CWS/WP/200/52

WORKING PAPER

Competition Law and Digital Economy: Identifying Emerging Challenges

Atul Kaushik

JUNE 2019

CENTRE FOR WTO STUDIES

INDIAN INSTITUTE OF FOREIGN TRADE

COMPETITION LAW AND DIGITAL ECONOMY: ADDRESSING EMERGING CHALLENGES

A BACKGROUND PAPER

INDEX

I. INTRODUCTION

Ecommerce involves both Business-to-business (B2B) and Business-to-Consumer (B2C) sales, and were valued worldwide at USD 19.9 trillion and 2.2 trillion respectively by UNCTAD in 2015[1]. Retail ecommerce sales worldwide were USD 2.3 trillion in 2017 and are expected to reach USD 4.88 trillion by 2021[2].

The Indian ecommerce market was USD 38.5 billion in 2017 and is expected to reach USD 64 billion in 2020 and USD 200 billion in 2026[3]. India's internet economy is expected to double from USD 125 billion in April 2017 to USD 250 billion in 2020[4]. According to Joseph Meltzer, Senior Fellow, Global Economy and Development, Brookings Institution, the digital economy in India is expected to contribute USD 550 billion to 1 trillion in GDP by 2025, and add 1.5-2 million jobs by 2018 through its Digital India Initiative[5].

Technology and internet driven enterprises are benefitting from the digital boom. However, a number of characteristics of these firms set them apart both in terms of cornering business and consumers as well as challenges that governments face in supporting their contribution to the economy and the necessary regulatory framework to ensure a level playing field.

Modern competition law can be traced to the enactment of Sherman Act in the US in 1890. It has evolved over the ages, increasingly relying on "effects" or "rule of reason" rather than the original theory that any agreement to eliminate competition is "per-se" illegal. That evolution happened much before the digital age, but has a bearing on the way competition law treats the digital economy today.

Level playing field is not the goal of competition law generally. For example, deeper integration through mergers can allow for experimentation in a way that is not possible through just arms-length collaboration, which in turn will stimulate rivalry in innovation while not rewarding free riders[6]. In the case of firms in the digital economy, the determination of the level playing field and fostering competition becomes more challenging due to the sector being driven by disruptive innovation, increasing returns to scale, network effects, low marginal costs, lower entry barriers and readily available venture capital. Competition authorities worldwide are grappling with these challenges and the pace of

[1] Based on UNCTAD Press Release on the occasion of the launch of the "eTrade for All" initiative in 2016; see http://unctad.org/es/paginas/newsdetails.aspx?OriginalVersionID=1281&Sitemap_x0020_Taxono%20my=Information%20and%20Communication%20

[2] Statista.com website, at https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/, accessed on 9 August 2018

[3] India Brand Equity Foundation website, at https://www.ibef.org/industry/ecommerce.aspx, accessed on 9 August 2018

[4] Ibid.

[5] See https://www.brookings.edu/blog/up-front/2018/04/25/regulating-a-digital-economy-an-indian-perspective/, accessed on 9 August 2018

[6] See Greg Sirinski, Alex Okuliar and Lars Kjolbye (2017) Is Big Data a Big Deal? A Competition Law Approach to Big Data, European Competition Law Journal, 13: 2-3, pp 99-227, DOI 10.1080/17441056.2017.1362866

technology induction and disruption in the digital economy is ensuring they continue to evolve their thinking.

Apart from induction of technology and disruptive innovation, size of the digital economy businesses is setting up challenges for competition authorities. Last year, the United States Federal Trade Commission (US FTC), after examining a complaint against Amazon taking over Whole Foods for USD 13.7 billion, stated: "The FTC conducted an investigation of this proposed acquisition to determine whether it substantially lessened competition under Section 7 of the Clayton Act, or constituted an unfair method of competition under Section 5 of the FTC Act. Based on our investigation we have decided not to pursue this matter further. Of course, the FTC always has the ability to investigate anticompetitive conduct should such action be warranted".[7] In 2018, the Competition Commission of India (CCI) announced its approval to the acquisition of majority stake by Wal-Mart International Holdings Inc., the US retail giant, in Flipkart, an Indian online marketplace as it felt that there would be no appreciable adverse effect on competition by such acquisition. [8] Along with another US retail giant Amazon Inc., they would cover more than half of the total online sales in India[9]. CCI approval came despite concerns regarding deep discounting and preferential treatment of select vendors. The CCI stated that these issues will require a separate consideration under other relevant provisions of the Competition Act.

So, are there specific aspects of competition policy that may either be unique to, or be particularly relevant for, the digital economy? Also, what are the specificities of digital economy firms to be factored into the examination of any aspect of competition; may it be anti-competitive agreements, dominance or combination? Should such examination require *ex ante* consideration of these specificities? These are some of the issues dealt with in this paper. More than providing answers to these questions, the purpose of this paper is to give a background of the issues, concepts and businesses that underlie the digital economy as it interfaces with competition policy and law and to identify key competition related challenges in the digital economy.

The paper is structured in the following sequence. The next section deals with the basics of the digital economy and the third section with competition policy and law. Section four juxtaposes the digital economy with competition law and teases out issues requiring further consideration. The final Section discusses emerging challenges of dealing with the digital economy and possible ways to address them.

II. DIGITAL ECONOMY

II.1 Definitions

[7] "See https://www.ftc.gov/news-events/press-releases/2017/08/statement-federal-trade-commissions-acting-director-bureau, accessed on 23 November 2018
[8] The Economic Times, 9 August 2018
[9] Calculated based on sales data on www.statista.com, accessed on 9 August 2018

Digital economy, digitalised economy, internet economy or online economy is an economy based on digital technologies and uses communication and data processing to conduct its business[10]. The digital economy is unique in a number of ways. Digital services are characterised by network effects that promote concentration of markets. At the same time, service providers have multiple routes available for delivering digital services to end users, which can make the market contestable, meaning that market power can be challenged by entrants more easily and often faster than in more traditional fields of the economy. The combination of network effects and contestability give the sector dynamics that are fundamentally different from other sectors[11].

Ecommerce is the essential business vehicle of the digital economy, and has been variously defined. The WTO states that electronic commerce involves the production, distribution, marketing, sale, or delivery of goods and services by electronic means[12]. Also, e-products are content-based products that formerly were delivered in tangible form but now can be delivered in electronic form via Internet download[13]. The Organisation for Economic Co-operation and Development (OECD) defines e-commerce as anything that involves conducting electronic transactions, i.e., the sale or purchase of goods or services, whether between businesses, households, individuals, governments, and other public or private organisations, conducted online[14]. United Nations Conference on Trade and Development (UNCTAD), defines e-commerce as the trading of goods and services through electronic media[15]. According to the FDI guidelines notified by India, e-commerce means buying and selling of goods and services including digital products over digital and electronic network[16].

II.2 The basic attributes of a digital economy

The typical services offered by the digital economy are content or communication or a combination of the two. More specifically, the services offered to consumers include electronic communication services, information, social media, online shopping, games, cloud computing, searching, navigation etc. They are offered through the internet. Hence, these services are generally provided bundled with an internet service provider (ISP), in which case the digital service is typically delivered as an over-the-top (OTT) service.

In the digital economy, 'content' includes text, news articles, tweets, questions and answers, images, maps, software (including operating systems), audio, video and gaming. Further,

[10] See Challenges for Competition Policy in a Digitalised Economy (2015), ECON Committee of the OECD, at http://www.europarl.europa.eu/RegData/etudes/STUD/2015/542235/IPOL_STU(2015)542235_EN.pdf accessed 1 August 2018
[11] Ibid.
[12] See WTO document WT /MIN(98)/DEC/2
[13] WTO Appellate Body, Ibid. Fn. 7
[14] See http://www.oecd.org/internet/ieconomy/2771174.pdf, accessed on 5 August 2018
[15] See http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1438, accessed on 5 August 2018
[16] Press Note 3 (2016 Series), issued by the Department of Industrial Policy and Promotion (DIPP), Government of India

given the technology deployed, digitalisation has blurred the distinction between content and service; in certain services provided through the digital economy, the user herself creates content, as in facebook, twitter, YouTube etc., with the service provider only providing the platform. Recall when air and rail tickets started being booked online, the consumer started doing most of the work that the agent/service provider used to do earlier. There has been a metamorphosis of the platform provided by online ticket bookings of yore into a much more advanced version where the service/content providers and the consumer interact seamlessly to produce, deliver and consume the product. A platform, thus, now provides a technological basis for delivering or aggregating services/content and mediates between service/content providers and end-users.

Technologically speaking, the digital economy can be described as a complex structure of several layers connected with each other by an always growing and almost endless number of nodes. Platforms are stacked on each other allowing for multiple routes to reach the consumer making it (theoretically) difficult to exclude competitors. In comparison to the brick-and-mortar economy, the critical difference is that in digital economy the content can be distributed and duplicated at an amazing speed and at no apparent cost. Further, as the digital internet based market has a global audience, the roles of distribution and collection agencies, which supplied the physical logistics chains, has virtually collapsed. This has lowered transaction costs in various ways: one has only to look at the way digital economy operators providing taxi services and hotel services have brought down costs.

Cost structures of the digital economy are very different from those of the manufactured goods. Costs are typically made up of fixed costs and variable costs. Unlike manufactured goods and terrestrial services, in digital products and services fixed costs are sunk costs (primarily R&D and human capital cost) and variable costs are close to zero (in the light of ease of duplication or copying and distribution)[17]. Thus, competition can tend to drive the product price close to the marginal cost, since any revenue over the margin will contribute to recover the sunk costs and then make profit.

The ease of consumers to access and consume digital content online has provided new business opportunities both to established operators and new entrants. Online transmission is encouraging innovation and experimentation, resulting in creation of a variety of new services and business models. It allows for lower transmission costs per user compared to terrestrial transmission and more flexibility and scalability as compared to satellite transmission. It further allows the content providers to create user interfaces that can be accessed on multiple devices in a seamless way and are easily adaptable.

Digital content emerges basically from data. For example, personal data as a class fires digital content and gives value to those who own or possess it.

[17] A close approximation in the brick-and-mortar economy would be the telecommunication business, where after investing in acquisition of the airwaves, optical fibre and transmission towers, telephone companies have minimal variable costs.

II.3 Data as an Asset

"Data! Data! Data!" he cried impatiently, "I can't make bricks without clay" – Arthur Conan Doyle in his novel The Adventure of Copper Beeches.

Data can be a product, an input for some product, or commercially irrelevant. We know that data is valuable only once it converts into information and becomes an asset in the hands of a firm. If a firm relies on data, before it is characterised as an asset, one may ask three questions[18]:

a) is the data performing as a trusted asset for the firm;
b) does it contain the relevant information for the firm; and
c) is it delivering value?

If the answers are in the affirmative, data is an asset. Documents, emails, websites and institutional knowledge constitute typical unstructured data set in a firm. On the other hand, structured data set of a firm is comprised of databases. Each of these data sets can be a business asset if managed properly. Quality of data can be assessed based on its accuracy, validity, completeness, consistency and timeliness.

Digital economy is premised on data availability. Whether B2C operations like Uber and Airbnb, or B2B operations like Google and its advertisers, value of a transaction depends also on the availability, quality and quantum of data. In today's connected world, almost every action leaves a digital footprint and generates data. With increased digitisation more and more data is created, generated and shared each day. A firm gets data from its own internal activities and systems, government data, research data, social networks, and devices and sensors that today form the Internet of Things (IoT). The question is how much of an asset is it for firms.

Although the amount of data is growing exponentially and by some accounts doubling every two years, more data does not necessarily mean more value. With the emergence of Big Data Analytics, Machine Learning (ML), Internet of Things (IoT) and in particular Industrial IoT, and Artificial Intelligence (AI), access to data has become a valuable asset in the hands of firms in the digital economy as, when converted into information and then knowledge, it creates value for the firm[19]. Accessibility of data has further enhanced by the ease of making data available on the Cloud and the use of Application Programming Interfaces (APIs). Thus, what matters to a firm is its ability to harness data, and not the quantity or even the quality of data available to it.

---

[18] See https://www.dataqualitypro.com/data-is-an-asset-myth-diaku/ accessed on 4 August 2018

[19] Google has estimated that the value of personal data collected by it is USD 720 per person per year, see https://publications.parliament.uk/pa/ld201516/ldselect/ldeucom/129/129.pdf, para 204, accessed 2 August 2018

In simple terms, the purpose of data is to enable decision making by firms. Value of data, accessibility to data and sharing of data are the three key management issues before a firm to extract value out of it. Data architecture principles guide the firm's decision-making process about data and its related technologies. Principles of data architecture are a crucial input for aligning the portfolio of enterprise data with business needs. These principles form the basis for decisions regarding data, and define the processes for managing data through its life cycle within an enterprise and data technologies aid in selecting products and defining how these products are deployed and operate[20].

