European Competition Journal

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/recj20

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To cite this article: Anush Ganesh (13 Nov 2024): Predatory pricing in platform markets: a modified test for firms within the scope of Article 3 of the DMA and super-dominant platform firms under Article 102 TFEU, European Competition Journal, DOI: 10.1080/17441056.2024.2428032

To link to this article: https://doi.org/10.1080/17441056.2024.2428032

Published online: 13 Nov 2024.

EUROPEAN COMPETITION JOURNAL
https://doi.org/10.1080/17441056.2024.2428032

Routledge
Taylor & Francis Group

Predatory pricing in platform markets: a modified test for firms within the scope of Article 3 of the DMA and super-dominant platform firms under Article 102 TFEU

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ABSTRACT

The paper examines predatory pricing in the context of two-sided digital platforms, arguing that traditional tests based on Average Variable Cost (AVC) may be inadequate for these markets. While predatory pricing by dominant firms is prohibited in both EU and US competition law, the current standards may not effectively capture predatory behavior in platform markets characterized by strong network effects and low marginal costs. The paper analyses cases where cross-subsidization between platform sides had predatory elements and resulted in findings of abuse of dominant position. Given platforms' unique characteristics, it proposes a modified test under Article 102 TFEU for super-dominant platforms and those within the scope of Article 3 of Digital Markets Act's scope. The proposal extends the Akzo test by presuming prices below Average Total Cost (ATC) to be abusive, rather than using AVC, with LRAIC as a proxy for ATC. This addresses the current test's limitations for low marginal cost businesses while allowing for objective justification.

ARTICLE HISTORY Received 6 June 2024; Accepted 4 October 2024

KEYWORDS Predatory pricing; cross-subsidization; two-sided digital platforms; dominant firms; Digital Markets Act; Article 102 TFEU

1. Introduction

This paper engages with a problem that may seem counter intuitive in terms of consumer welfare goals of competition law as it engages with situations where the prices offered to consumers may be too low, and

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in some cases due to the sacrifice of profits. This type of behaviour can be called predatory pricing which is defined as the reduction of prices in the short run below a certain cost benchmark, in order to benefit from elimination of competition in the long run.[1] This paper seeks to explore some of the diverging opinions regarding the occurrence and assessment of predatory pricing in digital platform markets that are usually two-sided in nature.[2] The main aim of the paper is to understand whether digital platform markets require a different method of assessment when it comes to predatory pricing under Article 102 TFEU. The paper also proposes a similar mode of assessment under the DMA in the form a new obligation within Article 5 or 6.

The paper suggests that the traditional tests concerning predatory pricing in the EU can be modified when it concerns dominant digital platform firms with respect to having a price below Average Total Cost to have a presumption of abuse which then needs to be rebutted by the dominant platform. This is owing to their low marginal costs. To determine which firms would be assessed under this modified test, the paper suggests the use of Article 3 of the DMA Regulation which establishes that certain firms may be considered gatekeepers or core platform firms that exhibit significant impact on the internal market from an EU perspective.[3]

Under the competition law regime, the paper suggests using super-dominance as a metric to see which firms qualify for the modified test. The paper suggests a test for both regimes due to the fact that both Article 102 TFEU and the DMA are complementary legal regimes and seek to prevent super-dominant platforms from further monopolizing digital markets through their conduct either by trying to maintain

[1]Susan Gates, Paul Milgrom, and John Roberts, 'Deterring Predation in Telecommunication: Are Line-of-business Restraints Needed?' (1995) 16 Managerial and Decision Economics 427, 427–29.

[2]Nicholas Petit and Dirk Auer, 'Two-Sided Markets and the Challenge of Turning Economic Theory into Antitrust Policy' (2015) 60(4) Antitrust Bulletin. This paper by Petit and Auer found that there are varying understandings of what two-sided markets mean, but there is concurrence to the fact that indirect network externalities are an essential part of such markets. They found that some of the variances in defining two-sided markets are mainly based on 3 major themes/differences- (1) If there exists an asymmetric pricing structure between the two sides as suggested by Rochet and Tirole, (2) Evans and Schmalensee's view that there is requirement of a catalyst to conduct a transaction between the two groups that solve a coordination problem, and (3) a wide definition suggested by Rysman is that any market characterized by a network externality served by an intermediary can be considered to be two-sided. Petit and Auer note that precision is important while defining two-sided markets if they are to be used in competition law application in the absence of which, errors may occur on the side of under-enforcement or over-enforcement. They use Rysman's definition to select their case studies as they contend that it is hard to meet the restrictive definition of the other two in real life examples. Rysman's definition seems to be a suitable definition of two-sided markets that can be carried over the course of this thesis.

