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CCI and Regulation of Digital Platforms and Blockchain: Will it take a Rule of Reason; Per Se or a Schizophrenic Approach?

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1. Introduction

India's choice to control its markets was executed in two stages: one for each phase of the country's industrial strategy and philosophy towards resource allocation and market functioning. Between 1950 and 1991, the first phase was defined by a socialist ideology exhibited via a mixed economy and a propensity for government engagement in economic activities.[1] During this time, policymakers were more concerned with avoiding economic power concentration than with stimulating competition. As the Indian economy modernised policymakers moved from preventing concentration of economic power as symbolised by the Monopolies and Restrictive Trade Practices Act (MRTP) of 1969 to the Competition Act 2002 ("Act")[2], to regulate anti-competitive agreements that have the potential to have a material adverse effect on competition in the Indian economy.[3] In the modern Indian economy, the Competition Commission of India (CCI) has shown inconsistency in its enforcement on platform dominance; this inconsistency may now extend to blockchain as well. The purpose of this paper is to evaluate the necessity of new antitrust tools in the evolving economy of an emergent market and to push for more certainty in the CCI's enforcement of anti-competition laws in India.

The increasing digitization of global and Indian markets in recent years, facilitated by the emergence of platforms such as Amazon, Apple, Google, and Facebook have raised questions about the Act's appropriateness and its applications.[4] The CCI has received several complaints over the past few years about creative, technology-driven, two-sided

[1] Ajit Singh, The Past, Present and Future of Industrial Policy in India: Adapting to the Changing Domestic and International Environment (2008).
[2] https://www.cci.gov.in/sites/default/files/cci_pdf/competitionact2012.pdf
[3] The Competition Act, which largely codifies American and EU jurisprudence on antitrust.
[4] Geeta Gouri & Kalyani Pandya, *The Indian competition law experience– its history and its (digital) future*, 4 Indian Law Review 276–300 (2020).

marketplaces[5] that have become a vital element of the Indian economy. In such situations, it becomes easier for certain platforms to practice deep discounting, cash-back offers and other schemes to constantly attract newer users. There is widespread agreement that CCI's reaction to these dynamic markets leaves much to be desired. Since technology has now evolved from the "platform" to "blockchain"; new challenges arise and it has also raised questions if the Act itself needs to be suitably updated to meet the challenges unique to these markets.[6,7]

2. CCI's Inconsistent Jurisprudence on Platforms and Mergers

The CCI is inconsistent in resolving issues involving the digital economy,[8] and in several instances it faltered in defining the relevant market, understanding dominance and the causal connection between the two. Five instances demonstrate the CCI's evolving thinking in this area. The *MCX-Stock Exchange v. National Stock Exchange & Others* ("MCX-NSE case") is the first on the list.[9] This was an instance of abuse of dominance in which the CCI not only failed to evaluate both sides of the market in determining the relevant market but also held that dominance in one segment translated to dominance in another segment without determining the casual connection. The second and third cases were again abuse of dominance lawsuits: *Matrimony.com Limited v. Google LLC and others, and Consumer Unity & Trust Society ("CUTS") v. Google LLC, Google India Private Limited, and Google Ireland Limited* ("Google instances").[10] In these instances, the CCI showed exceptional tenacity in addressing the problem of two-sided marketplaces and platforms but failed to

[5] Jean-Charles Rochet et al., Platform Competition in Two-Sided Markets (European Economic Association) (2003); OECD, Policy Roundtables: Two-Sided Market (2009).
[6] Aryan Mohindroo & Rajat Mohindroo, *Digital Economy and Competition Law: A Conundrum*, 3 Indian Competition Law Review (2018).
[7] To address these concerns, the Indian Ministry of Corporate Affairs established a Competition Law Review Committee ("Committee") in 2019 to assess the Act's ability to adapt to the dynamics of existing and future markets. On 20 February 2020, the government produced the draft Competition Bill 2020 and distributed it for public feedback in response to the Committee's Report.

[8] The CCI is not the first competition body to face the issues of the digital economy and two-sided platforms. See *Ohio v. American Express (*credit-card networks constitute a two-sided market best viewed as offering a single commodity, namely "transactions" that are consumed jointly by the cardholder and merchant); *Apple Inc. v. Pepper* ("Apple Case") the app-purchasers were granted the right to sue Apple for their 30% AppStore commission charge, which was found to be anti-competitive. In the European Union, the EU Commission noted in *MasterCard v. European Commission* ("Mastercard case") that banks affiliated with MasterCard charging Multilateral Interchange Fees ("MIF") raised anti-competitive concerns and violated Article 101 of the Treaty of Functioning Europe Union by increasing merchants' and ultimately consumer costs.
[9] *MCX-Stock Exchange v National Stock Exchange & Others*, Case No 13 of 2009 (Competition Commission of India, 23 June 2011).
[10] *Matrimony.com Limited. v Google LLC and others* and the *Consumer Unity & Trust Society (CUTS) v Google LLC. Google India Private Limited, Google Ireland Limited*, Case No 07 and Case No 30 of 2012 (Competition Commission of India, 31 January 2018).

account for organic growth and innovation by Google. It also took positions on mergers, notably Walmart's purchase of Flipkart and WhatsApp's takeover by Facebook.[11]

CCI and Platforms

A. MCX-NSE Case:

The first case before the CCI concerning two-sided markets included an abuse of dominance claim against the National Stock Exchange (NSE). The CCI's decision in this case provided an intriguing glimpse into the strategy of a party utilizing its dominant position in one market to reduce competition in another. The CCI ruling in the *MCX-NSE case* is concerned with the digital economy[12] but is significant because it served as a springboard for analyzing the network effects in the financial markets industry..

The National Stock Exchange traded stocks, whereas the MCX-Stock Exchange traded commodities. The MCX-Stock Exchange filed a complaint with the CCI against the National Stock Exchange, alleging that the National Stock Exchange engaged in predatory pricing by charging no transaction fee to traders in the new currency derivative markets, thereby leveraging its dominant position in the equity market in the newly licenced derivative market. The CCI was tasked with determining the relevant market, the National Stock Exchange's dominant position, and any abuse of power by the National Stock Exchange.[13]

The Competition Act of 2002[14] says no "*enterprise or group*" may "*abuse its dominant position*," as defined in Section 4(1) of the Act[15]. Section 4(2) clarifies that a dominant position

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[11] CCI Dismisses Allegations On WhatsApp And Facebook For Abuse Of Dominance In Digital Payments Market - Anti-trust/Competition Law - India www.mondaq.com, https://www.mondaq.com/india/antitrust-eu-competition-/1019652/cci-dismisses-allegations-on-whatsapp-and-facebook-for-abuse-of-dominance-in-digital-payments-market (last visited Dec 13, 2021); Flipkart buys Walmart India's wholesale biz mint, https://www.livemint.com/companies/start-ups/flipkart-buys-walmart-india-s-wholesale-biz-11595549909265.html (last visited Dec 13, 2021).

[12] *MCX-Stock Exchange v National Stock Exchange & Others*, Case No 13 of 2009 (Competition Commission of India, 23 June 2011).

[13] Preeti Manderna, *Corporate Laws: Abuse of Dominance*, 3 Amity International Journal of Juridical Sciences (2017), https://amity.edu/UserFiles/aibs/46d92017%20AIJJS%20Final_61-69.pdf (last visited Jun. 6, 2022).

[14] https://iprmentlaw.com/wp-content/uploads/2018/02/competitionact2012.pdf

[15] 4. Abuse of dominant position.—
(1) No enterprise shall abuse its dominant position.
(2) There shall be an abuse of dominant position under sub-section (1), if an enterprise,—
(a) directly or indirectly, imposes unfair or discriminatory—
(i) condition in purchase or sale of goods or services; or

may be abused within the meaning of Section 4(1), when an unfair or discriminatory condition is imposed on the price of goods or services, or any limitation or restriction on the production of goods or services, or on any technical or scientific development, resulting in the denial of market access, or when a contract for obligations unrelated to the subject contract is concluded. The explanation to Section 4 defines "dominant position" as an enterprise's position of power in a relevant market that allows it to act independently of any competitive dynamics in that market or to influence its rivals, customers, or the relevant market in its favour. As these provisions demonstrate, just holding a dominating position does not constitute an offence under the Act; dominance becomes an issue only when it is misused, and it is the abuse of dominance that the Act punishes.[16]

A dominating position is always established in relation to a "relevant market," which is defined under the Act to include both the product and its geographic market.[17] On the surface, establishing a market seems to be a straightforward process that focuses on identifying replacements for the items. According to the Act, product substitutability may be assessed by examining the items' or services' qualities, their price, and their intended purpose. The Small but Significant, Non-Transitory Increase in Price test ("SSNIP test") is a critical tool for determining product substitutability. It examines whether a sustained increase in the price of a product of approximately 5% would cause consumers to shift their demand to a substitute for that product. The basic logic of price-cost margin in identifying the relevant market is the scope

(ii) price in purchase or sale (including predatory price) of goods or service; or Explanation.—For the purposes of this clause, the unfair or discriminatory condition in purchase or sale of goods or services referred to in sub-clause (i) and unfair or discriminatory price in purchase or sale of goods (including predatory price) or service referred to in sub-clause (ii) shall not include such discriminatory conditions or prices which may be adopted to meet the competition; or
(b) limits or restricts—
(i) production of goods or provision of services or market therefor; or
(ii) technical or scientific development relating to goods or services to the prejudice of consumers; or
(c) indulges in practice or practices resulting in denial of market access; or
(d) makes conclusion of contracts subject to acceptance by other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts; or
(e) uses its dominant position in one relevant market to enter into, or protect, other relevant market. Explanation .—For the purposes of this section, the expression—
(a) "dominant position" means a position of strength, enjoyed by an enterprise, in the relevant market, in India, which enables it to—
(i) operate independently of competitive forces prevailing in the relevant market; or
(ii) affect its competitors or consumers or the relevant market in its favour;
(b) "predatory price" means the sale of goods or provision of services, at a price which is below the cost, as may be determined by regulations, of production of the goods or provision of services, with a view to reduce competition or eliminate the competitors.

