REGULATORY AFFAIRS

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The meaning of COMPETITION in the digital age

Our thanks to:

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Introduction

Victoria Hewson

In November 2021, the IEA was pleased to hold, in partnership with the Information Technology and Innovation Foundation, a conference on the Meaning of Competition featuring leading commentators and academics in the field. The objective was to reflect, in the 75th anniversary year of Hayek's lecture of the same title, on current trends in assertive antitrust enforcement in the digital economy. Does Hayek's view of competition as a discovery process still hold today, in a world of social media and multi-sided markets?

The question is of pressing significance in light of policy developments in the UK and around the world. Earlier in the year the British government published for consultation its proposals to reform competition law, aimed at establishing a 'pro-competitive framework' for the digital economy. A Digital Markets Unit within the Competition and Markets Authority (CMA) will become a specialist regulator for firms with Strategic Market Status (SMS): 'substantial' and 'entrenched' market power in at least one digital activity, where this market power gives the firm a 'strategic position'. The regulations proposed, for conduct of business, merger control and remedies, are far reaching. Each SMS firm would be given a legally binding code of conduct, prescribing how it is to operate to ensure fair trading, open choices and trust and transparency for users, and to anticipate and prevent exploitation of consumers and businesses or the exclusion of innovative competitors.

As the (undefined) concept of 'digital markets' covers a wide and increasing proportion of services and activities, the new framework would hand powers over a huge part of the economy to a regulator that is assumed to know how to run these complex, dynamic businesses fairly and competitively.

At the conference, Michael Grenfell, an executive director of the CMA, started off proceedings, describing why the CMA considers that digital markets are not working as well as they should, due to the market power of a few, highly successful platforms. His frank and insightful speech, making the case for the regulation of firms that are considered to have SMS is reproduced here and opens this collection. His view is that the new framework is necessary to protect competition and innovation from being stifled by the most successful firms exploiting their market power.

Philip Booth challenged some fundamental assumptions about how market failures demand regulation by the state, when markets themselves can develop regulatory institutions to address some of the so-called failures. Cento Veljanovski took us back to our roots, asking what Hayek would have made of competition in a digital age – the answers are nuanced and perhaps more supportive of intervention than many may have assumed.

Finally, Aurelien Portuese, my co-organiser from the ITIF, explored some differences between Hayek's and Schumpeter's views on competition, and the important nexus between them, where both 'debunk the case for perfect competition and argue that ''imperfect competition'' allows for a dynamic competition which is the essence of the competitive process – namely, competition through innovation'. In Portuese's view, current policymakers adopt the vocabulary of this Hayekian–Schumpeterian nexus as cover to pursue a precautionary, risk-averse vision of dynamic competition that will lead to the preservation of current market structures at the expense of the true dynamism of the market economy.

All the contributions to the conference are available to view on the IEA YouTube Channel: Christian Ahlborn tested the basis for these interventions from his perspective as a legal adviser in the field; Joe Perkins, Benedict Evans and Thibault Schrepel made illuminating use of data to test the evidence base for the new *ex ante* powers; and Diane Coyle wants government to go still further and lead social media away from ad-based business models.

Mikolaj Barczentowicz dissected the case for 'procompetitive interventions' and mandatory data sharing and interoperability, questioning in particular whether such requirements would bring meaningful benefits to consumers, capable of outweighing the privacy and security risks they could introduce.

Renato Nazzini wondered if the UK may have alighted on a ‘third way’ approach, which, while flawed, is at least not as bad as the EU’s Digital Markets Act – perhaps not the Brexit dividend supporters of leaving the EU had hoped for, but a note of qualified optimism.

In the closing keynote speech, the Minister for the Digital Economy, Chris Philp MP, put forward a vision for the new framework as a ‘light touch’ regime. Anyone who has read the consultation document and the associated impact assessment and background reports, would have found that difficult to believe, but with the draft legislation expected early in 2022, we will know soon enough what the government understands by ‘light touch’.

Should competition authorities intervene in digital markets?

Dr Michael Grenfell

It is standard, even formulaic, for speakers at a conference to say what an honour it is to have been invited to speak there. But for me, at this ITIF/IEA conference, it is no mere platitude to say that.

Speaking at an event hosted by the Institute of Economics Affairs is, for me, a particular honour. Since I was a student in the early 1980s I have watched the work of the IEA with interest and admiration. I understood how in your early wilderness years you were a lonely, consistent, principled – and brave – voice for the economic and policy tenets you believed were good for our society. And then I saw how you were finally heeded and made the political weather, in this country and across the globe. Over the years I, like many others – whether or not they fully agreed with your analyses and your prescriptions, have learned a very great deal from you. It is an immense privilege to be able to make a small contribution to your deliberations today.

As for our co-hosts, ITIF (the Information Technology and Innovation Foundation), I'm afraid I didn't know you all those years ago when I was a student, for the simple reason that you weren't founded till 2006, a quarter of a century later. You bring a fresh perspective, based on studying the relation between public policy and new digital markets.

The fusion of the two organisations' specialisms – the IEA's tried and tested economic insights meeting the ITIF's insights into the dynamics of the new world of tech – establishes, it seems to me, an excellent basis for our deliberations today, on the subject of competition and digital markets.

I am well aware that there is a widespread view in the tech sector, and perhaps among some here, that competition and antitrust authorities and agencies – including the UK's Competition and Markets Authority (CMA), where I work – are the big bad guys in this story. Like any kind of busybody state regulator, it is said, we interfere in the smooth functioning of markets. And as with all such interventions, we supposedly make things worse for digital markets. Instead of rewarding innovation and giving incentives to more participants, according to this narrative the dead hand of bureaucratic interference stymies creativity and deprives the public of the transformational benefits that new tech has delivered and continues to deliver.

Let's start with some basics, and I apologise if what I'm about to say is a bit too obvious, but occasionally I think that, amid the immense complexity of work in this sector, the obvious does bear repeating. So, to rehearse the basics in this area, the first point is that market competition is hugely beneficial to all in society. Businesses that face effective competition dare not raise prices, or cut down on quality standards, for fear of losing customers to their competitors (and so losing money). So, when businesses face effective competition, they have every incentive to keep prices low, to improve quality – and to innovate, so as to make prices more competitive through enhanced efficiency, and so as to be able offer ever-improving products and services. We all benefit as consumers from this process, which is delivered by market competition. And because effective competition spurs businesses to increase efficiency, *overall* economic productivity improves, which in turn facilitates greater economic growth, and hence more job creation – so delivering enhanced economic well-being for society as a whole.

But the second basic point is that, just because these benefits are outcomes of a free and open competitive market, it doesn't follow that businesses should be wholly left to themselves. Adam Smith understood that businesses left to themselves can, and typically do, seek to protect themselves from competition. For example, they might choose to collude rather than compete. As Smith (1776) famously put it in *The Wealth of Nations*:

> People of the same trade seldom meet together… but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.

And if they do that, competition is diminished or eradicated, and its benefits as we've described them – such as the downward pressure on prices, the upward pressure on quality and the spur to innovation that competition delivers – are likewise diminished or eradicated.

Another, no less dangerous, threat to competition arises where a business acquires market power or dominance in a market. This occurs where businesses are either monopolies or so strong in a market that they are unconstrained in their commercial conduct by fear of losing customers to their competitors, and so – unlike businesses that face effective competition – those businesses with market power or dominance have far less incentive (and sometimes no incentive) to keep prices low, to keep quality high, to innovate. And that way both the competition and consumers lose out.

So, what does all this mean for digital markets and the new economy? Let me say at once, my view – and I think the view of most competition authorities – is that the digital revolution and the emergence of online platforms is overwhelmingly a force for good. It helps competition and innovation, and consumers benefit, enormously, as a result.

Let's take online shopping as an example. I appreciate that this is just one aspect of the multifaceted digital economy, but it is one which is familiar to most of us, for the simple reason that, as ordinary consumers, millions of us make use of it in our day-to-day lives.

Here are a number of pro-competition, pro-consumer benefits that the emergence of online shopping has delivered:

- First, at a basic practical level, it is really convenient to buy goods at the press of a button or the touch of a screen, from the warmth of one's home or (in a busy life) on a mobile service while travelling. And, of course, coronavirus lockdowns made that added convenience a near necessity – there was almost no other way to buy many products.
- Second, they represent an alternative to traditional 'bricks-and-mortar' shopping. This is not to say that online shopping is necessarily *better* than going to a physical shop. Each has its advantages and disadvantages; for example, it is often easier to browse goods, and feel their quality, in a physical shop, not to mention the pleasure that a shopping trip can bring. But the fact that the two alternatives are available is in itself a good thing: the competitive advantage of each enables them to spur each other on to innovate (click-and-collect is an example) and make a better offering to the consumer.