[3]Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act).

effective competition (under Article 102 TFEU) or by increasing contestability in digital markets (under the DMA).

To determine whether this can and should be done, the paper engages with the theory on predatory pricing by evaluating its development over the past century. This paper evaluates whether predatory pricing under Article 102 TFEU plays a role in cases concerning two-sided platforms which exhibit cross-subsidization of costs between their two sides. Cross-subsidization in this paper refers to the ability of a firm that has a dominant position in more than one market to subsidize its losses in one market with profits from the other.[4]

The paper will consider the development of the tests for predatory pricing from an EU lens but will also refer to the US tests for predatory pricing to see which one may be more suitable in digital platform predatory pricing cases. In order to do this the paper will begin by considering different theories of predatory pricing. It will be seen in Section 2 of the paper that most of the theories regarding this conduct arise from US academics (lawyers and economists). New theories of harm have been considered when practices relate to other parts of Article 102 TFEU when the DMA Regulation is concerned under Articles 5 and 6 obligations.[5] However, predatory pricing finds no mention in the legislation.

A higher burden is suggested in terms of having a presumption of abuse when prices fall below ATC rather than Average Variable Cost (AVC) as is the case currently in the EU. Applying the current test under Article 102 TFEU, the law may be underinclusive for online platforms which are able to cross-subsidize their costs due to their two-sided nature.

This also follows from the fact that the Preamble of the DMA states that one of the characteristics of core platforms is that due to the economies of scale, the marginal costs for adding new business and end users are nearly zero.[6] This means that most of the cost incurred is fixed cost to build the platform. Admittedly, there are various types of platforms and this definition may not be suitable to all of them. However, this paper limits the scope of platforms to those core platforms with significant market power as defined under Article 3 DMA.[7] Within this method of assessing predatory pricing for core platforms, even if a price is found to be below ATC, the firm could be allowed to present

[4]See Gates, Milgrom and Roberts, (n 1), 430.
[5]See DMA Regulation (n 3).
[6]ibid, Preamble of the DMA [2].
[7]Note that this paper only considers 2 aspects of the DMA: (1) The qualification of firms as gatekeepers under Article 3, and (2) The fact that out of the 23 obligations listed in Article 5 and 6, none of them discuss predatory prices.

an efficiency which exists under Article 102 TFEU but currently is not in place under the DMA regime. The proposed obligation will include the possibility of an objective justification being presented.

The paper will comprise of five Sections including the introduction and conclusion. Section 2 will discuss the law and economics of predatory pricing pertaining to traditionally single sided markets. The discussion will then be directed to cases decided by EU, UK and US courts that would be considered single sided markets, but are characterized by cross-subsidization. Section 3 will consider cases that resemble cross-subsidization in platform and non-platform markets to assess what role predatory pricing can play in two-sided markets. Section 4 suggests the use of a new method of assessment for core platforms when it comes to predatory pricing cases based on the characteristics of platforms. Section 5 will conclude.

2. Law and economics of predatory pricing

2.1 Economic theories of predatory pricing

When a firm sets prices below a measure of cost by sacrificing profits in the short-run, this is usually carried out to eliminate its competitor(s) (mostly entrants but could also be incumbents).[8] This pricing strategy is predatory in nature since the firm cutting its prices tries to prey on its competitor's inability to lower prices. For such behaviour to be successful in eliminating competitors, the firm reducing its prices ought to be able to recover or recoup its costs at a later stage.[9] This implies that the firm engaging in predatory pricing ought to have a certain amount of market power in order to be able to rely on its economic reserves or deep pockets.[10] Predatory pricing is also a conduct that allows a firm with market power to discipline smaller rivals or devalue the business of rivals who may later be acquired by the dominant firm for a lower price.[11]