II.4 The value web

The dynamics of digital services and their delivery routes and competitive forces keep evolving as technology for platforms, content and delivery advances in the value chain.

The term 'value web' captures the specific characteristics of the digital economy better than the value chain. A value web can be seen as multiple interlinked value chains that have converged into a web of services and assets. In a value chain where suppliers are structured and called upon in flexible, modular and amorphous ways to meet projected business demand[21], supply chains are evolving into value webs which span and connect whole ecosystems of suppliers and collaborators[22]. Each service and asset is a node in the web. By using different combinations of nodes, there are multiple routes to deliver content or a service to end users. The value web, thus, is a superstructure housed primarily on two elements: platform, for aggregating service, content, software and operating system, and the internet service providers who are increasingly offering their services through the broadband.

Consumers experience this as they can watch the daily news via TV, websites, apps and social media, and they choose whether to watch the news at home or outdoors and on which device: phone, tablet, personal computer or the television. Service and content providers have many choices in delivering content or services. Most service and content providers offer multiple options simultaneously. Moreover, some firms are present at each step and have invested in their own assets. Other firms specialise in and build assets for only one step. While delivering a service to end-users, firms combine their own assets like content, brand or apps with assets of others like app stores, Internet access, and devices to create new services and an even more complex value web. This gives rise to enormous number of permutations and combinations for firms in the digital economy to adopt a business model that suits them.

II.5 Business models and strategies in the digital economy

[20] See, for example, https://www.tandfonline.com/doi/abs/10.1201/1078/43205.20.3.20030601/43078.11, accessed on 2 August 2018

[21] As defined by Cognizant on their website https://www.cognizant.com/perspectives/the-supply-chain-is-dead-long-live-the-value-web, accessed on 2 August 2018

[22] See Deloitte at https://www2.deloitte.com/insights/us/en/focus/business-trends/2015/supply-chains-to-value-webs-business-trends.html, accessed on 2 August 2018

A business model describes the logic of how a firm creates, delivers and communicates value to its customers and ultimately captures value for the firm itself. There are basically three business models for platform based digital businesses, mainly serving the OTT economy: the subscription model in which the consumer pays for a service (like Netflix, Chargebee); the advertisement model in which the end-users provide revenues indirectly by being exposed to advertising (like YouTube, Google, Trivago); and the access model in which the content or app developers pay to reach end-users (like Google Play)[23]. Another way to classify is to cluster the businesses based on attributes they add to the digital economy[24]. A common characteristic of such platform based business models is that they are based on exploiting network effects, which may be direct, as in Facebook, or indirect, as in eBay.

Strategies in the digital economy are driven by the changed ecosystem that ecommerce offers. Few businesses can escape the juggernaut of digitalisation; most leading brick-and-mortar businesses have either become ecommerce players themselves or opened up their wares to online sales and purchases. Strategy is made less in smoke-filled board rooms and more by the data scientists who feed the results of Big Data analytics to the decision makers. Disruption being the new innovation, the norm is either challenging the start-up competing with your business or joining him, resulting in collaborative innovation. Acquisitions and mergers are the rule rather than the exception in the increasingly connected and competitive business world. Google and Facebook, for example, have maintained dominance on the market by acquisitions of firms that compete with them. Google has made more than 200 acquisitions since 2001; Facebook has made 62 since 2005[25].

In the digital world, customer is even more the king; he is digitally empowered, impatient and multi-dimensionally wired, demanding enhanced customer service. Products are under continuous innovation and transformation, absorbing each small technological advance to stay relevant. However, deep pockets, either through legacy size and power of a firm or through venture capitalists chasing smart start-ups, allow for deep discounting to capture markets or edge out competition. For example, in addition to being a retailer, Amazon is now a marketing platform, a delivery and logistics network, a payment service, a credit lender, an auction house, a major book publisher, a producer of television and films, a fashion designer, a hardware manufacturer, and a leading host of cloud server space and computing power. By integrating across business lines and selling below cost to expand rather than rake in profits, it controls the essential infrastructure for a host of other businesses, including rivals. [26]

---

[23] Adapted from Challenges for Competition Policy in a Digitalised Economy, page 22, Footnote 10 above

[24] Karl Täuscher of the Fraunhofer Center for International Management and Knowledge Economy, Leipzig, uses a complex framework to classify business models based on 100 businesses and 82 attributes. See https://www.imw.fraunhofer.de/content/dam/moez/de/documents/Working_Paper/Working_Paper_Digital_Marketplaces_final.pdf , accessed 5 August 2018

[25] See http://www.observacom.org/sitio/wp-content/uploads/2018/02/Old-and-new-gatekeepers-Concentration-and-pluralism-on-Internet.pdf, accessed 23 November 2018

[26] Lina Khan, Amazon's Anti-trust Paradox, Yale Law Journal, Vol. 126, 2017, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2911742, accessed on 24 August 2018

Whatever the model and strategy used, the purpose is to attract the attention of the consumer. As such, busnesses compete with each other for an audience. The ability to compete for attention increases when a firm has multiple platforms in different areas and creates synergies by linking platforms through consumer data. By combining consumer data from multiple platforms, a multi service/platform operator can optimise the experience for both consumers and advertisers. This results in the network effects.

II.6 Network Effects

Network effects are basically demand side economies of scale. Network effects occur when a consumer's benefit from a product or service increases with the increase of the number of other users. A market exhibits network effects, or network externalities, when the value to a buyer of an extra unit is higher when more units are sold, everything else being equal. Network effects arise due to complementarities. Utility, therefore, goes up with the overall size of the network. For example, if I have an email but not many others know about it, my spread of business potential will be limited. If, on the other hand, it is available to a large number of other email users, the chances of our doing business together increases. This notion of network effects is often linked to Metcalfe's Law[27].

Network effects result in the first-mover advantage. The first player in a new market takes advantage of network effects and creates a positive spiral, making it difficult for others to enter into the market. The first player will also move down the learning curve more quickly, thus reducing the average cost of the product and creating margins that later entrants will find difficult to compete with. A network-based business that is able to build-up scale in the early stages will therefore increase its likelihood of emerging as the ultimate winner due to the self-reinforcing nature of network effects[28].

The growth potential of online businesses is also amplified by the tremendous value gained by collecting behavioural data and usage patterns of consumers. This data is then used to generate better, more efficient and more targeted services, once again highlighting the importance of acquiring more and more users at an early stage[29]. The concept of network effects, coupled with increasing returns, leads to the creation of a 'winner-takes-all' or 'winner-takes-most' phenomenon in the digital economy. There is a crucial role of the network effect in giving an advantage to the ecommerce business as compared to the brick-and-mortar business. It does not cost consumers either money or time to switch from one

[27] The value of the network to each user is proportional to the number of other users. The total value of the network is proportional to n x (n-1) = n squared - n. (n is the number of users in the network

[28] See Economides, Nicholas at http://www.stern.nyu.edu/networks/Economides_Economic_features_of_the_Internet_and_network_neutrality.pdf accessed on 4 August 2018

[29] Avirup Bose and Smriti Parsheera, Network Effects in India's Online Business: A Competition Analysis, at http://www.cresse.info/uploadfiles/2017_pa14_pa2.pdf, accessed on 4 August 2018

website to another on the internet, whereas shifting choices in the traditional economy can cost both.

Network effects can be direct or indirect. Direct network effect arise when the value of a product or service is directly proportional to the number of users; the more the number of the users, the higher the value. For example, for Whatsapp users, the utility of the social media platform is dependent on the overall size of the network. Indirect network effects arise where higher usage rates for one product or service increases the attractiveness of that network for another group. For example, game developers like Farmville create applications for Facebook users attracted by the massive popularity of the social network, and Facebook users profit from the game application played on that platform. Likewise, the more people use eBay or OLX to sell their spare items, the more buyers are attracted to the platform, and the more sellers will list their products. The direct network effect makes the platform more attractive for consumers if the total number of consumers grows. The indirect network effect makes the platform more attractive for consumers (service/content providers) if the number of service/content providers (consumers) grows[30].

II.7 Multisided markets and cross-platform network effects

An organic offshoot of network effects is the multi-sided markets. A typical market has a single side where there is a seller who supplies and a buyer who has a demand; the source of purchase of the seller is not directly connected with the buyer. In multi-sided markets, two or more entities that need each other for their business get together and they become buyers and sellers for each other. Multi-sided markets happen on platforms. Thus, a multi-sided market is a market in which a platform enables sale of different products to different groups of consumers, while recognising that the demand from one group of customer depends on the demand from the other group.

In traditional markets, many suppliers and buyers create the matrix where they coordinate to create value and profitability. Coordination is primarily achieved through price discovery, and multi-sided markets can provide that. Uber, Airbnb and eBay are typical examples of multi-sided markets that resolve their coordination problems by coming together on a single platform and sharing data.

While a firm that is active in a multisided market generally must serve at least two distinct customer groups, constituting the different sides of the market, most definitions stipulate that there are indirect network effects between these two or more customer groups. The presence of indirect network effects between market sides affects the price setting mechanism and the competitive interaction in these markets. When a market reaches equilibrium and everyone joins only one of the available networks or platforms, tipping happens as network effects make the markets *ceteris paribus* more likely to tip[31].

[30] Ibid.

[31] Alex Gold (2010); Tipping in Two-Sided Software Markets: An Investigation of Asymmetric Cost-Differences, available at https://pdfs.semanticscholar.org/92d7/b7b8cc42daef9bbd305d5a223f8947e57baf.pdf , accessed 5 August 2018

II.8 Tipping point

Tipping is the tendency of one system to pull away from its rivals in popularity once it has gained an initial edge[32]. The reason is that while a particular platform grows, the network effects make it increasingly difficult for competitors to challenge the position of that platform. As such, first-mover advantages can make huge differences and the competitive game may result in a winner-takes-all outcome. It can potentially emerge as the industry standard, adding further to the strength of the tipping effect. When Windows won the tipping war against the Mac, the former became the default industry standard. As incompatible hardware firms vie for market dominance, they may engage in aggressive penetration pricing strategies, battling for the initial advantage that will ultimately tip the market in their favour[33].

Tipping may not always happen. Consumers of video games continue to have three main options for gaming consoles: from Nintendo (Switch), Microsoft (Xbox) and Sony (Play station). Similarly, consumers have many choices to access credit card platforms, such as Visa, MasterCard, American Express, and Diners, or air travel booking sites options such as Expedia, Kayak, CheapOAir, Orbitz, Travelocity, MakeMyTrip and so on. And there are many dating sites on the Internet. In each of these three industries, consumers have enjoyed a choice of platforms for many years. Unlike what happened with Windows and Mac OS, none of those markets has tipped to favour one over the others[34].

II.9 Use of Algorithms in the Digital Economy

An algorithm is an unambiguous, precise, list of simple operations applied mechanically and systematically to a set of tokens or objects (e.g., configurations of chess pieces, numbers, cake ingredients, etc.). The initial state of the tokens is the input; the final state is the output[35]. Simply put, it is a sequence of rules that should be performed in an exact order to carry out a certain task.

In the digital economy as elsewhere, algorithms are used to perform repetitive tasks involving complex calculations and data processing automatically. When algorithms are combined with artificial intelligence and machine learning, it enables businesses to make predictions to assist in the achievement of business goals. Algorithms are being increasingly used by businesses.

[32] Katz and Shapiro 1994,, at http://faculty.haas.berkeley.edu/shapiro/systems.pdf, p. 106, accessed 5 August 2018

[33] See http://faculty.chicagobooth.edu/guenter.hitsch/papers/Tipping-Indirect-Network-Effects.pdf, accessed 5 August 2018

[34] See https://insight.kellogg.northwestern.edu/article/why_markets_tip_to_one_platform_or_not , accessed 5 August 2018

[35] Wilson, R. A. and F. C. Keil (1999), The MIT Encyclopedia of the Cognitive Sciences, MIT Press

Algorithmic business refers to the use of complex algorithms to improve business decisions and automate processes for competitive differentiation[36].

The key uses of algorithms by online businesses are for predictive analytics to measure the likelihood of future outcomes based on the analysis of historical data and to optimise business processes, allowing businesses to gain a competitive advantage by reducing production and transaction costs, segmenting consumers or by setting optimal prices that effectively respond to market circumstances[37]. The employment of algorithms for predictive analysis and optimisation of business processes has multiple practical applications in the digital economy, in particular supply-chain optimisation, targeted advertising, product recommendation and dynamic pricing.

