

THE GOOD, BAD AND UGLY IN COMPETITION LAW ENFORCEMENT: OBSERVATIONS FROM THE TECHNOLOGY SECTOR



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I. INTRODUCTION

Increasingly widespread adoption of competition laws around the world has masked significant divergence in the enforcement practices under which the laws are enforced. Despite widespread agreement on the benefits to consumers and the economy from market-based approaches, there remains significant variation in how best to design and deliver those efficiency benefits as a matter of institutional practice. These differences in enforcement can have a dramatic impact on the impact of the law and the scope for the law to achieve the market performance improvements sought. In some cases, this enforcement context can even predominate over the rule itself, raising serious questions about whether there is a need to consider aspects of existing enforcement with a view to a more streamlined approach that would allow doctrine, and not formality, to predominate.

This article seeks to identify what works well in competition law enforcement, and what drives and distinguishes good performance from less desirable outcomes. To do so, it analyses the application of competition law to technology and communications markets. This choice of focus reflects particularly pronounced issues that have arisen in relation to problematically slow enforcement mechanisms, which have the effect of frustrating the law. In a world where much value and growth is tied up in technology platforms and other technology products, these questions are very pressing, not least because of significant barriers to entry and expansion that can result from the mismatch between a principled and pro-competitive legal rule, and enforcement mechanisms that do not always deliver on the promise of the substantive rules. The article concludes with some practical suggestions highlighting areas for potential reform that might help to address some of the identified issues in the disjunction between substantive rules and their enforcement in fast-paced markets, with an emphasis on small but significant changes that could be applied to administrative procedures.

II. ENFORCEMENT ISSUES IN TECHNOLOGY MARKETS

At the outset, the importance of competition law enforcement in technology markets bears significant emphasis, because of significant distinguishing factors when compared with other markets. First, the paramount role of innovative industries in driving economic growth would suggest a pronounced role for analysis of market performance in the sector. Perhaps more importantly, significant differences in the competition dynamics of technology products, if compared with other more traditional “smokestack” industries, suggest a need for prompt and effective enforcement if the law is to have any significant impact on market performance. This distinguishes the technology markets from other sectors in which more reactive postures might pose fewer issues.

Significant differentiating factors in technology markets arise primarily from the role of platform dynamics, and the scope for leveraging strategies in upstream and downstream markets to be more successful than in other contexts. It may be helpful briefly to recap these factors, before moving on to consider how they fit into the picture of current enforcement patterns.

A. Platform Products

Platform products are common in technology markets, and tend to display so-called “two-sided” market dynamics. This means that the value of the product to one group of users varies with its adoption by others. A relatively early example is the telephone: there would be little use in a telephone exchange connected to users in the single digits, and value increases as more join the exchange. The problem has become significantly more pronounced with the passage of time. Where once a telephone exchange

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might have taken some time to construct, leaving time for regulation, modern platforms like social media sites, advertising platforms, and electronic marketplaces arise very quickly. This means that, if an exclusionary strategy is possible, market power can arise well before any authority can address the issue, as the market tips towards a predominant platform. A practical example is the difficulty in switching to an alternative social media network: although Twitter, Instagram and Facebook might display a degree of interchangeability for some uses by some users, it is doubtful that switching between them is seamless, and it seems very clear that a platform comes to enjoy a predominant position for a use; it is likely that a degree of market power results because switching is likely imperfect. Once again, transaction costs associated with technology products impede switching, it being unlikely that any group of users could realistically recreate the platform they wish to use.

The conventional response that in the case of fast-moving markets the “perennial gale of creative destruction,” with competition “waiting in the wings” that can be relied upon to uproot market power contains a degree of truth in that no private monopoly is ever likely indefinitely to last. If taken too far, however, this observation contains scope to beg the underlying question, which is whether competition rules can sometimes help ease entry barriers and market power, improving market performance. Even if some technology markets display lower entry barriers than some “smokestack” industries, it would seem ambitious to claim that all technology markets display this dynamic, that is, that the only enduring barriers to entry in them are government restrictions, and that no private restrictions affect the market. If indeed there are market power issues and imperfect entry dynamics, competition law would seem to be needed just as in any other industrial sector. Yet the speed with which tipping can occur raises a fundamental problem in enforcement dynamics, if the enforcement is too slow to react before tipping occurs, as expanded in further detail below.

