POLICY MAKERS FOCUS ON BIG TECH

What, if anything, can be learnt from the telecoms sector?

Policy makers across the world, including in the UK, US, Australia and EU seem to be increasingly considering a potentially more interventionist approach to the regulation of digital platforms. The telecoms sector has spent several decades trying to strike the right balance between sector specific regulation and the ex-post application of competition policy. This article considers what lessons can be learnt from the telecoms sector. The main insight is that well-intended ex ante regulatory intervention risks deterring innovation which can be an important feature in digital markets.

HEIGHTENED FOCUS ON DIGITAL PLATFORMS

It feels like not a day goes by without a discussion about big tech firms and concerns about their market power. Several influential reports have been published recently, which contain proposals on how to try to increase competition in digital markets – one for the UK government[1], one for the European Commission (EC)[2], one in the US[3] and one by the Australian competition authority[4]. With different degrees of emphasis, the proposals contained in these reports include regulatory measures such as data portability, data sharing, interoperability, greater scrutiny of mergers, interim measures in abuse of dominance cases and codes of conduct.

Many utility markets have been subject to ongoing ex ante regulation reflecting the fact that significant parts of their supply chains are natural monopolies. However, policy makers in the telecoms sector have had to carefully consider the *need* for intervention: significant parts of the sector are competitive (mobile), and continuous technology developments have required policy makers to assess the impact of any intervention on investment incentives and innovation.

In this article we start by reviewing the characteristics of the two sectors – telecoms and digital platforms, to evaluate the extent to which the nature and cause of the competition issues identified are similar. We then review the approach followed by policy makers in telecoms markets to assess the need for any intervention, and the

1 Furman Review, Unlocking digital competition: Report of the digital competition expert panel, March 2019

2 Report for the European Commission by Jacques Cremer, Yves-Alexandre de Montjoye and Heike Schweitzer, Competition policy for the digital era, 2019

3 Committee for the Study of Digital Platforms, Market Structure and Antitrust Subcommittee Report, The Stigler Center for the Study of the Economy and the State, The University of Chicago Booth School of Business, May 2019

4 ACCC – Digital Platforms Inquiry – Final Report, June 2019.

lessons that could be drawn for policy development in 'big tech'. We finally consider some of the actual interventions that have been introduced (such as mobile number portability, access regulation and interoperability), and assess their relevance for the policy debate around how to strengthen competition in digital markets.

IF IT BARKS LIKE A DOG AND WALKS LIKE A DOG, IT MUST BE A DOG - OR IS IT?

Market share data from the UK report on digital platforms suggests that a number of digital markets are concentrated, with either one or two main players in many markets. While this hinges on how markets are defined, which is an area of contention, 'markets' that authorities are most concerned about appear to be online search, digital advertising, mobile operating systems and social media[5]. The EC has also recently launched an investigation into Amazon and the Apple app store, suggesting that e-commerce platforms may also face regulatory scrutiny.

On the surface, telecoms markets are also concentrated, although there is a significant distinction between:

- Fixed markets, where countries have historically had a single fixed operator (the 'incumbent'), with very high market shares, and
- Mobile markets, which have been considered generally as having effective competition, with typically 3 or 4 vertically integrated operators.

These market structures also share some other apparently common characteristics with digital markets:

- Direct network effects – the value for a consumer of 'joining' some digital platforms and telecoms markets increases with the number of people connected.
- Size (economies of scale) – authorities consider that economies of scale may be important for certain digital platforms that have high fixed costs, especially for platforms with a global presence[6]. Scale is also important in telecoms, especially in fixed networks. This is because a significant share of the cost of rolling out a physical network infrastructure is fixed; but, scale benefits are considered to be largely restricted to national/local markets.
- Range of services offered - many digital platforms operate in several adjacent markets and may use their position in one market to improve their position in another market (e.g. through cross selling or by improving their service offerings). Google ties together its search engine and browser with its app store for example. Telecom operators are also increasingly trying to offer a range of

[5] Furman Review, Unlocking digital competition: Report of the digital competition expert panel, March 2019

[6] Some platforms have reached a global footprint because of the relatively low distribution costs (e.g. Google). Committee for the Study of Digital Platforms, Market Structure and Antitrust Subcommittee Report, The Stigler Center for the Study of the Economy and the State, The University of Chicago Booth School of Business, May 2019

different fixed and mobile services due to the lower costs from bundling such services.

Whilst there appear to be some similarities in the economic characteristics of these sectors, the history of the telecoms sector and digital markets is different. Fixed incumbents were largely formerly state-owned entities, starting from a position of protection from competition. This was in many cases supported by legislation, driven by a policy objective of promoting universal telecommunications coverage.