[16] T Ramappa, Competition Law in India : Policy, Issues, and Development (Oxford University Press 2014).
[17] *Id.*

afforded for a monopolist to raise price without reducing the quantity of sales. The SSNIP test is used to identify and demarcate the relevant markets. The reference is to a hypothetical monopolist in an identified market. However, in two-sided marketplaces, the fact that there are two distinct customer groups on each side and that one's demand is contingent on the size and demand of the other complicates the application of the classic SSNIP because it is unclear whether profits should be considered on one or both sides of the market, and on which side of the market the hypothetical monopolist should increase prices, given that each side has established its own pricing in two-sided marketplaces.[18]

In discussing the "relevant market" in the *MCX-NSE case*, the CCI noted that the Director General Investigations did not use the SSNIP test to determine demand substitutability in his report because the National Stock Exchange waived admission, transaction, and data feed fees in the Currency Derivative market. The CCI concurred with the Director General that the SSNIP test was not required in this circumstance. Additionally, the CCI determined that the SSNIP would be irrelevant because the percentage of transaction value a broker or trader pays in fees is so tiny and negligible that it has no consequence on the substitutability effect.[19] The Director General had evaluated just demand side substitutability and had overlooked supply side substitutability when defining the relevant market. The CCI emphasized, however, that "*technical, infrastructure or financial capability of any stock exchange operating in some segment, to start operating in another, has no relation to determination of supply substitutability between segments touching upon technical and digital platforms*."[20] The CCI identified the relevant market in this instance as stock exchange services in relation to the commodities derivatives category in India.

While determining whether zero-pricing constitutes predatory pricing, the CCI held in its majority opinion that the National Stock Exchange could not have survived on zero pricing without the support of other revenue streams and that zero-pricing in the currency derivatives segment, while not predatory, may be characterized as "unfair."[21] However, the majority ruling made no reference to networks or the two-sided nature of the stock market in its

[18] L. Filistrucchi et al., *Market Definition in Two-Sided Markets: Theory and Practise*, 10 Journal of Competition Law and Economics 293–339 (2014), https://academic.oup.com/jcle/article/10/2/293/2846331 (last visited Jun 7, 2022).
[19] *MCX-Stock Exchange v National Stock Exchange & Others*, Case No 13 of 2009 (Competition Commission of India, 23 June 2011).
[20] *Id.* para. 10.20.
[21] *Id.* page 128, 129

characterization of the relevant market, instead focusing only on the technical/digital aspects of the exchange. Indeed, it was the minority order that explained why the stock market exhibits network industry features such as minimal or zero marginal costs and potentially significant fixed costs.[22] In this regard, the dissenting minority order serves as a precursor to a thorough examination of a two-sided market in which buyers and sellers engage through a platform.[23]

B. Google Cases:

In 2018, the CCI decided the issue of analyzing Google's market dominance:The CCI received two complaints, one from Matrimony.com, and another from CUTS.[24] alleging that Google was abusing its dominant position in the market for "online search" and "online search advertising" by generating a search bias, engaging in promotional advertising, and manipulating search results in favour of Google's own shopping or airline search sites.[25,26]

To determine whether Google was abusing its dominant position in violation of the Act, the CCI first needed to establish a relevant market. According to the Director General Investigations, who was tasked by CCI with investigating the charges against Google, there were two relevant markets: (i) the market for general online web search in India and the (ii) market for online search advertising in India. In India's market for general online search services, the Director General concluded that there was no substitute for general search services and vertical search/site-specific search services. Regarding the internet search advertising industry, the Director General distinguished online advertising from offline advertising on the grounds that marketers chose various types of advertising for a variety of reasons and that one did not replace the other. Additionally, the Director General emphasised that internet search advertising reflects individuals' unique interests and therefore serves as an excellent technique for targeting prospective client that internet search advertising is fundamentally different from

[22] Shrijita Bhattacharya & Gargi Bohra, *Is Zero Pricing Predatory Unfair*, 1 Rajiv Gandhi National University of Law Student Law Review 81–94 (2015).
[23] *MCX-Stock Exchange v National Stock Exchange & Others*, Case No 13 of 2009 (Competition Commission of India, 23 June 2011), Dissent.
[24] *Matrimony.com Limited. v Google LLC and others* and the *Consumer Unity & Trust Society (CUTS) v Google LLC. Google India Private Limited, Google Ireland Limited*, Case No 07 and Case No 30 of 2012 (Competition Commission of India, 31 January 2018).
[25] *Id.* page 5.
[26] Both objections were resolved by the CCI in a single ruling.

display advertising, social media advertising, mobile advertising, and email advertising since it may be personalized and targeted for a particular demographic, while the latter are generic.[27]

Google reacted to the Director General's conclusions by claiming that the Director General's study of the relevant market was erroneous. According to Google, there was no market for "general search" and only one for "specific search," in which consumers looked for individuals, locations, and "things".[28] Google additionally contended that, in assessing the relevant market for Online Search Advertising in India, the Director General erroneously used the SSNIP test and incorrectly rejected offline advertising as a limitation because of India's low level of internet penetration. Google recommended beginning with the most specific potential frame of reference and then assessing the degree to which offline advertising would limit a hypothetical monopolist in that candidate market.[29]

The CCI rejected Google's arguments and agreed with the Director General that there were two relevant markets in India, namely the market for general online web search services and the market for online advertising search services.[30] The CCI determined that the market for general web search services online is incompatible with the markets for site-specific search and defined search services (which is carried out by typing the URL of websites in internet browsers) and that internet search advertising and traditional advertising cannot be compared. Additionally, Rejecting the substitutability argument it held that said that internet advertising is not a substitute for traditional kinds of advertising such as newspaper and radio advertising.[31]

Interestingly, the CCI has previously adopted a different position in instances involving the question of the "relevant market" in online marketplaces. The CCI decided in *Ashish Ahuja v Snapdeal.com* and *Deepak Verma v Clues Network (Pvt) Ltd* that offline and online marketplaces are essentially distinct routes of distribution and do not constitute two distinct

[27] *Matrimony.com Limited. v Google LLC and others* and the *Consumer Unity & Trust Society (CUTS) v Google LLC. Google India Private Limited, Google Ireland Limited*, Case No 07 and Case No 30 of 2012 (Competition Commission of India, 31 January 2018). *P*age 7-8.
[28] Geeta Gouri & Michael Salinger, *Protecting Competition vs. Protecting Competitors: Assessing the Antitrust Complaints Against Google*, 2 The Criterion Journal on Innovation (2017).
[29] *Matrimony.com Limited. v Google LLC and others* and the *Consumer Unity & Trust Society (CUTS) v Google LLC. Google India Private Limited, Google Ireland Limited*, Case No 07 and Case No 30 of 2012 (Competition Commission of India, 31 January 2018), page 23.
[30] *Id.* page 37.
[31] *Id.* page 36.

markets.[32] In *Mohit Manglani v. Flipkart*, the CCI did not completely address the issue of relevant market in relation to e-commerce, leaving unresolved the question of whether online portals constitute a separate relevant product market or a sub section of the market for distribution.[33] As these prior cases demonstrate, the CCI's criteria for determining relevant markets in the electronic marketplace was restricted to the argument of online and offline market substitutability. While the intricacy of the Google instances justified treating online and offline markets as distinct marketplaces, the CCI's reasoning focused on whether online advertising might serve as a replacement for newspaper and other offline media advertising in portions of India with limited internet access.[34]

The CCI's decision in the Google cases not only provides an interesting perspective on the online advertisement market by considering the extent of internet access when assessing geographic markets. This order, and the ones that followed it, demonstrate that the CCI has been unable to address digital market antitrust issues on an individual basis with consistency and has offered a multi-dimensional, and *non-unified vision* of two-sided and multi-sided digital markets. However, the CCI discovered abuse in the market for travel website portals, which was not designated as one of the two relevant markets in the majority order, either the market for general web search in India or the market for online search advertising in India.[35] How the CCI arrived at this conclusion without presenting a methodology for this arrival is concerning and highlights their confused approach. The success of Indian Internet start-ups like Flipkart and Snapdeal proves that fears that Google may suppress Internet competition in India are unfounded. Indian consumers are more likely to realise the full potential of the Digital India initiative and Indian Internet businesses with sound business models are more likely to flourish if India allows competition to continue unimpeded rather than if it attempts to regulate competition through antitrust intervention.[36] The Internet industry in India is seeing tremendous and exponential development.[37] However, if the CCI had demonstrated a

[32] *Ashish Ahuja v Snapdeal.com*, Case No 17 of 2014 (Competition Commission of India, 19 May 2014); *Deepak Verma v Clues Network (Pvt) Ltd*, Case No 34 of 2016 (Competition Commission of India, 26 July 2016).
[33] *Mohit Manglani v Flipkart*, Case No 80 of 2014 (Competition Commission of India, 23 April 2014).
[34] Geeta Gouri & Kalyani Pandya, *The Indian competition law experience– its history and its (digital) future*, 4 Indian Law Review 276–300 (2020).
[35] *Matrimony.com Limited. v Google LLC and others* and the *Consumer Unity & Trust Society (CUTS) v Google LLC. Google India Private Limited, Google Ireland Limited*, Case No 07 and Case No 30 of 2012 (Competition Commission of India, 31 January 2018).
[36] Geeta Gouri & Micheal Salinger, *Protecting Competition vs. Protecting Competitors: Assessing the Antitrust Complaints Against Google*, 2 The Criterion Journal on Innovation (2017).
[37] *Id.*

consistent approach and a defined methodology for finding abuse of dominance, their order would be logical. Unfortunately, they have failed to provide either of these in this case and simply demonstrated their confusion while tackling emerging technologies.