Over the past century, there have been differing views on whether predatory pricing can be a successful strategy to eliminate competitors.[12]

[8]Massimo Motta, *Competition Policy: Theory and Practice* (Cambridge University Press, 2004) 412, 413.
[9]Louis Kaplow, 'Recoupment, Market Power, and Predatory Pricing' (2018) 82(1) Antitrust Law Journal 167.
[10]John S. McGee, 'Predatory Price Cutting: The Standard Oil (N. J.) Case' (1958) 1 The Journal of Law & Economics 137. Note that Mcgee does not consider predatory pricing to be a rational strategy.
[11]Malcolm R. Burns, 'Predatory Pricing and the Acquisition Cost of Competitors' (1986) 94(2) Journal of Political Economy 266; See also Motta (n 9) 415.
[12]See Mcgee (n 11); See also Fiona Scott Morton, 'Entry and Predation: British Shipping Cartels', (1997) 6 (4) Journal of Economics & Management Strategy 679, who found that entrants with lesser financial resources will be faced with a price war showing evidence of the deep pocket story.

Koller also noted in an empirical study consisting of litigated cases alleging predatory pricing, that most did not have elements of predation and most convictions were due to the fact that the defendants found it cheaper to plead guilty.[13] However, a later study contradicted those findings.[14] There have also been differing views on the use of competition law to engage with predatory pricing.[15] The differing views can be summarized by a sentence from Daniel Crane's seminal paper: *Predatory pricing law is, inescapably, a damned if you do, damned if you don't enterprise*.[16] Below cost pricing may be necessary to achieve efficiencies and therefore, the law ought to balance the finding of an abuse with a possible efficiency defense.[17] Schmalensee also notes that it may be difficult to find the suitable model to assess predatory pricing considering that there are many economic models that have been developed, but the choice of a suitable model can be made by selecting models using careful organization and evaluation of evidence.[18]

Most of the literature on the theories of predatory pricing are from the US due to the early development of the concept.[19] One of the theories on predatory pricing is that the conduct is carried out by an incumbent with market power to create a reputation of being a predatory which allows it from deterring future entrants.[20] Another is that predation may be used to send a signal to a potential entrant who may not be aware of the cost structure of the market that the incumbent's cost are low, which would create apprehension to entering the market.[21] When concerning an entrant who has already entered the market, predation may be used by a dominant incumbent to jam signals regarding market demand leading to the entrant being unaware of what demand would be in a com-

[13]Roland H. Koller, 'The Myth of Predatory Pricing: An Empirical Study' (1971) 4 Antitrust Law & Econ. Rev. 105. Only 26 out of 95 cases that had convictions showed elements of predation.
[14]Richard O. Zerbe, Jr. and Michael T. Mumford, 'Does Predatory Pricing Exist? Economic Theory and the Courts After Brooke Group' (1996) 41(4) Antitrust Bulletin 949, 949–64.
[15]Robert H. Bork, *The Antitrust Paradox: A Policy at War with Itself* (New York: Basic Books, 1978). Bork argues that lower prices are the very goal of competition law; See also C. Scott Hemphill and Philip J. Weiser, 'Beyond Brooke Group: Bringing Reality to the Law of Predatory Pricing' (2018) 127 Yale Law Journal 2048, for a more recent contrasting viewpoint.
[16]Daniel A. Crane, 'The Paradox of Predatory Pricing' (2005) 91 Cornell Law Review 1.
[17]Patrick Bolton, Joseph F. Brodley, and Michael H. Riordan, 'Predatory Pricing: Strategic Theory and Legal Policy' 88 Georgetown Law Journal, 2239, 330.
[18]Richard Schmalensee, 'On the Use of Economic Models in Antitrust: The ReaLemon Case, (1979) 127 University of Pennsylvania Law Review 994, 995–97.
[19]The Sherman Act, 1890 is the oldest existing competition law in the world.
[20]Paul Milgrom and John Roberts, 'Predation, Reputation, and Entry Deterrence' (1982) 27(2) Journal of Economic Theory 280, 281; See also F. M. Scherer, *Industrial Market Structure and Economic Performance* (2nd edn, Rand-McNally 1980) in Milgrom and Roberts 303.
[21]See Motta (n 9) 418, 419.