B. Upstream and Downstream Effects

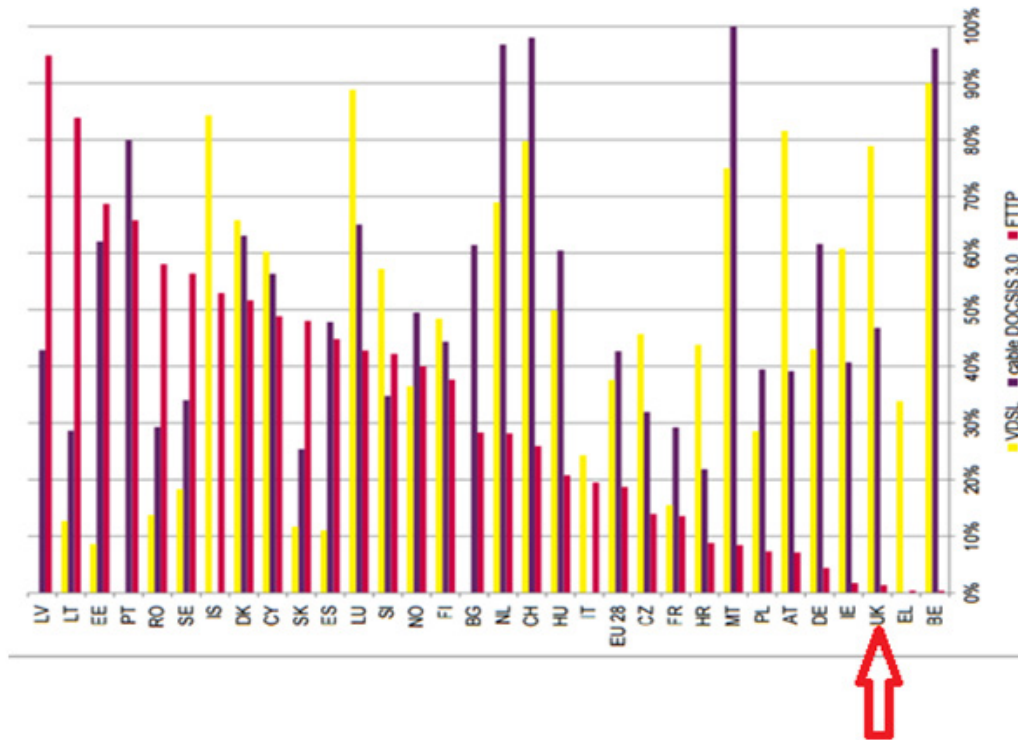
Alongside issues with increased transaction costs from complexity and switching, market power issues are especially pronounced in some technology industries because of the upstream and downstream impact of restrictive practices in those industries. Many readers will be familiar with noted examples of “technological tying” in which competition authorities and courts have considered the gatekeeper effect some technology companies have because of market power from sources like electronic platforms and installed bases of equipment. Where an expansive installed base of equipment requires a particular product, significant market distortions can be seen in repeated and successful attempts to lever the market power that can result from this position. An installed base of equipment might have significant service requirements, for instance, meaning that a more efficient provider would need access to the equipment to offer that greater efficiency to the market. It would seem relatively uncontroversial to suggest that these upstream and downstream markets require some review to account for the possibility that the party creating the dominant product does not extend its market power into related markets.

In theory, it may be true that a perfect market could sometimes discipline a leverage strategy to a degree, under the so-called “one-rents” theory under which monopoly profits can be extracted only once, and are not accentuated by tying where a (significant) range of assumptions hold. One could even argue the slightly extreme claim that the monopoly profits simply encourage entry by others into the marketplace. But once again and as with the platforms, the underlying assumption in having a competition law is that these mechanisms are not perfect, and that some (not all) markets require supervision to ensure that entry remains possible, to prevent the very poor market performance that might otherwise occur. Thus, the argument that technological tying is of lesser concern appears to assume away the underlying problem: in some markets, imperfect competition exists, and should be addressed if unduly restrictive practices accentuate market power issues – even if care is needed to intervene sensibly and only when there is a real problem.

Between them, the presence of platform dynamics and the pronounced upstream and downstream foreclosure risks in technology markets pose a range of enforcement issues. The most significant is that enforcement needs to be quick to capture market dynamics before tipping towards a dominant platform occurs.

