin squeeze, rather than cost-based price regulation.¹³⁷ Importantly, investment risks should be taken into account by ensuring a sufficiently long time horizon is used to assess the potential for competitive entry.

Where multiple infrastructures are present, access regulation is less likely to bring material benefits that would outweigh the risks to further investment. Where multiple infrastructures exist, or there is the real prospect of new entry, then the case for access regulation needs to be carefully assessed by judging the impact on competition and investment risks. Where access regulation is retained, less intrusive forms of regulation are likely to be more appropriate than, for example, capping wholesale prices at some measure of costs. Non-discriminatory access or seeking negotiated access arrangements may be more appropriate in cases where it would be difficult for a regulator to determine a return that adequately compensates for the significant investment risks.

Where *ex ante* cost-based access regulation is retained, then further regulation downstream may be unnecessary. For example, in the presence of cost-based wholesale access, there would be little benefit from also imposing an *ex ante* margin squeeze test. With cost-based wholesale access, a margin squeeze would require the firm to set retail prices below its retail cost (i.e. loss-making) but wholesale access would prevent the provider from being able to recover those losses in the future. Where *ex ante* regulation is removed, competition law enforcement would continue to protect the competitive process (including guarding against margin squeezes) at a lower risk of deterring

¹³⁵ In particular, where there is effective competition at the retail level, there would be no competitive advantage to an operator from withholding access to its network at the wholesale level since it would not be able to charge more at the retail level and it would lose the additional wholesale revenues.

¹³⁶ This risk is further discussed in M. Peitz and T. Valletti (2015), "Reassessing competition concerns in electronic communications markets", ZEW Discussion Paper No. 14-101.

¹³⁷ European Commission (2013), "Commission recommendation on consistent non-discrimination obligations and costing methodologies to remote competition and enhance the broadband investment environment", C(2013) 5761.

investment than *ex ante* regulation, since it does not mandate specific terms and conditions.

While many aspects of the digital ecosystem suggest that enduring market power will be relatively rare, a robust regulatory framework should enable regulation to be applied where new bottlenecks emerge, and where the expected benefits of regulation are greater than the costs. In markets with high levels of innovation, authorities should focus on firm conduct to ensure that new bottlenecks do not reduce competition, rather than through price controls that might harm investment incentives. For example, the collective selling of sports rights may need to be controlled, whether by a sector regulator or by commitments to a competition authority, to protect competition in markets for broadcast and pay TV. The European Commission has also been active in investigating potential abuses of a dominant position by Google, including concerns that internet search results may have been distorted to favour Google's own shopping service and that incentives were offered to smartphone manufacturers to pre-install and bundle its apps and services on its Android operating system.

The relative merits of *ex ante* regulation and *ex post* competition law enforcement should be considered to determine the approach that is likely to bring the greatest net benefits. Where *ex ante* regulation is better suited to deal with a particular competition problem, regulatory impact assessments should be undertaken. These assessments are important to ensure that the *ex ante* regulation is proportionate, key effects are identified and that the regulation will not only bring greater benefits than costs, but greater net benefits than alternatives. In dynamic markets, highly innovative and multi-sided markets, regulators should be cautious about intervening to change terms and conditions unless they can be confident that their intervention will bring net benefits.

Avoiding conflicting regulatory and competition law obligations

In many countries, sector-specific regulation is applied without prejudice to competition law. As such, firms that are subject to *ex ante* regulatory obligations risk of being found in breach of competition law if those obligations are inconsistent with competition law. Where *ex ante* regulation imposes terms and conditions, compliance with those terms and conditions should be immune from challenge under competition law so that firms have greater certainty and avoid the risk of becoming subject to conflicting obligations. As noted by Justice Scalia in the US *Trinko* case: “One

*factor of particular importance is the existence of a regulatory structure designed to deter and remedy anticompetitive harm. Where such a structure exists, the additional benefit to competition provided by antitrust enforcement will tend to be small, and it will be less plausible that the antitrust laws contemplate such additional scrutiny.”*¹³⁸ Multiple obligations may also delay customers from receiving the benefits of new offers. For example, new mobile tariffs in Italy require approval by both the sector regulator as well as the national competition authority.

One solution to avoid inconsistency and unnecessary multiple obligations relating to the same terms and conditions for the same products would be to empower the sector regulator to grant competition law immunity for the particular conduct that it has reviewed. There are, however, risks of regulatory failure, and competition law enforcement can mitigate (or correct) those failures when they arise. In line with the recommendations of the US Antitrust Modernization Commission, the aim should be to rely on competition and competition law to the greatest extent possible. Hence, regulation should only displace competition enforcement where regulation is likely to be better at addressing the matter.¹³⁹ While there is a strong case for legislation and/or the authorities themselves to ensure that regulation and competition law are applied consistently and in a streamlined manner, there is also the need for some caution. It is important to ensure that there are not gaps in enforcement and that the competition authority could still act on matters that the regulator has failed to properly consider.

Competitive neutrality between traditional and new players

Customers frequently choose between players that they regard as substitutes, even though they are subject to different regulations and different levels of customer protection. As noted, where new players such as OTT service providers contribute to the achievement of effective competition, then sector-specific regulations based on the lack of competition should be removed.

Where regulations are retained for reasons that do not rely on the presence of market power, such as consumer protection, these should be applied in a neutral way across competing providers. New players without established processes or established brands to protect can be the cause of significant complaints of mis-selling. In the case of consumer protection, national competition authorities are likely to be better placed than sector regulators to ensure that rules to protect consumers are applied across all relevant

138. Verizon Communications Inc. (2004), Petitioner v. Law Offices of Curtis v. Trinko, LLP, LLP (02-682) 540 U.S.: 398.
139. Antitrust Modernization Commission Report, 2007.



firms. As we discuss in the section on Institutional Arrangements, centralising consumer protection rules with the national competition authority can avoid firms having to ensure compliance with multiple sets of potentially inconsistent consumer protection rules. National competition authorities are better placed to balance conflicts between competition and consumer protection rules: for instance, those that may arise where mandatory product standards would prevent some players from entering markets.

Recognising quality appropriately

In other sectors, it is recognised that the focus of regulators on price is creating adverse effects on investment and quality.¹⁴⁰ In the US and a number of European countries, incentive regulations have been adapted to provide regulated businesses with appropriate incentives to improve service quality. For example, a service quality metric was established in Massachusetts for electricity based on eight factors (i.e. frequency and duration of outages, five aspects of customer service, and one measure of workplace safety) with utilities' regulated revenues adjusted upwards or downwards by 2%, based on performance relative to the composite index.

For remaining positions of enduring market power in the communications market, varying the level of charge controls based on performance against general quality parameters may help address quality of service issues more efficiently than current approaches that focus on price caps and attempts to mandate a single specified service quality level. For example, regulated prices for wholesale broadband access could be varied depending on how well the provider performs with criteria such as repair and installation times. To appropriately balance price and quality of service, customers' own valuations need to be taken into account.