CCI and Mergers

The Competition Commission of India CCI has whipsawed among different positions when deciding various matters including issues relating to platforms and technology. In the area of mergers, Walmart's[38] purchase of Flipkart in 2018 ("Flipkart-Walmart case") was the first merger case involving platforms decided by the CCI.[39] Flipkart's online retail business in India operated through two entities: (a) the business to business (B2B) unit, Flipkart India Pvt. Ltd and, (b) Flipkart Internet Pvt. Ltd, the owner of the online platform Flipkart.com. The business model was that the B2B unit sourced products, selling them to various vendors, who would then sell these products on Flipkart.com.

In its application to the CCI to approve its merger Walmart characterised its partnership with Flipkart as a "pan-India market for B2B sales". The CCI assessed the combination[40] on the basis of two principles: first, that India's competition regime is designed to facilitate and regulate combinations; and second, that the combination is permissible as long as it does not adversely affect competition on the parameters specified in Section 20(4) of the Act.[41] The CCI

[38] Walmart operated in India via its fully owned subsidiary Walmart India Pvt. Ltd.,
[39] All mergers and acquisitions deals above a certain rupee threshold have to be cleared by the CCI.
[40] Combination Registration No C-2018/05/571 (Competition Commission of India, 8 August 2018).
[41] Competition Act, 2002, Section 20(4) - For the purposes of determining whether a combination would have the effect of or is likely to have an appreciable adverse effect on competition in the relevant market, the Commission shall have due regard to all or any of the following factors, namely:—
(a) actual and potential level of competition through imports in the market;
(b) extent of barriers to entry into the market;
(c) level of combination in the market;
(d) degree of countervailing power in the market;
(e) likelihood that the combination would result in the parties to the combination being able to significantly and sustainably increase prices or profit margins;
(f) extent of effective competition likely to sustain in a market;
(g) extent to which substitutes are available or are likely to be available in the market;
(h) market share, in the relevant market, of the persons or enterprise in a combination, individually and as a combination;
(i) likelihood that the combination would result in the removal of a vigorous and effective competitor or competitors in the market;
(j) nature and extent of vertical integration in the market;
(k) possibility of a failing business;
(l) nature and extent of innovation;
(m) relative advantage, by way of the contribution to the economic development, by any combination having or likely to have appreciable adverse effect on competition;

noted certain horizontal overlaps in lifestyle items such as personal care, clothes, and footwear, but they emphasised that the aggregate value of sales of these items was negligible in comparison to the market's overall size. Failing to note the complementarity between the two businesses the CCI determined that there were no vertical overlaps between the parties since Walmart's business was confined to B2B sales and Walmart had not yet joined the online marketplace sector, which was owned by Flipkart.[42] They highlighted that the transaction would strengthen the merged entity's financial position in a dynamic market characterised by network effects, given Walmart's size and resources. The CCI allowed the merger on this basis, noting that it had no discernible effect on competition in the relevant market.[43]

The CCI also whipsawed in deciding cross border mergers. In a transaction that occurred entirely outside India involving the acquisition of *Pfizer Inc.'s Global Nutrition Business by Nestlé SA, a Swiss public company*,[44] the CCI determined that because both parties to the proposed transaction were present in India through their subsidiaries and because the asset value and turnover in India exceeded the threshold limits under section 5(a), the transaction qualified as a combination under the said provision. However, in a cross-border merger of *Wyoming 1 (Mauritius) Private Limited (Wyoming 1) and Tata Chemicals Limited (TCL)*,[45] the CCI determined that, despite Wyoming 1 being a wholly-owned subsidiary of TCL, incorporated under the Mauritius Companies Act solely for the purpose of holding TCL's off-shore business interest, and having no assets or revenue in India, the proposed transaction qualified as a combination under section 5(c)[46], as it met the required thresholds. Using a

(n) whether the benefits of the combination outweigh the adverse impact of the combination, if any.

[42] Combination Registration No C-2018/05/571 (Competition Commission of India, 8 August 2018), page 3-4.

[43] *Id.* page 9.

[44] CCI Order under Section 31(1) of the CA, 2002 with regard to *Nestlé/ Pfizer*, Combination Registration No. C-2012/05/57, order dated 1-8-2012 (CCI).

[45] CCI Order under Section 31(1) of the CA, 2002 with regard to *Wyoming 1/Tata Chemicals Ltd*., Combination Registration No. C-2011/12/12, order dated 28-12-2011 (CCI).

[46] ***Section 5(c) in the Competition Act, 2002***

(c) any merger or amalgamation in which—

(i) the enterprise remaining after merger or the enterprise created as a result of the amalgamation, as the case may be, have,—

(A) either in India, the assets of the value of more than rupees one thousand crore or turnover of more than rupees three thousand crore; or

(B) in India or outside India, in aggregate, the assets of the value of more than five hundred million US dollars or turnover of more than fifteen hundred million US dollars; or

(ii) the group, to which the enterprise remaining after the merger or the enterprise created as a result of the amalgamation, would belong after the merger or the amalgamation, as the case may be, have or would have,—

(A) either in India, the assets of the value of more than rupees four thousand crore or turnover of more than rupees twelve thousand crore; or

(B) in India or outside India, the assets of the value of more than two billion US dollars or turnover of more than six billion US dollars. Explanation.—For the purposes of this section,—

"income test" involving the acquisition by *Intel Corporation of certain Motorola Mobility LLC assets*,[47] including non-Indian intellectual property rights, Motorola's tangible assets located in the United States, and the right to hire certain Motorola employees in the United States to develop technologies used in the components of cellular baseband processors, the CCI determined that because the transaction occurred outside India, it had no direct impact on competition in the Indian' market for cellular baseband processors.' since Motorola's assets being bought by Intel did not produce income in India at the time of the transaction, the deal was unlikely to pose any negative competition concerns in India.

They constructed an "indirect acquisition outcome" theory and applied Section 5 even though the parties to the transaction were foreign corporations and without Indian subsidiaries, In a wholly foreign to foreign (consummated) transaction involving *Titan International's acquisition of Titan Europe's entire share capital*,[48] where both parties (acquirer and target) were based in the United States of America and the United Kingdom, respectively, and had no presence or operations in India, except for Titan Europe (the target) holding 35.91 per cent equity share capital in Wheels India, CCI determined that the transaction was a combination under section 5, as it resulted in Titan International becoming Titan Europe.

Their inconsistencies were apparent in a proposed merger of two subsidiaries, *Glenmark Access Limited and Glenmark Generics Limited, with (their parent) Glenmark Pharmaceuticals Limited*,[49] where the parent entity held a 100% and 98.14 per cent shareholding in the subsidiaries, respectively, CCI determined that the proposed combination fell under item 9 of Schedule I of the Combination Regulations, while noting that there was 'no change in the ultimate control' as a result of the transaction, and thus that section 6(2) applied.[50] However, in *acquiring 20.28 per cent and 12.11 per cent of equity shares in Multi*

(a) "control" includes controlling the affairs or management by—
(i) one or more enterprises, either jointly or singly, over another enterprise or group;
(ii) one or more groups, either jointly or singly, over another group or enterprise;

[47] CCI Order under Section 31(1) of the CA, 2002 with regard to *Intel/ Motorola Mobility*, Combination Registration No. C-2013/01/104, order dated 22-1-2013 (CCI).

[48] CCI Order under Section 31(1) of the CA, 2002 with regard to *Titan International/Titan Europe*, Combination Registration No. C-2013/02/109, order dated 2-4- 2013 (CCI).

[49] CCI Order under Section 31(1) of the CA, 2002 regard to *Glenmark Generics Ltd./Glenmark Access Ltd./Glenmark Pharmaceuticals Ltd.*, Combination Registration No. C-2014/02/156, order dated 5-3-2014 (CCI).

[50] Cyril Shroff & Nisha Kaur Uberoi, *A Look Back at The Enforcement of Merger Control in India*, US-India Business Council 2014.

Screen Media Private Limited (MSM India) by Acquires, SPE Mauritius Holdings Limited, and SPE Mauritius Investments Limited, respectively, from Grandway Global Holdings Limited and Atlas Equifin Private Limited,[51] the CCI determined that 'joint control over an entity inferred control over strategic commercial operations of the entity by two or more persons, and which control in turn would be sufficient to veto/block the strategic commercial decisions of the entity by each such person.' Additionally, CCI concluded that *controlling* 'right over strategic commercial decisions cannot be considered as mere minority investor protection rights' as the acquirers argued. While the acquirers controlled 62% of equity shares and had the right to appoint three directors before the acquisition, the sellers (*Grandway and Atlas*) had 32.39 per cent of equity shares and the right to nominate two directors in the acquired before the acquisition. Consequently, CCI determined that the acquisition resulted in the acquirers' transfer from joint control to sole control of the acquirers over MSM India,' and hence that an exemption from the section 6(2) notice requirement could not be obtained.