III. ASSESSING ENFORCEMENT PERFORMANCE IN TECHNOLOGY MARKETS

If issues with foreclosure are well-known, an interesting question is why some regulators appear to deal with them better than others. A classic example of these issues can be seen in the roll-out of the latest communications technology, known as Next Generation Access (“NGA”). Significant differences have arisen in the adoption of the latest fiber optic communications technologies, as can be seen in the table below. It shows significant divergence in the roll-out of a new technology product, in this case the latest generation of fiber optic networks, known as Fibre to the Premises (“FTTP”):



NGA coverage by technology in European countries as of 2014

Source: BEREC Report BoR (16) 96 Challenges and drivers of NGA rollout and infrastructure competition

As communications specialists will know, great significance exists in running fiber optic cables all the way to premises, because of the scope to achieve vastly increased connection speeds by dispensing with copper connections; the connection comes to be limited by electronics attached to the fibers, rather than the inherent frictions in a copper connection.

Although there is some scope to argue that markets would display a degree of divergence, perhaps reflecting different demand and supply profiles, the scale of divergence in the above chart is extremely striking: it would appear that, by adopting different regulatory approaches, dramatic differences in the adoption of a very important new communications technology have resulted. In turn, all of the productivity that feeds off of connectivity, including the platform and component markets mentioned above, will have different performance prospects, reflecting divergent investment responses from industry. The main question for our analysis is what drives divergence as seen above. The article will consider this with primary reference to the enforcement history in the UK.

The UK entry in the above chart is highlighted because of the very striking position of the UK towards the end of the table. This will strike communications law experts and those with a knowledge of regulatory history, because of the UK’s prominent role as an early liberalizer of telecommunications in which markets should, *ceteris paribus*, perhaps have developed more quickly and to greater sophistication than in other markets. The lagging performance above therefore raises questions: what has worked, what has not, and why?

Indeed, the question has some political currency following the UK's vote to leave the EU, which has heightened attention to market performance questions. It appears that the Prime Minister, Teresa May and her senior colleagues consider that following decades of regulatory and competition law enforcement, the outcomes can be improved. These outcomes raise daily complaints in the press, some of which are raised in colorful ways. Reflecting latent demand for better connectivity, particularly in regional markets, retired colonels in Surrey and small businesses in Birmingham all ask: "Where's the fiber?," and "What happened to all the money spent on high speed internet access?" Most strikingly of all, the Countryside Alliance characterizes the problem as "rural gymnastics" and asks why the people in the country have to perform gymnastic routines to obtain a (mobile) phone signal?

To answer these questions, one needs to consider what has worked well alongside areas where regulatory enforcement seems slower and less responsive to the needs of a competitive marketplace.

IV. WHAT HAS WORKED WELL?

Essentially, the above table represents a series of regulatory responses to the same problem, based on the same laws, and resulting in what can be seen as counterfactual criticisms of UK implementation of the same telecoms regulatory framework which we see working elsewhere. The first point to note is that the move to market-based approaches has seen significant improvements over the earlier, monopoly position, but that this has been distributed unevenly because of the paramount importance of suitable regulation across jurisdictions, which varies by location and drives divergent market performance.

In terms of outcomes, it is not unfair to say that what worked well is what was done outside the UK. Indeed, the UK liberalized telecommunications at an earlier stage than the rest of the EU, mostly in the 1980s rather than the late 1990s, and initially generated investment in world leading mobile and internet technologies ahead of other, non-liberalized countries. The UK was well ahead of the rest of Europe when the 1998 package of telecommunications laws was passed. Also, in many ways, the system of the opening up and liberalization of markets subject to regulation which was pioneered in the UK was successfully exported to the EU and further afield. In the early 1990's UK companies such as Vodafone, BT, and Cable and Wireless faced competition at home (from cable and mobile companies as well as content companies such as Sky and others) and stood to gain most from liberalization of markets internationally. The 1998 regime created an EU-overseen enforcement system designed to safeguard investment and increase competition. The irony is that this seems to have worked better in application in markets other than those on which it was arguably modeled.

V. WHAT HASN'T WORKED WELL?

While UK companies such as Vodafone and BT and others have benefitted from liberalization abroad, the above table shows how little investment the UK has seen since 1998, from being at the forefront of liberalization and investment and competition, to its current position as third from bottom in Europe.