- Third, the convenience relates not just to shopping, but to *shopping around* – that is, we as consumers can more easily compare the offerings of competing suppliers to find the best deal. Online, we can shop around at the press of a button or the touch of a screen, without having to walk for hours or drive for miles. And if it's easier for customers to shop around, the retailers (and the manufacturers who supply them) have to compete that much harder to retain customers – their customers are more choosy, less 'captive'. They therefore have to strive harder to keep prices competitive, and quality standards high.
- Another innovation of tech – price comparison websites – facilitates this. If it is easier for customers to compare prices, suppliers must compete more keenly on price. So too for yet another innovation – online review sites – enabling customers to compare the quality of competing goods and services, thereby forcing suppliers to compete more keenly on quality too.

So, as a competition authority we see digital markets, the tech sector and online commerce and platforms as essentially good for competition, good for choice, good for consumers, good for innovation, price and quality – and ultimately good for all our economic well-being.

But let's remember Adam Smith's warning. If businesses are completely left alone, anti-competitive practices can emerge, and the benefits of market competition will be lost. As competition authorities, we need to be vigilant on this. There is a balance to be struck: we should encourage and support tech, but at the same time we must beware that tech companies don't overreach in such a way that the benefits they bring are lost to the public.

And the fact is that many of the big online platforms already have a degree of market power where their commercial conduct is not sufficiently constrained by effective competition, allowing them more easily to exploit their customers. The temptation is then to use that market power to reinforce it still further, squeezing out current competitors and blocking the path for new entrants, the potential competitors offering new waves of innovation. If that happens, we as consumers, and we as a society, risk losing the benefits of market competition I've described: lower prices, better quality, more choice, greater innovation.

So, there are clear and major benefits, for consumers and society, from the tech revolution. And there are also clear and major risks for consumers and society if tech corporations acquire, entrench and exploit market power. The role of competition policy and competition law enforcement is to steer a course where we capture the benefits and minimise the risks. As for the point about competition interventions punishing innovation, let me say this. It is competition that drives innovation, not monopoly. Of course businesses innovate in the hope of earning profits, and ideally monopoly profits! That is the Schumpeterian argument (Schumpeter 1942). But they compete more strongly to be the successful innovator, and therefore innovate more, when they face effective competition. That is the Arrow argument (Arrow 1962). So, we are generally unconvinced by arguments that we should leave the tech giants with market power for fear of harming innovation. They will innovate more, and better, the more they face competition.

Let us apply this to the real world of digital markets and talk about some specifics of what the CMA has been doing in these markets.

In July 2020, we published the report of our market study into online platforms and digital advertising. The market study had found that two major global tech companies, Google and Facebook – whose services so many of us use and benefit from – currently have market power in search advertising and display advertising respectively and, in addition, that this is accentuated by the presence of each company at various levels of its advertising supply chain often known as the ‘ad tech stack’, essentially vertical integration. Our market study noted, among other findings, that these factors make it harder for rivals (and potential competitors) to compete against the two tech giants and that, as a result, those two corporations are able to impose exploitative pricing and terms and conditions at both ends of the advertising market that depends on them: publishers of content (e.g. newspapers) displayed on the platforms and, at the other end, companies advertising their products on these platforms.

And these kinds of concern underlie some of the cases we are currently investigating under the Competition Act prohibitions on anti-competitive agreements and conduct – cases where we suspect that anti-competitive practices, reinforcing market power, might be occurring. They furnish examples of where, for all the benefits that the digital platforms have brought to consumers, their position and their conduct might now be detrimental to consumers.

- One such phenomenon is where platforms use business customers' data to squeeze out competition – for example, by copying products that they can then sell as their own or by gaining access to customer details to market directly to them. Without going into specifics, broadly this *kind* of issue – the suspected abuse of data obtained by a platform so as to gain a competitive advantage over business rivals – is the subject of an investigation we launched this June concerning Facebook, with the European Commission launching a parallel investigation.
- Another issue has been the announcement by Google that it proposes in effect to abolish third-party cookies on Google by way of a 'Google Privacy Sandbox'. The aim is to limit the spread of personal data to others, and it can be seen as a response to demands for greater protection of personal privacy. But it carries the risk that the third parties which would lose access to data as a result are rivals in digital advertising which are dependent on Google and which would thereby be placed at a competitive disadvantage in digital advertising, with a risk of reinforcing market power enjoyed by Google and distorting competition. So, in January this year we launched a formal investigation under the Competition Act. Because this has involved taking into account both competition and privacy considerations, I am pleased to say that we have throughout liaised closely and productively with the UK's privacy regulator, the Information Commissioner. And Google has engaged constructively with us; as we have announced, Google is proposing commitments with a view to an agreed resolution to address the CMA's competition concerns. We are not there yet, but the CMA is certainly willing to explore this route.
- A third issue is conduct by Apple in relation to iPhones, including specifically Apple requiring the suppliers of apps that appear on the iPhone to receive customers' payments exclusively through its own AppStore payment system, and prohibiting use of competing payment systems. This is a set of issues which other competition jurisdictions are looking at, including in the US antitrust litigation brought by Epic Games (the developer of Fortnite) against Apple and in the EU an ongoing competition investigation by the European Commission.

In the cases I've mentioned, we have relied on the CMA's existing competition law powers. But because of the need to gather evidence and hear arguments from all interested parties, which is necessarily time-consuming, and because of the procedural rights that are – rightly – accorded to businesses under investigation, applying traditional competition laws is often a slow process. As we all know, digital markets are, by their nature, fast-moving – so if we seek to protect competition by tackling anti-competitive practices in the traditional way, there is a significant risk that, by the time we have a decision (and by the time any appeals are exhausted), the damage to competition will already have been done, and market power will perhaps have been further entrenched.

To meet this concern, the Government – accepting the recommendations of the Furman Review, which it commissioned, and of the CMA's subsequent market study – is proposing a pro-competition regulatory regime to be implemented by a Digital Markets Unit within the CMA. This would set prescriptive rules for those platforms with particularly strong power in relevant markets – under a defined concept of 'strategic market status' – so that some of the risks to competition can be pre-empted *ex ante*.
It can't all be done by us at the CMA. Cooperation is needed nationally between public authorities with regulatory responsibility for digital markets, and last year the Digital Regulation Cooperation Forum was established, enabling us to work closely alongside other regulators with a strong interest in digital markets, including Ofcom, the Information Commissioner and the Financial Conduct Authority. Cooperation is also needed with fellow authorities internationally – the tech giants operate globally and we need to tackle any abuses globally.

I said earlier that this is about a balance between supporting tech and interfering when it overreaches. But actually that's not quite the right way to put it. As upholders of market competition, we welcome the innovation that the dynamic businesses in the tech sector have brought. They benefit consumers and the economy as a whole. We agree with those who warn that we need to be careful that our interventions don't weaken incentives to innovation. But it is precisely because we want to incentivise dynamic businesses and innovation that we are concerned about the risk that firms with market power behave in such a way as to reinforce that market power, creating barriers to new innovators entering the markets, and reducing or even removing the possibilities of and incentives for the kind of innovation that the tech revolution promises. And for this reason we will continue, with vigour, to address anti-competitive practices that threaten market competition and new entry by a fresh wave of dynamic innovators, and that threaten the benefits to consumers, to choice, to innovation, and to all of us in society that market competition – and digital markets in particular – can offer.

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Hayek on competition and antitrust in a digital age

Dr Cento Veljanovski

> [The market is] a system of the utilization of knowledge which nobody can possess as a whole, which … leads people to aim at the needs of people whom they do not know, make use of facilities about which they have no direct information; all this condensed in abstract signals … this mechanism is, I believe, the basis not only of my economics but also much of my political views.
>
> *Hayek (1994: 69)*

INTRODUCTION

F. A. Hayek's (1899–1992) central idea was that a competitive pricing system is the most effective way to coordinate economic activity and economise on the information and knowledge held by market participants in a world of generalised ignorance and change.

When Hayek formulated this view in the 1940s, he lived in an analogue and mechanical world. He could not have anticipated the spectacular development of computer technology, algorithms, smartphones and the Internet. It is natural to ask whether – given the way the digital economy is altering production, exchange and social relationships – Hayek's faith in the free market still has relevance.