Algorithms can assist in improving, refining or developing products and services in a number of ways. For example, search engines like Google Chrome use data to deliver more relevant and high-quality search results. Leveraging consumer use of their online platform, online businesses learn from user search queries and clicks, identify the most relevant results for specific queries and use the data to provide additional value-added services to users. Some e-commerce sites use past purchase information and browsing history to make personalised shopping recommendations for users. Online media outlets use browsing history and personal information to recommend other articles that may interest a user[38].

Pricing algorithms have been used to great benefit by digital economy players for supply side efficiencies, particularly in the business of offering travel and hotel services (pricing tickets/rooms based on supply-demand match) and taxi services (surge pricing). Pricing algorithms learn through trial and error and through finding patterns from a great volume and variety of data, leading to optimal pricing. As businesses collect additional user data and algorithms experiment more with that data, such as presenting items and suggesting other purchases, pricing becomes more dynamic, differentiated and personalised[39]. Similarly, algorithms can help consumers in making more rational choices in purchases, based on price and quality comparisons and prediction of market trends. A typical example is the travel comparison website Trivago[40], which allows consumers to compare types of accommodation offered and prices listed in various travel/hotel service providers, enabling the consumer to make the most suitable choice. More advanced consumer oriented algorithms can also cover

[36] Ezrachi, A. and M. E. Stucke (2016), "Virtual Competition: The Promise and Perils of the Algorithm Driven Economy", Harvard University Press, United States

[37] OECD (2017), Algorithms and Collusion: Competition Policy in the Digital Age, available at www.oecd.org/competition/algorithms-collusion-competition-policy-in-the-digital-age.htm, accessed on 11 August 2018

[38] Ibid

[39] Schumpeter (2016), Flexible Figures, A Growing Number of Companies are Using 'Dynamic' Pricing, The Economist, available at www.economist.com/news/business/21689541-growing-number-companies-areusing-dynamic-pricing-flexible-figures, accessed on 11 August 2018

[40] https://www.trivago.in

considerations such as market structures and collective action issues, coordination among suppliers, creating buyer platforms by pooling or aggregating similarly situated consumers.

II.10 Gatekeeper Position

A common characteristic of a platform based business model is that they are based on exploiting network effects, whether direct or indirect. Digital businesses compete by attracting the attention of end-users. When competing for audience, they grow by maximizing consumer's value of the total proposition offered. One of the modes of beating competition is gate-keeping. Gatekeeper positions are efficient in filtering data. The typology of gate keeping mechanisms espoused by Karine Barzilai-Nahon and Seev Newmann[41] lists ten types, many of them benign and network friendly. But, from the business point of view, the digital platform operator aims at making itself indispensible for both the end-users as well as advertisers, and places itself in a gatekeeper position[42].

Digital platforms act as the intermediaries between customers and businesses. However, from being a gateway to the internet, they at times become gatekeepers for businesses seeking to offer consumer services on the net. They place themselves in a gatekeeper position by using personal data to create synergies. Gatekeepers may create competitive imbalances such as unilateral changes in terms and conditions, delisting and user rankings.

Smaller service providers tend to prefer inter-operability so as to quickly generate a large customer base. Large multi-platform firms, on the other hand, prefer inter-operability only when another platform is highly complementary, like the option to integrate your Facebook and Netflix accounts. Consumers can switch between different platforms more easily now-a-days and even use multiple platforms simultaneously, referred to in the literature as multi-homing. However, given their power, large multi-platform firms create gatekeeper positions to deny access to smaller firms or to consumers in general. Eli Pariser, in his recent book, has for example identified the phenomenon that search engines indulge in censorship while serving as a service.[43] That too is a form of gatekeeper position.

Intellectual Property Rights (IPRs) can also act as gatekeepers. This becomes even more complicated where inter-operability across device manufacturers like smart phones, and service providers like social media sites requires meeting certain basic technological standards, which in turn may be based on on a combination of patented technologies captured in the term Standards Essential Patents (SEPs). In order that SEPs do not acquire a gatekeeper position or generate negative externalities, owners of SEPs typically commit to licensing out on the basis of fair, reasonable and non-discriminatory (FRAND) terms. However, if the

[41] Katrine Barzilai-Nahon and Seev Newmann, page 11, at https://www.researchgate.net/profile/Karine_Nahon/publication/228876470_Gatekeeping_in_Networks_A_Meta-Theoretical_Framework_for_Exploring_Information_Control.pdf?origin=publication_detail, accessed 23 November 2018

[42] For examples on how algorithms can work as gatekeepers, see fn 36, *op cit.*

[43] Eli Pariser (2011), The Filter Bubble: What the Internet is Hiding from You, The Penguin Press

developer or owner of an operating system has a design patent which can typically be used without having to licence and also is typically not essential for entering a market, no FRAND commitment is expected as a market tradition for them.

II.11 Deep Discounting

Entry of online sales platforms has been followed almost immediately by the practice of offering massive discounts that the offline sellers cannot match, giving rise to the term deep discounting and considerable controversy about the ethics and legality of the practice.

Competition law the world over examines predatory pricing for its possible anti-competitive effect. The predator is normally a dominant firm that sets the price so low for such a period of time to ensure that its competitors leave the market and even newcomers are deterred from entering. For predation to be rational there must be some expectation that the losses incurred or profits foregone are made up by future gain. This assumes an expectation of the predator to gain an exploitable market power. Efforts to improve the conditions for entry and expansion in a given market including removal of barriers to international competition help combat the threat of effective predation. Predatory pricing is, however, a complex form of anticompetitive conduct. It has to be seen in the context of the otherwise legal and logical competition goal of price competition as a benefit to the consumer, which, of course, is mostly achieved through efficiency of production, operation etc.[44] Predatory pricing can succeed only when markets do not function properly. However, if consumer welfare is the theoretical basis of competitiveness, predatory pricing … never or almost never reduce(s) consumer welfare.[45]

The USFTC questions deceptive pricing and has developed guidelines for the same. For example, if a vendor advertises deep discounts against an earlier price that is inflated or fictitious or on which price the product was never actually offered for sale, it will be termed as deceptive pricing under Part 233 of Title 16 of the Code of Federal Regulations.[46] NGO Consumer Watchdog found in a study that of the products Amazon sold online giving discounts on list prices, 61 percent quoted list prices higher than the price at which Amazon itself had sold in the previous 90 days. USFTC probed that angle while examining takeover of Whole Foods by Amazon, and Amazon had settled a similar investigation in the Canadian Competition Bureau for a million Canadian dollars.[47]

Amazon sold its Kindle and e-books at much below cost price between 2007 and 2009 resulting in capture of 90 percent of the e-book market in the United States.[48] No action

[44] See https://www.oecd.org/competition/abuse/2375661.pdf, accessed 24 November 2018
[45] See footnote 26, page 722
[46] The Guide is available at https://www.ftc.gov/enforcement/rules/rulemaking-regulatory-reform-proceedings/deceptive-pricing, accessed 24 November 2018
[47] See https://www.reuters.com/article/us-whole-foods-m-a-amazon-ftc/ftc-probing-allegations-of-amazons-deceptive-discounting-idUSKBN1A52R5, accessed on 24 November 2018
[48] See footnote 26, page 757

against this predatory pricing policy was taken by the USFTC. Instead, when Apple got into a deal with the six big publishers to sell their books at list prices where Apple would get a 30 percent discount, forcing Amazon to abandon its below-cost pricing of e-books, the US Department of Justice (DoJ) acted against Apple for colluding with the big six publishers for raising e-book prices.[49] Both DoJ and the district trial court Judge treated Amazon's policy as loss leading rather than predatory pricing. The fact was that Amazon was selling both its Kindle e-book reader as well as the e-books at heavy discount to capture the market for both.[50] Such price manipulation is easier on online market places as price differentiation based on different components of the market can be used to recoup losses, without the recoupment taking place for the same product. Online marketplaces like Amazon can more easily reach dominance and exploit data received from customers without the risk of permanent losses.[51] In placing recoupment at the centre of predatory pricing analysis, the Court in a case decided much earlier presumed that direct profit maximization is the singular goal of predatory pricing.[52] Therefore, one researcher believes that antitrust law and competition policy should promote not welfare but competitive markets.[53]

The EU Competition Commissioner has initiated a scrutiny into Amazon being both competitor and host to third party merchants selling via its website[54]. However, the scrutiny is regarding the competitive edge that Amazon might be gaining due to the immense consumer data it collects on its platform, including for third party products offered for sale there.

The economics and law behind predatory pricing is quite clear: the sale has to be below cost for a long time with a view to edge out competition and then hike prices to make profits. But it may not work in every business type. Drew Madison, owner of restaurants like Red Lobster, Olive Garden and Longhorn Steakhouse, says deep discounting doesn't work in the long run because it only artificially drive traffic and sales strength typically in the short term and has a very significant long term cost. It trains your guests to expect that your experience rests on what the discount is, and it also makes it difficult to maintain your restaurant and overall business model over time, especially in more normalised environment.[55] Nevertheless, deep discounting may make business sense in certain cases and it may also not be an anti-competitive issue. For example, most casino operators in places like Las Vegas give rooms at deep discounts or even free after assessing the value of business the guests may generate on their casinos.[56]

---

[49] Ibid., page 758
[50] Ibid., page 761
[51] Ibid., pages 280-283
[52] Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209 (1993)
[53] See footnote 26, page 737
[54] See https://www.ft.com/content/c82ce968-bc8a-11e8-94b2-17176fbf93f5, accessed 24 November 2018
[55] See https://www.adweek.com/brand-marketing/why-deep-discounting-not-always-winning-recipe-106493/ , accessed 4 November 2018
[56] Kelly A. McGuire, Hotel Pricing in a Social World: Driving Value in the Digital Economy, John Wiley & Sons, Inc., Hoboken, New Jersey, USA, 2016

Deep discounting of the type witnessed in online marketplaces, however, poses different problems. There is one similarity with the offline predation; large online marketplaces with deep pockets may use deep discounting to edge out competition in the short run. However, the ease of entry, availability of venture capital and the disruptive innovation in the digital economy does not explain the phenomenon fully. An added issue is that there is little evidence that the discounts are at prices below cost level, or that such discounts are offered for long periods. Most of such discounts are during festival seasons or under flash sales and then the marketplaces revert to normal discounts. So, if predatory pricing is not evidenced and deep discounting does not have any regulatory disciplines, what should the competition authorities do?

II.12 International Disciplines on the Digital Economy

There is no international inter-governmental organisation that deals with, much less regulates, the digital economy. The International Corporation for Assigned Names and Numbers (ICANN), originally a non-profit for Domain Name Service (DNS) management registered by the University of Southern California in the United States but having relationship with some international inter-governmental organisations like the World Intellectual Property Organisation (WIPO) and International Telecommunication Union (ITU) has in recent times acquired an international dimension by multi-stakeholder inclusion[57], but being an organisation working on internet governance only regulates standards for the internet, not what flows through it, and much less what use businesses make of it.

The United Nations Conference on Trade and Development (UNCTAD) has set up an Intergovernmental Expert Group (IGE) on E-commerce and the Digital Economy with the participation of experts from national governments, civil society, the private sector and the academia, with relevant expertise according to specific topics and themes. The policy focus of the IGE is to strengthen the development dimension of ecommerce and the digital economy to identify ways and measures to enhance the development gains from ecommerce. This involves discussions on possible opportunities from ecommerce and digital economy as well as how to deal with associated challenges and risks.[58] However, it is a discussion forum and does not take any decisions on behalf of the UNCTAD member nations. The UNCTAD report on ecommerce and development concluded, *inter alia*, that the IT industry and e-business are growing worldwide and developing countries should adopt national e-strategies to fully realise the development potential of ecommerce[59].

An ecommerce work programme was established in the WTO in 1998 through a Declaration adopted during its Second Ministerial Conference. The work programme is continuing, but

[57] For a history of ICANN, see https://www.icann.org/en/history/icann-usg#timeline, accessed on 11 August 2018

[58] See https://unctad.org/en/Pages/Meetings/Group-of-Experts-Ecommerce-Digital-Economy.aspx, accessed 10 August 2018

[59] See UNCTAD Document UNCTAD/STBE/ECB/2, page xxv, at http://unctad.org/en/Docs/ecdr2002_en.pdf accessed on 13 August 2018

the only decision taken so far, and reiterated every two years, is that WTO Members shall continue to not impose customs duties on electronic transmissions. This decision includes only those ecommerce imports that are traded and consumed electronically. Hence, goods ordered online and delivered physically are not covered by the moratorium; the moratorium appears to apply basically to services as of now.