petitive setting.[22] This may also lead to the entrant choosing to exit the market due to absence of information regarding demand under normal circumstances.[23]

Another theory of predation is the deep pocket theory which refers to the large financial reserves of the incumbent which can allow it to fight off entry. This theory suggests that a firm with large financial reserves incurs losses with the purpose to force rivals to exit the market.[24] The financial reserves of the firm could be supplemented by its profits from other product or geographic markets which allows it to price below cost in the first market for a longer period till the entrant is eliminated.[25] Bolton et al. developed the deep pocket theory and suggested a financial market predation theory which not only includes the deep pocket story, but also suggests that the predator aims to dilute the equity of the prey leading to lessening of external finance.[26] These theories are relevant to any discussion on predatory pricing because they suggest the different motivations for the conduct. Most of the theories on predatory pricing have been able to influence the law on it as will be seen in the next two sub-sections. The US method of assessment of predatory pricing is different to that of the EU in some respects. The paper will consider the EU method of assessment followed by the US one to assess where they differ in their methods.

One way of prevent successful deep pocket predation from a policy stand point is to see if a lower price is maintained for a significant period of time, then the price may not seem to be anti-competitive as a new lower market price can be seen to have been established. In order to make sure that the lower price charged is maintained in the long-run, a policy may be devised which prevents price increases once a price has been set by an incumbent to respond to an entrant/competitor.[27] Such a price can be termed a quasi-permanent price reduction as coined by Baumol which prevents predatory behaviour since the price cutter dominant firm will have to consider a long-term loss as compensation for eliminating an entrant/ competitor.[28]

Predatory pricing involves risk taking by the predator firm as it is not guaranteed that the effect will discipline or remove competitors. While

[22]Drew Fudenberg and Jean Tirole, 'A "Signal-Jamming" Theory of Predation' (1986) 17(3) The RAND Journal of Economics 366, 366–76.
[23]See Motta (n 9) 420.
[24]Paul Milgrom and John Roberts, 'New Theories of Predatory Pricing' in Giacomo Bonanno and Dario Brandolini (eds), *Industrial Structures in the New Industrial Economics* (1990) 112, 118–21.
[25]ibid 118.
[26]See Bolton, Brodley, and Riordan (n 18), 2239, 2330.
[27]William J. Baumol, 'Quasi-Permanence of Price Reductions: A Policy for Prevention of Predatory Pricing' 89(1) The Yale Law Journal 1.
[28]ibid 7, 10.

judging a firm's predatory activities, it is important to not only consider a cost based economic analysis of the situation, but it is also important to consider how the potential market entrants view the market and whether the threat of predation can act as a deterrent to a potential entrant.[29] This brings the attention to the law on predatory pricing. The legal approach of the EU will be considered first followed by the US to understand points of divergences. The different theories on predation will be mentioned throughout this paper as they are also relevant in the test that will be proposed in Section 4.

2.1.1. EU approach in predatory pricing cases

Article 102(a) TFEU prohibits a dominant firm from imposing unfair selling prices which is the basis of the law on predatory pricing in the EU. In the case of *AKZO v Commission*,[30] the court ruled that 50 percent market share was said to have a presumption of dominance and that a firm with a dominant position cannot engage in below cost pricing to drive out competitors.[31] The case also established a presumption of abuse against prices set below Average Variable Cost (cost that varies depending on output, henceforth AVC) as the Court stated that a firm that sets such a price does so with the intent to eliminate competition.[32] The Court further established in the case that prices are above AVC but below Average Total Cost (ATC), such prices can be abusive if they are applied with an intent to eliminate competitors form the market.[33] This test was further clarified in *Tetra Pak II* where the Court considered it important to punish a dominant firm when it charges a predatory price (below AVC) without requiring proof of a realistic chance of recoupment as the aim of competition law is to maintain competition without waiting until actual elimination of competitors is carried out.[34] This case was an example of subsidizing of losses from one market where the firm was making profits to another one where it was offer prices below AVC. The case also reflects the deep pocket theory of predation.[35]

[29]Harry S. Gerla, 'The Psychology of Predatory Pricing: Why Predatory Pricing Pays' (1985) 39 Southwestern Law Journal 755.
[30]Case C-62/86, *AKZO v Commission* ECR I-3359.
[31]ibid [60].
[32]ibid [71].
[33]ibid [72].
[34]Case C-333/94 P, *Tetra Pak International SA v Commission of the European Communities* (*Tetra Pak II)* ECR 1996 I-05951 [44]. Case concerned cross-subsidization of losses from the aseptic carton market to the non-aseptic carton market; See Section 2.1.4.
[35]See Scott Morton (n 13).