HAYEK ON THE MEANING OF COMPETITION

Competition as a discovery process

For Hayek (1945, 1947, 1948, 1968) competition was a discovery process in a world of general ignorance. The rivalry between sellers generated prices that encoded the scarcity value of resources. The profit motive and entrepreneurship ensure that new opportunities and information are exploited. As a consequence, all the necessary information that producers, traders and buyers need to make decisions are encoded in competitively determined prices. This generates a 'spontaneous order' in which the decisions of buyers and sellers are rendered mutually compatible, and which adapts quickly to changes in circumstances and new information. There is no steady-state set of prices, production levels, investments and/or institutions. The market is constantly in flux and adapting to changing technological and economic factors. Perfect competition – with its assumptions of perfect information, rational behaviour, instantaneous adjustment and equilibrium – means 'the absence of all competitive activities' (Hayek 1948: 96).

For Hayek (1979: 68), competition in the free market was an information processing and transmission system: 'competition must be seen as a process in which people acquire and communicate knowledge.' He distinguished between information and knowledge, and between statistical data and knowledge. Knowledge is the localised understanding of particular circumstances by individuals. The price system economises on knowledge. Prices encapsulate all the information necessary to coordinate individual actions in a world where information and knowledge are decentralised and unknown. Hayek (1984) once referred to prices as the 'telecommunications system of the market'.

His view of competition was not just about economics. As a classical liberal he saw the market as the best guarantee of liberty, by which he meant the individual free from private and state coercion. As Hayek (1945: 45–46) stated: 'Liberalism … regards competition as superior not only because in most circumstances it is the most efficient method known but because it is the only method which does not require the coercive or arbitrary intervention of authority.'

Competition in a digital world

Hayek's case for a free market rests in large part on the superiority of competition in economising on and transmitting information and knowledge throughout the economy. This was at the heart of Hayek's demolition in the 1930s of the claims that central planners aided by computers could replace the free market. It follows that any technological innovation that changes the costs and benefits of assembling, processing and disseminating data will influence the way production is organised. It will affect the boundary between market and non-market, and the laws and institutions that arise spontaneously to support or supplant the market. This was the Nobel Prize–winning proposition made by Ronald Coase (1937). For Coase, and the New Institutionalists who followed (Williamson 1985), firms and non-market institutions evolved to economise on the costs of using the price system. To quote Coase: 'the distinguishing mark of the firm is the suppression of the price system' and its replacement by internal commands and administrative fiat.

Since Hayek wrote 'The meaning of competition' the world has radically changed. The communications and information systems of the developed economies have advanced beyond even the most optimistic visions of half a century ago. The development of data processing and computing power and the penetration of computers, smartphones, the Internet and online services have been phenomenal. Supercomputers can process vast amounts of data at great speed using sophisticated algorithms. Nearly every citizen has a smartphone that can process and receive data from all over the world and from nearly every source, and much commerce is conducted online. More is on the horizon. Quantum computing, still in the experimental stage, can process data at speeds of 100 qubits and is being scaled up to 1 million or more qubits. A quantum computer operating at 300 high performing qubits could simultaneously perform more calculations than there are atoms in the visible universe.[1] It is therefore natural to ask whether Hayek's views are outdated and need to be modified.

Computerisation and digitalisation have already reduced and will continue to reduce the processing costs of information. Algorithms and artificial intelligence (AI) hold out the prospect of coordination without the decentralised formation of market prices. Immense amounts of personal and other data are collected and used by online platforms with prices often playing no direct role. These developments, known as 'Big Data', raise the spectre of algorithmic markets driven by machine-based pricing software with some legal scholars excitedly predicting 'the end of competition as we know it' (Ezrachi and Stucke 2016). Others are resuscitating the case for central planning or, as we should now call it, 'algorithmic socialism' (e.g. Wand and Li 2020; Plaka 2020).

1 M. Mugia, Quantum computing comes out of shadows into public markets. *Financial Times*, 22 October 2021.

While Big Data and algorithms will alter the structure of production and the contours of the market, claims of the demise of the market are exaggerated. The discussion mistakes data for knowledge and places an exaggerated faith in technology. Yet it is compatible with Hayek's general approach that technological change will alter the boundary between market and authority and will lead to new forms of business structures and practices.

Business models – markets without prices

Many digital markets use personal data instead of prices to mediate transactions. Search and social networking are given 'free' of a monetary price in exchange for the personal data of their users. The data is generated by the activities of online users and monetised by online platform operators through their algorithms to sell products and advertising.

At the heart of the development of online platforms is the notion of a multisided market. Search and social media sites such as Google and Facebook have been described as 'attention markets' where competition takes place over non-price attributes to attract and maintain users' attention to their platforms and away from other platforms. In exchange, Google and Facebook harvest their users' data and monetise it by selling online advertising space. The 'attention' and online advertising 'markets' are related, but one has no 'price' while the other's price serves a more complex function of balancing the two sides of the market and exceeds marginal costs without necessarily being abusive.

This business model is neither novel nor untoward. While not in line with Hayek's focus on prices, it is nonetheless compatible with his broader view of the creativity and adaptability of markets. The advertiser-supported business model deals with the so-called chicken-and-egg problem faced by online platforms, i.e. how to gain sufficient users to attract advertisers to invest in the service. The solution is to give users the service for free and sell exposure to advertisers for a fee. The model has been used successfully since the development of electronic media by television stations (free-to-air or advertiser-supported television) and print media (free sheets).

Innovation

Hayek saw innovation as important but reflected in prices. A radically different view of competition was put forward by fellow Austrian Joseph Schumpeter (1883–1950). Schumpeter was not concerned with the superiority of free-market pricing, which he derided, but with the way capitalism reinvented itself. The driver of competition was not prices but innovation. 'The fundamental impulse that keeps capitalism in motion,' said Schumpeter (1942), 'is an innovation from new forms of capitalist firms.' Moreover, competition is not orderly but disruptive as encapsulated in Schumpeter's memorable phrase 'the gales of creative destruction.' Simply stated, Hayek's view of competition has become less central to the debate over the digital economy which revolves around innovation and technological progress.

HAYEK ON BIG FIRMS AND MONOPOLY

Hayek did not regard competition as synonymous with markets consisting of many small firms. Monopoly and oligopoly may be the most efficient ways to organise production because they produce goods more cheaply. There was nothing 'wrong in the ''monopoly'' profit of an enterprise capable of producing more cheaply than anybody else' (Hayek 1979: 83).

Big is not bad

Hayek was not exercised by the size of firms as the proponents of a more 'assertive antitrust' are. According to Hayek (ibid.: 77) 'there is no possible measure or standard by which we can decide whether a particular enterprise is too large.' There can be no general rule about the desirable size since this will depend on the ever-changing technological and economic conditions, and there will always be many changes that will give advantages to enterprises that may appear by past standards an excessive size. The most 'effective' size of the firm is 'one of the unknowns to be discovered by the market process' and would be determined by technological and economic factors.

On the 'big is bad' thesis that lies at the heart of the rise of 'assertive antitrust' Hayek (ibid.: 77) had this to say:

> The misleading emphasis on the influence of the individual firm on prices, in combination with the popular prejudice against bigness as such, with various 'social' considerations supposed to make it desirable to preserve the middle class, the independent entrepreneur, the small craftsman or shopkeeper, or quite generally the existing structure of society, has acted against changes caused by economic and technological development. The 'power' which large corporations can exercise is represented as in itself dangerous and as making

> necessary special governmental measures to restrict it. This concern about size and power of individual corporations more often than perhaps any other consideration produces essentially-antiliberal conclusions drawn from liberal premises.

The importance of contestability

For Hayek, ensuring the contestability of markets was paramount. Firms in free markets are constantly challenged by rival firms with better ideas, technology and business acumen. Even a market dominated by a large conglomerate corporation will be challenged by other conglomerates 'diversified beyond definable industry categories.' As Hayek (ibid.: 79) aptly put it, 'size becomes the most effective antidote to the power of size.' The best 'antitrust policy was to ensure that there are no government-created privileges and barriers to entry', which Hayek and fellow Austrian economists regarded as the major source of monopoly power.

Hayek's liberal antitrust

While Hayek was sceptical that there was a significant monopoly problem in a free market, he nonetheless accepted that a monopoly could abuse its market power. Hayek (ibid.: 84) wrote: 'While a monopoly may have achieved its market dominance by being more efficient, or by controlling limited resources, or by being more innovative in its earlier years, its behaviour can become problematic if it later uses its dominance to protect and preserve [its] monopolistic position after the original cause of [its] superiority has disappeared.'