In the run up to the Fourth Ministerial Conference of the WTO, the General Council identified a set of seven cross-cutting issues and held dedicated discussions. However, competition, identified as one of such issues, was not discussed at all[60]. At the time of the launch of the Doha Development Agenda, nevertheless, WTO members recognized the importance of creating and maintaining an environment which is favourable to the future development of electronic commerce, and instructed the General Council to decide the most appropriate way to carry the work programme forward[61]. A number of proposals were received in the first two years of the Round. The US sought liberalisation of ecommerce related domestic disciplines such as those on telecommunication services, delivery and distribution services etc., and making permanent the moratorium on customs duties on electronic transmissions[62]. EC submitted a paper on classification of digital goods and services[63]. So far as services are concerned, the Appellate Body of the WTO has opined that rules of the General Agreement on Trade in Services (GATS), including Members' commitments, fully apply to cross-border internet based service transactions[64]. The WTO Agreements are technology neutral, so they apply equally to tangible as well as digital goods.

In July 2013 in the run up to the Ninth Ministerial Conference of the WTO at Bali, Indonesia, the US and EC jointly proposed a set of trade-related principles designed to support the expansion of ICT networks and services and enhance the development of ecommerce. Australia proposed additional principles on online consumer protection, data protection and spam messages. Developing countries like Cuba, Ecuador and Nicaragua on the other hand focused their proposals on more effective participation of developing countries in ecommerce. Later, plurilateral negotiations were launched on a GATS-plus Trade in Services Agreement (TiSA) by a group of 23 WTO Members. Except for signing the Trade Facilitation Agreement (TFA), the Bali Ministerial Conference saw no forward movement on ecommerce. The TFA has many provisions supporting the use of the digital economy including provision of information through the internet (Article 2), facility of electronic payments for cargo clearance (Article 7.2), availability of tracking technology from pick-up to delivery for expedited shipments (Article 7.8), and acceptance of electronic copies of shipping document (Article 10.2).

[60] See WTO Document WT/GC/W/436 of 6 July 2001
[61] See para 34 of the Ministerial Declaration at WTO Document WT/MIN (1)/DEC/1 of 20 November 2001
[62] See WTO Document WT/GC/W/493/Rev.1 of July 2003
[63] See WTO Document WT/GC/W/497
[64] See Appellate Body Report in United States-Measures Affecting the Cross-border Supply of Gambling and Betting Services, WT/DS285/AB/R

During the Ministerial Conference of the WTO held at Buenos Aires in December 2017, a number of developed countries and some developing countries took an initiative to attempt the launch of negotiations on disciplines on ecommerce in the WTO. Many developing countries such as Argentina, Cuba, Egypt, India and Venezuela submitted papers to the General Council, but all of them basically sought further clarifications on issues being discussed and none took a position towards negotiating any disciplines on ecommerce. The core concern of many developing countries was that they should have the policy space to promote national digital industrial development, give subsidies, offer tax benefits, protect infant industry, and have the right to use local content requirements[65]. The most comprehensive opposition came from the African Group[66].

As of today, in very broad terms the positions of WTO Members vary from maintaining the current work programme, to formalising the dedicated discussion under the current work program, to establishing a new working group to consolidate all discussions on ecommerce, to establishing a working party with a mandate for future negotiations. The proposals also express varying positions on the question of the moratorium on customs duties for ecommerce[67]. Nevertheless, no decision was taken except to extend the moratorium until the next Ministerial Conference while asking the General Council to continue the work programme with renewed vigour[68]. In sum, the work programme on ecommerce in the WTO has not progressed enough to graduate to a discussion, much less negotiation, on the competition effects of ecommerce.

In the meanwhile, provisions relating to disciplines on ecommerce have started appearing in various recent Free Trade Agreements (FTAs). These FTAs include provisions relating to market access and duty-free moratorium for digital products, MFN treatment, authentication and certification of electronic signatures, e-certification and paperless trading, and consumer online and personal data protection. The US in its bilateral trade agreements includes comprehensive rules and stronger commitments in the chapter on e-commerce. There is also a comprehensive chapter on ecommerce in Canada's agreement with countries such as Peru and Colombia[69].

In terms of other global compacts, the Sustainable Development Goals adopted by the United Nations in 2015, as part of Goal 9.c, requires affordable access to the internet to all.

III. COMPETITION POLICY AND LAW

[65] Arpita Mukherjee and Avantika Kapoor, ICRIER Working paper No. 354 titled "Trade Rules in E-commerce: WTO and India", March 2018, available at http://icrier.org/pdf/Working_Paper_354.pdf, accessed on 13 August 2018

[66] See WTO Document JOB/GC/144 of 20 October 2017, later circulated as a Statement of the African Group in the Ministerial Document WT/MIN(17)/21 of 6 December 2017

[67] See WTO Document WT/GC/W/739 of 1 December 2017

[68] See WTO Document WT/MIN(17)/65

[69] See footnote 78 above

III.1 Definitions

Competition refers to a situation in a market place in which firms/entities or sellers independently strive for the patronage of buyers in order to achieve a particular business objective, such as profits, sales, market share, etc. By responding to demand for goods and services with lower prices and higher quality, competing businesses are pressured to reduce costs, innovate, invest in technology and better managerial practices and increase productivity. This process leads to achievement of static, dynamic as also allocative efficiencies and increased choices and lower prices for consumers[70].

Competition also refers to rivalry among firms in the marketplace. It extends to envisaged or potential rivalry. Competition policy refers to government policy to preserve or promote competition among market players and to promote other government policies and processes that enable a competitive environment to develop. [71]

Competition policy has been variously defined. The WTO defines competition policy as the full range of measures that may be used to promote competitive market structures and behaviour, including but not limited to a comprehensive competition law dealing with anti-competitive practices of enterprises. According to the WTO World Trade Report 2004, Competition policy has as its primary objective the discipline of actions by private firms that interfere with competition in a manner that imposes costs on society.[72] The World Bank defines competition policy as government measures that directly affect the behaviour of enterprises and the structure of industry. It adds that an appropriate competition policy includes both: (a) policies that enhance competition in local and national markets, and (b) competition law, also referred to as antitrust or antimonopoly law. According to the National Competition Policy 2011 of the Government of India, Competition Policy means a set of government measures, policies, statutes, and regulations including a competition law, aimed at promoting competitive market structure and behaviour of entities in an economy.

III.2 Goals of Competition Policy

The economic goals behind competition policy are economic efficiency and consumer welfare. In competition policy, the concept of efficiency typically embraces three discrete aspects[73]:

a) First, "allocative efficiency" which is achieved when society's scarce resources are allocated to produce the goods and services that are most desired by consumers.

[70] National Competition Policy 2011, available on https://www.mca.gov.in, accessed on 3 August 2018
[71] See UNCTAD Document TD/RBP/CONF.7/3 available at https://unctad.org/en/Docs/tdrbpconf7d3_en.pdf, accessed 1 August 2018
[72] See https://www.wto.org/english/res_e/booksp_e/anrep_e/wtr04_2c_e.pdf, page 152, accessed on 3 August 2018
[73] See Carlton, Dennis W. and Jeffrey M. Perloff (1994) Modern Industrial Organization, New York Harper Collins College Publishers

This requires that price be equal to the marginal costs of production and distribution from the social point of view.

b) Second, "Productive efficiency" which is achieved when goods are produced using the most cost-effective combination of productive resources available under existing technology.
c) Third, "Dynamic efficiency" which is achieved through an optimal rate of invention, development, and diffusion of new products and production processes.

According to the consumer welfare approach towards competition policy, a fundamental criterion for the application of such policy to particular business arrangements is whether the arrangements in question have a detrimental impact on the prices charged and/or the array of choices available to consumers. Even in jurisdictions basing their competition policy purely on efficiency considerations, it is expected that the benefits of competition would eventually flow to the consumers, and not be retained by the producers[74]. Competition policy, thus, aims to ensure technological innovation which promotes dynamic efficiency in different markets, effective price competition between suppliers, and safeguarding and promoting the interests of consumers through increased choice and lower price levels.[75]

A secondary set of principles of competition policy can be deciphered from its applications in various national jurisdictions through law and jurisprudence[76]. For example, there is a presumption in favour of a free operation of competitive markets for generating efficient outcomes. Further, expansion of the market to include cross border trade makes it more difficult for enterprises to exercise market power, particularly in an abusive manner. Regulatory reforms, in particular pro-competitive national competition regulation can further assist in competition bringing about economic efficiency and consumer welfare. At the analytical level, horizontal business arrangements (cartels, joint ventures, strategic alliances) are expected to have a larger adverse effect on the market than vertical business arrangements (vertical mergers); so competition authorities apply the test of abuse of market power to them on a case-by-case basis. Finally, competition policy protects competition (the principle and process of competition), not competitors (individual firms); if a firm gets excluded despite the due process being followed, that may not be an anti-competitive situation.

III.3 International Disciplines on Competition Policy

There is no single multilateral organisation dealing with competition principles[77]. At the intergovernmental level, however, UNCTAD provides a forum to its members to discuss

[74] Crampton, Paul (1994). "Alternative Approaches to Competition Law: Consumers' Surplus, Total Welfare and Non-Efficiency Goals", World Competition, vol. 17, no. 3, March, pp. 55-86.
[75] See https://www.tutor2u.net/economics/reference/competition-policy-in-markets-and-industries, referring mostly to UK and EU competition environment, accessed 3 August 2018
[76] See WTO Document WT/WGTCP/W/127
[77] The United Nations Set of Multilaterally Agreed Equitable Principles and Rules for the Control of Restrictive Business Practices adopted by the General Assembly of the United Nations vide Resolution 35/63 on 5 December 1980 calls upon international businesses to desist from horizontal restraints and from abuse of a

various issues around competition policy. Each year, an Intergovernmental Group of Experts (IGE) of UNCTAD on Competition Law and Policy meets to discuss ways of improving worldwide cooperation on competition policy implementation and enhancing convergence through dialogue. The United Nations Set of Principles on Competition provides the basis for intergovernmental consultations. Rather than exercising any rule-making function, the IGE conducts its work through interactive debates, Voluntary Peer Review of Competition Law and Policy, Round tables on specialized competition topics and reviews of technical assistance and capacity-building activities. When a consensus on recommendations is reached, individual member countries decide whether and how to implement the recommendations (i.e. through unilateral, bilateral or multilateral arrangements, as appropriate).[78]

As part of the decisions taken in the First Ministerial Conference of the WTO held at Singapore in 1996, a Working Group on the Interaction between Trade and Competition Policy (WGTCP) was set up. At the launch of the Doha Round of negotiations in 2001, the work was continued with the mandate to focus on certain clarifications related to the subject. Given the lack of any consensus to elevate the work to negotiations, it was taken off the work programme by a decision of the General Council of the WTO in July 2004.

Early on during the life of the WGTCP, the WTO Secretariat brought out a paper on the fundamental principles of non-discrimination and transparency as they related to competition policy[79]. Later on, another paper with the theme of fairness built into the WTO Agreements was brought out by the Secretariat[80]. These two papers elaborate various provisions of the WTO agreements that relate to certain basic principles which apply equally to competition policy such as access to information and transparency, principles of natural justice: *Nemo in propria causa judex, esse debet* - no one should be made a judge in his own case (the rule against bias), *Audi alteram partem* - hear the other party (the rule of fair hearing), and availability of judicial review.

Although the work on ecommerce had started in 1998, much before the study of competition policy was abandoned by the WTO, not much can be found on the subject in the discussions in the WGTCP. Nevertheless, in an elaborate study[81] submitted to the WGTCP on competition policy, mention is seen of network externalities arising out of the network effect of the digital economy in the context of analysing and concluding that it may not always be in

dominant position of market power and calls upon governments to control restrictive business practices through legislation, judicial and administrative procedures.

[78] See https://unctad.org/en/Pages/DITC/CompetitionLaw/Intergovernmental-Group-of-Experts-on-Competition-Law-and-Policy.aspx, accessed 1 August 2018

[79] See WTO Document WT/WGTCP/W/114 of 14 April 1999.

[80] See WTO Document WT/WGTCP/W/231 of 22 May 2003

[81] Conducted by Dr Simon J Evenett and introduced in the WGTCP as WTO Document WT/WGTCP/W/228 of 19 April 2003, see page 27

the interest of the consumers or producers to maximize rivalry amongst firms[82] – a basic tenet of competition policy.

Similar avenues to discuss competition are available in the informal sector as well[83].

III.4 Indian Competition Law

Competition law has territorial application. The Indian competition law is a good example of the practice in most common law jurisdictions worldwide, and borrows considerably from the European competition law. Apart from the 2011 National Competition Policy, India has enacted the Competition Act, 2002. The Act states in its preamble that its objective, keeping in view the economic development of the country, is the establishment of a Commission to prevent practices having adverse effect on competition, to promote and sustain competition in markets, to protect the interests of consumers and to ensure freedom of trade carried on by other participants in markets in India. In its substantive provisions, it acts to prohibit anti-competitive agreements, check abuse of dominance and regulate combinations, i.e. mergers and acquisitions.