A. Walmart-Flipkart Merger:

Walmart's planned purchase of Flipkart ("Flipkart-Walmart case") was the first merger case involving platforms. The CCI did not define the relevant market in its decision approving this purchase, even though Walmart characterized it in its application as the market for B2B sales in India. The CCI assessed the combination on the basis of two primary principles: first, that India's competition regime is designed to facilitate and regulate combinations; and second, that the combination is permissible as long as it does not adversely affect competition on the

[51] CCI Order under Section 31(1) of the CA, 2002 with regard to *MSM India/SPE Holdings/SPE Investments/Grandway/Atlas*, Combination Registration No. C-2012/06/63, order dated 9-8-2012 (CCI).

parameters specified in Section 20(4) of the Act[52]. The CCI evaluated probable horizontal and vertical overlaps between the two parties while evaluating this purchase.[53]

Walmart operates in India via its fully owned subsidiary Walmart India Pvt. Ltd., whereas Flipkart specializes on online marketplaces that link vendors and buyers, as well as B2B sales. Although the CCI discovered certain horizontal overlaps in lifestyle items such as personal care, clothes, and footwear, it emphasized that the aggregate value of sales was negligible in comparison to the market's overall size. Additionally, the CCI determined that there were no vertical overlaps between the parties since Walmart's business was confined to B2B sales and Walmart had not yet joined the online marketplace sector, which was owned by Flipkart.[54]

The CCI highlighted that the transaction will strengthen the merged entity's financial position in a dynamic market characterised by network effects, given Walmart's size and resources. The CCI allowed the merger on this basis, noting that it had no discernible effect on competition in the relevant market.[55]

3. Issues with the CCI's Definition of a Relevant Market

[52] For the purposes of determining whether a combination would have the effect of or is likely to have an appreciable adverse effect on competition in the relevant market, the Commission shall have due regard to all or any of the following factors, namely:—
(a) actual and potential level of competition through imports in the market;
(b) extent of barriers to entry into the market;
(c) level of combination in the market;
(d) degree of countervailing power in the market;
(e) likelihood that the combination would result in the parties to the combination being able to significantly and sustainably increase prices or profit margins;
(f) extent of effective competition likely to sustain in a market;
(g) extent to which substitutes are available or are likely to be available in the market;
(h) market share, in the relevant market, of the persons or enterprise in a combination, individually and as a combination;
(i) likelihood that the combination would result in the removal of a vigorous and effective competitor or competitors in the market;
(j) nature and extent of vertical integration in the market;
(k) possibility of a failing business;
(l) nature and extent of innovation;
(m) relative advantage, by way of the contribution to the economic development, by any combination having or likely to have appreciable adverse effect on competition;
(n) whether the benefits of the combination outweigh the adverse impact of the combination, if any.

[53] Combination Registration No C-2018/05/571 (Competition Commission of India, 8 August 2018).
[54] *Id.* page 3-4.
[55] *Id.* page 9.

CCI's conclusion that Google exploited its dominating position in the "market for online general web search" to improve its position in the "market for online search syndication services" raises "market definition" issues. According to the CCI, AdSense, Google's syndication service, enabled publisher websites to include Google's search and ad technology via the use of search toolbars, through which users could perform searches directly on the publisher websites. This allowed website owners to get cash from Google advertisements shown on their websites. Google placed unfair and restrictive terms on publisher websites, which restricted the market for online search syndication services, established entry hurdles for other search engines, and denied these competitors access to the market, according to the CCI. These stringent criteria varied across agreements and included limitations on publisher websites employing competitive services and limits on the way in which competitors' advertisements might be placed. Under Section 4(2)(e)[56] of the Act, this was deemed an abuse of a dominating position. In their investigation, CCI determined that the market for online search syndication services was different. However, the conclusion of abusive behaviour is questionable because the "market for internet search syndication services" was never established as a relevant market. According to Google and a strongly worded dissenting opinion, an entity violates the rules of Section 4(2)(e) when it "uses its dominating position in one relevant market to enter or protect another relevant market" (emphasis supplied). This requirement, according to the dissenting opinion, requires a thorough delineation of the relevant market into which the dominating position is being leveraged.[57] CCI did not fulfil its legal obligation under the clause by failing to define the market for online search syndication services prior to determining an abuse of dominant position. Despite these flaws, the significance of the Google case lies in the distinct and detailed approach taken by CCI in defining the relevant market, which represents a much-needed departure from its previous approach to a series of cases involving online platform markets between 2014 and 2018, in

[56] uses its dominant position in one relevant market to enter into, or protect, other relevant market. Explanation .—For the purposes of this section, the expression—

(a) "dominant position" means a position of strength, enjoyed by an enterprise, in the relevant market, in India, which enables it to—

(i) operate independently of competitive forces prevailing in the relevant market; or

(ii) affect its competitors or consumers or the relevant market in its favour;

(b) "predatory price" means the sale of goods or provision of services, at a price which is below the cost, as may be determined by regulations, of production of the goods or provision of services, with a view to reduce competition or eliminate the competitors.

[57] *Matrimony.com Limited. v Google LLC and others* and the *Consumer Unity & Trust Society (CUTS) v Google LLC. Google India Private Limited, Google Ireland Limited*, Case No 07 and Case No 30 of 2012 (Competition Commission of India, 31 January 2018), Dissent.

which CCI failed to distinguish between online and offline markets or address the unique characteristics of online platforms.

A. Analysis of the Platforms Inconsistency

Definition of a relevant market in antitrust is the crux for abuse of dominance claims in cases of platforms and mergers and acquisitions. While an online platform is a two-sided enterprise that enables online interactions between two or more groups, these online markets are defined by network effects, switching costs to new platforms, and even innovation and technology, all of which are critical factors in evaluating the relevant market.[58] Delineating the relevant market in digital platforms is difficult for at least three reasons: first, competition authorities must consider the platform's various facets when assessing relevant markets; second, relying on traditional tools such as SSNIP may be difficult due to the presence of numerous non-price/zero-price parameters; and third, market definition tools may be unable to capture the blurred market boundaries inherent in online business models.[59] The increasing digitization of global and Indian markets in recent years, facilitated by the emergence of platforms such as Google, LinkedIn, Facebook, and Twitter, among others, has complicated competition and raised questions about the Act's appropriateness once again. There is widespread agreement that to react successfully to such dynamic markets, not only does CCI need better economic and legal powers, but also that the Act itself must be suitably updated to meet the challenges unique to these markets.[60]

To address these concerns, the Indian Ministry of Corporate Affairs established a Competition Law Review Committee ("Committee") in 2019 to assess the Act's ability to adapt to the dynamics of existing and future markets.[61] On 20 February 2020, the government produced the draft Competition Bill 2020 and distributed it for public feedback in response to the Committee's Report. Despite the importance of relevant regional markets in determining anti-competitive impacts in digital, virtual marketplaces, the Committee's Report makes no recommendations about how the geographic market for digital platforms should be defined.

[58] UNCTAD, Competition Issues in the Digital Economy (2019).
[59] Directorate General For Internal Policies, Challenges for Competition Policy in a Digitalised Economy (2015).
[60] Aryan Mohindroo & Rajat Mohindroo, *Digital Economy and Competition Law: A Conundrum*, 3 Indian Competition Law Review (2018).
[61] Ministry of Corporate Affairs, Report of the Competition Law Review Committee (2019).

The idea of the appropriate geographic market is critical in the context of borderless digital, virtual marketplaces. It is critical to recall that the idea of the relevant geographic market originated in theories of international commerce, where high transit costs influence the comparative advantages that a country may have. As a result, the suitable geographical market should be defined by transportation and other transaction expenses: a distinction between marketable and non-tradable items is made based on transaction costs, which include transportation expenses.[62]

For instance, cement is a commodity with significant transportation costs and is therefore classed as a non-tradable good with a limited global market due to transportation expenses.[63] Transportation technology advancements have decreased the cost of transportation and consequently blurred the distinction between tradable and non-tradable products and services. National borders have been dissolved by the internet and the expansion of virtual marketplaces, and no longer determine market boundaries. Transaction costs are either negligible or have been completely eliminated in these contemporary digital marketplaces. As early as in the case of *Prints India v Springer India Private Limited and others*, the CCI remarked that the Director General Investigations had evaluated solely physical journals while determining Springer India's abuse of power.[64] However, the CCI did not specify the appropriate regional market owing to a lack of accessible data.

More recently, in the *WhatsApp and Facebook cases*, the CCI addressed the issue of the relevant geographical market.[65] The complaint argued that WhatsApp's relevant geographic market was "global," because it was the most popular app globally, with a market share of 55.6 percent.[66] Interestingly, while the CCI agreed that consumer communication apps provide functionality across international borders and that this functionality is not region- or country-specific in terms of price, platform, or operating system, the CCI also noted that competitive conditions, regulatory architecture, and market players vary across regions or countries, and thus the relevant geographic market cannot be global.[67] The CCI therefore held that, since the

[62] Vinod Kumar Jain, Global strategy: Competing in the Connected Economy (Routledge, Taylor & Francis Group) (2017).
[63] Dr. S Chakravarthy, CUTS Relevant Market In Competition Case Analyses.
[64] *Prints India v Springer India Private Limited and others*, Case No 16 of 2010 (Competition Commission of India, 3 July 2012).
[65] In re Shri Vinod Kumar Gupta and WhatsApp Inc., Case No 99 of 2016 (Competition Commission of India, 1 June 2017).
[66] *Id.* page 3.
[67] *Id.* page 6.

complaint contended that WhatsApp engaged in anti-competitive behaviour within India's territorial boundaries, India, rather than the whole globe, should be deemed the relevant geographic market.[68]

In the future, the CCI may determine that the customer's location and price differential may be immaterial.[69] It is conceivable that competition authorities may define the relevant geographic market expansively, but this would likely raise the question of whether the worldcan be associated with a specific physical or geographical place.[70] Competition authorities may also need to examine the fact that, since substitutes define the borders of the relevant geographical market, they must include items sold in brick-and-mortar stores as well as those offered through digital, virtual enterprises.[71] implying that the competition authorities would have to define the relevant geographic market broadly enough to include all replacements, particularly given that it has previously been established that online and offline marketplaces are essentially distinct distribution methods, not distinct markets.[72]

B. CCI and Data

The CCI's schizophrenic approach was evident again in the context of the collection of data cases. It held in *Builders Association of India v. Cement Association of India and others* [73] that sharing of data was problematic and yet the Commission flip flopped in the Flaghlights case[74] positing that the sharing of commercially sensitive data was not critical to prove cartelization. It reversed its position In Re: Cartelisation in Industrial and Automotive Bearings[75] and frowned upon the exchange of commercially sensitive information.