It is now clear that the reasons for the current position arise from the regulatory system and the choices that have been made. Demand in the UK is arguably ahead of many EU countries. Finance is available from similar sources and could have been provided in similar ways. However, the regulatory system and decisions taken outside the UK where the regulators sought to promote competition at the lowest level in the supply chain (down to the level of access ducts and poles), has generated more investment and more competition at the infrastructure level than in the UK. In terms of the competition law doctrine outlined above, they have considered benefits in related markets from investment, and sought to lower barriers to investment to stimulate a competitive response that drove wider social benefits.

Looking at the EU data outside the UK, it is clear that this in turn stimulated a competitive response from the incumbents. It could have provided a case study for PhD level regulatory policy scholarship, save for the fact that BEREC and Analysis Mason have already completed their review. Indeed, the Commission's latest communication on the subject, released on September 14, 2016, places great emphasis on the significance of the competitive response seen:

Analysis of trends in technology and demand indicates that provision of many products, services and applications will only be sustainable where optical fiber networks are deployed up to a fixed or wireless access point close to the end user.

The answer proposed by the Commission is more investment in fiber optic connections, especially where needed for 5G mobile internet connectivity, with very high speed fixed wireless access in less densely populated areas. Private investment is being fostered, adopting the approach taken by countries such as Sweden to open up access to the infrastructure needed to lower barriers to entry. The Commission notes:

Effective access to civil infrastructure such as ducts and poles held by undertakings with significant market power unleashes competitive and investment potential, and should be the first remedy considered for bottleneck problems.

Sweden welcomed the Commission's position, but the idea of opening up or unbundling a vertically integrated entity to promote alternative infrastructure investment is hardly a new idea. The curiosity is why simple steps to lower barriers to entry are proving elusive as between different enforcement patterns.

A. Delaying Tactics

Turning from the base layer of telecoms infrastructure to technology more generally, it is worth expanding the question from the above enquiry as to why an effective and easily implemented pro-competitive measure was unevenly applied. Here, we encounter a more fundamental problem in the enforcement pattern: it is far too slow to keep pace with the technologies in question, given their tendency to tip toward a dominant provider.

At the heart of this essay is an observation that the current antitrust and regulatory system doesn't work well in promptly addressing established issues. In short, it is simply too slow. If we start with the proposition that some enforcement of competition law is implied by the choice to have competition law, rather than not to have competition law, the most pressing question becomes whether the enforcement pattern provides credible deterrence in a hypothetical case where harm is clearly established.

While there are an increasing number of cases meaning that there is some detection and some redress, they remain heavily dependent on authority action for follow-on claims. The current problem is, however, that public enforcement can be crippling slow to meaningful deterrence. Beyond the telecoms layers, Microsoft, Intel and Google, affect many other sectors and involve huge factors of production; and yet the Microsoft investigation took 10 years, and the Google investigation continues, 10 years on.³ Although much can be debated in such cases, it seems very difficult to believe that a final determination could not have been made in the timeframe involved.

It is a simple and small point but is critical to enforcement success in fast moving markets with tipping dynamics: if it is right to have a law, it cannot be the case that five years are needed to come to a position on whether the law was broken, much less ten. The result is that the letter of the law is undermined by serious delay issues in enforcement discretion.

B. Ex-Ante vs. Ex-Post Enforcement Mechanisms

The result is especially problematic if a parallel with sector-specific regulation is drawn. Speed was supposed to be part of the system of industry-specific regulation. Industry-specific regulators were designed to understand the sectors and markets that they regulate. The assumption was that sector specific regulation would be more targeted and faster at resolving issues than general competition authorities.

Yet contemporary practice greatly understates this dynamic, and the line between generalist and specialist enforcement has blurred. As an opening observation, the system of regulation and antitrust now both operate in much the same way, following extensive investigation and consultation. This takes a considerable amount of time. The result is that there is no meaningful difference between *ex-post* and *ex-ante* systems of antitrust or regulation when looked at from the perspective of a market par-

³ The EU Commission investigation is considering acts in its ongoing, current investigation which took place as long ago as 2006.

ticipant or end customer. Indeed, the courts are now routinely quicker at resolving disputes than either sector-specific regulators or competition authorities.⁴

Take the *Microsoft* case: it took 10 years to establish that Microsoft was dominant in operating systems for PCs and was bundling its media player with its dominant operating system. The facts were non-controversial, and it should have been possible to decide the matter one way or the other in much less time. Looking to the *Intel* case, the issues and judgment calls were fairly clear cut and it is not unreasonable to think that the issue could have been decided one way or the other based on a timely and sensible assessment of the available evidence.