Under the Act, agreements which cause or are likely to cause appreciable adverse effect on competition are scrutinized. Joint ventures are assumed not to cause adverse effect if the JV agreement increases efficiency in production, supply, distribution, storage, acquisition or control of goods or provision os services. There is a presumption of appreciable adverse effect on competition if a provision of the agreement:

(a) directly or indirectly determines purchase or sale prices;
(b) limits or controls production, supply, markets, technical development, investment or provision of services;
(c) shares the market or source of production or provision of services by way of allocation of geographical area of market, or type of goods or services, or number of customers in the market or any other similar way; or
(d) directly or indirectly results in bid rigging or collusive bidding[84].

Tie-in arrangement, exclusive supply agreement, exclusive distribution agreement, refusal to deal or resale price maintenance are explicitly assumed to have adverse effect on competition[85]. However, restraining anyone from infringing any intellectual property rights enshrined in various IPR laws of the country or imposing any conditions for the protection of such rights do not constitute adverse effect on competition[86]. Similarly, implementing any

[82] See https://www.oecd.org/daf/competition/2014-competition-factsheet-for-print-en.pdf, accessed 2 August 2018
[83] For example, the International Competition Network is an informal gathering of competition authorities worldwide. See http://www.internationalcompetitionnetwork.org/, accessed on 12 August 2018
[84] Section 3 (3) of the Competition Act, 2002 [12 of 2003]
[85] Section 3 (4) of the Act, ibid.
[86] Section 3 (5)(i) of the Act, ibid.

agreement to export any goods or services from India also does not attract such adverse effect[87].

There is an abuse of dominant position under the Act if a firm unfairly or discriminatorily directly or indirectly imposes a condition in purchase or sale of goods or services, or a predatory price condition[88]. Similar other examples of abuse of dominant position enshrined in the Act include restricting production/provision of goods/services, restricting technological development to the prejudice of consumers, denial of market access or using dominant position in one relevant market to deny access to another relevant market, or introduction of clauses in contract that have no connection with the subject of such contract.

Acquisitions, mergers and amalgamations are collectively called combinations in the Act[89]. These combinations are subject to the scrutiny of the Act's provisions above a certain threshold: parties that jointly have an asset value of Rs 1000 crore or turnover of Rs 3000 crore. In cases of enterprises having assets abroad, the thresholds is assets of USD 500 million including at least Rs 500 crore in India, or turnover of USD 1500 million with at least Rs 1500 crore in India. If the acquiring entity is a group of enterprises in India, the asset threshold goes up to Rs 4000 crore, and if a multinational, to USD 2 billion including Rs 500 crore in India or turnover of USD 6 billion with Rs 1500 crore in India. Combinations are prohibited only if they may result in an appreciable adverse effect on competition within the relevant market. Relevant market can be a relevant product market, relevant geographical market or both[90].

Relevant product market is one where products/services are regarded as interchangeable or substitutable by the consumer[91]. Relevant geographic market is one where the conditions of competition for the supply of goods/services are distinctly homogenous and can be distinguished from the conditions prevailing in a neighbouring market[92]. Section 19 (6) and (7) of the Act give guidance to the CCI for factors to be taken into consideration while making a determination regarding the relevant product or geographical market.

To make a determination whether an appreciable adverse effect to competition has been caused or is likely to be caused, CCI has the power to act on its own motion, or on a reference by the Central/State Government or any statutory authority, or on an information being provided through due procedure by any person, consumer, consumer association or trade association[93].

[87] Section 3 (5)(ii) 0f the Act, ibid.
[88] Section 4 (1) of the Act, ibid.
[89] Section 5 of the Act, ibid.
[90] Section 2 (r) of the Act, ibid.
[91] Section 2 (t) of the Act, ibid.
[92] Section 2 (s) of the Act, ibid.
[93] Section 19 (1) of the Act, ibid.

In the cases of combinations, within 30 days of it being put into effect either by the parties executing an agreement or exercising control as approved by the Board of Director, the combination has to be notified to the CCI[94], and shall not take effect until after 210 days thereafter[95]. CCI has to issue show cause notice within 30 days of receiving the notice in the event that it it is of the opinion that *prima facie* the combination is causing, or is likely to cause, an appreciable adverse effect on competition within the relevant market[96]. Based on responses received, CCI may also direct an investigation by the Director General within a stipulated time period[97]. After following due process of law and procedures whereby parties provide the requisite information to the CCI, it may give an order that the combination is approved, or state that it shall not take effect[98]. This decision has to be taken within the stipulated 210 days failing which the combination is deemed to have been approved. Section 20 (4) of the Act lists factors to be taken into consideration by the CCI in determining whether a combination causes or is likely to cause appreciable adverse effect on competition in the relevant market.

While determining whether an agreement has an appreciable adverse effect on competition, CCI is required to have due regard to the factors listed in Section 19 (3)[99]. Similarly, in adjudging dominance, CCI has to take into consideration the factors listed in Section 19 (4)[100].

CCI has not had many occasions to adjudicate on anti-competitive actions in the digital economy in India, but guidance is available on the likely stance in such future adjudication from the available jurisprudence. We shall examine the jurisprudence in Section VI below.

IV. JUXTAPOSING DIGITAL ECONOMY AND COMPETITION LAW

IV.1 Main competition related benefits and challenges of the digital economy

The digital economy has demonstrated various pro-competitive benefits. Since the digital economy is hinged on technology it can streamline supply chains (value webs) and reduce distribution costs by cutting out the middlemen as it enables customers and suppliers to do business directly with each other. This gets reflected in greater competitive intensity and lower prices. The digital economy also increases market competitiveness by allowing upstream suppliers to sell directly to customers and potentially lowering barriers to entry for retailers as establishing online presence is cheaper than investing in a physical retail store. This is particularly beneficial for small businesses.

[94] Section 6 (2) of the Act, ibid.
[95] Section 6 (2A) of the Act, ibid.
[96] Section 29 (1) of the Act, ibid.
[97] Section 29 (1A) of the Act, ibid.
[98] Section 31 of the Act, ibid.
[99] Section 19 (3) of the Act, Ibid.
[100] Section 19 (4) of the Act, ibid.

The digital economy reduces search costs making it easier for consumers to locate what they want. With buyers being better informed, sellers need to compete harder to get business. It also reduces inventory space cost. The online retailer is not constrained by the need of physical shelf space and can therefore stock a wider range of products. Though cross-border delivery of physical goods ordered online can still be an issue, the digital economy has enabled businesses to expand their geographic markets.

Further, the digital economy makes it easier for firms to collect detailed data about consumer behaviour and use it to the mutual benefit of the firm and the consumer, for instance by personalising the shopping experience for each customer. Collection and use of consumer data has primary implications for data protection laws, but it may also have competition implications. The European Commission's Digital Single Market Strategy has, for example, raised concerns about the lack of transparency with regard to use of information that digital firms acquire online[101]. Equally, there are competition related challenges. First and foremost is the issue of trust. The physical store and the investment entailed and seen by the customer is absent thus posing a challenge in developing customer trust. It is easier for a brick-and-mortar business to inspire trust and earn a good reputation than an online firm[102].

Though greater price transparency can result in lowering prices, it could also result in compromise on quality, or some retailers may even indulge in price obfuscation and exploit well known behavioural biases of consumers. Since monitoring becomes much easier in the digital economy and algorithmic pricing is becoming the norm in this economy, price collusion[103] also becomes easier.

Further, multi-sided digital business platforms, being subject to strong network effects, improve their user base making it more difficult for rival platforms to compete (winner-takes-all). This can lead to market concentration[104], a key anti-competitive phenomenon on which regulators have their eye. On the one hand, switching between platforms for sellers is costly because they may lose their reputation as they cannot easily shift their seller rating from one platform to another. On the other hand, when users cannot use multiple platforms in parallel, such platforms may exercise market power, leveraging it into adjacent markets.

---

[101] See "A Single Digital Market for Europe", a Commission Communication available at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0192&from=EN, accessed on 24 August 2018

[102] See footnote 36 above, pages 242-244

[103] The US anti-trust authority prosecuted a poster seller for developing an algorithmic code for colluding with other poster sellers in 2013-14. See https://www.reuters.com/article/us-usa-antitrust-ecommerce-plea/u-s-announces-first-antitrust-e-commerce-prosecution-idUSKBN0MX1GZ20150406

[104] For example, the European Commission fined Google Euro 2.4 billion as it abused a dominant position in online search by systematically favouring its own comparison shopping product in its general search results pages. See https://www.theguardian.com/business/2017/jun/27/google-braces-for-record-breaking-1bn-fine-from-eu.

Digital economy firms may use vertical restraints with detrimental effects for competition and consumer welfare. While such restraints may be legitimately applied to protect non-price dimensions of competition (e.g. in the form of exclusive or selective distribution arrangements to prevent free riding on a distributor's provision of customer service), they can also reduce the scope for competition within product markets. For example, a price parity clause may force certain vendors to sell at a higher stipulated price[105].

Given these costs and benefits, we next look at the main elements of potential anti-competitive behaviour of firms in the digital economy.

IV.2 Key questions before competition authorities regarding anti-competitive behaviour of firms in the digital economy

Some of the principles of competition matter more than others in an examination of its role in the digital economy. At the broad level three main principles are important for the digital economy: anti-competitive licenses or agreements; abuse of dominance including through acquisitions, mergers and amalgamations; and exemptions for IPR protected (which may otherwise be) anti-competitive conduct to spur innovation and thence consumer welfare. In this sub-section, we examine some of the key attributes of the digital economy that require a treatment that may be different from the normal anti-competition redress.

IV.2.1 Data as an asset

First and foremost, data is the workhorse of the digital economy. It may therefore be worthwhile to ascertain the competitive significance of data. A framework to determine this significance involves the following four questions[106]:

a) Do the parties own or control the relevant data?
b) Is the relevant data commercially available as a product or as an input for products of downstream competitors?
c) Is the relevant data proprietary to the owner's or controller's products or services and a competitively critical input? and
d) Do reasonable available substitutes for the relevant data exist or is it unique?

Using data to seek a competitive advantage is economically efficient behaviour that drives innovation. The question is at what point economically efficient and legal pro-competitive conduct can stray into illegal exclusionary conduct. A data product or a proprietary data set is a competitively useful input and does not raise competition concerns unless the company controlling the data can realistically use it to foreclose competition in a downstream market. Today data is the currency which provides us with free online services. The price we pay for

[105] In several European countries, hotel booking websites have been investigated as several online booking platforms require platform members to accept a contractual clause prohibiting them from offering lower prices on other platforms, including their own websites.
[106] See footnote 6, pp 99-227

it is receiving targeted promotions, coupons and advertisements[107]. The role of data as a source of market power for digital business models thus poses several questions for regulators[108]. Network effects amplify the access of larger businesses to data. Start-ups and smaller competitors lack similar access. This can be a de facto market barrier - particularly when big firms no longer just offer services and products but increasingly provide the infrastructure of the digital ecosystem.

Data privacy is another issue. The Cambridge Analytica and Facebook controversy has brought the issue into the limelight in India and elsewhere[109]. One criterion for competition authorities is consumer benefit or harm. Should they then factor in lack of data privacy as intrinsic to consumer harm when assessing a company's market position and practices?

The German Federal Cartel Office (FCO) undertook a *suo moto* examination of the terms and conditions on which Facebook collects data from its users, particularly the use it makes of third party data collected by them. The FCO stated that data protection, consumer protection and the protection of competition are interlinked where data are a crucial factor for economic dominance. Facebook offers a free service to the user, but also offers attractive advertising space. In such entrepreneurial activities Facebook has to comply with Competition law which prohibits a company from abusing its market power[110]. Thus, a legal assessment is underway for determining whether there was data exploitation in the case. It is not material in such cases whether the service provided by the ecommerce company is free or charged. As determined CCI in the Matrimony.com vs. Google case earlier this year, data accessed through each view by a user can be converted into revenue through advertisement space and other models used in the digital economy[111].