Clear and credible rules of the game

To ensure that businesses have the right incentives and enough certainty to undertake investments and innovations, regulators need to establish and adhere to a clear long-term regulatory framework. Firms that are regulated, as well as their customers, need to understand their obligations and the penalties that will be imposed if they fail to meet those obligations. These penalties need to be proportionate with the breach of obligation so that firms have the incentive to comply, but must not be set so high that it threatens the viability of the business or forces inefficient

conduct to achieve compliance (where such conduct carries greater costs than the targeted benefit of the regulation). Regulators need to commit to adding, modifying or removing regulation to ensure a 'fit-for-purpose' regulatory framework.

SUMMARY OF POLICY RECOMMENDATIONS

Technological advances and convergence within the digital ecosystem have increased the interactions between firms using different technologies, services and applications. This has reduced enduring market power. In this context, there is both less need for *ex ante* regulation and also a greater risk that where regulation is retained, it will distort competition and deter innovation.

Governments should review the threshold established for *ex ante* regulation to ensure that it balances any expected gains against the risks to competition and investment. In particular, a threshold for *ex ante* regulation must be established to limit it to infrastructure that is significant for competition. Where the infrastructure (of any technology) cannot be duplicated, remaining regulation would focus on enduring market power.

Regulatory impact assessments should be carried out with respect to all significant regulatory proposals and these should take into account effects on each side of a multi-sided market.

Regulation should be streamlined so that it is competitively neutral. Where regulation requires specific terms and conditions, these should not breach competition law. Last, but not least, regulators should consider mechanisms to give regulated firms incentives to provide efficient levels of quality. Adherence to a clear, long-term regulatory framework can provide the certainty that is needed to support investment and innovation, whilst protecting the competitive process.

140. For example, the US National Association of Regulatory Utility Commissioners noted that "...by placing pressure on utilities to reduce costs, PBR [performance based regulation] can result in unacceptable declines in service quality. When designing a PBR mechanism, it is necessary to compensate for this effect by establishing targeted incentives to maintain or improve quality of service" (NARUC, 1997, "Performance-Based Regulation in a Restructured Electric Industry", p. 4).

Institutional arrangements

While a shift towards *ex post* enforcement in the digital ecosystem is desirable, leaving *ex ante* regulation to focus on enduring market power, the question is how to achieve this. In recent years, different jurisdictions have adopted different institutional arrangements. These include:

- The integration of sector regulation and/or consumer protection within the competition authority;¹⁴¹
- Independent sector regulators with concurrent competition powers; and
- An all-purpose regulator that cuts across all regulated industries, e.g. placing infrastructure bottlenecks across sectors within one authority.

In this section, we consider the ways in which institutional design can help institutions move toward *ex post* enforcement. Institutional design varies amongst countries and there is no one ‘best’ institutional arrangement—what works in one country may not necessarily work in another.

Still, we can draw some general conclusions from a review of different institutional arrangements:

- Regardless of the institutional arrangement, regulators and competition authorities must be independent to ensure a fair and transparent system that supports the competitive process.¹⁴² Countries that have weak institutional arrangements need to establish independent competition and/or regulatory authorities with appropriate funding, and clear and credible rules that support investment and innovation;

- While most EU countries have established independent competition authorities and regulators, the European Commission found that there is further room for improvement;¹⁴³ and
- Competition authorities and sector regulators must closely cooperate to ensure that competition policy principles are applied consistently across sectors and support a move towards *ex post* enforcement.

Table 1 summarises the various institutional arrangements that have been adopted by a number of countries we reviewed.

141. In this section, we do not discuss the issues surrounding the integration of consumer protection and competition agencies, and focus on the institutional arrangements concerning sectoral regulators and competition authorities. 142. We do not discuss independence in any detail in this report as it is now widely recognised that establishing independent authorities is vital to the overall institutional arrangement. See OECD (2014), “Competition Policy Roundtable on Changes in Institutional Design”.

143. The Commission recommended that all authorities have minimum guarantees of independence and sufficient resources. In practice, this means that authorities should have separate budget and budgetary autonomy, clear appointment and dismissal procedures for senior management, and rules for dealing with conflicts of interest. See European Commission (2014), “Enhancing competition enforcement by the Member States’ competition authorities: institutional and procedural issues”, SWD (2014) 231/2.

Table 1 Overview of International Institutional Designs of Competition and Regulation Authorities

INTEGRATION OF RA AND CA	SECTOR REGULATORS WITH FORMAL CONCURRENT POWER	SECTOR REGULATORS WITHOUT FORMAL CONCURRENT POWER	INFRASTRUCTURE REGULATOR
New Zealand	UK	Italy	Germany
The Netherlands	Mexico	Portugal	Australia
Spain	Republic of Ireland (Telecommunications)	Japan	
Estonia	Greece (Telecommunications)	Sweden	
	Cyprus (Energy)	Slovenia	
	Iceland	Slovak Republic	
		Poland	
		Lithuania	
		Republic of Ireland (Electricity)	
		Hungary	
		Greece	
		Finland	
		France	
		Denmark (Water within CA)	
		Czech Republic	
		Croatia	
		Belgium	
		USA	

After reviewing the different institutional arrangements, we then discuss other arrangements/tools, such as interim measures and time limits that can be used to address some of the concerns about relying more on *ex post* enforcement and also expedite the *ex post* process.

INTEGRATION OF SECTOR REGULATORS WITHIN THE COMPETITION AUTHORITY

Unlike sector regulation, competition policy applies across the economy and uses tools that are not specific to one industry. While competition policy and economic regulation both aim to enhance market efficiency, they use different instruments to achieve that goal and there can be tensions between these two policies.

There are differences between how regulatory policy and competition policy work and in the nature of the process by which decisions are taken and implemented.¹⁴⁴ National regulatory agencies and national competition authorities have different approaches to ‘enhancing’ competition, and economic regulation can be used in ways that may unnecessarily restrict competition and innovation. For example, NRAs may promote policies to ‘level the playing field’ in the belief that protecting smaller rivals will promote

competition in the long run. The principal objective of competition policy, however, is to protect the competitive process, rather than competitors.

To move towards a regime that relies more on *ex post* enforcement, there are several advantages to placing regulatory agencies within the competition authority. In particular, integrating sector regulation within the competition authority:

- Helps mitigate ‘regulatory creep’;
- Reduces the risk of regulatory capture of sector-specific regulators;
- Improves coordination, reducing the risk of inconsistent obligations, allowing reduced demands on businesses (such as in terms of information collection) and better supporting the choice between *ex ante*, consumer protection and *ex post* remedies; and
- Can increase the efficiency of and effectiveness of competition oversights and market regulation through cross-fertilisation across sectors and between competition law and regulatory perspectives. The result being a more coherent evaluation of competition in digital markets.

144. A. Fels and H. Ergas (2014), “Institutional Design of Competition Authorities”, paper drafted as a Background Note for the OECD’s Competition Committee roundtable on Changes in Institutional Design.

It may be difficult to roll back regulation when the institution exists as a separate entity. This can lead to regulatory creep. According to this view, regulators exist to regulate. Therefore rather than scaling back regulatory interventions and relying more on *ex post* competition policy, there is a risk that regulators expand their powers and the areas over which they control. A recent example of regulatory creep is BEREC's report on oligopoly analysis and regulation.¹⁴⁵ Rather than roll back regulation, BEREC's report suggests that the regulatory framework needs to change to allow for *ex ante* regulatory treatment of oligopolies:

"The document can be considered as a starting point to structure BEREC discussion on the future regulatory treatment of oligopolies in the context of ex ante regulation."