Currently the leading cases involve Google. There are many aspects of Google's behavior that are under scrutiny. For example, Google is alleged to self-promote its own apps on the Android operating system through a series of exclusivity agreements with handset makers that may prevent other apps being provided on that operating system. No one (except perhaps Google) is seriously arguing that Google is not dominant in online search: It has held a position of (super) dominance with over 90 percent market share for over 10 years. It is accused of distorting search results and promoting its own products across a range of on line sectors, both with relation to Android and in search results themselves. It has also entered exclusivity agreements with a small number of preferred on line advertising agents. It has exclusivity agreements with mobile handset producers, provides operating system software free of charge on condition that its applications and only its applications appear on the home screen of smart phones. These are not new issues or complicated problems; in fact, following the *Microsoft* case the law on them was carefully defined, taking some time and expense. Nonetheless, the cases drag on.

The effects of these activities distort what users can find, leading to monopoly profits because of the market dynamics outlined above. Imagine the boost to the economy if users had an undistorted view of the internet. This would be possible if the authorities enforced the law swiftly, providing practical meaning to the letter of the law rather than rewards from seriously delayed enforcement.

C. Promoting Regulatory Competition

The Commission might wail about EU exclusive jurisdiction on cases they are already looking into, but ten years to take action is far too long and a radical approach in the UK or other member states at national level might spur action to introduce an element of competition into enforcement. The French and German competition authorities are known to be frustrated by the lack of action, and this frustration is met by those facing exclusionary tactics from dominant online platforms. For instance, News Corporation complained recently about Google news aggregation, which also affects other news services, and many other sectors are affected, from maps and images to navigation systems.

If the above sounds harsh, consider the question in the following way: could the EU *Microsoft* case have been any clearer in its desire to protect a fringe of potentially more efficient competitors in related markets, from the risks of exclusion by a dominant platform? In fact, the point that EU competition law objects to this type of tying was clearly established as a matter of law. But the quickest glance at the state of many contemporary online marketplaces immediately reveals that the enforcement pattern is not applying the same stricture, which dominates the substance of the rule.

D. Who Bears the Enforcement Risk?

If the regulators in the EU and UK are moving slowly, do the regulates not also share the blame? BT was notorious in the 1980's and early 1990's for its regulatory policy of "walking slowly backwards." That isn't the current strategy but if the regulators are only "walking slowly forwards" what can we expect to see as outcomes? The tyranny of the status quo would seem to be a distinct possibility, driven by inertia.

⁴ See for comparison the fast track Competition Appeal Tribunal process, the availability of interim relief in access/abuse cases before the High Court, and compare with EU investigations of technology sector matters such as *Microsoft*, *Intel*, *Google*, or, in a UK context, the OFT's 7+ year investigation of CityHook.

Another significant factor in the problem derives from enforcement risk. Imagine for a moment that a new entrant with a more efficient product in a market historically dominated by a vertically integrated monopolist faces an exclusionary tactic. Here, the delay identified above is compounded by cost risks. New entrants face capital risk, especially when compared with dominant incumbents. They have limited time and money for private enforcement or making claims and complaints. Costs of court action can be significant under national rules that require the unsuccessful party to bear costs risks if they fail.

This means that plaintiffs claiming abuse can face ruination for asserting their rights, even where the claim is strong. It is, of course, normal to bear some cost risk and the risk of false positives must be managed. But the current state of play is far too cautious, as can be seen in the immense difficulty in litigation succeeding. It cannot be that all of these claims are incorrect; if that were so, the logical response would be to abolish the competition law. What starts to become ever clearer is that an enforcement pattern is robbing the law of its meaning.

E. A Wider Compliance Issue?

Broadening the issue to regulation of market more generally, are we seeing a problem that is a product of the system more generally? For example, how long after the financial crash did anyone take action against the concentrated financial system and a number of traders in banks who were rigging the markets? Does the fact that it took a long time to bring the players to account indicate a systemic issue with enforcement against dominant companies?