Hayek (ibid.: 85) proposed that a monopolist's ability to price discriminate 'ought to be curbed by appropriate rules of conduct' where 'market power consists in a power of preventing others from serving the customer better' (ibid.: 72). This was best done by giving 'potential competitors a claim to equal treatment where discrimination cannot be justified on grounds other than the desire to enforce a particular market conduct' (ibid.: 85). That is, Hayek would prohibit price discrimination designed to exclude competition, but not all price discrimination, much of which is pro-competitive. Hayek (ibid.: 86) also would 'declare invalid and legally unenforceable all agreements in restraint of trade, without any exceptions, and to prevent all attempts to enforce them by aimed discrimination or the like by giving those upon whom such pressures were brought a claim for multiple damages.'

Hayek (ibid.: 87) rejected the public enforcement of antitrust. Public officials lacked the necessary information and knowledge and would inevitably exercise their discretion to distinguish good from bad monopolies, thereby ‘perforating’ the law with exemptions. Discriminatory laws, like discriminatory prices, were for Hayek illiberal. The potential competitors harmed by exclusionary price discrimination or a restraint of trade could sue through the courts for ‘multiple damages assisted by lawyers paid contingency fees.’

ASSERTIVE ANTITRUST

The second theme of these proceedings is the rise of ‘assertive antitrust in the digital economy.’ This refers to the present momentum to modify competition laws and create new regulations of online digital platforms in Europe and elsewhere. Big tech – principally Google, Amazon, Facebook (Meta), Apple and Microsoft – is seen as having run circles around slow-moving competition regulators, who have only suddenly realised that they are ‘monopolies’ intent on crushing competition and gouging their customers. These digital platforms are characterised as ‘gateways’ with considerable market power and who pose a threat to privacy, social relationships and democracy.

Some big tech economics

From an economic perspective many digital markets differ radically from the type of market that Hayek had in mind, such as his example of tin (see Crémer et al. 2019; Furman Report 2019; Stigler Center Report 2019). As already discussed, they are multisided markets based on network effects. Loosely speaking, network effects are demand-side economies of scale in the sense that the value of service to consumers increases with more consumers using a platform. Network effects mean greater consumer benefits and would seem to be something that should be viewed favourably. But, say the critics, there is a dark side to network effects. They lead to ‘winner takes all’ competition, which, together with significant cost economies of scale, big data and a host of exclusionary practices, create big tech monopolies impregnable to a competitive attack.

This view is not obviously correct, but it is beyond the scope of this talk to elaborate why (see Veljanovski 2021a,b). Suffice it to say that the major online platforms are vastly different beasts from the stereotypical conglomerate industrial firm. They are dynamic businesses continually innovating and offering consumers new and better services. Google, Microsoft, Amazon and Facebook invested over US$71 billion in 2017 in

R&D, second only to the pharmaceutical sector, and are ranked year after year as the most innovative firms globally. Big tech is ever-expanding their services, many at no charge to the consumer, unlike the textbook monopolist who reduces output to increase prices. Their customers can easily click on the next platform.

These observations are not to downplay the potential for anti-competitive abuses. Success in the market and the provision of cheap and innovative services do not excuse attempts to exclude competition. Nonetheless, regulators and politicians face a conundrum since the source of big tech's alleged market power is also the source of tremendous consumer benefits.

What Hayek may have said

It would be presumptuous to attribute opinions to Hayek which he did not express. Nonetheless, I will conclude with several 'Hayekian' speculations on big tech and assertive antitrust.

As discussed above, Hayek would not have endorsed the 'big is bad' mantra that is now in the ascendancy. He would have despaired at the largely static approach of much of the analysis of competition and the failure to develop a dynamic information-based approach to such analysis. Hayek would have rejected the idea that one could define a market which is a central feature of modern antitrust and merger clearance laws. Apart from this being narrow, the antitrust market definition fails to take account of dynamic and long-term factors especially in the fast-moving digital sector, and of how market power is likely to be constrained by myriad market factors. To be fair, the approach, like Hayek's, is price-centric. Nonetheless, Hayek would have had sympathy with broader concepts currently being discussed such as 'digital ecosystems' that consider the complex interaction of multisided digital platforms but would have seen this as misconceived. Surprisingly, Hayek would not have endorsed the consumer welfare standard developed in the US as the goal of antitrust and a feature of many antitrust laws.

It is not clear that Hayek would have opposed all aspects of the antitrust actions against the large tech companies. Like Hayek, European and US antitrust laws focus on the exclusionary conduct of 'monopolies'. The recent antitrust cases against Microsoft, Google and Amazon have all involved allegations of *non-price* discrimination designed to exclude their competitors. While Hayek confined his antitrust proposals to exclusionary price discrimination, this could be read as applying to all discriminatory tactics which are exclusionary. The problem for Hayek and antitrust enforcement generally is how to distinguish exclusionary practices from those which are meeting the competition on its merits.

What may have given Hayek cause for concern is the vertical integration of some large online platforms such as Google and Facebook that provide both the basic infrastructure of commerce and social media and at the same time compete directly with those using their platform. This causes a fundamental conflict of interest as the platform can favour its service while it harvests data on the sales, services and users of its downstream competitor's business. Google, for example, operates the search engine while being a major provider of online advertising space and specialised search services such as comparison shopping. This inevitably creates a conflict of interest as the platform acts as both 'umpire and player'.

Let me end by drawing attention to two controversial and surprising aspects of Hayek's view of competition. Hayek was opposed to intellectual property rights such as patents, trademarks and copyright. He saw these as state-supported monopoly rights which impaired the competitive process (Hayek 1948: 113–14). Secondly, Hayek (ibid.: 116) felt that limited liability and treating corporations as legal persons fostered monopoly: 'I do not think that there can be much doubt that the particular form [limited liability] legislation has … greatly assisted the growth of monopoly' and 'that size of enterprise has become an advantage beyond the point where it is justified by technological facts.'

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Regulation from market institutions

Prof. Philip Booth

Introduction

The usual way economists and, sadly, regulators think about regulation and competition policy is in terms of market failure. The problem with that model is that it obscures some of the most important features of real life. The model begins by making unreasonable assumptions about markets which, according to those assumptions, will always ‘fail’. However, governments do not have the knowledge, nor the incentives, to be able to ‘correct’ market failure.

This model also fails to recognise that markets themselves can develop regulatory institutions to address some of the so-called failures. One group of those private regulatory institutions is stock exchanges. The fact that the government, in 1986, decided to prohibit a private institution (the Stock Exchange) from regulating equity and gilts markets in many important ways on the grounds that the London Stock Exchange was inhibiting competition and that this act (Big Bang) is generally referred to as an act of ‘radical deregulation’ should perhaps tell us something.

In fact, it tells us three things. The first is that governments are not necessary to regulate markets. The second is that private institutions might, in fact, regulate markets more strictly than government regulatory bodies. The third is that the focus of economists should not be on so-called market failures being corrected by government bodies but on analysing the relative advantages of private and government regulation.

I will illustrate this by five examples, though not all relate to specific market institutions.

Example one: Private regulation and stock exchanges

In Britain, modern stock exchanges first developed in coffee shops, such as Jonathan's coffee house in Change Alley, where a group of 150 brokers and jobbers formed a club in 1761 superseding more informal arrangements that had existed since 1698. This club developed into the first formally (though privately) regulated exchange in 1801.

In the early years, the exchange was regulated by convention, reputation and informal rules. The first codified rule book was developed by the London exchange in 1812. This rule book included provisions for settlement, arbitration and dealing with bad debts. There were also rules about general behaviour designed to increase transparency (for example, partnerships among members had to be listed publicly) and about the quotation of prices. The exchange absorbed losses collectively from an event of market manipulation and the inappropriate use of insider information in 1814 while ensuring that those who attempted to profit did not gain. These are now matters that are entirely handled by government regulation.

In 1844 it became a requirement for securities to be sanctioned by the stock exchange committee before being listed on the exchange. This was the origin of listing rules. Without an orderly market, companies will not seek a listing, and, without reasonable listing rules, investors will be discouraged from trading on the market. Both are necessary to reduce the cost of capital to companies.

The ability of the exchange to determine its own membership and to set the rules by which members work was crucial. The benefits of those rules were excludable in that the benefits would not be obtained by companies not quoted on the exchange or by those involved in exchanging stocks and shares who were not members of an exchange with a good reputation: regulation was a club good and not a public good.