Using algorithms to analyse and use data for business benefit is the new conundrum. According to a seminal study[112] on the subject, computer algorithms promote collusion, behavioural discrimination and Frenemies, a term used for firms who may view each other as

---

[107] See footnote 36, page 28

[108] CCI overruled Google's objection to treating Google's online web search as an abuse of dominance on the ground that there was no 'sale or purchase' involved in the 'free' web search by pointing to the role of big data in the digital economy. See CCI Order dated 31.1.2018 in Case No 7 and 30 of 2012, available at https://www.cci.gov.in/sites/default/files/07%20%26%20%2030%20of%202012.pdf, accessed on 12 August 2018

[109] For an overview of the controversy, see https://en.wikipedia.org/wiki/Facebook%E2%80%93Cambridge_Analytica_data_scandal. The Indian government has recently asked its Central Bureau of Investigation (CBI) to probe into the issue. See https://in.reuters.com/article/us-facebook-india-cbi/indias-cbi-to-investigate-facebook-cambridge-analytica-data-theft-idINKBN1KG1SI

[110] Available on German Competition authority's website, accessed on 23 August 2018, at https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19_12_2017_Facebook.html

[111] See https://www.cci.gov.in/sites/default/files/07%20%26%20%2030%20of%202012.pdf, as at fn 107 above. The European Commission also came to a similar conclusion in June 2017 in the Google Search Shopping case; see http://ec.europa.eu/competition/antitrust/cases/dec_docs/39740/39740_14996_3.pdf

[112] See footnote 36, page 148

enemies and yet may also cooperate in extracting and analysing data or supplying each other with key vertical inputs. As pricing is increasingly powered by algorithms, as the speed of accessing and responding to market information increases, and as algorithms quickly adjust prices in response to discounts or increases, the increase in transparency can yield tacit collusion where competitors perhaps offer more choices, albeit at higher prices with little differentiation[113].

IV.2.2 Network Effects and market dominance

Network effect is the next most important attribute of the digital economy from the competition point of view. In the presence of network externalities, it is evident that perfect competition is inefficient. Therefore, state subsidization of network industries has been considered beneficial to societies[114]. The internet was subsidized by the US government for many years, though originally aimed at promoting interaction among military research projects. At that time, perhaps even the US did not imagine that the internet would become such a ubiquitous commercial network.

But network effects may lead to dominance. If dominance happens, there are likely entry barriers for new businesses, as happened in the Google online web search services and online search advertisement services cases. CCI[115] opined in the case that for a search engine, it is extremely important to be able to 'crawl' the web and index the data. Google had had a significant head start in this regard, and the cost of crawling the entire internet, in terms of servers and technology, is prohibitive for a new entrant. As such, the barriers in the online general web search market also effectively restrict entry into the search advertising market[116].

CCI in the Matrimony.com vs. Google case found that Google was dominant and abused its dominance on three counts[117]:

a) Unfair practice of pre-determined ranking of advertisements not strictly determined by relevance violated Section 4 (2) (a) (i) of the Act. This determination was made on account of Google's practice of giving fixed positions (1st, 4th and 10th) to its Universal Search design for display on a search by a user irrespective of its relevance to the searched item.
b) Unfair imposition on users of search options/services by prominent display and placement of Commercial Flight Units with link to Google's specialised search option for flights depriving them of additional choices also violated of Section 4 (2) (a) (i) of the Act.

---

[113] Ibid. page 237
[114] Nicholas Economides, Antitrust Issues in Network Industries, in Reforms of EC Competition Law, Eds. Ioannis Laonis and Ioannis Kakkoris, Kluwer Law International , 2010
[115] See https://www.cci.gov.in/sites/default/files/07%20%26%20%2030%20of%202012.pdf,. Google has faced similar, actually much larger, penalties on the same issue in other jurisdictions. See, for example, fn 110 above, and https://www.nytimes.com/2017/06/27/technology/eu-google-fine.html for the EU decision.
[116] Ibid. para 122
[117] Ibid. para 420

c) The prohibitions imposed under the negotiated search intermediation agreements upon the publishers are unfair as they restrict the choice of these partners and prevent them from using the search services provided by competing search engines violated Sections 4 (2) (a) (i), 4 (2) (c) and 4 (2) (e) of the Act. Such conditions in the agreement foreclosure options for those seeking access for their advertisements on the Google search engine.

Similarly, the European Commission in June 2017 determined that entry barriers were a constraint to competition in Google's general search services as "obtaining the large quantity of data necessary to develop an effective [general] search engine (e.g., the information upon which relevancy algorithms can be built and improved) would be a significant barrier to entry." [118] Also, the nature of two-sided platform is regulated by positive feedbacks on both sides of the general search services and online search advertising service, and this creates an additional barrier to entry[119]. The Commission gave examples of shares of other search engines in the European market such as Bing, Yahoo, Ask.com and DuckDuckGo to demonstrate that network effects resulting into market dominance became effective entry barriers for any new entrants. The difficulty faced by users in switching to other search platforms despite availability of multi-homing options due to Google's brand value also demonstrated the irrevocability of dominance.

The Commission determined that the Google's conducts resulted in abuse of dominant position for the following reasons:

a) Google favours its own comparison shopping services over the competing comparison shopping services by position and display. The competing comparison shopping services can only appear as generic search results and are prone to ranking as such and hence can be demoted based on the algorithms like PageRank.[120] The comparison shopping services of Google are, however, not subject to such ranking algorithm.[121]
b) Traffic is the most important asset of a search engine; it increases the relevance of search services for a variety of reasons.[122] The revenue generated from traffic further helps to invest and improve the usefulness of the services provided.[123] The Commission discovered during the investigation that comparison shopping services run a 'popularity' algorithm (the most clicked, most searched products and offers are showed in the higher ranks of our results pages) which performs better and better with increasing amounts of queries and traffic.[124] It further helps the comparison shopping

[118] See http://ec.europa.eu/competition/antitrust/cases/dec_docs/39740/39740_14996_3.pdf, para 286, page 62, accessed on 29 August 2018
[119] *Ibid*., para 292, page 64
[120] *Ibid*. para 344-345, page 77&78
[121] *Ibid*. para 378, page 103
[122] *Ibid*. para 444, page 120
[123] *Ibid.* Para 446, page 121
[124] *Ibid.* Para 447(2), page 122

services to suggest search terms that may be of interest for users based on the volume of traffic received by them. Lastly, traffic allows generating original user reviews.[125]

c) The traffic diverted by Google from generic search result to its comparison shopping services cannot be effectively replaced by the other sources available to competing comparison shopping services – The Commission concluded that Google's generic search traffic diverted to the comparison shopping services of Google amounts to a large proportion of traffic and the same amount of traffic cannot be availed by the competing comparison shopping services by any other means.[126]

Secondly, even where such barriers can be surmounted, once the internet became ubiquitous and free, one of the competition questions before firms was how much to collaborate with others on the net. Compatibility is a prerequisite for complementarities. But firms have the option of making their products partially or fully incompatible with components produced by other firms, yet accessible through the network. The extent to which a firm is compatible with the products of other firms is an important strategic decision for a firm. This raises further questions relating to businesses facing network effects that may not be faced by businesses in the brick-and-mortar economy. Ezrachi and Stucke (2016) elaborate various issues arising from this love-hate relationship between online firms where they collaborate as well as compete as frenemies[127].

Thirdly, in the digital economy, strong network effects imply that competition for the market takes precedence over competition in the market. For instance, take Uber and Ola[128]. More drivers available on the platform, ensuring quicker, smoother service, attract more passengers, and more earning opportunities, thus attracting more drivers, and so on. Research has shown that when these cross-platform effects and loops are strong, they change the responsiveness of demand. The continuing spat between aggregator and radio taxis in India is a case in point. In his dissenting opinion in 2015, for example, Mr Augustine Peter, Member CCI restrained Ola on account of predatory pricing that was below average variable cost of the ride[129]. A similar investigation is now underway on surge pricing of airline tickets, to determine whether there is cartelisation among operators[130].

Demand elasticity is often used as a measure to gauge market power. Would failure to take the strength of such network effects into account then lead to faulty assessments of market power? How should it be factored in? And should regulators also look at the existence of

[125] *Ibid.* Para 450, page 123.
[126] *Ibid.* Para 539, page 162.
[127] See footnote 36
[128] See https://www.cci.gov.in/sites/default/files/25%20-%2028%20of%202017.pdf; Cases No.25-28 of 2017, where CCI ruled that there was no abuse of dominance by Uber and Ola in the four megacities that Meru alleged, but kept a window open that in the event that in the future there is evidence that the common investors of Uber and Ola are creating abuse of dominance, another case may bring a different result.
[129] See CCI order at https://www.cci.gov.in/sites/default/files/06201533.pdf, accessed on 24 August 2018.
[130] See https://www.livemint.com/Companies/VQHP6Z50hAxuc88LNra00K/Why-flight-ticket-prices-surge-during-peak-demand-CCI-to-ch.html, accessed on 24 August 2018

multiple platforms offering similar services and the costs of switching to users? Where there is a competition for the market rather than in the market, regulation through policy mandate may be desirable. Take the example of AT&T in 1930s in the US market. The continued foreclosure of independents and its refusal to deal with them caused regulation to be established at the State and Federal levels in the US[131]. It was after witnessing these market capture phenomena that the US and the EU resolved the problem of monopolization by imposed unbundling of the network and forced leasing to new entrants. As an exception to competition law, sectoral economic regulation can and has been established in three exceptional cases[132]:

a) For those markets where it is clear that competition cannot be achieved by market forces,
b) Where deviation from efficiency is deemed socially desirable, and
c) Where the social and private benefits are clearly different, since it is clear that a market without intervention will not result in the desired outcome.

Increasing returns is the fourth attribute of the digital economy in its interface with competition. The digital economy is characterised by the twin phenomena of increasing returns (average unit cost goes down with an increase in the scale of production) and network effects (benefit that a consumer derives from a product or service increases not just with the amount she consumes, but also with an increase in the number of other people who consume it). While increasing return is a supply side phenomenon, network effects arise on the demand side[133]. This poses a peculiar complexity to competition authorities when examining anti-competitive effects of the digital economy.

A fifth issue arises in the wake of the disparate business models of the digital economy[134]. Digital business models compete by attracting the attention of the end-user. From the business point of view, the digital platform operators aim at making themselves indispensable for both end-users as well as advertisers and place themselves in a gatekeeper position[135]. For retaining this position, the operators have to continuously innovate and constantly expand or redefine the boundaries of their market. Such gatekeeper position naturally has implications for competition and surfaces in the hands of regulators for adjudication.

A sixth aspect of competition's interface with the digital economy is the role of the Internet Service Provider (ISP), as it controls the access network used by the businesses to reach the consumer. Thus, ISPs have a kind of gatekeeper position over access to the end-user. They can prioritise the data streams of some services over others, or even block some services. This could happen for legitimate business, technical or technological reasons such as to

[131] See Serinski et al, footnote 6
[132] Ibid.
[133] Avirup Bose of the Jindal School and Smriti Parsheera of NIPFP in their 2016 paper titled "Network Effects in India's Online Business: A Competition Law Analysis, a seminal contribution to the issue.
[134] See Section II.5
[135] See Section II.10

manage congestion in the absence of large scale investment in network capacity, which is a cost, or for illegitimate reasons such as constraining competition. An example of the latter situation is where some OTT services are substitutes for and compete with traditional services offered by the ISPs, this eroding the traditional revenue streams[136], to retain customers, or to attract new customers. These give rise to competition concerns. ISPs are in a quandary as traditional revenue from telephony and television services are dwindling on the one hand and the need to expand broadband capacity to prevent congestion requires additional investment on the other hand. New revenue streams could be generated by charging higher prices for broadband access or for premium access. However, given the ability of consumers of switching to alternate access routes, and the countervailing bargaining power of large OTT platforms can limit the option of ISPs to increase price. Competition between ISPs in the market is another factor where gatekeeper position begins to have a significant adverse impact on end-users; then there is an indication that competition between ISPs is not fully effective. The move from use of voice to data in telephony and the aggressive business models adopted by Reliance Jio in India is a case in point.