The dangers associated with expanding *ex ante* regulation to oligopolies (e.g. chilling innovation and decreasing incentives to invest) are high. As we discussed previously, the risk of getting things wrong by intervening in highly dynamic and innovative markets is also high. Expanding *ex ante* regulation to oligopolies will multiply these risks.

Since competition policy is cross-sectoral, competition concepts need to be applied consistently across sectors.

Apart from the problem of regulatory creep, there is well-established economic literature¹⁴⁶ on regulatory capture or interest group theory of regulation. This literature emphasises the objectives of regulators as rent-seeking, analyses the behaviour of the regulators in terms of maximising political support, and emphasises the role of interest groups (including regulated firms¹⁴⁷) in forming regulatory policy. Ofcom's decision to impose a wholesale-must-offer (WMO) condition on Sky for its premium sports channels is a case in point. Fundamental to Ofcom's decision to introduce the WMO condition was its finding that Sky had exploited its market power by restricting wholesale distribution of its premium channels to potential new retailers in a way that was prejudicial to fair and effective competition. On appeal, the Competition Appeal Tribunal (CAT) found that Ofcom had been subject to 'regulatory gaming' and that the evidence did not support Ofcom's decision to impose a WMO on Sky. In particular, the CAT found:¹⁴⁸

"[The CAT] have also formed the clear view, contrary to...Ofcom's findings in the Statement, that BT's thinking and conduct in the 2009/10 negotiations continued to be conditioned to a significant extent by the ongoing regulatory process."

"Ofcom has attributed responsibility for the failure to reach agreement largely to Sky's failure to engage constructively with its counterparties. However the evidence shows that Sky did on the whole engage constructively. On the other hand its counterparties by no means always did so: in our view regulatory gaming on the part of some of Sky's counterparties played a much more important role in the negotiations and their progress (or lack of it) than Ofcom has recognised."

Another advantage of integrating regulatory authorities within the competition authority is to mitigate the potentially higher regulatory risk faced by regulated firms with sectoral regulators, with potentially adverse effects on regulatory outcomes (e.g. reducing incentives to invest). Regulatory mechanisms should, therefore, be designed to limit regulatory risk and placing regulatory authorities within the competition authority can help mitigate these risks.

A number of countries, such as the Netherlands, New Zealand, and Spain, have merged their sectoral regulators and competition authorities with the goal of coordinating general competition principles and sector regulation. The arguments put forward in support for the institutional change include:¹⁴⁹

- Increased efficiency and effectiveness of competition oversight and market regulation;
- Market developments can be anticipated in a flexible and integrated way;
- Better use of consolidated knowledge and expertise;
- Enhanced legal certainty; and
- Reduced costs due to economies of scale and scope.¹⁵⁰

145. Body of European Regulators (2015), "Berec Report on Oligopoly analysis and regulation", BoR (15)195.

146. Standard models of regulation often assume that regulators pursue a set of social objectives. In these models there is no difference between what regulators ought to do and how they actually behave. Early on, however, this view of the regulator as a 'benevolent maximiser' of social welfare was viewed as flawed. See G. Stigler (1971), "The theory of economic regulation", *Bell Journal of Economics and Management Science*, 2; R. Posner (1971), "Taxation by Regulation", *Bell Journal of Economics and Management Science* and "Theories of Economic Regulation", *ibid.* (1974), 5; and S. Peltzman (1976), "Toward a More General Theory of Regulation", *Journal of Law and Economics*, 19, and later J.J. Laffont and J. Tirole (1993), "A Theory of Incentives in Procurement and Regulation", MIT Press.

147. Whereby the regulator is 'captured' and regulates in the interest of the regulated firm.

148. Competition Appeal Tribunal (2012), Cases No: 1156-1159/8/3/10, paragraph 389 and 826.

149. See individual country submissions to OECD (2014), *supra* note 144.

150. This last point may be particularly important in developing countries where resources are often limited. Integrating regulatory and competition authorities would bring about economies of scale and scope through knowledge sharing.



Case study **The Netherlands**

In 2011, the Netherlands Competition Authority (NMa) merged with the Dutch Consumer Authority (CA) and the independent Post and Telecommunications Authority (OPTA) into a new Authority for Consumers and Markets (ACM).¹⁵¹ The merged entity is in charge of almost all markets dealing with competition, consumer policy and regulatory issues. The ACM has tried to strike a balance between function-focus and cross-functional synergies by structuring the authority on a functional basis. There are six departments: Competition Department; Consumers Department; Department for Energy Regulation; Department for Telecom, Post and Transport Regulation; the Legal Department and a Corporate Services Department.

One of the proclaimed advantages is that potential conflicts—between regulation or consumer protection on the one hand and competition on the other—are fully taken into account when making an overall decision. Multi-functionality also allows the authority to intervene in specific problems in a customised way, with technical backup/sector expertise from the regulator. While regulatory departments are in charge of dominance cases in the regulated sectors, all mergers (also in regulated sectors) are taken care of by the competition department. The ACM has cross-agency teams working together and there are regular meetings between the boards of all the departments to discuss strategic issues across all functions. Co-ordinated cases and aligned principles are important benefits that come from integrating the competition authority and sector regulation.

- The ACM’s investigation into KPN’s acquisition of Reggefiber offers an example of the synergies gained from this kind of integration. While co-operation was possible between ACM

and OPTA when the two separate authorities were considering KPN’s acquisition of an initial equity stake in Reggefiber, significantly more effort and negotiation was needed than when the integrated ACM later considered KPN’s complete acquisition of Reggefiber. In particular, once ACM had taken over sector regulation, the complete acquisition was able to be dealt with by a single set of decision-makers with the support of telecoms and competition experts. As a result, decisions were reached more swiftly, with issues jointly decided at management level, and legal certainty increased.¹⁵²

- Another example relates to the alignment of the application of general principles, such as the weighted average cost of capital (WACC), which is an essential element of regulation. When it was established, the ACM set up an internal working group to evaluate the WACC calculation methods of the formerly separate agencies. While certain parameters remain sector-specific, the ACM has been able to align general parameters, such as the risk-free rate and the market risk premium, resulting in more robust calculations that are less open to challenge before the Courts.

The ACM also has transferred staff from a regulatory department to the competition department, and vice versa. Not only does this provide a valuable transfer of knowledge, but the risk of regulatory capture, which can typically occur after spending a long time in a regulatory department, is minimised.

151. Sectoral regulators for energy and transport had already previously been merged the NMa. One exception is the water sector, where the ACM is only giving advice (see ACM (2014), “Strategy Document”).

152. The rationale for this decision was that merger review requires a certain standard and experience, in terms of proceedings and handling of cases and data, which could better be met by the competition department (see The Netherlands submission to OECD (2014), *supra* note 144).