Subsequently, in *France Telecom*,[36] the court clarified this position as it found that a firm that attempts to pre-empt the market by pricing below cost while being in a dominant position will be said to have been engaged in predatory pricing. The Court also clarified that there is no need to prove the possibility of recoupment of losses particularly when the eliminatory intent of the firm is evident.[37] This is because the firm will already have the ability to reinforce its dominance after having weakened competition having applied prices below cost (AVC).[38] The Commission is however free to use any finding of the possibility of recoupment in cases where prices are above AVC but below ATC to come to a conclusion regarding whether there is an Article 102 TFEU infringement.[39] The court held that the intention to eliminate the competitor along with pricing below ATC were the main determinant of whether a firm engaged in predatory pricing.[40] Some feel that the lack of the recoupment requirement in the EU is not considered the best way of dealing with predatory pricing cases as the rationality of predatory pricing hinges on the possibility of recoupment.[41]

These developments in the *France Telecom* case help in noting the main difference in approach to predatory pricing assessment in the EU compared to the approach in the US where the lack of probability of recoupment is considered a factor that disallows a finding of predatory pricing. In the case of *Post Danmark*,[42] the court held that pricing below AVC, average incremental cost (overall additional cost divided by the change in quantity, AIC) and average avoidable cost (costs that the firm could have saved if the firm stopped producing certain number of units) show evidence of a plan for eliminating competitors and a presumption of abuse.[43] The court followed the view from *Akzo* and held that if a price was below average total cost (ATC) but above AVC or AIC, there would no presumption of abuse but it can be demonstrated if the intention of the dominant firm was to eliminate its competitors and thereby prove that it was engaging in predatory pricing.[44]

[36]Case C-202/07 P, *France Telecom v Commission* ECLI:EU:C:2009:214.
[37]ibid [110].
[38]ibid [112].
[39]ibid [111].
[40]Michal Gal, 'Below-Cost Price Alignment: Meeting or Beating Competition?' (2007) 28(6) European Competition Law Review (ECLR).
[41]ibid; See also Emmanuel P. Mastromanolis, 'Predatory Pricing Strategies in the European Union: A Case for Legal Reform' (1998).
[42]Case C-209/10, *Post Danmark A/S v Konkurrencerådet* ECLI:EU:C:2012:172.
[43]Ioannis Lianos, Valentine Korah and Paolo Siciliani, *Competition Law: Analysis, Cases and Materials* (Oxford University Press 2019) 1004, 1011.
[44]See *Post Danmark*, (n 43), [37]; Richard Whish and David Bailey, *Competition Law* (10th edn, Oxford University Press 2022) 782,784.

However, there was no finding of prices being predatory in *Post Danmark* as there was not sufficient proof of predatory intent since the prices were between AIC (proxy for AVC) and ATC. The case also paved the way for a more economics-based assessment of exclusionary abuse cases by establishing the "as-efficient" competitor test which asks the question whether a competitor that is as efficient as the dominant firm will be excluded as a result of the prices charged below a certain measure of cost.[45] This also led to the finding that prices above ATC would not be anti-competitive as firms that are unable to match such prices are inefficient competitors.[46]

Figure 1 summarizes the EU approach to predatory pricing conducted by a dominant firm.