IV.3 Deep Discounting: Finding Solutions

Deep discounting has become particularly controversial in India after Amazon and Flipkart (now owned by Walmart) entered the online marketplace. CAIT (The Confederation of All India Traders) complains that ecommerce platforms are indulging in predatory pricing and violating the FDI rules as they are a marketplace B2B business but advertise directly to consumers.[137] ICEA (India Cellular and Electronics Association), based on a study they conducted with McKinsey, add that online sellers sold at as much as 62% discount in the ongoing festive season.[138] While granting approval to the Walmart-Flipkart merger, CCI said that such discounting is not specific to Flipkart but is prevalent in the market so it won't make any difference from the competition point of view once the merger comes into force.[139] Still sounding a warning that it would not hesitate to probe such players at a time of its choosing, the CCI said, "There is no bar on the Commission at any point of time to examine such issues under the relevant provisions of sections 3(4) and 4 the Act and regulations made thereunder." The CCI has also asked the government to look into the matter either through a policy or devising a suitable regulatory mechanism.[140] CCI has investigated many taxi and ecommerce companies but has exonerated all but one of them. One commentator opines that the Competition Act 2002 itself is flawed as it places predatory pricing in the section on abuse of dominance, and CCI does not interfere unless dominance is proven first.[141]

[136] The ongoing debate about TRAI recommendations on parity between TSPs and ISPs on the one hand and VOIP and telecom services on the other, and the recommendations on net neutrality are cases in point.
[137] The Economic Times 2 April 2018
[138] The Economic times 1 November 2018
[139] Financial Express, 11 August 2018
[140] Ibid.
[141] Prabhat Singh in The Hindu, 6 September 2018

A 10-member government panel has been set up by the Indian Ministry of Corporate Affairs to look into the discounting practices adopted by top ecommerce firms such as Flipkart, Amazon and Paytm Mall.[142] The panel will analyse if the heavy discounting practices of ecommerce firms amount to predatory pricing and restrict competition. It may be recalled that India's FDI rules prohibit online marketplaces from influencing prices of products offered for sale on their websites by vendors. According to reports in the media the Indian Ministry of Commerce and Industry was also contemplating rules against deep discounting.[143]

While competition authorities and governments grapple with the problem of deep discounting, firms with high goodwill in the marketplace are taking steps on their own to prevent predatory pricing by unauthorised sellers on online marketplaces, prevent dilution of brand value and prevent cannibalisation of offline sales. They are doing this in various ways in India: entering into direct marketing arrangements with online marketplaces like Amazon and Flipkart (Sony, LG), taking action against vendors who are selling at ecommerce sites at deep discounts (Eureka Forbes), entering into agreements with online portals to sell their products only through authorised vendors (Apple) and honouring warranties only if the product is purchased from an authorised vendor (Dyson).[144]

IV.4 Competition concerns of the Algorithm economy

In Section II.9 above, we learnt about the algorithms and their role in the digital economy. Big Data and Big Analytics have raised algorithms to the level of a technology that is one of the most used means for digital economy firms to rake in business. The use of Big Analytics and its ability to extract vast amount of valuable information through algorithms has made planning, logistics and pricing decisions easier for digital firms, particularly those using Machine Learning, Cloud computing and IoT. Algorithms have added to the heft of the new digital economy in this era of real time online environment in which the customer operates. Algorithms are now used for automated customer support, online communications, targeting of ads and promotions and much more, increasing firms' market share by the day as they collect more and more data and analyse it.

Examining the market dynamics of such firms, competition authorities have often been wary of equating market share with market power[145], with the dynamic nature of markets and disruptive technology induction often making way for upstarts. In dynamic industries in

[142] See https://www.livemint.com/Companies/UbGjeGvAfIsnRMI9LY25EL/Why-everyone-is-not-happy-with-online-discounts.html, accessed 24 November 2018
[143] The Economic Times, 2 August 2018
[144] See https://economictimes.indiatimes.com/industry/services/retail/brands-take-steps-to-stop-deep-discounting-online/articleshow/66756744.cms, accessed 24 November 2018
[145] The European Commission ruled in its investigation of acquisition of Skype by Microsoft that 'market shares are not particularly indicative of competitive strength in a fast growing market' and the European Court of Justice upheld the ruling. See https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62012TJ0079, accessed on 31 August 2018

particular, intervention could chill innovation[146]. However, given the so called free access to user data by digital firms and the consequent loss of privacy, algorithms have exacerbated the problem into an anti-competitive concern. Sophisticated computer algorithms deployed by platforms, in particular, could create an economy planned not by governments but by technostructure[147].

It could manifest in collusion, as happened in the cartel created by five US Banks to manipulate the price of the US dollar and the Euro exchanged in foreign currency markets[148]. It could get complicated where algorithms are used as a central hub to coordinate pricing practices of competitors who are not directly in contact with each other and yet dampen competition. For example, if retailers of the same or substitutable products all use the automation and machine learning using algorithm of Boomerang Commerce[149] to fix their prices, Boomerang, whose business is maximizing profits (and therefore getting higher prices for its clients), will ratchet up product prices and harm competition[150].

Worst still, while there may be no collusion or use of a vendor providing a common price setting algorithm, individual retailers using their own separate algorithms that follow prices of the product in real time may arrive at a similar ratcheting up of prices. This is more and more likely as we move into transparency of data available in the cyberspace, faster computing, machine learning and IoT, and since there is no collusion, competition authorities may not be able to step in without using generic 'rule of reason' type of tools.

In an even more sinister version of it, with digital firms monitoring all our movements and actions on the web, algorithms may be able to anticipate and react to competitive threats even before price change can be triggered through a Boomerang-type algorithm. We have already seen how online car services are able to indulge in surge pricing by calculating the driver demand-supply mismatch at particular times and places. Once they have data on the movements and behaviour of individual customers as well as pricing behaviour of their competitors, secret discounting will be a thing of the past and prices will remain high[151]. Again, there are few tools with competition authorities to resolve this anti-competitive quagmire.

[146] US competition authorities are generally even less interventionist. Seem for example, https://www.ftc.gov/system/files/documents/public_statements/804511/150925smartersection5.pdf, accessed on 2 September 2018

[147] See footnote 36, page 32-33

[148] See https://www.justice.gov/opa/pr/five-major-banks-agree-parent-level-guilty-pleas; the US Department of Justice fined four banks in hundreds of millions of dollars.

[149] See https://www.boomerangcommerce.com/, accessed on 2 September 2018

[150] See footnote 36, page 53

[151] Ibid. page 73

Furthermore, self learning pricing algorithms could create options for dynamic differential pricing based on data about the location, behaviour and economic status of customers[152]. As the ability of firms to collect data improves, so too will their ability to discriminate[153]. With the proliferation of comparison websites, the customer may still win by exploring options on the web and minimize anti-competitive behaviour of firms without intervention by competition authorities. But here again, algorithms may come to the rescue of firms seeking profits. For example, a platform may allow preferential placement for a higher fee. From a 1984 case of some American airlines taking advantage of their control of computerised reservation system to give themselves a competitive edge to a 1999 case where Amazon gave featured treatment to publishers paying higher advertising fees, there are many examples in the real world. Search engines, therefore, for payment, may attune their algorithms to favour paid advertisements[154].

Finally, as mentioned in Section IV.2.2 above, frenemies first collaborate to access consumer data from everywhere, and later may, through algorithmic manipulation, degrade the functionality of the independent apps and online platforms by reducing their performance and making them run slower[155].

Clearly, there are various permutation combinations available to firms in the digital economy either to stump or simply evade anticompetitive action.

IV.5 Understanding Recent Jurisprudence

The principle legislation dealing with competition in India is the Competition Act 2002, though many other laws and regulations have a bearing on the adjudication of anti-trust or anti-competitive behaviour of firms in India, including in particular the Companies Act, the Contract Act, the Information Technology Act, the Copyright Act and the Patents Act. There have been cases where even the Indian Penal Code has been invoked, as in the case of the Malaysia based multi-level marketing company Q-net Limited and its Indian subsidiary Vihaan Direct Selling (India) Private Limited[156].

Let us take the CCI orders to understand the related jurisprudence in matters that arise out of the provisions of the Competition Act in the first instance. In examining anti-competitive agreements, CCI has often not interfered unless there is dominance in the market. In the case of Meru Radio Taxi against Uber in 2015, Meru had *inter alia* alleged violation of Section 3 of the Act on the ground that Uber entered into exclusive contracts with taxi owners

[152] See "Websites Vary Prices, Deals Based on Users' Information", Wall Street Journal, 24.12.2012, accessed on 2 September 2018 at https://www.wsj.com/articles/SB10001424127887323777204578189391813881534
[153] See footnote 36, page 129
[154] Ibid. pages 137-138
[155] Ibid. page 156
[156] See Criminal Petition No 9308 of 2016 in Karnataka High Court, available at http://judgmenthck.kar.nic.in/judgmentsdsp/bitstream/123456789/154251/1/CRLP9308-16-15-02-2017.pdf, accessed on 26 August 2018

restraining them from getting attached with another radio taxi operator. Meru had additionally alleged dominance by Uber in the Delhi market. Having come to the conclusion that Uber was not dominant in the Delhi market based on certain research reports, CCI refused to interfere both on Section 4 (dominance) and Section 3 (anti-competitive agreements) of the Competition Act[157]. The taxi aggregators' cases have continued for a long time in CCI and elsewhere[158] on various counts.

In 2018, CCI refused to consider the violation of Section 3 unless there is evidence of a written exclusionary agreement between the aggregators and there drivers, not counting Uber/Ola's strategy or incentive model as an agreement. CCI also referred to its 2015 order where possibility of multi-homing by drivers was not ruled out. Thus, rather than having to adjudicate on the merits of exclusionary agreement, CCI took the position that there was no evidence of any agreement at all between the aggregators and their drivers[159]. Further, taking the position that Section 4 (2) of the Act speaks in singular, there could not be anything like a collective dominance of Uber and Ola together. Further, examining the available literature, CCI expounds that causal relationship between common ownership and control has not yet been established, and thus ruled that the fact that common investors (SoftBank, Tiger, Sequoia, Didi) owned shares in both Uber and Ola does not by itself result in anti-competitive effects. Recent literature on the subject of predatory pricing in at least the platform economy has veered to the view that assessment of predatory pricing in platform competition is very complicated and should be conducted case-by-case, taking account of both positive and negative effects, which may differ from industry to industry[160].

V. RESOLVING CHALLENGES –SUGGESTIONS IN THE LITERATURE

V.1 Itemisation of competition problems of the digital economy

We have seen above examples of the challenges that competition authorities face in the digital economy. In this Section we look at some of the suggestions to resolve these

[157] Case No. 96 of 2015

[158] A brief list of cases of taxi aggregators: Meru Travel Solutions Pvt. Ltd. vs. Uber India Systems Pvt. Ltd., CCI case No. 81 of 2015, Order dated 22.12.2015 (Kolkata); Mega Cabs Pvt. Ltd. vs. ANI Technologies Pvt. Ltd., CCI case No. 82 of 2015, Order dated 9.2.16 (Delhi); Meru Travel Solutions Pvt. Ltd. vs. Uber India Systems Pvt. Ltd. and Others, CCI case No. 96 of 2015, Order dated 10.2.16 (Delhi); Mr. Vilakshan Kumar Yadav and Ors. vs. ANI Technologies Pvt. Ltd., CCI case No. 21 of 2016, Order dated 31.8.16; Fast Track Cabs Pvt. Ltd. and Meru Travel Solutions Pvt. Ltd. vs. ANI Technologies Pvt. Ltd., CCI case No. 6 and 74 of 2015, Order dated 19.7.17 (Bengaluru); Meru Travel Solutions Pvt. Ltd. vs. CCI, Uber Solutions Pvt. Ltd. & Ors., COMPAST Apeal No. 21/2016, Order dated 7.12.16; Meru Travel Solutions Pvt. Ltd. vs. (4 cases) ANI Technologies, Uber India Systems Pvt. Ltd., Uber BV and Uber Technologies, CCI cases No. 25-28 of 2017, Order dated 20.6.18.

[159] Case No. 25-28 of 2017

[160] Aditya Bhattacharjea, 'Predatory Pricing in Platform Competition: Economic Theory and Indian Cases', in the book "Multidimensional Approaches Towards New Technologies: Insights on Innovations, patents and Competition", Eds. Ashish Bhardwaj, Vishwas H. Devaiah and Indranath Gupta, Eds., Pb. Springer Open, (2018)

challenges available in extant literature. European Commission[161] has identified ten competition problems relating to the digital economy as listed below:

1. Digital economy can hamper competition and innovation
2. Digital monopolies can monopolise other markets
3. Digital monopolies have an incentive to lock-in consumers
4. Privacy and data protection
5. Geo-blocking may hamper a global digital market
6. Patents can be used to prevent access to technology
7. Gatekeeper position of ISPs may have a negative impact on market dynamics
8. State aid for broadband deployment can disturb markets
9. Spectrum auctions potentially raise entry barriers
10. Tax planning/avoidance potentially distorting competition

Of these, not all can be or should be resolved by competition authorities. For example, State aid has been an essential component of penetration of data driven economies the world over, as exemplified by the Digital India programme and provision of fibre-optics[162] pivotal to reach out to rural and semi-urban India. Abuse of patents, particularly SEPs[163], and tax avoidance[164] can be handled through appropriate legislative measures ensuring that competition is not throttled. Similarly, given the policy need, geo-blocking can be prevented by appropriate tweaking of the copyright laws. Policy interventions can also address issues relating to privacy and data protection (through regulation, as has been done by the European Union through their General Data Protection Regulation[165] and is being discussed in India[166] currently) as well as spectrum auctions (by designing prevention of anti-competitive behaviour into the auction, or other appropriate spectrum management policies). Gatekeeper position can be resolved both through regulation and adjudication by competition authorities. The first three topics, related to monopolies, may need to be resolved through competition authorities and courts of law alone.