Case study **New Zealand**

New Zealand has a multi-function competition authority, with the New Zealand Commerce Commission (NZCC) being responsible for generic competition law enforcement, economic regulation, and consumer law enforcement.¹⁵³ It is responsible for enforcing laws relating to competition, fair trading, and consumer credit contracts, and has regulatory responsibilities in the electricity lines, gas pipelines, telecommunications, dairy, and airport sectors.¹⁵⁴

The NZCC is an independent authority. In competition and consumer law, the NZCC independently enforces a set of prohibitions and administrative procedures that ultimately aim to enhance long-term consumer welfare. It is free to determine its own enforcement and advocacy priorities, and freely chooses the cases it investigates and prosecutes. While the NZCC has the power to issue infringement fees in some areas of consumer law, more serious breaches of competition and consumer law are adjudicated by the court system, i.e. the NZCC is the plaintiff in the generic court process, rather than the final decision maker/adjudicator.

The NZCC has both an advisory and an implementation role for economic regulation. Decisions on whether economic regulation should be extended to goods or services where it has not previously applied, or where a different type of regulation is proposed, can only be made following investigation and analysis by the NZCC. Recognising that these decisions usually involve complex judgements about how producer and consumer welfare should be weighted, the final decision on whether to regulate or change the form of regulation rests with the relevant Minister. Once a decision by the relevant Minister has been made to regulate or change the form of regulation, the NZCC has full independence to implement regulation within the framework set out in the empowering legislation.

In a country such as New Zealand, where they may be limited fiscal and human resources, integration has the added benefit of reduced costs arising from economies of scale and scope.

Case study **Spain**

In 2013, Spain integrated six different sector regulators with its competition authority as a response to emerging competition in regulated sectors. In particular, the National Authority for Markets and Competition (Comisión Nacional de los Mercados y la Competencia, CNMC) merged the former competition authority with sectoral regulators responsible for telecommunications, energy, railways, postal services, audio-visual products, and airports. The CNMC's hybrid mandate is to promote and enforce competition and regulate a wide array of economic sectors.¹⁵⁵

The main objective in creating a multifunctional authority was to achieve much-needed synergies and guarantee coherence between competition rulings and sectoral regulation. This was particularly required in the telecommunications and energy sectors, given the increased level of competition in those sectors. A combined authority allows more coordination between sectoral regulations, as well as between sectoral regulations and the application of competition policy. It also provides a predictable business environment and legal certainty for firms.¹⁵⁶

“These two conditions are indispensable for network industries—where huge investments are required—but also... if investment and innovation are to be promoted...the integration of a sectoral approach with the defence of competition endows the CNMC with a global perspective of the economy that allows the consideration of the external effects of strategic sectors like energy or telecommunications. When this approach is combined with the required independence, regulatory capture is a lot more difficult.”

153. <http://www.comcom.govt.nz/>.

154. However, there are still separate regulatory agencies in the electricity, gas, and finance sectors. This creates a certain overlap of interests and competencies with the Commerce Commission, and can create inefficiencies due to duplication of work or conflicts arising from overlap in competencies.

155. The CNMC is an integrated authority in two ways: it is a multi-sectoral regulatory authority in charge of regulatory oversight for all regulated network industries, and it is a convergent authority that receives a clear mandate for both regulatory supervision and enforcement of competition policy.

156. See Spain's submission to OECD (2014), *supra* note 144.



SECTOR REGULATORS WITH CONCURRENT POWERS

An argument in favour of separate industry-specific regulators is that different regulatory culture and approaches are required when assessing competition policy and economic regulation. In particular, implementing *ex ante* economic regulation requires a forward-looking focus on positive behavioural obligations consistent with a long-term regulatory partnership/contract. Enforcing competition policy, however, involves enforcing *ex post* or backward-looking duties. Combining these functions may result in the regulatory authority putting too much emphasis on short-term wealth transfers to consumers that can undermine the incentives for investment that would promote consumers' longer-term interests.

The case for multiple industry-specific regulators also depends on reducing information asymmetries. Separating regulators can increase the total amount of available information, and achieve that.¹⁵⁷ Separate agencies also allow the use of yardstick competition to benchmark the behaviour and performance of different regulators.

However, sector-specific regulators may be more easily captured or engage in regulatory creep. Other downsides of sector-specific regulators are the lack of economies of scope and potential inconsistencies in how competition policy and regulatory policy are applied across different regulated sectors.

Case study United Kingdom

An alternative to merging sector regulators with the competition authority is the approach adopted by the United Kingdom, whereby regulatory authorities are granted concurrent powers to enforce competition policy in their sector.¹⁵⁸ In the UK, regulation of transportation (ORR), energy (Ofgem), water (Ofwat), telecommunications (Ofcom), and financial markets (FCA) are separate from one another.

In theory, concurrency should have promoted using competition power. In practice, however, regulatory authorities seem to have an institutional bias towards using regulatory powers. The past record shows that the OFT had not intervened very often in the regulated sectors and that the sector regulators did not apply competition law on a frequent basis. Ofcom in particular has had to deal with more complaints under competition law than all the other regulators and has also opened more investigations. However, the success rate has been quite low and the impact of measures applied have not been very large.¹⁵⁹ Across the sectoral regulators, there have been only two infringement decisions and behavioural commitments on record.

In 2014, the UK merged the OFT and the Competition Commission into the new Competition and Markets Authority (CMA). To emphasise a greater reliance on *ex post* enforcement in regulated sectors under the new regime, the CMA has to produce an annual report on how competition law applies in the regulated sectors. There is also enhanced co-operation and information sharing on cases between the CMA and the sector regulators. The UK has created the UK Competition Network (UKCN), which brings the CMA together with the sectoral regulators on a regular basis with the goal of ensuring that competition law principles are applied consistently in regulated sectors.

157. See J.J. Laffont and D. Martimort (1999), "Separation of Regulators Against Collusive Behavior", *Rand Journal of Economics*, 30, pp 232–262.

158. The concurrency approach may have been favoured over other solutions due to the relative strength/reputation of the existing regulatory authorities in the UK.

159. See J. Stern (2014), "Sectoral Regulation and Competition Policy: The UK's Concurrency Arrangements – An Economic Perspective"

Case study **Mexico**

In 2014, Mexico passed legislation to implement changes to the telecommunications sector. While Cofetel operated within the Communications and Transportation Ministry, the new telecoms regulator, IFT, is a fully independent agency, both legally and financially.

The IFT is now the sole regulator for the entire telecoms sector (fixed, mobile and internet), pay and open TV, and radio. It does not regulate TV and radio content, however, which remains the government's responsibility. It has concurrent powers to enforce competition law in the sector and has a variety of tools at its disposal. For example, the IFT has the power to carry out market reviews, determine SMP and impose appropriate *ex ante* remedies. IFT is also responsible for merger reviews and for investigating and sanctioning anticompetitive practices.

Another important and significant change is that under the previous regime, firms could suspend Cofetel's rulings while they were being appealed. Under the new regime, suspension during the appeals process is not allowed. The new reform also created a telecoms court dedicated to hearing appeals for the sector. In general, this approach has certain drawbacks. For example, competition oversight functions are likely to be stronger when these functions remain with the competition authority.