From 1909, members were prohibited from performing broking functions if they also traded on their own book – something which reduced the likelihood of conflicts of interest but which was abolished in the Big Bang.

A Royal Commission, which reported in 1878, noted that the exchange's rules 'had been salutary to the interests of the public' and that the exchange had acted 'uprightly, honestly, and with a desire to do justice'. It further commented that the exchange's rules were 'capable of affording relief and exercising restraint far more prompt and often satisfactory than any within the read of the courts of law.'

Not only were the benefits of the club rules excludable, it was possible for non-members to form a competing exchange with different rules, though exchange controls inhibited international competition for a crucial time after World War II. Furthermore, capital could be raised by companies on unregulated markets such as the eurobond markets. It is true that, according to our competition rules, the Exchange was a restrictive practice, but there was pretty strong competition at the margins.

The Big Bang came in 1986. This prohibited the Stock Exchange from imposing certain rules – indeed, some of the most important ones. Although, of course, exchanges can still make their own rules, increasingly this function has passed in the UK to statutory regulators (it did so much earlier in the US). However, we must be absolutely clear about what the Big Bang was. This was not, as is generally suggested, a Thatcherite experiment in deregulation. It was government limitation of the autonomy of private rule-making bodies on competition grounds as a result of an agreement between the Exchange and the Government to call off an Office of Fair Trading inquiry.

Example two: Professions

Until 1990, the accounting professions were independent and their standards formed recommendations to members of the profession. Those standards were produced by the profession. The first such recommendation, SSAP 1, published in 1971, was just eight pages long. In recent years, professions and their activities have been increasingly regulated by government bodies. The International Financial Reporting Standards dictating accounting requirements within the EU, for example, are now over 3,000 pages and they are imposed, in most circumstances, by governments whatever the nominal position of the standard-setting bodies themselves. Indeed, the standards have to be approved by the EU.

However, firms subjected themselves to audit long before governments required it. By 1926, 90 per cent of companies quoted on the New York Stock Exchange had audited accounts despite there being no requirement for them to do so. Professional bodies of accountants operating with their own rules were responsible for auditing. The American Institute of Certified Public Accountants had codes of conduct for its members, as would be expected by a professional body. However, it was carrying out roles that were neither licensed nor regulated by the state.

Of course, there were scandals – and this, in itself, is quite interesting. It is notable that many of those scandals in the US arose after the government prohibited the profession from imposing certain regulations on its members – specifically, for example, the government prevented the professional body (an independent rule-setting professional body of which nobody was required to be a member) from banning its members from advertising as such rules were deemed anti-competitive. Once again, we have private regulation undermined by competition policy.

I should add in passing that I am opposed to giving professions statutory reserved rolls: that has brought them into disrepute.

Example three: Industry agreements

The third story is industry agreements. This story is of a cartel. Cartels have a terrible reputation, but one of the purposes of a cartel is to provide regulation which can sometimes bring order to markets: this happens a lot in sport. It has been suggested that a cartel could, usefully, bring an end to free in-credit banking, which, in the long run, would increase competition. I suspect that some of the problems in higher education could probably be resolved if universities were allowed to act as a cartel in some specific areas. It would also be helpful if local shops were able to form cartels – which would be contestable cartels – to regulate things such as Sunday shopping hours.

However, this example is the insurance maximum commission agreement. Up to the mid 1980s, the insurance market developed mechanisms to regulate product sales through the intermediary market. Major insurers had a maximum commission agreement. This was an agreement between life insurance companies that limited the amount of commission that could be charged by intermediaries (such as insurance brokers) when selling companies' products. This helped to ensure that intermediaries made recommendations based on the soundness of the life insurance company the policies of which they were recommending, or on the basis of other characteristics valued by the purchaser, rather than on the basis of the amount of commission they would receive. Insurance companies were known to be either in this agreement or out of it and those that were out of it had an inferior reputation – they might have other advantages, however, such as being more innovative.

This agreement was abolished under pressure from the EU on competition grounds – presumably the main losers from this cartel were the brokers, which, to me, would not be a high public policy priority.

Since then there have been never-ending mis-selling scandals related to the sale of insurance products motivated by commission brokers received rather than by the needs of the customer. We now have literally thousands of paragraphs of conduct of business regulation relating to the sale of financial products as well as it being illegal to practice as an insurance salesperson unless the Financial Conduct Authority registers you. Tacit information – possibly the most important form of information in markets – has effectively been abolished by regulation to be replaced by formal processes and formal information provision to customers designed to ensure that products are suitable to them. Most of that information goes unread – for good reason.

On competition grounds (which, in my view, were spurious), we have replaced simple regulation through a market mechanism with complex regulation by a monopoly government regulator.

Example four: International Swaps and Derivatives Association

Derivatives markets also develop their own regulatory environment. Even off-exchange dealing is regulated by a private regulatory body, the International Swaps and Derivatives Association (ISDA). The ISDA's mission is to foster 'safe and efficient derivatives markets to facilitate effective risk management for all users of derivative products.' It achieves this by 'Developing standardized documentation globally to promote legal certainty and maximum risk reduction'. Members have to apply to join the ISDA and can have their membership revoked.

Members can choose to use the ISDA master agreement. This was used for 90 per cent of outstanding derivatives contracts at the end of 2016 of almost $0.5 quadrillion (again, people might raise an eyebrow from a competition perspective). In addition, as part of its regulatory function, the ISDA also has a dispute resolution procedure, which avoids reliance on government courts in most instances, and a Credit Derivatives

Determinations Committee. The latter uses a set of rules to determine whether a credit default event has taken place and thus whether counterparties to a derivative contract need to settle.

Example five: Uber

Uber is an individual company of course. But it has a clear regulatory structure for drivers and customers and also very clear ways of enforcing its regulations. Recently, Uber has come under the Competition and Markets Authority's scrutiny for a proposed merger. However, we should remember something very important. Uber is not just a platform for competition between drivers, it is a vehicle for regulatory competition. Customers (and drivers) can choose between the demand-responsive pricing of Uber, together with its mechanism for regulation of both drivers and customers and the fixed pricing of systems regulated by local authorities which some might prefer for specific purposes. We should have regulatory competition.

It is worth noting that this is all made more complex by the fact that Uber is now deemed to employ its drivers rather than act as a regulator for self-employed drivers and their customers. Nevertheless, the main point stands. Uber should be seen, at least partly, as a regulator which should be in competition with other vehicles for regulation.

Conclusion

Recognition of private forms of regulation has come from a surprising source. In his famous 'lemons' paper, Akerlof (1970) did not argue that institutions could not develop within the market to deal with problems such as information asymmetries, but he did argue that such institutions might accrue significant market power to which there might be objections. This is a much more subtle and insightful way of thinking about the problem than that of so many of his followers who talk about information asymmetries and the apparent resulting need for statutory regulation.

What we should be debating instead is the relative merits of regulation from different sources. And we should worry that, by obsessing about threats to competition, we undermine subtle regulatory institutions within markets.

Let me end by simply listing the factors which we should consider and be researching. These are the relative merits of government and market institutions in regulating markets:

- Private forms of regulation can be monopolistic or cartelistic and encourage restrictive practices, though they are always contestable by nature. However…
- Government regulation is monopolistic by nature and normally does not allow any regulatory competition whatsoever. Furthermore, regulatory bureaus such as the FCA do not have any meaningful process of accountability to the people in whose interest they are supposed to regulate. Competition authorities should always ask the question 'compared with what?' in any competition case.
- Private regulation cannot necessarily deal with broader public interest issues outside the domain of the market in which they are operating. However, these issues can be subject to special legislation.
- The sanctions available to private regulators may be limited – though they are extensive.
- On the other hand, government regulators might be taken over by interest groups including the industry that they regulate.
- And then there is the knowledge problem. Private regulators are exposed to competition, but government regulators lack the knowledge to know the optimal approach to regulation and lack any market discovery mechanism. Exchanges, for example, have to compete with each other.

The debates surrounding regulation have tended to assume that markets cannot develop their own regulatory institutions. History demonstrates that they can. Instead, we should debate two different questions. Firstly, the empirical matter as to the efficacy of private and state regulation. Secondly, there is the question of whether private regulation, in certain circumstances, gives rise to an undesirable concentration of power in private markets and whether that is more or less problematic than a government regulatory monopoly.