2.1.2. US approach

The historical context of predatory pricing in the US is relevant in understanding how the current test to assess it came about. In the US, predatory pricing was first seen in the case of *Standard Oil* where the activities of a dominant firm that engaged in monopolizing the petroleum industry through several acquisitions were brought into the purview of the Sherman Act, 1890,[47] which is the main US legislation that deals with competition law.[48] The Clayton Act, 1914 further codified certain conduct as harmful to consumers and the market.[49] Subsequently, a legislation was devised to protect small competitors from primary-line injury (conduct that affects competitors at a horizontal level) caused as a result of price discrimination by dominant firms which was called the Robinson-Patman Act, 1936.[50] In 1967, the case of *Utah Pie* was decided by the US Supreme Court in which it ruled that the intention to harm a competitor by offering predatory prices would be in violation of Section 2 of the Clayton Act.[51] The case was criticized for not assessing the extent of harm to competition and since then, the law on predatory pricing has undergone change gradually with many cases requiring the concept to evolve such as the need to show recoupment and the existence of dominance while engaging in predatory pricing being added as a requirement

[45]ibid [23] and [38].
[46]ibid [36].
[47]The Sherman Antitrust Act of 1890, (26 Stat. 209, 15 U.S.C. §§ 1–7).
[48]Standard Oil Co. v. U.S., 221 U.S. 1 (1911).
[49]The Clayton Antitrust Act of 1914, (Pub.L. 63–212, 38 Stat. 730, enacted October 15, 1914, codified at 15 U.S.C. §§ 12–27, 29 U.S.C. §§ 52–53).
[50]The Robinson–Patman Act of 1936, (or Anti-Price Discrimination Act, Pub. L. No. 74-692, 49 Stat. 1526 (codified at 15 U.S.C. § 13)).
[51]*Utah Pie Co. v. Continental Baking Co.*, 386 U.S. 685 (1967).

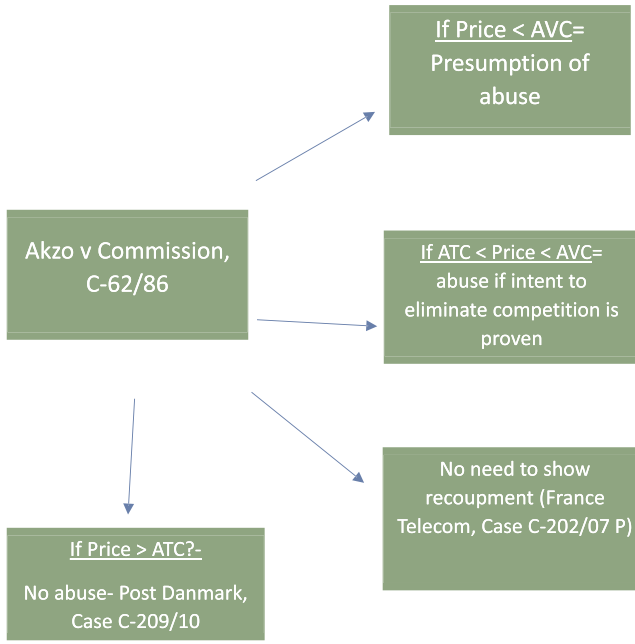

Figure 1. EU approach to predatory pricing.

that need to be satisfied in order to find a firm guilty of predatory pricing.[52] The *Brooke Group* case decided by the US Supreme Court in 1993 is used as the current standard to assess predatory pricing cases in the US. In the case, the court held that in order to prove a case of predatory pricing, the plaintiff must prove both pricing below an appropriate measure of cost (average variable cost or average incremental cost) as well as a dangerous probability of recoupment.[53] The price-cost test was developed based on a seminal paper by Areeda and Turner who felt the need to devise a clear test for predatory pricing due to the failings of the court in previous cases.[54] The test consists of checking whether the price charged by a dominant firm is below short-run marginal cost (MC) or Average Variable Cost (AVC).[55]

The changing US approach to predatory pricing can be summarized using Figure 2.

[52] *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp*., 509 U.S. 209 (1993).
[53] ibid. The Brooke test consists of 2 elements- (1) Price < AVC, and (2) Dangerous probability of recoupment of losses by the dominant firm exists.
[54] Phillip Areeda and Donald F. Turner, 'Predatory Pricing and Related Practices under Section 2 of the Sherman Act' (1975) 88(4) Harvard Law Review 697, 697–733.
[55] See Bolton, Brodley, and Riordan (n 18), 2239–60, for a more thorough description of the historical development of the predatory pricing price-cost test in the US.