REGULATING INFRASTRUCTURE BOTTLENECKS

Yet another approach adopted by some countries places all infrastructure bottlenecks under one regulator. A strong argument in favour of an all-purpose infrastructure regulator is that regulation focuses on the true enduring bottlenecks. This mitigates the problems of regulatory capture and expansion of regulatory powers that can occur under sector-specific regulation. Furthermore, the model of placing infrastructure regulation under one authority helps countries move to a system whereby there is a greater reliance on *ex post* enforcement of competition law in the competitive segments of the sector.

Another advantage of placing enduring monopoly bottlenecks under one authority is that this may promote incentives to invest in infrastructure. The risk of regulating all infrastructure bottlenecks under one authority, particularly in digital system, is that what may be an enduring bottleneck today may not be an enduring bottleneck in the future. It is not clear that this type of institutional arrangement would result in regulation being removed when and where it is no longer required.

Case study **Australia**

The Competition and Consumer Act 2010 (CCA) seeks to promote the efficient operation of, use of and investment in monopoly infrastructure; and provides for access to the services of infrastructure facilities on appropriate terms. The Australian Competition and Consumer Commission (ACCC) is an independent authority. In addition to enforcing competition law, the ACCC has a range of regulatory functions related to national infrastructure industries as well as oversight of prices in some markets where competition is limited.¹⁶⁰

According to the ACCC, having one single objective and competition culture actually makes regulation better, including deregulation in sectors where competition has already emerged.¹⁶¹ In particular, the view is that access regulation is not just about price regulation, but is also about promoting competition in vertically-related markets. In addition to regulating access to the national fibre network, the ACCC is also responsible for regulating airport, energy, fuel, post, rail, and water infrastructure.¹⁶²

While infrastructure regulation is integrated into the competition authority, there is still some overlap between different authorities, which can

create conflicts and inconsistency in how policy is applied. For example:

- The energy sector is regulated by a different independent body, the Australian Energy Regulator (AER), although it shares staff, resources, and facilities with the ACCC.¹⁶³ The ACCC and AER both have roles in regulating energy market infrastructure under their respective legislative frameworks. The AER's role is confined to energy and includes enforcing compliance with specific energy markets legislation and rules, while the ACCC enforces compliance with the general competition and consumer provisions of the CCA.
- Australia also has a National Competition Council (NCC) that is a research and advisory body. Its main function is to make recommendations about regulation of third party access to monopoly infrastructure, to promote investment in monopoly infrastructure and support its efficient operation and use.¹⁶⁴ While there is a memorandum of understanding between the NCC and the ACCC, there is clearly some overlap in the function and responsibilities of the two authorities.

160. <https://www.accc.gov.au>

161. Australian contribution to OECD (2014), *supra* note 144.

162. We note that there may be a need to introduce legislation for such institutional arrangements. For example, in 2010, the Australian government introduced legislation affecting the structural separation and migration of Telstra's fixed line access services to the wholesale-only National Broadband Network (NBN).

163. See ACCC (2016), "Energy", <https://www.accc.gov.au/regulated-infrastructure/energy>.

164. <http://ncc.gov.au>

Case study **Germany**

Germany has adopted a different approach to that of Australia. Rather than integrate the regulation of infrastructure with the competition authority, the Federal Network Agency (Bundesnetzagentur) has developed as an independent multi-sector network/infrastructure regulator. Initially set up as regulator to guide the restructuring and migration of the formerly monopolised postal and telecommunication market towards a competitive market, it subsequently evolved to cover all major infrastructure bottlenecks. Its current responsibilities include telecoms (including spectrum, but not content), postal services, electricity and gas (since 2005), railways (since 2006), and electricity and gas grid development (since 2011).

Arguments for the general advantages of the multi-sector regulator approach include:¹⁶⁵

- A multi-sector regulator can create synergies and save administrative costs (e.g. one single HR department). The Federal Network Agency argues that its multi-sectoral approach can trigger broader discussion of regulatory issues, as problems and tools to solve them are often the same. As an example, telecoms and energy experts advised on the cost of capital calculations in the railway sector in the past, transferring their knowledge and expertise. It is important to note that key challenges may still differ substantially between sectors, e.g. natural monopolies may be the key concern in energy and rail, whereas dominance might be more of

a concern in telecoms and postal services. This risks generating “sub-regulators” within the main body who may have little to do with each other in practice.

- A multi-sector regulator will reduce the struggle for competences that often occur between different authorities. However, those struggles may simply become internalised between different policy departments.
- Co-operation across sectors ensures that similar challenges can be dealt with consistently. Best practices in implementing regulation can be discussed within one regulatory body. Staff can share experience and transfer technical knowledge to widen their perspective. Experience and expertise from other sectors can help sharpening regulatory decisions and minimise errors.
- Infrastructure investments, like grid expansions of network upgrades, can be coordinated and infrastructure can be shared.

Whilst there is a clear line between the regulator and the cartel office (the Federal Network Agency has no concurrent powers), there are provisions for information exchanges and cooperation, e.g. on the definition of relevant markets and SMP or for planned remedies.

¹⁶⁵. See [http://www.ceer.eu/portal/page/portal/EER_HOME/EER_INTERNATIONAL/CEER-ARIAEI/5th ARIAEI-CEER Roundtable/5th ARIAEI-CEER_Session V_Groebel.pdf](http://www.ceer.eu/portal/page/portal/EER_HOME/EER_INTERNATIONAL/CEER-ARIAEI/5th%20ARIAEI-CEER%20Roundtable/5th%20ARIAEI-CEER_Session_V_Groebel.pdf).



USING INTERIM MEASURES

One concern about shifting towards greater reliance on *ex post* enforcement is that competition cases take too long. In many competition cases, the time between the first complaint and the final decision can be years. If competitive infringement is continuous during the investigation, this can cause severe and irreparable damage to competition. For instance, despite any remedies that result from the investigation, the infringement may lead to the infringing firm rising to a permanent dominant position.

Imposing interim measures can be an important tool for competition authorities to prevent further and more permanent harm. However, it may be difficult to assess potential harm in digital markets, and implementing an interim measure may be over-protective and can harm a firm that could later be found to not to have infringed competition law. Therefore, interim measures must be carefully composed. For example, a divestiture cannot be considered a sensible interim measure, as it has a drastic and permanent effect.

Often these measures are used in cases of abuse of dominance or where vertical restraints play an important role. Such actions may, for example, address third-party access to networks where access was denied or provided on a discriminatory basis or where the parties are unable to come to an agreement about the commercial terms for access. If a producer or intermediary refuses to supply, this may lead to foreclosure for a firm active on a downstream market. In this case an interim measure can mitigate the problem.

Since 1998, the United Kingdom's Competition Act 1998 (Section 35) explicitly allows the competition authority to impose interim measures if the potential infringement fulfils certain conditions.¹⁶⁶ Since Article 5 of Council Regulation (EC) No 1/2003 took effect, European competition authorities may explicitly use interim actions when investigating competition infringements. There are two standard primary conditions that must be fulfilled by a competition authority before the competition authority can legitimately impose interim measures:

- Urgency due to the risk of serious and irreparable harm to competition; and
- The likelihood of an infringement being found.