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[68] *Id.*
[69] Rolf H. Weber, *Competition Law Issues in the Online World*, 20th St. Gallen International Competition Law Forum ICF, 2013 (2013), https://ssrn.com/abstract=2341978 (last visited Jun 7, 2022).
[70] Jared Kagan, *Bricks, Mortar, and Google: Defining the Relevant Antitrust Market for Internet-Based Companies*, 55 NYLS Law Review 271–292 (2011), https://digitalcommons.nyls.edu/nyls_law_review/vol55/iss1/10/ (last visited Jun 7, 2022).
[71] *Id.*
[72] *Ashish Ahuja v Snapdeal.com*, Case No 17 of 2014 (Competition Commission of India, 19 May 2014).
[73] *Builders Association of India v. Cement Association of India and Ors.,* Case No. 29 of 2010. The CCI held that the availability of "sensitive commercial information …..to its members could greatly facilitate anti-competitive outcomes".
[74] *In Re: Alleged Cartelisation in Flashlights Market in India, Suo Motu Case No. 01 of 2017*. It was held that "information shared with the association itself does not establish (the) existence of any agreement as exchange of commercially sensitive information in itself is not sufficient to establish the existence of a cartel."
[75] *In Re: Cartelisation in Industrial and Automotive Bearings, Suo Motu Case No. 05 of 2017.*

4.Blockchain

A. Characteristics of Blockchain

In 2008, Satoshi Nakamoto wrote an influential paper titled "Bitcoin: A Peer-to-Peer Electronic Cash System" in which he introduced blockchain technology.[76] Later, it was revealed that Satoshi Nakamoto was a pseudonym, and the genuine identity of the creator remains unknown. In the case of the blockchain, there was a real surge of interest at the end of 2015 and the beginning of 2017 that was linked to the Bitcoin phenomenon: it was Bitcoin that drew attention to this new technology, and even to this day, a large portion of the audience identifies them as synonyms.[77]

Scientists from computer science and cryptography, captivated by the allure of this new technology, started to build on the original insights of Nakamoto thus demonstrating the process of acceptance of a new technology, characterised by many years of gradual adoption followed by exponential development. Blockchain has become a disruptive technology, but only the most seasoned understand all possible applications.[78] Christensen and Bower have argued that a "disruptive" technology is one that anticipates the needs of a market and whose evolution leads to the creation of even new markets.[79] As a result of this insight, the word disruptive has abandoned its restriction to the realm of technology and expanded to include other cases. The "disruptive" technology often begins in a specialized market that is not immediately current.[80]

There are numerous possible applications of Blockchain which is a digital, decentralised, and distributed ledger in which every transaction is recorded and updated in chronological order

[76] Satoshi Nakamoto, Bitcoin: A Peer-to-Peer Electronic Cash System (2009).
[77] Horst Treiblmaier, *The impact of the blockchain on the supply chain: a theory-based research framework and a call for action*, 23 Supply Chain Management: An International Journal 545–559 (2018); Christophe S. Hutchinson & Maria A. Egorova, *Potential Legal Challenges for Blockchain Technology in Competition Law*, 13 Baltic Journal of Law & Politics 81–107 (2020).
[78] Sebastien Meunier, *What is Blockchain and How Does This Revolutionary Technology Work?*, *in* Alastair Marke (eds.) Transforming Climate Finance and Green Investment with Blockchains.
[79] Joseph Bower & Clayton Christensen, *Disruptive Technologies: Catching the Wave*, Harvard Business Review (1995).
[80] For example, blockchain's niche market was Bitcoin, or the market for cryptocurrencies used to guarantee decentralised payments.

with the goal of establishing immutable evidence enabling multiple stakeholders to share and access the information in a secure manner.[81]

When new information/data is received following a transaction, a new block containing this information is added to the chain; the succession of information and data forms a real chain of blocks over time (from here the name blockchain).[82] Each new item of data corresponds to a block, hence the size of this chain increases over time as blocks are continuously added. In addition, this chain is immutable; once written, its content cannot be altered or removed without invalidating the whole structure, whose integrity is ensured by the employment of cryptographic primitives.[83] In conclusion, a blockchain is an ordered, incremental, solid, digital block chain of cryptographically linked data blocks.

B. Types of Blockchain: Public v. Private

The defining characteristic of Blockchain as envisaged by Nakamoto[84] is the consensus structure where each transaction is "approved" by consensus and the "proof of work" is rewarded by a Bitcoin or a part thereof.[85] On the *Bitcoin* blockchain, for instance, the first entity to properly solve a computational challenge has the opportunity to submit the next block to the network. This is known as "mining." The nodes on the network indicate their approval of the proposed block by adding it to their copies of the blockchain after verifying that the computational puzzle was properly solved, the transactions in the block are genuine, and the bitcoin in each transaction has not been spent earlier. Under a "proof of work" mechanism, if there is a disagreement between various blockchain versions, the chain with the most computational effort is regarded to have the most accurate record. Under this method, it is not possible to purposefully prioritise or offer an unfair advantage to one member over another. If conflicts emerge among players, there are no default norms for resolving them.[86]

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[81] *Id.*
[82] Zibin Zheng et al., *Blockchain challenges and opportunities: a survey*, 14 International Journal of Web and Grid Services 352 (2018).
[83] *Id.*
[84] Satoshi Nakamoto, Bitcoin: A Peer-to-Peer Electronic Cash System (2009).
[85] *Id.*
[86] Arthur Gervais et al., *On the Security and Performance of Proof of Work Blockchains*, Proceedings of the 2016 ACM SIGSAC Conference on Computer and Communications Security - CCS'16 (2016).

The technology, however, has evolved into what are known as Permissioned Blockchains, a common term for private blockchains.[87] In contrast to public blockchains, these networks are closed, and participation is restricted to select approved parties. They also provide network members particular privileges and constraints. Private blockchains, therefore, are more centralised, since only certain individuals can govern the network.[88]

A public blockchain, on the other hand, is comparable to a *public park*. Everyone is welcome to have a picnic, stroll their pets, or play ball at the park. No one owns it, and everyone in the community is responsible for maintaining its cleanliness. The park's regulations are determined by all its users, who must achieve an agreement on what they will be. A private blockchain, on the other hand, is comparable to a communal garden in the centre of a square of homes. It is inaccessible to people who do not reside there, and to enter, someone must allow you to pass through his residence. The little group is responsible for maintaining the garden and uses it exclusively for themselves. On a more technical level, the private (Permissioned ledgers) operates such that whenever new data or records are added, the system of approval is not tied to the majority of Blockchain participants, but rather to a restricted number of "trusted" actors.[89] According to this approach, actors may operate autonomously, but only one or more preselected actors serve as network validators. These blockchains use access control levels to choose the network members and an active consensus process.

In contrast to private blockchains, public blockchains (Permissionless ledgers) are open ledgers, without regulation. Every member of the network may update the data on the distributed ledger and has access, as a participant, to all immutable copies of all transactions that have been authorised by consensus. Public blockchains employ complicated algorithms to obtain agreement among the network's users, however they may not be suited for many businesses because of their openness and the lack of privacy. The most well-known and ubiquitous example is the Bitcoin Blockchain.[90]

[87] Christine V. Helliar et al., *Permissionless and permissioned blockchain diffusion*, 54 International Journal of Information Management 102136 (2020).
[88] Manlu Liu et al., *How Will Blockchain Technology Impact Auditing and Accounting: Permissionless Vs. Permissioned Blockchain*, 13 Current Issues in Auditing (2019).
[89] Tatsuo Mitani & Akira Otsuka, *Traceability in Permissioned Blockchain*, 8 IEEE Access 21573–21588 (2020).
[90] David Lee & Robert H Deng, Handbook of blockchain, digital finance, and inclusion: Volume 2 (Elsevier) (2018).

Depending on the sort of platform employed, the blockchain may be built to give varying degrees of data accessibility: It may enable more data openness while maintaining the necessary privacy. To preserve the most sensitive information, it is recommended to retain it "off chain," outside and apart from the blockchain, rather than storing and replicating it between nodes inside the structure "on chain."

These differences raise concerns regarding consistency with competition regulations; especially when the selection of new members upon arrival is determined by a consensus mechanism of the two organisations. The structure raises the issue of the potential misuse of dominating position by players in a position of significant power, thus diminishing the decentralised characteristic of the technology. Moreover, this sort of organisation makes the examination of anti-competitive conduct much more difficult to access by competition authorities.

C. Blockchain and Smart Contracts

Blockchain was developed with a goal of generating a digital asset with an exchange value that can be freely moved to a decentralised platform. In the years following the Bitcoin Platform blockchain ("first generation blockchain") applications proliferated and made it possible to conduct more complex transactions ("second generation blockchain"), of which Ethereum is a prime example.[91] Second-generation blockchains are distinguished by the addition of a programming language that enables users to programme complex software that interacts with the distributed ledger,[92] whereas the first-generation blockchains are limited to simple unilateral transfers involving sums of the cryptocurrency used in the single blockchain (for example, sums of bitcoin on the Bitcoin platform).

Users of a second-generation blockchain can generate "tokens" that vary from the network's original coin. Smart Contracts[93] can now be programmed to execute automatically[94] on

[91] Primavera De Filippi & Samer Hassan, *Blockchain Technology as a Regulatory Technology: From code is law to law is code*, 21 First Monday (2016).
[92] *Id.*
[93] The legal foundation of the Smart Contract is a hotly contested issue inside blockchain, with no definitive solution as of yet.
[94] Primavera De Filippi & Samer Hassan, *Blockchain Technology as a Regulatory Technology: From code is law to law is code*, 21 First Monday (2016).

predetermined criteria and allow users to design software applications that facilitate token exchanges. If, for example, tokens are the digital representation of things, then Smart Contracts are the mechanism by which their circulation may be managed according to user defined criteria.[95] The Smart Contract, thus, is a conduit by which agreements are made and maintained, rather than as an agreement itself.