A particularly interesting aspect of the current environment is that there is renewed interest in sensible regulation in cases of market power. Perhaps the strongest evidence for this lies in a recent call in the Economist newspaper for responsive regulation in cases where markets do not measure up to their perfect ideal:

[The theory] says that in a competitive market, prices are a signal of the marginal value of goods to consumers as well as the marginal cost of goods to producers. Indeed it goes further. When prices (and wages) are set in free and competitive markets, the economy's resources are allocated "efficiently." In other words, no person can be made better off without making someone else worse off. In this theoretical Utopia, markets cannot be too free.

The theory is beautiful, and thus seductive. But it does not reflect any world that real people live in or might live in. There are several big objections to the free-market-as-nirvana view of economics. One is that some firms inevitably have market power. General-equilibrium theory assumes perfectly competitive markets made up of businesses that all set prices at marginal cost. In reality some industries will have a few number of large firms, either because of economies of scale or because of "network effects," which mean the more customers flock to a platform, such as Facebook, the more useful it is to others. Such firms have enough muscle in the marketplace to sell above their marginal cost; they can also pay below-market wages (so-called "monopsony" power). Such sand in the wheels is fatal to the socially efficient outcome of general-equilibrium theory... Dealing with such "market-failure" problems requires judicious regulation.

A powerful contrast exists between this renewed awareness of the importance of some degree of sensible regulation, and the extreme cases of delay and incumbent advantage outlined above.

VI. WHAT CAN BE LEARNED FROM THE EXPERIENCE?

If enforcement needs to speed up and to pay more attention to meaningful redress in the worst cases, one approach would be to move toward what is sometimes called a "gardening" approach: weeds that choke beneficial plants need to be weeded out.

A more fundamental enforcement question relates to how active that gardening role needs to be. At the risk of mixing metaphors, is it enough to do a spot of gardening from time to time, or is more active supervision required? In other words, is the game one of cricket, with a passive umpire, or is the better approach the more active role of the referee in a game of European soccer? On this approach, the EU cases above would seem to fit the stereotype of a cricket referee, and may be far removed from a more active approach.

One possibility, much practiced in other jurisdictions, would be to maintain vigilance through a system of market monitoring. In a sense, this was always the idea with the specialist regulators referred to above, and the specialized appeal mechanisms made available to them. Following the analogy, the cricket umpire essentially stands still. The referee is concerned to ensure fair play but is often misled by the professional foul. Perhaps modern games require modern technology and modern technical aids to assess breach of their rules. Cops and robbers involves enforcement with modern tools by those on patrol, who track what is happening and are vigilant to ensure that the law is observed.

Regulators must of course take care to ensure that they are not inadvertently harming markets, and to rely on evidence. Yet it is perfectly possible for a well-designed regulator to take a more active approach to evidence gathering and assessment. Although most regulators keep some level of detail on market dynamics on file, there may be scope to increase analysis of market performance to allow timelier responses. Indeed, the common deregulatory complaint that intervention is too competitor-driven might be addressed by keeping tabs on which markets are working well in a more detailed way. This is common in other walks of life, notably in finance where market modeling is critically important to investment decisions, because of the scope for market power to affect those decisions. Expanding the scope for this type of pro-active market assessment and monitoring might help address serious issues with delay, and ensure that enforcement follows those areas where market power issues are the most keenly felt.

It is important to emphasize that what is being said here is not a charter for widespread and indiscriminate intervention in markets: No intervention at all is needed where markets are working well. But the serious delay in recent cases and the very patchy enforcement pattern amounts to a systemic failure to enforce the law in cases where market power issues are significant, and the theory above faces the problems that even the Economist is flagging.