The first condition—the assessment of harm—requires a case-by-case analysis, as there are no general economic rules to apply. It also means that the immediate necessity to act stems from the assumption that remedies resulting from the concluded proceedings cannot mend the damage inflicted on competition from continued infringement. Some aspects of the harm may also address public concern, and not be exclusively connected to the individual claimant.¹⁶⁷

The second condition refers to the likelihood of the infringement. The substantive standard varies across jurisdictions. Some may accept the mere possibility of the infringement while others define a certain probability threshold. Others presume a reasonably strong presumption of infringement.¹⁶⁸

The use of interim measures has become particularly important in the digital ecosystem, due to the impact of digitisation on many markets and the emergence of services offered purely over digital markets.¹⁶⁹ In its recent report on online platforms and the digital single market, the United Kingdom's House of Lords advised against additional platform-specific regulations. Instead, it recommends that “*existing regulators should be vigilant in these markets*” and that the Commission should make greater use of interim measures and time limits.¹⁷⁰

With regard to dynamic markets and the use of interim measures, the German Monopolies Commission stated:¹⁷¹

“Instead of directly initiating proceedings on the merits of the case, it makes more sense to first of all order interim measures where there are rapid changes on dynamic markets (Art. 8 of Regulation 1/2003) since as a rule expedited measures are necessary (urgency as reason for the order), and material justification arises from the fact that the measures against a specific market party (regardless of developments which might take place later) are presently preferable in comparison to failure to carry out such measures (justifying an entitlement to the order). The decision on the order could potentially also be used within the current law to test remedies in practice before they are permanently declared binding in a later ruling on the merits of the case.”

166. See UK Competition Act 1998, Section 35; Competition and Market Authority (2014), “Competition Act 1998: Guidance on the CMA’s investigation procedures in Competition Act 1998 cases”, p. 42.

167. See, for example, Edurne Varona (2002), “Interim Measures in Competition Cases Before the European Commission and Courts”; European Competition Network.

168. See European Competition Network (2013), “ECN Recommendation on the power to adopt interim measures”.

169. German Monopolies Commission (2015), “Competition policy: The challenge of digital markets”, Special Report No 68, paragraph 509.

170. House of Lords (2016), “Online Platforms and the Digital Single Market”, Select Committee on European Union, 10th Report of Session 2015-16, p. 4.

171. German Monopolies Commission (2015), *supra* note 171.

Examples of interim measures

Interim measures are not new. They are often used in competition cases and across a variety of sectors. Below are some examples of both adopted and rejected interim measures.

Belgium Competition Authority

In November 2015, the Belgium Competition Authority imposed interim measures on VZW Verenigde Veldritorganisatoren (VV) in relation to its broadcasting rights to a specific sporting event (Superprestige cyclocross competition). VV had granted Telenet NV (a provider of retail television services) an exclusive licensing right to the sporting event. Following a complaint by a rival to Telenet, the competition authority found that an abuse of dominant position could be an unreasonable outcome resulting from the exclusivity. The competition authority imposed interim measures, allowing VV to choose between two options: (a) either suspend the exclusivity and grant other competitors of Telenet access on fair, reasonable and non-discriminatory (FRAND) terms or (b) completely suspend the contract and organise a competitive tender procedure.¹⁷²

Ofcom wholesale must offer for Sky Sports

In 2010, Ofcom imposed a regulatory obligation on Sky (which offers pay TV and is a licensee of broadcasting rights for sports), whereby Sky was obligated to make a wholesale-must-offer (WMO) in relation to Sky Sports 1 and 2 channels to other pay TV retailers. Sky appealed Ofcom's decision and in 2010 the UK Competition Appeal Tribunal (CAT) put interim measures in place to maintain the WMO regulation. On appeal, the CAT ruled in favour of Sky and determined that Ofcom's concerns were unfounded. The CAT's decision was further appealed to the Court of Appeal, which found that the CAT had failed to deal with Ofcom's competition concerns and remitted the case back to the CAT. In November 2015, Ofcom removed the WMO obligation, as Sky is now widely supplying these channels to other pay TV providers on commercial terms.

Worldpay

Competition authorities do not always agree to interim measures. An example is the 2014 request by Worldpay UK Ltd to the UK competition authority to impose interim measures on Visa and Mastercard in relation to the European Commission's cases against Mastercard (CE/5345/05) and Visa (CE/4500/04).

However, following the review of the two necessary conditions for the imposition of interim measures, the CMA found that Worldpay would suffer no significant damage in relation to the claim of abuse of dominance by Mastercard and Visa. The CMA therefore concluded that there was no urgency to prevent significant damage to merchants in the case and did not impose interim measures.

Swatch

In 2011, the Swiss Competition Commission (WEKO), ordered the Swatch Group, a large supplier of watch components, as well as a designer, manufacturer and distributor of watches, to continue its supply of watch components to other competitors. This followed an official complaint by other manufacturers that Swatch had restricted supply in such a way that was effectively harming competition to a significant extent. Swatch argued that its supply capacities were constrained and that the company wanted to fight product counterfeiting by cutting back the supply to third parties. However, WEKO found that a large number of watch manufacturers were dependent on supply by one of the Swatch subsidiaries and that the reduction of supplies could result in market foreclosure. WEKO and the Swatch Group mutually agreed on interim measures, which allowed for a gradual decrease of supply until 2019, when the interim measure as well as the necessity to supply ends. The aim of the measure was to allow competing manufacturers to find new sources of supply.¹⁷³

Aer Lingus

In 2006, RyanAir gradually increased its share in the newly privatised Aer Lingus, a competitor to RyanAir. At the end of the year, RyanAir launched a public bid for Aer Lingus and filed a merger notification with the European Commission. After the EC denied the merger, Aer Lingus requested that the Commission force Ryan Air to disinvest its shares in Aer Lingus. In addition, Aer Lingus wanted the EC to impose an interim measure against RyanAir while the aforementioned case was still open. The remedy was aimed at the denial of exercise of voting rights because RyanAir already held a significant minority share in Aer Lingus. The claim was that these voting rights could effectively hinder Aer Lingus in its competitiveness. However, the EC turned down the claim because Aer Lingus, among other reasons, failed to present convincing evidence that competition would be seriously and irreparably harmed.¹⁷⁴

172. See Stibbe (2016), <https://www.stibbe.com/en/news/2016/january/belg-authority-imposes-interim-measures-regarding-thebroadcasting-of-the-superprestige-competition>.

173. See the German version: Swiss Competition Commission (2013), "Verfügung der Wettbewerbskommission vom 21.10.2013, in Sachen Untersuchung 32-0224 gemäß Art. 27 KG betreffend Swatch Group Lieferstopp wegen unzulässiger Verhaltensweise gemäß Art. 7 KG".

174. See European Commission (2008), "Press Release: No 16/08 Order of the President of the Court of First Instance in Case T-411/07R Aer Lingus Group plc v. Commission of the European Communities: Aer Lingus's request for interim measures to prevent Ryanair from exercising its voting rights in that company is rejected".



TIMELY COMPETITION LAW INVESTIGATIONS

Ex post competition law is often criticised as being too slow in general, but in particular, it moves too slowly to deal with competition issues in fast-moving technology markets. In a recent response to a European Commission consultation on digital platforms, the UK Government stated that:¹⁷⁵

“For the competition regime to best support the online ecosystem, it needs to move faster... To deal with fast changing markets, we need a fast moving competition system. More timely conclusion and enforcement of competition cases will be vital in helping us better respond to competition issues online.”