In the EU, for instance, the inherent nature of smart contracts and their conformity with Article 101 of the ***Treaty of the Functioning of the European Union*** (TFEU)[96] is controversial.[97] On the one hand, some literature sees them as potential instruments for

[95] Chris Pike & Antonio Capobianco, *Anti-trust and the Trust Machine*, 5 Competition Law & Policy Debate 48–56 (2019).

[96] Article 101of the **Treaty on the Functioning of the European Union**

(ex Article 81 TEC)

1. The following shall be prohibited as incompatible with the internal market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market, and in particular those which:

(a) directly or indirectly fix purchase or selling prices or any other trading conditions;

(b) limit or control production, markets, technical development, or investment;

(c) share markets or sources of supply;

(d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;

(e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts.

2. Any agreements or decisions prohibited pursuant to this Article shall be automatically void.

3. The provisions of paragraph 1 may, however, be declared inapplicable in the case of:

- any agreement or category of agreements between undertakings,

- any decision or category of decisions by associations of undertakings,

- any concerted practice or category of concerted practices,

which contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit, and which does not:

(a) impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives;

(b) afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.

[97] Reaching a decentralised consensus – blockchain's core functionality – requires distribution of information among blockchain members regarding their transactions (for example: payments or delivery of goods). Despite being essential to blockchain's effective functioning, such instantaneous distribution of information and the

monitoring the activities and behaviour of businesses that acquire a regulatory role and potentially replace competition authorities.[98] Many writers, on the other hand, describe this technique as a form of control that enterprises engaged in a cartel would use to ensure that no member violates cartel orders in order to obtain a tactical advantage.[99]

D. Competition Challenges with Blockchain

Blockchain now presents new challenges to the Indian Competition Authorities. One of the most distinguishing characteristics of blockchain technology is its decentralised nature, in which each participant has complete information about the functioning of the blockchain. One perspective approaches decentralisation and the resultant openness to result in more efficient transactions;[100] but, it is also possible that the information will lead to anti-competitive behaviour resulting from illegal collusion between numerous parties.[101] The privacy and anonymity of a blockchain, may also facilitate price fixing by consortiums on a blockchain, and entry to a blockchain network, whether permissioned or private, can be restricted resulting in foreclosure from the market itself. The complicated structure of blockchains, makes their classification as pro or anti-competitive contentious, while their usage raises a variety of anti-competitive issues because of the multiple basic factors involved.[102] Furthermore, the decentralised structure of the system would also provide regulatory agencies with an enforcement issue, since there is no one, identifiable organisation can be held responsible.[103]

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resulting transparency may be a collusion-inducing cocktail. The incompatibility of blockchain-based information sharing with Article 101 TFEU must be assessed on a case-by-case basis, given that blockchain-based information exchange might provide efficiency through enhancing contractability. Therefore, direct rivals using shared blockchains or participating in blockchain consortiums are likely to be subject to antitrust investigation. In this regard, the type and collusive potential of information displayed on the ledger is one of the primary legality variables to evaluate. Therefore, it is advisable to limit access to competitively sensitive information or to keep such information in non-blockchain sites. For a more detailed discussion see: Blockchains in competition law – friend or foe? Kluwer Competition Law Blog, http://competitionlawblog.kluwercompetitionlaw.com/2018/07/21/blockchains-competition-law-friend-foe/ (last visited May 26, 2022)

[98] Chris Pike & Antonio Capobianco, *Anti-trust and the Trust Machine*, 5 Competition Law & Policy Debate 48–56 (2019).

[99] *Id.*

[100] OECD, Blockchain Technology and Competition Policy-Issues paper by the Secretariat (OECD) (2018), at 4.

[101] *Ibid.*

[102] C Pike & A Capobianco, Antitrust and the Trust Machine (OECD) (2021), at 8f; The Interaction Between Blockchain and Competition Law in the Indian Competition Regime Kluwer Arbitration, http://competitionlawblog.kluwercompetitionlaw.com/2021/05/05/the-interaction-between-blockchain-and-competition-law-in-the-indian-competition-regime/ (last visited Dec 13, 2021).

[103] *Ibid.*

Blockchain presents competition challenges: it complicates both the identification of dominant market positions and the allocation of liability for anticompetitive conduct..[104] Its technology is neither pro nor anti-competitive: it is improbable that a single blockchain will assume a dominating position. However, a dominant player on a private blockchain can control who joins the blockchain community. For example, if a new bank wishes to establish a presence in Europe, it may be required to join the blockchain for interbank transfers among European banks to be competitive. It will be an abuse of power if a new bank is refused membership or access for prejudiced or unreasonable grounds. There may be an alternative method, namely clearing interbank payments, which is legitimate but slower and more costly.

The following sections analyse the competition issues which might arise because of:

i. Finding the Dominant Position

Blockchain raises important issues about a dominant position in the digital era, and it is important to define it in the era of platforms and blockchain: Anticompetitive conduct will be crucially dependent on the definition of a dominant position. This may be noticed when firms with an established dominating position exercise their market power in the running of a blockchain application. For instance, a significant existing company may sponsor/develop a blockchain application such that its design, governance and conditions of participation receive support from the business.[105] An example of dominance inside a blockchain may be a mining pool that has attained market power through which the said pool can unilaterally select which blocks to validate and which should be ignored.[106] While such dominance and its abuse has not yet been witnessed, the experience from Bitcoin mining suggests that there is a chance of

[104] Christophe S. Hutchinson & Maria A. Egorova, *Potential Legal Challenges for Blockchain Technology in Competition Law*, 13 Baltic Journal of Law & Politics 81–107 (2020).
[105] Dr. Thibault Schrepel, *Collusion by Blockchain and Smart Contracts*, 1 Harvard Journal of Law and Technology 33 118-166 (2019) at 135f.
[106] CCI & Ernst & Young LLP, Discussion paper on Blockchain Technology and Competition (CCI) (2021), at 42.

dominance to exist. Moreover, since decentralised organisations such as blockchain are not recognised as legal entities,[107] several additional questions emerge: "Can a legal non-entity retain a dominating position?" "Can blockchain technology generate monopolies without monopolists?:[108] Who has the dominant position if the blockchain itself is dominant?

A variety of dominance descriptors are applicable to blockchains. Each blockchain, as a global ledger on which transactions are recorded, would form a relevant market, according to the responsibility hypothesis.[109] If this were the case, all blockchain users would be regarded as co-participants of this dominating position. Again, this notion is based on the technological nature and purpose of the blockchain, which suggests that the idea of blockchain being developed in the technical environment, regardless of legal considerations. In reality, however, it is not possible to label each blockchain platform as dominant; while attempting to prohibit the deployment of anticompetitive actions by a subset of users. Considering blockchain technology from this perspective would render its core and technical characteristics null and void. Keeping such a market definition would drastically limit the motivation to use blockchains, since unwitting users may be held accountable for the actions of unknown third parties. This initial definition of dominating postures should thus be disregarded.

A second hypothesis would determine market power based on the sort of apps (products and services) that operate on the blockchain layer.[110] The kind of blockchain (1.0, 2.0, or 3.0) that comprises distinct layers of smart contracts[111] will then be at the core of the market definition, which will take into consideration the two-sided nature[112] of the market by examining the application functions. Specifically, a layer 1 blockchain as a platform would exist in a separate market since it does not compete with a layer 2 application.

[107] Thibault Schrepel, Blockchain + antitrust : the decentralization formula (Edward Elgar Publishing Limited) (2021).
[108] Gur Hubernam et al., Monopoly without a Monopolist: An Economic Analysis of the Bitcoin Payment System (Columbia Business School Research Paper) (2021).
[109] Eleni Katopodi, *Blockchain Market: Regulatory Concerns Arising From The "Diem" Example in The Field of Free Competition*, EU and Comparative Law Issues and Challenges Series - Special Issue (2021).
[110] Christophe Hutchinson & Maria Egorova, *Potential Legal Challenges for Blockchain Technology in Competition Law*, 13 Baltic Journal of Law and Politics (2020).
[111] Philipp Hacker et al., Regulating Blockchain : Techno-Social and Legal Challenges (Oxford University Press) (2019)
[112] Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets*, 1 Journal of the European Economic Association 990–1029 (2003).

The blockchain's market strength would be evaluated relative to other digital goods or services and, maybe, non-digital alternatives using this method. Therefore, blockchain power will be judged similarly to how internet sales may be incorporated into the traditional sales market (including physical sales).[113] Such a classification of a dominating position would allow liability to be retained solely for users who provide, exploit, or employ a dominant application that has engaged in anticompetitive conduct. This would therefore enable antitrust regulators to differentiate between three important blockchain participants: developers, users, and miners, depending on who performs the anticompetitive activity. To assess the market strength of blockchains operating the same kind of apps, it remains unclear which factors should be considered: the number of users, the number of transactions recorded, the number of blocks, or the revenues?

In its *Google ruling*, the European Court of Justice highlighted that the European Commission had used market share by sales volume as a proxy for several reasons.[114] First, market shares cannot be estimated because general search services are free to the user. Second, despite its best efforts, the Commission was unable to collect accurate and verifiable Revenue per Search (RPS) numbers for the leading general search providers. Thirdly, marketers consider "use" shares when determining where to position search advertising.[115] It should be noted that despite the geographical dimension of important markets and the universality of blockchain's underlying language, certain applications may be geared toward a local market while others may compete on a global scale. In this situation, only a case-by-case examination is appropriate.