---

[161] See http://www.europarl.europa.eu/RegData/etudes/STUD/2015/542235/IPOL_STU(2015)542235_EN.pdf accessed on 6 August 018

[162] More than 116311 Gram Panchayats have been connected with the National Optical Fibre Network (NOFN) already; see http://www.bbnl.nic.in/index.aspx, accessed on 29 November 2018

[163] SEPs have been under adjudication in the CCI as well as the Delhi High Court. While the former in three cases ordered an investigation by the Director General of Investigation (DGI), the Delhi High Court stayed the investigation and allowed royalty payment in the interim based on comparative royalties rather than on the basis of the price of the chipset. Policy clarity on the issue, therefore, will be helpful in providing predictability and certainty to FRAND cases in the digital economy as well.

[164] Apart from the OECD's Base Erosion and Profit Sharing (BEPS) related concerns, the fact that India and South Africa have in July 2018 asked the WTO to reconsider the moratorium on customs duties on electronic transmissions shows that policy guideline is an imperative. See https://www.thehindubusinessline.com/economy/reconsider-zero-duties-on-e-transmission-they-hurt-poor-nations-india-south-africa-tell-wto/article24454245.ece, accessed on 22 August 2018

[165] See https://ec.europa.eu/info/law/law-topic/data-protection/data-protection-eu_en accessed on 20 August 2018

[166] Justice Srikrishna Report on Privacy and Data Protection has proposed The Personal Data Protection Bill, 2018; see http://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill%2C2018_0.pdf accessed on 20 August 2018

V.2 Challenges for Competition authorities in the digital economy

Due to the fluidity in the concept of the relevant market, strong feedback effects, importance of contestability rather than market share or profit margins, and challenges posed by algorithms where human intervention is absent or minimal, analysing a business case for competition intervention in the digital economy would necessarily be different as compared to the traditional business. Let us see how[167]:

a) One of the first tests that competition authorities have to apply to determine the need for competition intervention is market dominance, for which they need to define the relevant market. In the digital economy, the relevant market determination is challenging for three reasons:
    1) In multi-sided platforms, more than one market can be relevant, where contestability could vary depending upon whether they are transaction (e.g. eBay – both seller and buyer transact) or non-transaction (e.g. free to air TV funded through advertisements) market.
    2) Absence of nominal prices – since these are digital markets that are zero-priced.
    3) Relevant market boundaries are fluid – since digital markets are dynamic and ever changing as companies innovate and in the process create new markets by competing on developing new business models.

    In order to address this challenge, competition authorities may need to focus more on the actual business models of companies and on the indicators that inform about contestability and entry barriers. In the case of multiple platforms, the authorities also need to account for externalities and interdependence between all sides of such platforms, requiring a forward looking approach.

b) Determination of dominance is only the first step to assess anti-competitive behaviour; its abuse has to be demonstrated.
    1) Abuse of dominance could be due to unfair agreements. To address them, the competition authorities have to adjudge whether the rival interactions are based, not on merits, but on collusion, foreclosure or leveraging and that these interactions impose harm on competition and consumers.
    2) Abuse of dominance could be due to predatory pricing. Traditional anti-competitive pricing strategies (e.g. to adjudge margin squeezes or predation by dominant players) may not work in digital markets as in digital business models, zero pricing and multi-pricing strategies for different sides of a multiple platform are practised. In the case of exclusivity agreements, the competition authorities need to assess potential foreclosure by determining

[167] See footnote 10, pages 50-62

whether alternative routes to deliver content to end-users are available to competitors.

3) In cases of leveraging of market power, the competition authorities need to distinguish between leveraging on the basis of merits and leveraging purely based on market power. In the digital economy, offensive leveraging (trying to get a foothold in the adjacent market) is less problematic from anticompetitive point of view than defensive leveraging (trying to prevent others from gaining ground on your market). The former could actually be spurring innovation.

c) Acquisitions and mergers are another means of acquiring dominance and its potential for abuse. There are numerous examples of mergers and acquisitions in the digital economy where a major player in a relevant market simply buys out a start-up who is either a potential competitor or its business model could add to the heft of the major player in the relevant market. Assessing whether pre-emption mergers are anti-competitive in the digital market is a challenge for competition authorities given that the acquisition of a SME may be to thwart future competition but may also inhibit innovation by SMEs who undertake disruptive innovation with a view to benefit end-users eventually. In the digital economy, the chances of a tipping effect increase with the size and power of the merging firm and the size of the network effects. Thus, the size of the acquired form, the scale economies and network effects means that the assessment may be based on the number of users together with an estimation of the size of the network effects.

V.3 More suggestions in the literature

One study[168] has made three suggestions worth noting here:

a) Current competition law in India enables the competition authority (CCI) to scrutinise abuse of dominance *after* dominance is first established, thereby enabling those firms to escape where dominance is imminent in the near future. After reviewing some taxi aggregator cases, the authors suggest a change in law to enable CCI to act in such cases of imminent dominance as well. This is similar to the 'attempt to monopolize' criteria in Section 2 of the US Sherman Act. They also suggest that CCI should be able to determine that two individual firms are individually dominant in a relevant market at the same time, given the prospects of abusive practices in duopoly situations.

b) As a corollary to the concept of imminent dominance, the authors also suggest changes in law to allow CCI to introduce the test of 'recoupment of losses' to predatory pricing complaints. However, there are also persuasive arguments against courts using the recoupment logic in determining predatory pricing[169].

[168] See footnote 29, pages 35-38

[169] See article 'Predatory Pricing and Recoupment' by Christopher R Leslie in Columbia Law Review, Vol. 113, No. 7, November 2013

c) The authors suggest that CCI should be able to allow voluntary settlement of cases, akin to the commitment decisions in Europe and consent agreement orders in the US. However, there have been cases before CCI where complainants were allowed to withdraw complaints after having reached an agreement with the opposite party who withdrew alleged anti-competitive measures.

In India, thus far, the Commission has had a limited exposure to matters involving the e-commerce sector. While analysing the cases under e-commerce, it has applied a calibrated approach in order to ensure that intervention remains effective; it does not restrain innovation and would in turn help the market to regulate itself. Most of the cases in the e-commerce sectors were in the form of vertical restraints which are tested under the rule of reason. One-two cases involved allegations regarding abuse of dominant position[170].

V.4 From the Invisible Hand to the Digitized Hand: beyond traditional competition challenges

Ezrachi and Stucke (2016) in their book "Virtual Competition: The Promise and Perils of the Algorithm Driven Economy" lay out a compelling scenario for a paradigm shift in the competition toolbox for the digital economy[171]. Referring to Hayek's statement that if all data was available, competition would be a wasteful exercise[172], they espouse that in the digital economy super platforms are reaching a level of data collection and aggregation where we are approaching the creation of a single repository of all information that is continually updated and accessible. Pricing algorithms will individualise price and product offerings but also tacitly collude in such a manner that the distinction between market clearing price and competitive price will be undecipherable. In this scenario, firms that purchase such data in the privacy shorn transparent environment compete for the market. The so called invisible hand that the competition authorities are expected to regulate become in this scenario a digitalised hand with scant human intervention posing newer challenges for such authorities. The role of competition in this scenario could be challenging as we see below:

a) The first case is where the competition tools need to be sharper, but exist. Since data, information and probably even algorithms are in the hands of super platforms like Google and Facebook, while entry of new firms is possible, their expansion will be controlled by these platforms. They will likely be gobbled up or forced to accept exclusionary practices. For example, super platforms may host numerous apps, all aimed at the customer, but lacing their offerings with tacit collusion and behavioural pricing, which are not easily seen by the investigating authority because of the apparent lack of a human hand. In such cases, competition authorities do have their toolkit, but need to pierce the algorithmic veil to investigate anti-competitive acquisitions and

[170] See "Implications of E-commerce for Competition Policy – A Note by India" submitted to the OECD, Document No. DAF/COMP/WD (2018)/52 dated 4 May 2018

[171] What follows is largely adapted from Chapters 18 and 19 of the book

[172] F. A. Hayek, Competition as a Discovery Procedure, See https://mises.org/sites/default/files/qjae5_3_3.pdf, accessed on 3 September 2018

mergers as well as those collusive agreements between the start-ups and the super platforms that may have an appreciable adverse effect on competition.

b) The second case is where competition tools do not exist to discern collusion or harmful mergers in the digital economy. Firstly, the acquired app firm of a super platform may have (seemingly) voluntarily used an algorithm that finesses it into a tacit collusive arrangement. Secondly, it may involve participation in behavioural discrimination of customers that is non-collusive. Thirdly, the relationship between the parties may be such that they collaborate (say in collection and use of data) but also compete (say, accessing the same relevant market based on that data for substitutable services). In this last case, the arrangement between these parties, say platforms and apps, may need to be addressed by data protection or consumer protection authorities and not by competition authorities. However, where there is evident abuse of dominance, as in the Microsoft cases[173], competition authorities may also step in.

c) There may be cases in the digital economy where the competition authorities may find challenges in establishing pre-requisites for intervention such as market power or dominance due to the nature of the economy and lack of a human hand. For example, where a firm is essentially data driven, its market power may be linked to its customers and competitors and hence difficult to establish. Same may be the case with dominance, particularly since monopolistic behaviour in the digital economy may not be considered abusive *per se*. Further, with innovation and disruption driving this economy, identifying counterfactuals in order to appraise harm may be another challenge; what may appear to be harmful today may become the industry norm tomorrow due to a market disruption driven by a new technology.

In view of these challenges, Ezrachi and Stucke suggest learning by doing for the competition authorities. For the governments, they suggest advance action, such as toughening merger laws looking at the propensity of monopolistic behaviour in the digital economy. Governments have to look at comprehensive solutions in the virtual economy where competition, consumer protection and privacy laws all work in tandem. Privacy laws may need particular attention, as the standard form contracts and the click-and-enter acceptance of privacy breaches that proliferate online have resulted in only two out of a thousand customers actually read the terms of such contracts, and those too superficially[174]. Hence, Ezrachi and Stucke suggest[175] the following means to protect customer interest:

a) Pop-up windows that inform us when and what information is being harvested,
b) Clear indication of when personalised prices are displayed, when we are being tracked,

[173] In the case (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62004TJ0201) Microsoft vs. Commission in the ECJ involving dominance of Microsoft in Client server interoperability challenged by Sun Microsystems, and the case United States vs. Microsoft Corp in the DC Circuit Court in 2001 involving bundling of its OS with explorer (https://law.justia.com/cases/federal/appellate-courts/F3/253/34/576095/), since dominance and its abuse was manifest in the investigations, competition intervention was possible.

[174] Yannis Bakos, Florencia Marrota-Wurgler and David R Trossen, in "Does Anyone Read The Fine Print? Consumer Attention to Standard-Form-Contracts", Journal of Legal Studies, Volume 43, No.1, January 2014

[175] See footnote 36, page 227

c) Clear disclosures with respect to 'best price' claims to avoid misleading information as to the availability of other options,
d) Clarity with respect to 'no availability' claims for hotel rooms, flights etc., requiring sellers to clearly indicate whether the claims relate to the availability on the specific website or overall availability,
e) Privacy being the default option, with an optional opt-in enabling tracking, and
f) Even where we have opted in, choice should exist to readily access any personal information the firm has about us and the option to delete it.

It is not that Governments and intergovernmental bodies are not already thinking on those lines. In 2014, a Panel of Experts constituted by the United Nations spoke of the prospect of the opening up of a whole new inequality frontier 'splitting the world between those who know, and those who do not'[176]. In 2015, the European Parliament's Economic and Monetary Affairs Committee in a study recommended various measures to harness the digital economy for consumer welfare[177]. The US Council of Economic Advisers has recommended that as more sectors of the economy are digitised, the government needs to consider how digitisation is impacting competition, and whether additional legislation is needed[178].

In conclusion, if governments, particularly competition authorities, could understand better the implications of business models of the likes of Google[179], Apple[180], Amazon[181] and Walmart[182], consumer welfare may be the ultimate winner without harming the interests of businesses seeking entry into the flourishing digital economy.

xxx

[176] See http://www.undatarevolution.org/wp-content/uploads/2014/11/A-World-That-Counts.pdf, accessed on 24 August 2018
[177] See footnote 10, pages 69-73
[178] See https://obamawhitehouse.archives.gov/sites/default/files/page/files/20160414_cea_competition_issue_brief.pdf, accessed on 24 August 2018
[179] See https://www.business-standard.com/article/technology/google-turns-20-how-search-engine-company-turned-into-technology-behemoth-118092400601_1.html, accessed 29 November 2018
[180] See https://blackandise.com/3-reasons-apple-beats-competition/, accessed 29 November 2018
[181] See https://ilsr.org/wp-content/uploads/2016/11/ILSR_AmazonReport_final.pdf, accessed 29 November 2018
[182] See https://www.forbes.com/sites/andriacheng/2018/08/16/walmarts-ecommerce-tactic-against-amazon-is-paying-off/#2a834b6eb74d, accessed 29 November 2018