There seems to be a lack of curiosity from economists in relation to the development of regulatory institutions within markets themselves. However, many forms of regulation can be seen as a set of services which does not have to be provided by the state. Anybody with even a passing interest in the history of sport would appreciate that.

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Two meanings of dynamic competition

Dr Aurelien Portuese

Introduction

Today, as we celebrate the 75th anniversary of the Stafford Little Lecture F. A. Hayek delivered at Princeton University titled ‘The meaning of competition’, we have gathered an impressive group of talented speakers who have looked at Hayek’s lecture from a contemporary perspective. In his lecture Hayek defined competition as ‘a process which involves a continuous change in the data and whose significance must therefore be completely missed by any theory which treats these data as constant.’

By defining competition as a process where information is diffuse and thus conducive to an evolutionary discovery process, Hayek debunked the predominant idea of ‘perfect competition’. This textbook form of competition, Hayek argued, is neither desirable nor workable. Hayek distinguished static competition, which builds upon the theoretical model of perfect competition, from a dynamic competition that builds upon the practical reality of imperfect competition in disequilibria. Competition, Hayek summed up, ‘is by its nature a dynamic process whose essential characteristics are assumed away by the assumptions underlying static analysis.’

What have we learned from Hayek’s seminal lecture, which was later published in *Individualism and Economic Order*? Are antitrust enforcers and judges adequately accounting for competition as a dynamic process rather than a static market rivalry?

I will argue that today’s prevailing view of competition distorts Hayek’s insights in a way that undermines rather than reinforces competition. The modern approach to competition, illustrated by assertive antitrust enforcement across the Atlantic, does not refer to perfect competition. And yet, the analysis remains predominantly static. The modern approach does not ignore the role of innovation and non-price effects in competitive rivalry. And yet, the analysis fundamentally lacks a robust approach to innovation concerns. The modern approach does address competition as a process – the so-called 'protection of the competitive process' – to justify radical antitrust interventions and unbounded regulations. And yet, the analysis diametrically ignores the evolutionary nature of competition as a process.

Hayek distinguished between the two meanings of competition: static competition and the more appropriate dynamic competition. Seventy-five years on, we have before us two meanings of *dynamic* competition. The first and prevalent view of competition as a dynamic process aims at protecting competition as a process where a sufficient number of small competitors characterise an idealised market structure. In that regard, American Neo-Brandeisians and European Ordoliberals share the view of competition as a dynamic process that can only be preserved if the state intervenes to preserve the market structure and guarantee the freedoms of less competitive rivals to continue operating in the market. The second (and genuine) view of competition as a dynamic process builds upon a Hayekian–Schumpeterian nexus where competition preserves the incentives for market actors to innovate since these incentives are the engine of competition.

I now intend to demonstrate how the approach to dynamic competition as a justification for preserving the market structure distorts rather than protects competition, as mainstream voices claim.

When Hayek delivered his lecture in 1946, he was a professor of economic science at the London School of Economics and had published, in 1944, his seminal book, *The Road to Serfdom*. To celebrate Hayek's legacy in London about the adequate approach to the process of competition makes lots of sense. To celebrate it at the Institute of Economic Affairs is all the more relevant when we recognise the long-lasting relationship between Hayek and the Institute.

I am proud to have jointly organised the conference as the Schumpeter Project on Competition Policy of the Information Technology and Innovation Foundation. The aim of the conference is to rethink our approach to competition policy from an innovation perspective. I particularly thank

Victoria Hewson for helping to organise this timely conference. And this leads me to a preliminary remark before our inquiry on how today's notion of competition as a dynamic process is a travesty of the principles of dynamic competition.

The Hayekian–Schumpeterian nexus

In his lecture, as in much of his work, Hayek carefully ignores the writings and research of another Austrian economist who pioneered the study of innovation – Joseph Schumpeter. However, in his lecture only, it is striking how Hayek advocates for a dynamic competition by debunking the notion of perfect competition in a remarkably similar way to Schumpeter without ever quoting, referencing or acknowledging the author of *Capitalism, Socialism, and Democracy*, published in 1942.

In his lecture, Hayek cites 'Toward a concept of workable competition' by John Maurice Clark, who magisterially criticised the very premises of the model of perfect competition, too often used by economists back then. Instead, Clark depicted the model of perfect competition as opposed to a workable competition where firms have market power and generate profits, and can therefore compete effectively. Clark (1940) argues that this model of workable competition should be the one relevant to government officials:

> [Technical progress] would increase the number of industries which, despite large-scale production, have the characteristics of fairly healthy and workable imperfect competition, rather than those of slight-qualified monopoly. In such cases, one may hope that government need not assume the burden of doing something about every departure from the model of perfect competition.

Clark's insights constitute a formidable source of inspiration for Hayek's case against perfect competition as Hayek argues that:

> [W]e should worry much less about whether competition in a given case is perfect and worry much more whether there is competition at all. What our theoretical models of separate industries conceal is that in practice a much bigger gulf divides competition from no competition than perfect from imperfect competition. Yet the current tendency in discussion is to be intolerant about the imperfections and to be silent about the prevention of competition.

Hayek rightly pointed out that the contradictions of the proponents of perfect competition ultimately made an ironic case for monopoly. Indeed, perfect competition suggests that the competing firms act in a monopoly-like manner since there will be no excess of supply. ‘Enthusiasm for perfect competition in theory,’ Hayek argues, ‘and the support of monopoly in practice are indeed surprisingly often found to live together.’ This illustrates the radical proposals of treating large firms as public utilities, thereby creating the monopolies these very proposals intend to tackle.

Hayek’s case against perfect competition as both unworkable and undesirable markedly echoes the case made a few years earlier by Schumpeter (1942) in *Capitalism, Socialism, and Democracy*. Indeed, compare Hayek’s stance that ‘“perfect” competition means indeed the absence of all competitive activities’ with Schumpeter’s argument that:

> Perfect competition implies free entry into every industry… But perfectly free entry into a *new* field may make it impossible to enter it at all. The introduction of new methods of production and new commodities is hardly conceivable with perfect – and perfectly prompt – competition from the start. And this means that the bulk of what we call economic progress is incompatible with it. As a matter of fact, perfect competition is and always has been temporarily suspended whenever anything new is being introduced – automatically or by measures devised for the purpose – even in otherwise perfectly competitive conditions.

Both Hayek and Schumpeter debunk the case for perfect competition and argue that ‘imperfect competition’ allows for a dynamic competition which is the essence of the competitive process – namely, competition through innovation.

So, why did Hayek ignore Schumpeter’s case for imperfect competition as instrumental to dynamic competition steering innovation? The complex relationship between Hayek and Schumpeter lies in Hayek’s focus on dispersed knowledge as an alternative to the ‘perfect knowledge’ assumption implied in the perfect competition model. In comparison, Schumpeter emphasised the accumulation of knowledge as an essential part of distributional capacities necessary to turn inventions into innovations, thereby effectively enabling dynamic competition.

Indeed, when Hayek describes the theoretical assumptions upon which perfect competition lies, he lists:

1. A homogenous commodity offered and demanded by a large number of relatively small sellers or buyers, none of whom expects to exercise by his action a perceptible influence on price.

2. Free entry into the market and absence of other restraints on the movement of prices and resources.

3. Complete knowledge of the relevant factors on the part of all participants in the market.

And Hayek considers the assumption of perfect knowledge as 'one of the most important of the points where the starting point of the theory of competitive equilibrium assumes away the main task which only the process of competition can solve.' In other words, while perfect competition assumes perfect knowledge, therefore potentially leading to a situation of perfect competition tolerating monopolistic situations where the monopolist acts as a central planner, imperfect competition (or dynamic competition) presupposes dispersed knowledge through a decentralised market structure.

The Hayekian view of dynamic competition as a discovery process (i.e. an opinion-formation endeavour between firms of roughly equal size) distinguishes this Hayekian view of dynamic competition from the Schumpeterian view of dynamic competition where innovation capabilities build upon the ability to accumulate and process information into efficient facilities. In other words, while Hayek posits that dispersed knowledge is essential to dynamic competition, Schumpeter argues that the appropriability of knowledge makes dynamic competition effective. Although they disagreed on the assumptions of perfect competition and rejected the static analysis of competition, Hayek meticulously rejected Schumpeter's idea of imperfect competition as epitomised by the dynamic competition exerted by large-scale companies capable of producing the so-called 'gales of creative destruction' – namely, of innovating. On the other hand, Schumpeter grasped the efficiency and innovation logic underlying some large business entities:

> [P]erfect competition is not only impossible but inferior, and has no title to being set up as a model of ideal efficiency. Hence, it is a mistake to base the theory of government regulation of industry on the principle that big business should be made to work as the

> respective industry would work in perfect competition. And socialists should rely for their criticisms on the virtues of a socialist economy rather than those of the competitive model.