In conclusion, analysing the market power of a blockchain network introduces new difficulties, one of which is the absence of central authority required to urge the majority of blockchain users to embrace modifications, thus diminishing "power." [116]

ii. Abuse of Dominance

[113] Jonathan B Baker, *Protecting and Fostering Online Platform Competition: The Role of Antitrust Law*, 17 Journal of Competition Law & Economics (2021).
[114] Vasil Stoynov, *Bringing the EU Competition Rules in the Digital Market – the Commission Decision in the Google Android Case*, 16 SCRIPT-ed 49–68 (2019)
[115] Swetlana Golovanova & Eduardo Pontual Ribeiro, *Multisided Platform Analysis and Competition Law Enforcement Practice in Brics Countries*, Journal of Competition Law & Economics (2021).
[116] Kai Brünnler et al., *A logic of blockchain updates*, 30 Journal of Logic and Computation 1469–1485 (2020).

This section focuses on the many unilateral activities, exploitation, exclusion, and discrimination – that may occur using blockchain technology. Before evaluating these unilateral actions in further depth, it is important to emphasise two common themes.

Almost all information and transactions recorded on public blockchains are accessible to the public. Transactions on private blockchains are only accessible to their users if they are meant to be so.[117] As a consequence, anti-competitive behaviour on public blockchains may be less than on other platform markets, because public channel chains enable more openness between users.

Since all blockchain users can monitor transactions, it is reasonable to assume that the inherent openness discourages the deployment of anti-competitive conduct, hence lowering their frequency. However, attention is essential since unilateral behaviours will not completely vanish because of the "opacity effect" of blockchain technology. On the blockchain, all transactions are encrypted,[118] and the identities of blockchain users are concealed. As a result, a transaction may be visible, but its origin and purpose are unclear to outsiders, making the interaction between users opaquer. This "opacity effect" is amplified in private blockchains in which the blockchain's content is kept concealed from outsiders.

To illustrate which unilateral activities might be done on blockchain, consider the hypothetical case of a digital market-operating corporation Y. Y plans to diversify its operations by creating a private blockchain. Y builds the blockchain such that it can choose the users who may access it, the actions the users can execute on it, and the protocol that regulates it. Y is able to modify these settings at any moment. Y has established a new professional service called *CareerMaker* that functions as layer 2 of its blockchain to earn money. Users can post and/or apply for jobs on *CareerMaker*. A smart contract is stored on the blockchain at each step of the recruiting process, from the first interview through the acceptance or rejection of an offer. Everything is readily automated, but tokens are used to pay for the registration of each of these transactions by users seeking candidates. Eventually, Y discovers that some of its rivals also use *CareerMaker* to recruit people who will allow them to compete with Y more effectively. Y uses an anti-competitive approach in response. Concerning the problem of defining the

[117] Weijie Zhao, *Blockchain technology: development and prospects*, 6 National Science Review 369–373 (2018).
[118] Aleksandra Bal, Taxation, virtual currency and blockchain (Kluwer Law) (2019).

economic and legal component of anti-competitive conduct, it might be rather straightforward to assess whether the activity in question constitutes a "enterprise." In the event of collusion (managed or supported by DLT technology), everything would depend on the activity of the node owners (for example, any active electronic device connected to the Internet and removing its IP address), maintaining the network by maintaining a copy of the blockchain, and ultimately, transaction processing. Node owners participate in economic activity to the degree that they give their computer capabilities for storing and validating transactions in exchange for a transaction fee or reward in their blockchain's native cryptocurrency.

Because of blockchain's decentralised character, the designation of a legal entity that would be held accountable for breaking competition law offers significant challenges. Given the functional approach used in EU Competition Law.,[119]the concept of "entity" is less important in determining the existence of "economic activity," it becomes crucial, therefore, when determining the liability under Article 101 TFEU of two organisations for entering into an illegal agreement or concerted action.

iii. Exclusionary Abuse and Blockchain

Exclusionary conduct includes refusal to deal, tie-in sales, predatory pricing, margin squeezes, exclusive dealing, and rebates.

a. Refusal to deal

Refusal to transact is a prevalent behaviour outside of blockchains,[120] although it should be less frequent, particularly on public blockchains., A refusal to provide access to a blockchain would have to be included into its governance architecture, even though a public blockchain is, by definition, programmed to enable public access. No intentional or exclusive selection of users is always feasible: The refusal to deal can only be implemented by altering the access rules themselves. Exclusionary techniques are, therefore, incompatible with the basic nature of public blockchains, and blockchains that use them will no longer be regarded as "public."

[119] Marixenia Davilla, *Unravelling the Complexity of Blockchain and EU Competition Law*, Journal of European Competition Law and Practice (2021).
[120] Csongor István Nagy, *Refusal to Deal and the Doctrine of Essential Facilities in US and EC Competition Law: A Comparative Perspective and a Proposal for a Workable Analytical Framework*, 32 European Law Review (2007).

In contrast, the unwillingness to provide universal access is a defining feature of private blockchains.[121] In such permissioned blockchains, the gatekeeping mechanism may take various forms, such as preventing a competitor from accessing blockchain information, proposing or registering new transactions, validating the blocks, and be managed by various types of actors, depending on the governance decisions. A refusal to use the blockchain might be used to disqualify maverick enterprises or new entrants and, more generally, to exclude or increase the costs of competitors outside the consortium.[122] In order to demonstrate a case of refusal to deal (not allowing a firm to join a blockchain community), let's assume that a blockchain for interbank payments exists among European banks.[123] There may be an alternative method, the old method, of clearing interbank payments that is legitimate but slower and more expensive. If a new bank wished to establish operations in Europe, membership in the blockchain may be required for it to become a competitive force and it may be abusive conduct [124] if the new bank is denied access or membership for subjective or unreasonable grounds or based on unreasonable costs. Article 102 TFEU, which forbids the abuse of dominant position, may be triggered under EU law when a monopolist refuses to do business with a rival. The European Court of Justice has established antitrust responsibility where a monopolist refused to sell a product to a competitor that it made accessible to others, even though a corporation normally has no obligation to engage with its competitors[125].[126]

b. Tying/bundling

Tying[127] is very improbable in public blockchains. In fact, this kind of blockchain is open access,. and therefore, it is doubtful that it will be used by another product or blockchain. If formed by for-profit firms, private blockchains may have a motive in enforcing tying or similar tactics. Bundling effects may emerge if an enterprise combines the usage of a blockchain

[121] OECD, Blockchain Technology and Competition Policy - Issues paper by the Secretariat (OECD) (2018).
[122] *Id.*
[123] Christophe S. Hutchinson & Maria A. Egorova, *Potential Legal Challenges for Blockchain Technology in Competition Law*, 13 Baltic Journal of Law & Politics 81–107 (2020).
[124] Id.
[125] The European Court of Justice has established antitrust responsibility where a monopolist refused to sell a product to a competitor that it made accessible to others, despite the fact that a corporation normally has no obligation to engage with its competitors
[126] Nicholas Economides & Ioannis Lianos, *Elusive Antitrust Standard on Bundling in Europe and in the United States in the Aftermath of the Microsoft Cases*, 76 Antitrust Law Journal (2009).
[127] Id.

(specialised, for example, in the mining of a certain cryptocurrency's tokens) with auxiliary services (for example, digital wallet or exchange) supplied outside the blockchain, on which the enterprise maintains a dominating position. On private crypto currency blockchains, tie-in sales such as this one are consequently anticipated.[128]

c. Predatory Pricing

Another anti-competitive strategy is persistently lowering the price to drive them from the market. When a user submits a transaction to be recorded on the blockchain, pricing on blockchain mostly takes the form of pricey transaction fees. On public blockchains, predatory pricing is very rare because it would require convincing a sufficient number of users to alter the governance structure to enable such a shift.

For private blockchains, however, the situation could be quite different if, for instance, a large block validator or a mining pool sets transaction fees below cost in order to exclude a rival cryptocurrency, or cross-subsidizes certain key merchants and suppliers in order to prevent a rival cryptocurrency from achieving efficient scale and, therefore, profitably entering the market. This strategy often works as a deterrent to the adoption of discriminatory conduct. Because of these discriminatory methods, investors may be dissuaded from participating in ICOs launched by prospective entrants, which, given the importance of this upfront form of obtaining finance for blockchain projects, will surely be sufficient to prevent admission.[129]

d. Margin Squeeze

A comparable practice happens when a vertically integrated, dominating corporation operates on upstream and downstream markets and sets the upstream pricing so high that firms cannot sustainably compete in the downstream market. And, in contrast to private blockchains, public blockchains are horizontal. Therefore, it is very improbable that a margin squeeze will be implemented on public blockchains. However, the situation is different with private blockchains. Because they allow revenue-generating apps while retaining a financial stake on the platform layer, it is conceivable that a margin compression technique might be applied.

[128] Peder Ostbye, The Adequacy of Competition Policy for Cryptocurrency Markets (2017).
[129] The standard for predatory pricing that considers average variable costs would then apply.

This would necessitate that the dominant corporation (in this case, the blockchain gatekeeper) adjust the price it charges on the upstream market (the blockchain platform). Such a plan appears improbable during the blockchain's development period, but it must be properly observed in the next few years.

e. Exclusive dealing

Article 102 TFEU prohibits a provider with monopolistic power over its clients from requiring them to use its blockchain to conduct transactions on the condition that they quit the blockchain of a rival. This requirement may be added in the user agreement that must be signed prior to blockchain use. It appears doubtful that such an exclusive agreement would be placed on a public blockchain, since doing so would require its incorporation from the outset. Moreover, once a transaction is recorded on a blockchain, users have little interest in registering it on another blockchain because of the the expense involved. Therefore, the technology itself diminishes the motivation to utilise many blockchains for a single transaction.