And whilst mobile operators compete to offer a range of services to consumers, the technologies adopted by mobile operators over time to offer services to consumers (2G/3G/4G/5G) are set by industry bodies for each technology generation.

In contrast, digital market players have generally reached their positions through the development of new and innovative services, as well as different business models. Not surprisingly, there is frequent reference to the 'success stories' (Google, Amazon, Facebook and Apple – the GAFAs). This overlooks a large number of attempts to develop new and innovative digital services, technologies and platforms that have been unsuccessful or suffered a significant drop in market share e.g. Symbian, MySpace, Yahoo, Google Plus, Vine and Bebo. Moreover, one of the GAFAs had nearly become extinct, before rising again to global recognition with the iPhone.

ASSESSING THE CASE FOR REGULATORY INTERVENTION – HOW USEFUL IS THE TELECOMS FRAMEWORK?

Identifying markets susceptible to intervention

A key policy objective in the fixed telecoms sector was to facilitate entry and encourage the development of competition where feasible. Starting from markets where the whole supply chain was effectively a monopoly (all the way to the telephone handsets in consumers' homes), the policy aim was to try and identify the parts of the telecoms chain that were likely to be enduring bottlenecks and regulate access to the related assets. Subsequently, this would facilitate the emergence of competition in the remaining part of the supply chain.

This led to the development of a framework based on the principle of identifying 'markets that are susceptible to ex-ante regulation' – see box below. The framework needed to both avoid the introduction of regulation where not justified, and provide a basis for removing regulation where the intervention had achieved its objective. Over time this approach has resulted in regulation being focussed where there are genuinely enduring bottlenecks, such as the 'last mile' fixed infrastructure, and so limited prospects for efficient entry. Moreover, there are now cases where sufficient infrastructure-based competition has justified the removal of *all* ex-ante regulation of fixed broadband markets (for instance, in Romania).

SUMMARY OF TELECOMS APPROACH TO DEFINE A MARKET WHICH MAY BE SUSCEPTIBLE OF EX ANTE REGULATION

The framework is based on the so called 'three criteria test', which relies on competition principles. A market is susceptible to ex ante regulation if, and only if, three conditions apply:

- First, there have to be high and non-transitory structural, legal or regulatory barriers to entry,
- Second, the market structure does not tend towards effective competition within the relevant time horizon, and
- Third, ex-post competition law is deemed inadequate to address any competition concerns.

This framework needed to be applied by authorities in the EU before any ex ante regulatory intervention was justified.

For markets that have been identified as being "susceptible" to ex ante regulation by the EC, telecoms National Regulatory Authorities then follow a three step process for deciding if and how to intervene:

1. Market definition, which is often in line with the recommended list of markets defined by the EC.
2. Assessment of dominance.
3. Identification of remedies that are:
   a. Targeted at bottlenecks
   b. Balance dynamic and static efficiencies.

Whilst market definition can also be a contentious issue for telecoms, we focus on the second and third steps below.

Assessing dominance

A key challenge in digital markets is a forward-looking assessment of future competition. Telecoms markets are characterised in general by the provision of a predictable range of services under single sided/'linear' supply chain business models. Competition can typically emerge by rivals with the similar business models to existing players (e.g. vertically integrated mobile operators using spectrum to offer a range of mobile services). It can also come about by retail rivals offering similar services to consumers based on access to the mobile or fixed operators' networks (MVNOs, technology companies – e.g. Skype - and access based competitors such as TalkTalk or Sky in the UK). The assessment of market power, and the effects of it being exercised, is a 'conventional' one. The market in which the power is held and the one where this power could be abused is the same (or an adjacent one through bundling). Non-competitive fixed telecoms markets would be expected to lead to consumers paying too high prices for access to telecoms services (or bundles of telecoms with other services), absent any regulatory intervention.

By contrast digital markets include different business models, including often multi-sided platforms where access to one side of the market is offered for free. Measuring whether there is any market power in such a context, on which side of the market it arises (if at all), and where any harm to consumers arises, is more challenging than in conventional markets. Furthermore, competition in the markets where the market power could be 'exercised' can come from other digital platforms or more conventional businesses (e.g. Deliveroo competes with pizza companies that deliver their own pizza).

Identifying the nature of any remedies

If sources of enduring market power have been identified, recognising the complexities involved, the next question is what type of regulatory intervention would be appropriate.