VII. SPECIFIC RECOMMENDATIONS

- Revisions to turnover-based tests. Companies with radically new and exciting technologies are acquired by dominant ones before they have high turnovers. They may have potential for high market power and hence be very valuable. Here, the recent moves in the EU away from mechanical application of turnover rules seems wise, and might be replicated in jurisdictions persisting in tests based solely on turnover.
- Increased attention to vertical foreclosure risks. A recurrent theme in technology cases is the increased risks of vertical foreclosure in markets with super dominant players and significant entry barriers. Analysis should reflect these increased risks, which are an order of magnitude greater than they were during the period when Chicago school thinkers called vertical foreclosure theories into question. Facebook, with over 2bn users is arguably dominant in social media. Google holds a market share above 90 percent in online search in Europe. Market power on the scale held by some platforms may be persistent and pose a serious exclusion risk to new entrants and their investors. Care is needed to adjust analysis to the fact that some vertical effects may now be considerably larger than horizontal effects, and deserve more analysis: the exact opposite of the familiar case in less concentrated markets of the twentieth century, in which concerns from horizontal effects were more likely to predominate.
- Pro-active *ex-ante* market monitoring. Lack of change means that the authorities are organized much as they always have been. They may organize into industry focused investigation teams. They may not. They don't require their teams to understand the market developments every hour of every day, indeed, not until after the fact. Typically investigation takes place only once the claim is made or complaint received, but there is no reason not to monitor performance in a sensibly designed way to ensure that the maximum efficiency benefits are seen from the application of the law. An additional benefit is that existing knowledge of the state of play would significantly undermine strategic abuses of information flows and document production, because a significant picture about what is happening in the marketplace would already exist to test against the market investigation rather than starting over.
- Forward-looking analysis of customer demand. A critically important instance of pro-active monitoring is the need to consider nascent demand in markets that may already be distorted. Seeing "demand" other than in terms of existing "products" is a

difficult thing to do but mistakes are inevitable in a system that examines everything with evidence of what has in the past fulfilled demand, without appreciating what that demand is and what could substitute for previously supplied products. The problem is compounded where the focus is on existing production channels rather than what customer behavior and demand suggests is desired.

- Supply side analysis of customer demand. From failure on the demand side there is then failure to assess and gather information and evidence from the supply side: forward looking authorities could be gathering and monitoring and horizon scanning: they need to do that to avoid being trampled by “unicorns” (Tech companies worth over £1bn) as well as “Purple Elephants” (tech companies being suddenly huge companies trampling all before them).

- Time limits and page limits. The inability of the backward looking information gathering systems to properly gather data is compounded by industry specific regulators having extraordinarily long consultation processes; over a year is not uncommon. Modern market analysis should be monitored by antitrust officials dedicated to following market developments and should be available as it is published by investment analyst and market research organizations, as would happen routinely in business analyses of market dynamics.

- Business strategy review. Ten years ago, there was much discussion of the abolition of notification systems. The issue is now less prominent, but the issue has not gone away and it remains the case that a carefully designed notification system is capable of helping to manage streamlined enforcement, and might be strongly preferable to a ten year investigation after the facts. Thought could helpfully be given to means for dominant companies aiming for efficiency improvements to communicate this clearly to the authorities through a (meticulously streamlined) notification mechanism. An incidental but important benefit is that management might be more alert to foreclosure issues as well.

- Prompt redress means decisions in a matter of weeks, not months. Another current problem is imposed on the regulators and antitrust authorities: the time taken in antiquated processes and administrative procedures internally is at least in part there because of the need to operate within an antiquated legal system. They have to operate within our general administrative law, through a crushingly slow court system and its venerated processes and timescales. Why do courts close in the summer? The modern business world does not take August off, but many regulators and courts still do. The default should be swift and sure justice unless there is a good reason for delay, which cannot simply, is the difficulty in finding cover. If we care about economic growth and productivity, this needs to change.

In summary, the theory is that existing laws can be applied to the technology sector, or possibly any sector moving at internet speed, without much change to the letter of the law: it is only necessary to change some elements of enforcement, and even then, the changes needed are not especially great to avoid the risk that enforcement has become so slow that it has dominated the letter of the law, at least in technology markets.

What would be reformed? Firstly, change to process and practice. Practice, process and simple things like types of data, length of submission, speed of authority response—with timescales and penalties for breach—would help. The output has to be faster decision making and a true “rule of law.” Secondly incentives such that being a lawbreaker pays needs to change. Greater emphasis on incentives for compliance and reward for good behavior are vital. The costs of the system are unbalanced and operate against the smaller player who is often the innovator. Stricter and swifter enforcement should trigger investment and certainty of outcomes can help make worthwhile, sustainable businesses that compete on their merits not their market power or the size of their legal budget. Finally, the enforcement system can be assessed in terms of improvements in certainty for investment which should lead to productivity improvements and stronger economic performance with all the benefits this increased efficiency can bring.

Would it be that difficult to change?