The current investigation by the European Commission into Google’s activities in the online comparison shopping market is a case in point. It officially commenced in November 2010. In July 2016, after almost 6 years, the Commission issued two Statement of Objections, informing Google of its preliminary view that Google had abused its dominant position.¹⁷⁶

Unduly lengthy competition procedures create uncertainty for businesses, and potentially mean that anticompetitive conducts can go uncorrected for a long time—in extreme cases, this results in the normal competitive process being irreparably disrupted, e.g. when foreclosed competitors have left the market before to a prohibition decision.

If *ex post* competition law is to be the primary tool for dealing with competition concerns in digital markets, then much more timely decision-making is required and, where appropriate, more timely intervention. On this topic, Chisholm of the UK CMA called for faster procedures, the use of commitment or settlements, and, where appropriate, expedited interim measures:¹⁷⁷

“First, ensure we do not act too late. Investigations, even where litigated through the courts, should not take 10 years to complete, and arrive only when the market has changed beyond recognition. This means considering opportunities for expedited action, including interim measures to prevent harm arising while we investigate, as well as means to achieve earlier outcomes through commitments or settlements.”

Balancing efficiency with the quality of decisions

Digital markets are typically quite complex, and there needs to be a balance between the speed of the competition proceedings and allowing sufficient time for a proper and fact-based investigation. In an oral hearing, Google’s Head of Competition and Economy Policy, Adam Cohen, stated in this regard:¹⁷⁸

“Investigations should probably take as long as they need to take. Some of the issues involved in our business are very complicated and have evolved quite significantly even in the period during which we have been investigated.”

Competition authorities are becoming increasingly aware that there is a need to increase the efficiency of the investigation process without reducing the quality of the proceedings. It is difficult to find the right balance between generally applicable rules, which may quicken the process, and the appropriate consideration of the characteristics of the individual case. This has led to the adoption of different time restrictions on investigations. For instance:

- The Nordic competition authorities respond to notifications within one month, which is also the time limit to close cases that are not being investigated. In cases of higher significance, an investigation plan is set up and the relevant parties are notified of the entailing investigation.¹⁷⁹ If the case is not closed, the authority conducts a preliminary investigation within four months. If the case is of low importance, the authority closes the case within six months from the initiation of proceedings.
- In the United Kingdom, the Enterprise and Regulatory Reform Act 2013 introduced significant changes in the statutory time limits for market studies and mergers (phase 1), as well as investigations (phase 2). Market studies have to be finished within 12 months of publishing an official market study notice. Time limits for investigations reduced from 24 to 18 months, but with a possible extension of additional six months.¹⁸⁰ Further tightening of timeframes is discussed,¹⁸¹ and we see no reason why there should not be comparable timeframes being used in relation to other cases.

175. HM Government (2016), “UK Government Response to EU public consultation on Digital Platforms”, p. 7.

176. http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_39740

177. CMA/Chisholm (2015), “Platform regulation - antitrust law versus sector-specific legislation: evolving our tools and practices to meet the challenges of the digital economy”.

178. <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/eu-internal-market-subcommittee/onlineplatforms-and-the-eu-digital-single-market/oral/25076.html>

179. Finnish Competition Authority (2011), “Viewpoints FCA Yearbook 2011”.

180. CMA (2014), “Market Studies and Market Investigations: Supplemental guidance on the CMA’s approach”.

181. The UK Department for Business Innovation & Skills, for example, issued a report on potential reforms in competition law and presented three options for reform: (i) Reduction of the statutory time table from 18 to 12 months, with the possibility of an extension of 6 months after approval by the CMA Board members, (ii) Freezing the time frame at 18 months in combination with a removal of the possibility of extension, and (iii) Keeping the maximum statutory time table of 18 months, but linking the determination of the time limit to the scope of the case. See Department for Business Innovation & Skills (2016), “Options to refine the UK Competition Regime”.

- Arguably, many aspects of the competition assessment for a merger (e.g. market definition, assessment of competitive constraints) are common also to investigations of particular conduct. If a competition investigation relates to a firm's conduct that has already been investigated in a similar context, then it should also be possible for an authority to investigate it within a narrower timeframe, e.g. as compared to the time required to verify efficiency claims in merger cases.

Our review of suggested improvements and best practices suggests that to ensure a timely competition law investigation, NCAs/NRAs should:

- Prioritise which cases to open and proceed first, and close cases early on if the initial evidence proves inconsistent;¹⁸²
- Enhance their information-gathering powers, while avoiding additional burdens on businesses;¹⁸³
- Bring in relevant outside advisers (e.g. industry experts) early on, and ensure decision-making panels are staffed with appropriate experts;¹⁸⁴
- Use early settlements and commitments where appropriate;¹⁸⁵ and
- Develop strict timeframes and limit the scope to which extensions can be applied for.

Effective appeal processes

The call for more timely competition law investigations also relates to the discussion of how to design effective appeal processes. Most countries have established appeals processes, in some cases referring initial appeals to a specialist appeal body with expertise in competition and regulatory issues. For example, in the UK, decisions by the CMA or sectoral regulators will be referred to the Competition Appeals Tribunal ("CAT"). CAT decisions can then be further appealed in front of the Court of Appeal.

A right of appeal to an independent body is an essential part of robust and predictable decision-making and is important to ensure regulatory accountability.¹⁸⁶ On the other hand, appeals and the risk of appeals may have a chilling effect on the

industry due to regulatory uncertainty during the lengthy timelines involved. In the UK, the average time taken for an appeal against *ex post* competition (ex *ante* regulation) decisions is around 12-14 months, although some cases have taken considerably longer. An example of lengthy court proceedings followed by multiple appeals is the Sky case. Following Ofcom's initial decision in March 2010 on the issue of whether Sky was restricting the wholesale supply of premium sports channels to other Pay TV providers, a subsequent appeal was launched to the CAT. After hearings in Mid-2011, the CAT reached a decision in August 2012. The subsequent appeal to the Court of Appeal was decided in February 2014, with the Court of Appeal sending the case back to the CAT for further hearings, a decision and, potentially, new appeals.¹⁸⁷

Companies may also use the appeals process to postpone much-needed regulatory reforms or to delay potential entrants. For example, the UK's Ofcom has highlighted that the threat of appeals has delayed its auction of 2.6GHz spectrum.¹⁸⁸

Regulators may also use delays in the appeals process to obtain concessions from parties. In the US, for example, the FCC may use the approval process for licence transfers to request non-merger related concessions from the parties. If the concessions are not granted, the FCC may threaten to open an administrative hearing that can take an additional 18-24 months. Because the licence approval process is not a policy decision by the FCC, these concessions are not appealable to the courts. Thus, the FCC can force unreviewable results by using its ability to delay its decisions.

Governments should aim to ensure that decisions are reached as swiftly and efficiently as possible: for instance, by using a specialised appeal body with relevant expertise, by streamlining proceedings and reducing opportunities to 'game the system', and by adhering to stricter time frames. A good example seems to be the ongoing UK Government's Consultation *Streamlining Regulatory and Competition Appeals* which proposes to carry out appeals in a more efficient way and to adhere to a time limit of 6 months for communications and broadcasting price control appeals.¹⁸⁹

182. See, for example, the different schemes for prioritising cases employed by the Nordic CAs. Nordic Competition Authorities (2013), "A Vision for Competition: Competition Policy towards 2020", Report from the Nordic competition authorities, No.1.