Bottlenecks in telecoms and digital markets

One of the main concerns of regulatory policy in telecoms was the assessment of bottlenecks. In the fixed telecoms sector, the main potential bottleneck is the local access network, as this can be very costly to duplicate. In the mobile sector, the main bottleneck is spectrum. However, policy makers carefully assign the available spectrum to ensure that there is effective competition between a number of network operators – therefore ex-ante regulation is not an important feature of most mobile markets.

For digital platforms, authorities are concerned that gaining access to certain data is a potential bottleneck. The report undertaken for the EC states that "*very likely, mandated data access will therefore, in the end, be a sector-specific regime, subject to some sort of regulation and regulatory oversight*". The EC report distinguishes between different types of data:

- Personal and non-personal data; and
- Data that is volunteered, observed and inferred.

Data can be used for a range of purposes as set out in the US report:

- Tailoring services to a specific individual, such as product recommendations and advertisements; and
- Identifying patterns that hold on average for the population from which the dataset was drawn – this can for example be used to improve search rankings.

However, in contrast to fixed local access networks, data is non-rivalrous - when one platform makes use of certain data, this does not mean that other platforms could not use the same data. To establish the extent to which data could act as a bottleneck, authorities would therefore need to show that:

- Certain types of data are not available through other sources despite data being non-rivalrous; and
- The data in question is indispensable for firms to be able to compete in a relevant market.

The existing reports on digital platforms have yet to provide a detailed analysis of whether any types of data meet these criteria. Digital platforms hold a large variety of data[7], meaning that work needs to be done to better understand the role of this data and its impact on competition.

In addition, access to bottlenecks in telecoms is for the provision of a well-defined service. For instance, access to the local loop is aimed at the provision of retail broadband access and fixed voice (in competition to the services provided by the local loop owner). However, access to the same data may have different purposes, from improving algorithms to the provision of complementary and substitute services. This may pose challenges to policy makers, including the analysis of the extent to which a given set of data is a bottleneck, controlling how any data to which access is granted is used, and the definition of the appropriate economic access conditions (including price), assuming that the conditions of non-availability and indispensability are met.

In addition, in telecoms there is quite a clear supply chain, with a distinction between wholesale and retail services. In contrast, the supply chain may be less clear in digital markets and may vary depending on the business model of an individual competitor. For instance the business models of some digital players, such as Google Search, are based on advertising revenues. The target advertising that Google provides is based on the data provided when searches are made as well as other data from the searcher. From this point of view, one could argue that all the activities, resources and costs that Google Search uses for the provision of its service are aimed at the gathering of searcher's data in order to attract advertising revenues. Therefore, what is the retail and wholesale business here? What are the costs of the data gathered by Google - all of Google's search costs? These questions that for telecoms are rather clear (although not exempt from long debates) are less so in digital markets.

A further challenge in digital markets will be to try to identify and assess the retail market failure resulting from the bottleneck. This can be challenging in the context of take-up/use of many services being high, and monetary prices being zero. For example, in telecoms, authorities have been able to rely on benchmarking to establish whether their country has been underperforming on telecoms outcomes relative to other countries. Such cross-country benchmarking appears less useful in the context of digital markets, given that many players are global and some of authorities' concerns about poor outcomes are more subtle e.g. excessive data collection and advertisement or 'sub-optimal' innovation, without evidence /precedent about a counterfactual.

Dynamic versus static efficiencies – maintaining incentives to invest

In determining whether remedies are appropriate, it is important to weigh the costs and benefits of any potential remedies. As part of this it is important to assess how remedies may impact firms' incentives to invest and innovate, and the level of differentiation in markets.

[7] The EC report for example distinguishes between different types of data: personal and non-personal data; and data that is volunteered, observed and inferred, this is likely to be the start point of a relevant classification, as the key question is what data offers what competitive advantage in which market, and how difficult it is for this to be matched.

In telecoms, regulators/policy makers had to balance carefully any static gains from mandating access to incumbents' networks, with the need to encourage infrastructure-based competition which is generally considered to be preferable to service-based competition where feasible because:

- Access obligations can deter investment/innovation. The EC paper on digital markets states "although it can favour competition in mature markets, data interoperability can also have some anticompetitive consequences by limiting the incentives for new forms of collection of data." Therefore, requiring access to data may be less appropriate for data that can only be generated following significant investments.
- There is greater scope for differentiation with infrastructure-based competition. For example, the report for the EC states "on the other hand, full protocol interoperability can come at a high price: the need for strong standardisation across several competing platforms could significantly dampen their ability to innovate and to differentiate the type(s) of service(s) they provide"
- Alternative operators have more control over costs compared to an access regime. Whether this will be an issue in digital markets will depend on the cost of collecting/processing data and whether this represents a significant proportion of the total costs of providing digital services.