Regardless, the Hayekian–Schumpeterian nexus of debunking perfect competition as a theoretical model justifying government interventions whenever market reality departs from this textbook fiction remains powerful and instructional. Hayek focused on dynamic competition as characterising a desirable dispersion of knowledge. In contrast, Schumpeter focused on the need for dynamic competition as essential to the process of innovation which characterises the capitalist society. Unfortunately, Hayek's focus on dispersed knowledge and suspicion of large-scale companies may lead today's radical antitrust advocates to inaptly appropriate Hayek's view as justification for radical government intervention. This was illustrated in 2018 when Lina Khan, the 'Neo-Brandeisian' chair of the Federal Trade Commission, inappropriately referred to Hayek to justify the break-up of companies and the aggressive fight against 'monopolies'.[1]

Despite both advocating for a dynamic view of competition over a static view of competition as dominated by perfect competition models, Hayek and Schumpeter mostly disagreed on major aspects of competition. We can briefly summarise these as follows:

- *Bigness*: Hayek favoured smallness over bigness as he did not perceive the necessity of scale as part of the process of innovation. Schumpeter considered that the figure of the entrepreneur as not only inventor but, most importantly, innovator within large-scale facilities enabling innovation through the exercise of market power.
- *Incentives*: Hayek considered that uncertainty was the main driver of innovation and characterised competition as a discovery procedure. Schumpeter considered that certainty – the ability to extract rents and the thirst to enjoy temporarily monopolistic positions – was the main driver for entrepreneurs to innovate.
- *Structure*: Hayek considered that competition cannot exist unless enough firms are present in the market. Schumpeter considered that market structure is irrelevant since a single firm can still compete and innovate as long as the threat of entry through potential competition remains a credible threat.

1 See https://www.c-span.org/video/?445473-9/yelp-conference-antitrust-law-technology-panel-2 at 28 min.

- *Law*: Hayek considered that antitrust laws could and should ensure that the process of competition remains vivid. Schumpeter considered that antitrust laws are most likely to punish innovation efforts mischaracterised as 'monopolistic practices'.

While Hayek retained a view of the markets idealised as an information-sharing/spreading mechanism, Schumpeter entered into the black box of the firm to understand and account for the incentives of the entrepreneur depicted as the hero of innovation, the disruptive force of capitalism that drives economic growth through market power (at the microeconomic level) and generates the economic disequilibria that are needed (at the macroeconomic level).

In short, Hayek perceived dynamic competition as a discovery process. Schumpeter perceived dynamic competition as a disruptive process. Both emphasised the evolutionary nature of competition, with Schumpeter making innovation an essential component of this evolution and Hayek making knowledge an essential component of this evolution. Both agreed on the time-dimension of assessing competition dynamically. None accepted the assumptions and relevance of static, price-exclusive competition.

Indeed, the Hayekian–Schumpeterian nexus emphasises that competition is a dynamic process where an evolutionary rivalry enables market forces to generate transitory equilibria, fostering innovation and dispersion of knowledge in society. Nevertheless, this nexus is currently contested by radical reformers of antitrust policy – the American Neo-Brandeisians and the European Ordoliberals. They embrace the rhetoric of dynamic competition to advance a return to static analysis. Unfortunately, however, we live in an age of creative destruction as prophesised by Schumpeter and in an age of impossible central planning given informational constraints as prophesised by Hayek. Never has the Hayekian–Schumpeterian nexus been as relevant as today, and yet never have antitrust radicals and government officials been as keen to resort to the concept of dynamic competition in a way that betrays the notion of competition as an evolutionary process made possible by the entrepreneurial spirit.

Competition as a dynamic process under perfect competition

Perfect competition is back – surreptitiously for now, but back in mainstream economics and government enforcement. Indeed, under cover of the language of perfect competition, the return to old antitrust enforcement

– be it through a so-called Neo-Brandeisian or an Ordoliberal label – claims that markets are imperfectly working because of the presence of large business entities which monopolise markets.

The plan is to break up large companies, prohibit mergers, regulate large business entities like public utilities and reinstate government-run monopolies whenever possible. Free market ideas are not jettisoned. They are blatantly ignored. Rather, bills and proposed regulations aim to tame free markets and disrupt innovations whenever powerful incumbents can effectively capture the regulator with the help of populist anger over success.

Basing the current powerful assault on free markets and business success on claimed free-market principles is duplicitous! Because we believe in free markets, the proponents unashamedly argue, we need regulations, and we need to break up companies into pieces (or prevent them from merging) so that markets can become free again.

Free markets, for them, mean free competition, which itself means free entry and free exit – in other words, the opposite of any contractual arrangements since such arrangements inherently restrain trade and competition. Free competition is the cousin of perfect competition where market exchanges mystically take place without contractual restraints. It is a market without contracts, exchanges without well-defined property rights, since contracts are unacceptable restraints of trade and property rights are monopolistic claims and barriers to innovation.

The proponents of 'reinvigorating' antitrust laws essentially argue not only that large companies prevent smaller companies from competing but also that these large companies may inevitably become larger given the network effects inherent in the digital economy and that are overly prevalent in today's economies. To protect the competitive process, firms of roughly equivalent size should compete against one another; otherwise, the market would 'tip' towards one or a few companies. These market-tipping allegations – meaning nothing but a looser notion of no-fault monopoly or even the mere fear of future monopolisation – justify preventative measures aimed at downsizing the large and artificially protecting the small.

Rather than seeing competition as a discovery process, let alone as a disruptive process, the radical proponents of this kind of dynamic competition advocate preserving the market structure where monopolies are avoided in the first place. Still, even oligopolistic markets should not emerge under any circumstances. Irrespective of the competitive rivalry present in monopolistic or oligopolistic markets, they intend to reach this idealised market structure of perfect competition without the name. They intend to promote an atomised market structure in which no firm can effectively outcompete its competitors (i.e. effective prevention of oligopolistic or monopolistic structure of the market) under the misleading moniker of dynamic competition.

This return to a structuralist yet flawed vision of competition (and correspondingly of aggressive antitrust interventions) is based on a misguided view of dynamic competition. Since perfect competition has no legitimacy in rational economic decision-making, they tend to defend dynamic competition under an equally flawed market structure that prevents market tipping and its 'gatekeepers' from ever coming to the fore.

To advocate for a return to the outdated view of a structuralist approach to competition according to which competition only exists if small and atomised firms populate the market, these radical advocates needed to provide a pretense of science for their view of dynamic competition – or, at least, an objective standard of antitrust analysis. This was only possible after chastising the consumer welfare standard as providing support for an economically static analysis of antitrust laws. In other words, these advocates argued – convincingly to some – that because the consumer welfare standard may allow too many behaviours to go unpunished, it must be that the consumer welfare standard insufficiently accounts for dynamic competition. Harms to dynamic competition – or 'harm to innovation' – remain under the radar of antitrust authorities who operate under the consumer welfare standard, the argument goes. Consequently, disparaging the consumer welfare standard as an ill-suited antitrust enforcement tool and advocating for the protection of any firm's ability to compete and innovate on the market, these radical advocates end up defending speculative counterfactuals as part of their defence of 'the competitive process'.

How can it not harm innovation when a large firm can innovate at a greater pace than smaller firms, thereby preventing the latter from enjoying the expected benefits of their innovation efforts? How can it not violate the competitive process when large firms with massive research capabilities disrupt competitors and kick them out of the market, thereby preventing less efficient rivals from innovating and competing due to cut-throat competition? The excess of innovation and competition capabilities of some superstar firms prevent sluggish rivals from innovating. These are the unconvincing harms to competition the new prophets of dynamic competition aim at protecting us from. The welfare of the consumers, let alone the competitiveness of the overall economy driven by superstar firms and by gales of creative destruction, is utterly ignored for the sake of protecting the dynamic process of competition understood as an Ordoliberal version of every firm's ability to operate in the market as part of an absolute freedom (i.e. a legal entitlement) to twist the evolutionary process of competition to their advantage.

Antitrust radicals do not want more competition: they aspire to less competition. Contrary to their promise to 'reinvigorate' antitrust and boost competition, they lament the excess of competition whenever such excess takes the form of disruptive innovation.