183. UK Government (2016), "Response to EU public consultation on Digital Platforms", p. 7.

184. When asked how competent he thinks the authorities are, Google's Head of Competition Adam Cohen stated: "I think they have a lot of skilled and clever people working for them and are able to seek outside advice when they feel they need it. I am not a technologist, but some of the issues relate to hardcore computer science, for example. If the regulator does not have the ability to understand them, they can bring in outside advice."

185. For example, the Australian Competition and Consumer Commission (ACCC) can issue a competition notice stating that an operator or service provider with substantial market power has engaged or is engaging in a specified instance of anticompetitive conduct if the ACCC has reason to believe this has occurred. If the operator or service provider continues to engage in the specified conduct after the date of effect of the competition notice it can be subject to the imposition of substantial penalties based on the number of days the conduct continues.

186. The frequency with which appeals are being used may vary between sectors. A UK review of Ofcoms decisions between 2008 and 2012 indicates that around one in eight decisions are being appealed. See Department for Business, Innovation and Skills (2013), "Streamlining Regulatory and Competition Appeals", Consultation on Options for Reform. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/229758/bis-13-876-regulatory-and-competition-appealsrevised.pdf.

187. See the discussion in <http://www.regulation.org.uk/competition-appeals.html>.

188. See Department for Business, Innovation and Skills (2013), p. 97.

189. *Ibid.*



SUMMARY OF POLICY RECOMMENDATIONS

The institutional set-up and rules need to be reassessed to ensure they can support the proposed shift from *ex ante* regulation to *ex post* enforcement. This involves strengthening the independence of regulators and competition authorities through a clear mandate, an organisational set-up, and an effective appeals process.

The ideal institutional set-up is country specific, and different jurisdictions have implemented different designs. It is important that NCAs and NRAs collaborate to ensure consistent application of regulatory and competition principles across sectors.

Close co-operation between regulatory and competition experts will mitigate problems and ensure consistent application both competition and regulation principles. In particular, this can help to protect the competitive process and avoid expansion of regulatory powers. Where more than one regulator exists, governments should develop institutional arrangements that minimise any overlap of responsibilities and, where possible, avoid duplicating multiple agencies with similar responsibilities. This can help to ensure regulatory consistency and minimise uncertainty, and also to avoid struggling over competences.

Finally, authorities need to address the concern that *ex post* enforcement can take too long in highly dynamic industries. We advocate using interim measures to speed up the *ex post* process and prevent ongoing or future harm. Authorities need to design carefully an appropriate toolkit from which they can choose interim measures. Authorities also need to reassess their timeframe to ensure an appropriate balance between the speed of competition proceedings and the quality of investigations. This involves making some changes such as: (i) prioritising high urgency cases; (ii) enhancing data gathering and processing capabilities; (iii) making use of outside industry experts early on; (iv) using early settlements and commitments where appropriate; (v) ensuring strict time frames are being applied; and (vi) ensuring a fit-for-purpose, streamlined appeal process.

Annex A—The concept of market definition

The relevant market should be defined and assessed so that the analysis can capture three competitive constraints as accurately as possible:

- **Consumers' competitive constraints (demand-side substitution):** One way in which the behaviour of firms is constrained is that consumers may regard different goods and services as interchangeable or substitutable “*by reason of the products' characteristics, their prices and their intended use*”.¹⁹⁰ The ability to switch from one good or service to another if there is a substantial worsening of quality, or an increase in price, disciplines the supplying firm. A first step in the market definition process is, therefore, to assess which products or services might be considered to be relatively close substitutes or viable alternatives by consumers, and then form a view on how large any substitution might be. The degree of so-called demand-side substitution might be assessed relatively formally—for example, by imposing a stated relative price change and considering how much substitution might occur in response to that change.¹⁹¹ Or the assessment might be less formal, based more on product characteristics and data on consumer preferences.

- **Existing suppliers' competitive constraints (supply-side substitution):** Another competitive constraint that firms may face is the possibility that suppliers of other products may be able to switch production facilities to start competing with its own products.¹⁹² This effect, known as supply-side substitution, would need to occur fairly quickly following a price rise to limit the time period during which an existing supplier could exert its power. The necessary benchmark in the European Guidelines, for example, is that alternative suppliers are “*able to switch production to the relevant products and market them in the short term without incurring significant additional costs or risks*”.¹⁹³
- **Prospective entrants' competitive constraints (potential competition):** Finally, there are mitigating factors to consider when assessing market power, such as the competitive constraint exerted by prospective entrants and the potential displacement of existing products by new goods and services. This potential competition should be more readily incorporated by authorities in the definition of the relevant market.

¹⁹⁰ Compare the case law of the European courts, exemplified in European Commission (1997), *supra* note 24, paragraph 7.

¹⁹¹ This is, for example, the method being used when the hypothetical monopolist or SSNIP test is applied.

¹⁹² This potential constraint is treated differently across jurisdictions. For example, in the United States, supply-side reactions are left out of the market definition exercise.

¹⁹³ European Commission (1997), *supra* note 24, paragraph 20.



Annex B

—The SSNDQ test

THE CONCEPT

The key concept behind the ‘small significant non-transitory decrease in quality’ (SSNDQ) test is to consider whether a change in performance attributes (e.g. network quality, reliability, etc.) of a given product or service would induce substitution to or from another product/service. If a supplier were to reduce quality significantly, holding all else equal, and no substitution takes place, then the product is a relevant market. If customers switch to another product/service, then this other product/service would be also be in the relevant market.

This idea is not new. Hartman, Teece, Mitchell and Jorde (1993) proposed considering a 25% decrease in a “major performance attribute”, instead of a 5% increase in price, to formally consider competition over quality in the market definition exercise.¹⁹⁴

PRACTICAL ISSUES

The OECD roundtable on the role of quality in competition analysis recognised that SSNDQ may be “*unworkable, however, given the inherent difficulties of measuring quality alongside the existing complications of the applying the SSNIP test itself within real market situations*”.¹⁹⁵

In a similar tone, the European Commission’s submission to the OECD roundtable notices that “it would be rather challenging to replace the SSNIP test with a SSNDQ test, insofar as the latter relies heavily on market data that is inherently difficult to measure.” However, quality or performance changes may be less difficult to assess in digital markets, where quality considerations may be well understood by customers.

SUGGESTION

Like the SSNIP test (which, despite its prominence in various guidelines, is actually seldom applied formally), authorities should use the SSNDQ as a framework to consider non-price competition when defining markets. As the OECD notes, the SSNDQ is “*more useful as a loose conceptual guide than as a precise tool that courts and competition authorities should actually attempt to apply*”.

194. R. Hartman, D. Teece, W. Mitchell, and T. Jorde (1993), “Assessing Market Power in Regimes of Rapid Technological Change”, *Industrial and Corporate Change*.
195. OECD (2013), “Quality in competition analysis”, Roundtable.



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