Private blockchains, on the other hand, provide a vastly different scenario. Closing rivals is an effective method for boosting the total price of the blockchain for consumers and developers. Moreover, private blockchains have an incentive in boosting their appeal by acquiring data.. On private blockchains, it is thus quite probable that exclusive trading methods will be established.

f. Rebates

A similar practice is the provision of retroactive rebates to customers who purchase all or most of their items or services from the dominant economic operator. Since all practices are recorded and available on public blockchains, a user's rebate will be apparent to everybody, and awarding fidelity discounts may result in opposition from users who do not get such a discount. This is more likely to occur if other users believe these advantages to be unreasonable. Therefore, public blockchains advocate treating all users equally when there is no need to distinguish between them.

Private blockchains may not necessarily benefit from this "visibility effect" since they have the ability to choose which information is shown to each user. They may also have a higher

business stake in luring trustworthy consumers with discounts. Therefore, it is anticipated that refunds will exist on private block chains.

5. CCI and Blockchain

A. Indian Competition Act and Blockchain

As mentioned in the Preamble of the Competition Act, one of the aims of the Indian Competition Act of 2002 is to prevent damaging competition

Under section 3(3) of the Act, anti-competitive agreements constitute collusion or bid-rigging when the enterprises are engaged in the same economic activity. The use of smart contracts in blockchains may prove to be effective collusive instruments,[130] with significant anti-competitive repercussions. These agreements are utilised for different blockchain transactionsand may be programmed to automatically establish punitive actions against collusions, so enhancing the transparency advantage provided by blockchains and promoting more competitive business practises. Even if they can enable collusions and make them more dynamic, parties to a blockchain may build such contracts to automatically construct agreements upon automated fulfilment of conditions based on shared data. Intelligent contracts are essentially computer programmes based on algorithms:In *Hyundai Motor Company and Kia Motors Corporation*, the CCI determined that although the employment of algorithms in and of itself is not discriminatory, such approaches should not be used to promote anti-competitive conduct in the relevant market.[131] Third, there must be no or little uncertainty about market positioning. The instability of the cartel may be affected by the volatility of the market. However, the greatest number of participants in a blockchain network will mitigate such uncertainty. Thus, we might infer that it is not always accurate to presume that blockchain technology facilitates collusion. However, the likelihood of such encounters is rather high given the openness and sharing of sensitive information about rivals and markets. Consequently, like other businesses, blockchain must avoid certain behaviours. And guarantee that competition-sensitive information is not shared with rivals.

B. Concern about CCI and How it Might Define the Relevant Market

[130] Section #(3) of the Competition Act
[131] *Hyundai Motor India Ltd. v. Competition Commission of India & Ors*.; Competition Appeal (AT) No. 06 of 2017.

While India has embraced blockchain,[132] the CCI has urged caution, warning business stakeholders not to participate in anti-competitive behaviour without specifying what such behaviour is or how it may be applied:[133] Their suggestions to stakeholders about competition compliance are as imprecise as they are vague.[134] While it is clear that blockchain and smart contracts can, indeed, be regulated for anti-competitive conduct under Section 3 of the Competition Act; it is not clear how the CCI and the Indian Courts will apply the existing jurisprudence of antitrust law to the emerging technology and whether the Competition Act needs to be updated in the Indian context. While constancy in applying traditional antitrust concepts by the CCI is laudable to protect competition in Indian markets: The critical issue remains whether the CCI's uneven treatment of platforms will follow through with blockchain technology even within the framework of an updated Act?

The above sections on mergers and platforms demonstrates that the CCI has had an inconsistent approach in defining the relevant market. The first issue that arises when the CCI decides to approach blockchain is the definition of a relevant market. In April, 2021 the CCI published a discussion paper on competition law and blockchain.[135] The report has a section on defining a relevant market while finding cases of abuse of dominance. However, as expected, the CCI has barely made any mention of a methodology for determining the relevant market.[136] The only mention of a standard that the CCI has made is the use of the SSNIP test.[137] The same SSNIP test which has been criticized by commentators and has failed to show consistency in determination of a relevant market in platforms.[138] What is far more dangerous is that the discussion paper states "Application of the SSNIP test in technology markets where prices are zero can be sometimes challenging. In such cases, it may be advisable to make suitable

[132] https://blockchain.gov.in/ and https://www.meity.gov.in/writereaddata/files/National_BCT_Strategy.pdf
[133] *Ibid.*
[134] CCI & Ernst & Young LLP, Discussion paper on Blockchain Technology and Competition (CCI) (2021), at 48.
[135] CCI & Ernst and Young, Discussion Paper on Blockchain Technology and Competition (2021).
[136] *Id.* at page 40f.
[137] *Id.* at page 40.
[138] Geeta Gouri & Kalyani Pandya, *The Indian competition law experience– its history and its (digital) future*, 4 Indian Law Review 276–300 (2020); Shilpi Bhattacharya & Pankhudi Khandelwal, *Judging a Book by its Cover?: Analysing the Indian Approach to Defining Platform Markets*, International Review of Law, Computers & Technology 1–22 (2022); Aakash Kumbhat, *Google and the evolution of CCI's online platform market definition analysis*, Indian Law Review 1–15 (2020); Dr. Tilottoma Raychaudhuri, *Predatory Pricing and Market Determination in Non-Traditional Markets: An Analysis of Recent Cases Decided by the Competition Commission of India*, 11 Indian Journal of Law and Justice (2020).

modifications to the test."[139] The CCI further mentions three paths which can be taken with the SSNIP test to determine the relevant market.

As per the first approach, blockchain application as a market (given that each application's ledger will be unique). Such a market definition is only applicable if there are no near replacements for the blockchain application, either in terms of other blockchain applications, non-blockchain technology, or offline alternatives. This is likely to occur if blockchain technologies are used to build new marketplaces that now do not exist. As per the second approach, blockchains with comparable applications as a single market. Blockchains with similar applications may be classified as a relevant product market when there are no non-blockchain alternatives. This is likely to be the case for blockchain applications that generate relatively novel but comparable goods or services. As per the third approach, comparable blockchain applications and non-blockchain apps comprise the relevant market. When they are all near replacements, the relevant product market may be defined to encompass comparable blockchain applications and other related digital/non-digital alternatives (if any). This is analogous to how online sales and physical sales from brick-and-mortar businesses are deemed to be part of the same relevant market.

The CCI is already notorious for not having a consistent approach for platforms. Blockchain issues raise more complex questions and further suggesting three approaches for the determination of the relevant market is going to add to the inconsistency. One of Adam Smith's canon's of taxation is the canon of tax certainty. The same applies to competition law as well. The lack of consistency in its determinations and not having a set method to determine the same is extremely worrying.

6. Conclusion

Blockchain's inherent decentralisation is meant to prevent the formation of monopolies. It is based on the premise that all market players maintain the capacity to make judgments without needing to adhere to the directives of a centralised economic power. It is a price strategy, not blockchain technology, that may constitute an abuse of a dominant position. At this moment in the growth of the blockchain, the complaints of interested parties that their blockchain is being

[139] CCI & Ernst and Young, Discussion Paper on Blockchain Technology and Competition (2021) at page 41.

misused are thus unwarranted. At this time, firms should not disregard the prospects of blockchain technology out of concern for their competitors.

This article identifies several anti-competitive activities which could result from blockchain. Most conventional competition law instruments will be ineffectual against public blockchain,[140] according to one of the key results of this research. Since antitrust law does not give clear answers to three questions: how are anticompetitive actions committed on "permission-less" public property to be recognised, how is the economic operator accountable for these practises to be identified, and how are they to be addressed in the future? Although the author of anticompetitive behaviour on blockchain may occasionally be identified, the immutability of the blockchain may hamper the efficacy of penalties and remedies.[141]

The scenario is different for private blockchains with permissions. Restricting access to the private blockchain and the sharing of competitively sensitive data inside the blockchain consortium may provide the most evident antitrust problems. On this form of blockchain, antitrust concerns such as refusal to trade, margin squeezing, and predatory pricing most often arise when a rival seeking access is denied. There may be valid economic reasons to exclude a competitor but sticking to many standard practises can reduce antitrust danger. The rationale for membership requirements should be well-documented and well-defined, pointing to pro-competitive considerations.

The enforcement by centralised regulators, such as the CCI, of vertically designed rules and concepts of competition law to a technology based on the desire for decentralisation, poses a further challenge to competition about the use of blockchain in India for blockchain regulation in the context of competitive policies. As Rajvansh and Sinha rightly pointed out, the CCI has only been concerned with the various blockchain issues which might arise.[142] However, it remains unconcerned with developing a consistent methodology to solve these issues. The

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[140] Lucas Waldem Zanforlini, Blockchain and Competition Law: Threats and Opportunities of the New Disruptive Technology, https://lup.lub.lu.se/luur/download?func=downloadFile&recordOId=9056735&fileOId=9056740 (last visited Jun 9, 2022).
[141] Eugenia Politou et al., *Blockchain Mutability: Challenges and Proposed Solutions*, 9 IEEE Transactions on Emerging Topics in Computing 1–1 (2019).
[142] Vishal Rajvansh and Saumya Sinha, The Interaction Between Blockchain and Competition Law in the Indian Competition Regime Kluwer Competition Law Blog, http://competitionlawblog.kluwercompetitionlaw.com/2021/05/05/the-interaction-between-blockchain-and-competition-law-in-the-indian-competition-regime/ (last visited Apr. 18, 2022).

discussion paper by the CCI depicts CCI itself is confused with choosing an approach to tackle blockchain.[143] Defining a relevant market is meant to serve a simple purpose of finding dominance and then serve as the path to tackle abuse of dominance. However, with the lack of a set methodology to define the relevant market will cause issues in the future. One could argue that the CCI might produce a defined methodology once it has to tackle blockchain cases. However, India has already witnessed the schizophrenic and inconsistent approach taken by the CCI for platforms and mergers; will the same be true for blockchain as well?

[143] CCI & Ernst and Young, Discussion Paper on Blockchain Technology and Competition (2021) at page 41.