According to the antitrust radicals, the evolutionary process of competition is better guaranteed whenever the government intervenes to ensure that every firm has an equal right and ability to compete and innovate in the market. In other words, disruptive innovation by one or a few players may considerably distort the market structure so that the competitive process becomes irremediably distorted unless the government intervenes.

This leads us to the third and fundamental aspect of the misguided construction of dynamic competition by antitrust radicals under the guise of protecting the competitive process. This aspect relates to the need for early and timely government intervention in the market. Otherwise, irreparable harms would irremediably unfold. To dynamically protect competition, antitrust radicals suggest that incipient doctrines and other preventative measures are necessary to avoid the very emergence of anticompetitive conduct in the first place. This philosophical underpinning of government interventions as early as possible to prevent harm to competition from arising subsequently directly applies essential elements of the precautionary principle.

In what I describe as 'precautionary antitrust', antitrust advocates recommend antitrust authorities intervene before monopolies or any anti-competitive conduct arise only for the hypothetical harm to the market structure understood as reduced consumer choices and reduced abilities for sluggish firms to innovate. To protect dynamic competition, antitrust radicals are ready to declare the end of antitrust with regulation. Antitrust radicals advocate moving away from antitrust's long judicially enforced rules by taking antitrust away from the courts.

In an unashamed weakening of the rule of law and a disregard of the virtues of the judicial process as an essential part of the Common law, they support a revolutionary shift from ex post antitrust enforcement to ex ante regulatory intervention. This shift surreptitiously embeds the precautionary principle in antitrust matters as it is positively biased in favour of precaution and the preservation of the status quo of the market structure and negatively biased against disruption and radical changes of the market structure. Moreover, because alleged harms to the consumer are too time-consuming and require a too high evidentiary threshold to investigate, precautionary antitrust recommends government intervention without evidence of any harm but merely a hypothetical risk of damage.

Consequently, de facto prohibition of mergers, regulation by size, the break-up of companies, interim measures and other regulatory obligations are imposed despite the innocuous nature of the practices subject to these stringent prohibitions. The precautionary logic enters the regulation of competition by arguing dynamic concerns.

With precautionary antitrust, officials err on the side of false positives rather than false negatives: they prefer caution, notwithstanding its costs to innovation, over disruption. In a society driven by rent-seeking activities through judicial and legislative processes, complainants about disruptors are the most vocal. They can effectively capture the regulator who internalises the political, judicial and economic costs of civilian conflicts among market actors.

Precautionary antitrust acquires its coercive power by stealth under the moniker of dynamic competition, although its existence and consequences are antinomic to the dynamic process of competition as protective of incentives to innovate. This is the true meaning of dynamic competition we now turn to as it has been distorted by influential actors after having been historically ignored.

Competition as a dynamic process under evolutionary competition

The fervour of protection of the dynamic competition process under assumptions of perfect competition remains a travesty of the very essence of competition as both a discovery process and a disruptive process under the Hayekian–Schumpeterian nexus. To alter the working of market forces to advantage smaller, less efficient firms because they would supposedly be entitled to survive in the marketplace irrespective of changing circumstances represents a weakening of competition rather than a reinvigoration. The incentives to innovate as a way of outcompeting rivals indeed inevitably diminish since rent-seeking activities from influential rivals weaponising antitrust and competition rules will deplete the entrepreneurial rents expected from innovation and competition.

Due to regulatory capture of government officials acting to 'preserve' the competitive process while undermining this very process, the current meaning of dynamic competition employed by antitrust radicals provides no adequate account of dynamic competition as an inherently evolutionary process that is antithetical to the assumptions of perfect competition. Indeed, dynamic competition, as opposed to static competition, suggests that entrepreneurs build up dynamic capabilities enabling them to generate, use and leverage market power so that the entrepreneurial rents hoped for can be appropriated in a process conducive to both innovative outcomes and competitive rivalry. And yet, antitrust radicals refer to dynamic competition while replicating the undesirable and unrealistic assumptions underlying perfect competition.

Genuine dynamic competition understands that perfect competition is the enemy of good competition: it represents the absence of competition where value appropriation through contracting and integration is impossible. However, value appropriation (or asset appropriability) is essential to innovation. This innovation process represents itself the main route for robust competition where rivals compete through particular knowledge. Moreover, such knowledge becomes used in a disruptive manner so that competition takes place not merely as an imitation game or a marginalist tit-for-tat game with rivals but rather as a radically disruptive (i.e. unexpectedly novel) way of competing.

Within this framework of dynamic competition through innovation, innovation is not only a positive side-effect of the competitive process – a claim that antitrust radicals would readily agree with – but most importantly, innovation represents the source of competition – a claim that antitrust radicals are keen to overlook.

Moreover, dynamic competition serves consumers. In that regard, dynamic competition fits within the consumer welfare standard. However, rather than being the endpoint, the consumer welfare standard constitutes the starting point of the antitrust analysis: in other words, a practice that does not hurt but benefits consumers cannot be in opposition to the dynamics of competition. However, a practice that does not immediately benefit consumers may contribute to dynamic competition, as it may be instrumental in building up the necessary dynamic capabilities for further competition. For instance, if a firm wants to increase its price to subsidise research and development expenditures to advance breakthrough research or enter new markets dominated by capital-intensive technologies, consumers may not immediately benefit from these price increases. Nevertheless, the company's likelihood of generating innovation and to subsequently exert further competitive constraints on incumbents in other markets will inevitably lead to consumer benefits.

Contractual restraints such as protecting intellectual property rights and securing vertical integration for minimising uncertainty costs may generate considerable competitive benefits rather than being anti-competitive. Whenever we err in equating any contractual restraint as anti-competitive conduct, we may generate unintended consequences where the most aggressive rivals are punished for disrupting the status quo. In contrast, restful rivals are rewarded with the status quo.

Against that background, the principles of dynamic competition would underlie that dynamic efficiency as the ability of the market to go from one equilibrium to another should constitute a fundamental objective of antitrust authorities.

Toward dynamic antitrust: meaningful competition

I started this discussion by inquiring what we have learned from Hayek's lecture on the meaning of competition specifically and what we have learned from Hayek in general. The answer is that, together with Schumpeter, we learned from Hayek that perfect competition represented by static antitrust analysis does not constitute a valid and legitimate account of the process of competition.

But we have learned it too well: opponents of the true dynamic process of competition have dumped any reference to perfect competition and embraced the notion of dynamic competition in a twisted way to advance their radical agenda of preserving the structure of the market in an effort to achieve an idealised vision of perfect competition in disguise. As perfect competition is meaningless, since it represents the absence of competition and is both impracticable and undesirable, the notion of dynamic competition as an instrument to secure a given market structure is equally meaningless. Dynamic competition takes place irrespective of market structure and irrespective of the size of companies. The only relevant metric remains the ability of firms to disrupt the status quo to compete through innovation for the benefit of both consumers and the overall productivity of the economy.

Rather than a meaningless and erroneous vision of dynamic competition as a Trojan horse to a structuralist return to outdated visions of competition, we have outlined the need to support meaningful competition, i.e. competition on merit, where the merits are innovation and disruptive competition. These are the principles of what we call ‘dynamic antitrust’ that government officials and intellectuals need to not only grasp but implement and advocate. Otherwise, a precautionary, risk-averse vision of dynamic competition would inevitably lead to preserving market structure at the expense of the dynamism of the market economy, however increasingly characterised by rapidly changing business environments.

Radical advocates such as the American Neo-Brandeisians and the European Ordoliberals, together with their distorted account of dynamic competition, need to face robust resistance; otherwise, instead of promoting true competition, the structuralist idea of protecting competitors will gain, covertly yet rampantly, ascendancy and remain dominant for a long time, generating in its wake a host of long-lasting unintended consequences. We need principles of dynamic antitrust based on the rule of law where legal certainty matters as a driver to innovation for entrepreneurs. Also, a generalised rule of reason better accounts for ex post antitrust enforcement than the blanket prohibitions of precautionary antitrust. Finally, we need principles of dynamic antitrust which fully recognise the entrepreneurial spirit of competing through innovation. Otherwise, radical reforms will substitute the entrepreneurial spirit of competition through innovation with the bureaucrat’s spirit of competition through regulation.

Hayek helped us debunk perfect competition. We now need to debunk the misguided view of dynamic competition and travel the road of dynamic antitrust with governance principles conducive to economic growth, shared prosperity and disruptive innovation for the benefit of consumers and collective competitiveness.

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