The telecoms sector has been criticised for not investing fast enough at times and not being good at developing innovative services. This is why a number of European national regulatory authorities took the view that no regulation of 'dominant' incumbents would be required for a number of years in the initial phase of deployment to incentivise investment in the latest fixed technology, FTTH (Fibre to the Home – enabling broadband speeds of 1Gbps).

Innovation is key in digital markets – arguably more so than in telecoms markets where innovation is carried out not just by the network operators who are regulated, but other players in the supply chain. A key issue then in digital markets is a heightened risk that regulation to support the emergence of competition stifles innovation.

STRENGTHENING COMPETITION BETWEEN EXISTING PLAYERS

In addition to trying to facilitate entry and expansion in digital markets, a number of proposals by authorities appear to be aimed at strengthening competition between existing players.

Interoperability

Absent any form of intervention, telecoms networks are likely to exhibit direct network effects – the value of joining a network depends on how many users can be contacted on the network. However, regulators have ensured that any network effects in telecoms are diminished by:

- Requiring interoperability between networks and any-to-any connectivity, which ensures that a user on a given network can get in touch with anyone on a different network; and
- Regulating the cost of contacting someone on a different network by restricting the cost of termination charges.

The extent to which network effects give rise to market power will be weakened if users multi-home (i.e. they use several different platforms). The extent to which users multi-home has been explored in mergers such as Just Eat/Hungryhouse in the UK. In telecoms, there is some multi-homing although the extent to which users have multiple SIM cards varies across countries.

The UK, US and EC papers on digital platforms discuss interoperability as a potential remedy (the Australian report indicates it is an area for future consideration), although in reality this would only appear to be relevant to certain types of digital platforms. For example, it seems unlikely that interoperability would be considered for search services or e-commerce platforms.

The EC paper distinguishes between protocol interoperability, data interoperability, and full protocol interoperability. The latter may require the development of standards. The setting of standards is a very familiar topic to the telecoms sector. The technology used for mobile networks is standardised based on global bodies (e.g. 3GPP). In telecoms, interconnection standards help ensure full protocol interoperability, as it allows substitute services to compete with one another. One of the issues with standardisation is that it may limit differentiation, or may even result in an inferior technology being used if the standard is picked too early. If digital platforms became too standardised, then in some ways it could reduce users' incentive to switch platforms. In telecom markets, most new entrants try to compete by undercutting the price of the more established players. However, if a new digital platform could not offer a superior/differentiated service, and the price of the established platform(s) were already zero, how would they persuade users to switch?

Data portability

Given that the UK, US and EU reports are concerned that data is a potential bottleneck, one of the proposals contained in these papers is allowing users to port their data to other platforms. The idea behind data portability is to facilitate switching between platforms and/or multi-homing by allowing users to transfer their data from one platform to another. Interestingly, the Australian report does not appear to view data portability as an effective remedy due to a lack of platforms to switch to.

Any remedies on data portability will require careful thought - important questions on data portability include:

- What types of data can be ported? Our assumption is that it would only relate to personal data, but that still begs the question as to whether it would relate to volunteered, observed and/or inferred data?
- Who will facilitate the transfer of the data to other platforms? It could be the user, the platform holding the data or the platform receiving the data.

- Will the data porting be a continuous process or a one-off event?
- How can the data porting be made as simple as possible?

There are some possible parallels between data portability and number portability. The latter was brought in many years ago to help encourage switching between mobile operators. Prior to mobile number portability (MNP), users would be dis-incentivised from switching operators, as they would lose their mobile number if they did so.

MNP appears to be considerably simpler than the data portability being discussed for digital platforms. Whereas MNP just relates to a 9 digit number, data portability could relate to both a large volume and wide variety of data. MNP is also typically a one-off event where the user may not mind waiting a few hours or a day for the transfer to happen. In contrast, if data portability is going to be more of a continuous process between digital platforms, then consumers will likely expect the data portability to happen in real-time. Despite MNP being a much simpler process than data portability across digital platforms, regulators have spent many years fine-tuning the MNP process. For example, Ofcom recently made another attempt to make MNP easier by allowing users to port their number by sending a free SMS rather than having to make a call.

CONCLUSION

Telecom operators have generally envied the position of some digital platforms, with digital platforms facing limited scrutiny from regulators. However, the tide has clearly been turning, as the focus on digital platforms has really been heating up. Interestingly, the priority in telecoms in recent times has been on trying to peel back regulation in order to stimulate greater investment. If authorities do decide to regulate digital markets more tightly, then they will need to find a way of doing this without deterring innovation, which is so fundamental to such markets.