American academics have had differing views on the real life applicability of predatory pricing and it being used as a way of monopolizing markets by firms with some arguing that successful predation is a myth while others argue that it is a hindrance to competition.[56] On the test itself, it is argued by some that the recoupment test coupled with the Areeda-Turner price-cost test (prices being charged below Average Variable Cost) will prevent inefficient firms from staying in the market and slowing down the market's overall growth and that predatory pricing is only a concept for theory and is rarely a successful pursuit.[57]

The Chicago school of thought (primarily Robert Bork) on predatory pricing is that it hurts the predator more than the prey and is not an effective way of monopolizing the market.[58] Successful predatory pricing has been termed a unicorn or white tiger by Robert Bork and other thinkers from the Chicago school due its rare occurrence. The Post-Chicago school of thought on predatory pricing does not rule out the possibility of successful predation but questions the precision of price-cost tests and recognizes the possibility of both false positives and false negatives.[59] While false positives lead to over enforcement where conduct that was not anti-competitive gets condemned, false negatives lead to under enforcement where harmful conduct is not condemned. Finding the balance has been a constant issue in competition policy. However, the US Supreme Court followed the Chicago school's approach to establish the test for predatory pricing with respect to setting the cost threshold that need to be compared to the price while determining whether it is predatory by holding as the first requirement that the price charged should be below marginal cost.[60]

The cases of *Brooke Group*[61] and *Matsushita*[62] (a case preceding *Brooke Group* which also considered the recoupment requirement) were major developments towards how recoupment was seen in US courts as they brought about the idea that without the possibility of recoupment existing, a case of predatory pricing cannot be proven. The idea of recoupment existing in different markets was rejected in both

[56] Aaron Edlin, 'Stopping Above-Cost Predatory Pricing' (2002), 111 (4) The Yale Law Journal 941, 991; See also Areeda and Turner (n 55); See also Robert Bork (n 16); See also Hemphill and Weiser (n 16).
[57] Einer Elhauge, 'Why Above-Cost Price Cuts to Drive Out Entrants Are Not Predatory – and the Implications for Defining Costs and Market Power' (2003) 112 Yale L.J. 681, 826.
[58] See Robert Bork (n 16).
[59] Jonathan B. Baker, 'Predatory Pricing after Brooke Group: An Economic Perspective' Antitrust Law Journal (1994) 62(3) 585, 603.
[60] ibid 592–98.
[61] See Brooke Group (n 53).
[62] *Matsushita Electric Industrial Co. v. Zenith Radio Corp*., 475 U.S. 574 (1986).

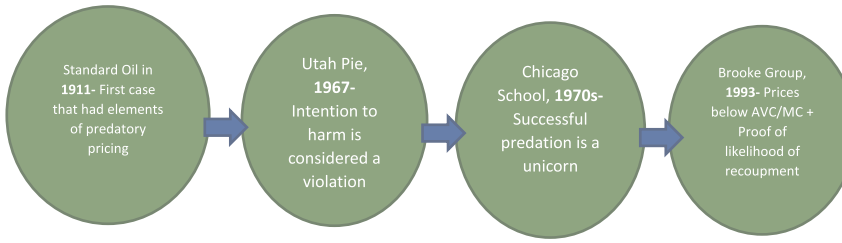

Figure 2. US approach to predatory pricing.

cases thereby eliminating the discussion regarding cross-subsidization of losses. The Court did however consider the possibility of recoupment of below-cost prices occurring in a different market in *Brooke Group* but ruled out the occurrence of the same in the case.[63] The rule established in *Brooke Group* was revisited in the case of *Weyerhauser* where predatory buying was justified based on the inability to prove the probability of recoupment.[64] In the US, the recoupment test established in *Brooke Group* requires it to be proven that there is an extremely high probability to recoup one's losses. According to the Court, it is important to not chill pro-competitive behaviour by interfering in the working of the market unnecessarily.[65] One notable aspect in *Brooke Group* is that the Court did not accept that recoupment could occur in a different market as the dominant firm, Brown & Williamson cross-subsidized its losses in generic cigarettes through profits from the branded segment.[66] This was arguably not a wise decision by the Court as this was a clear failure to notice a case of deep pocket predation due to the over reliance on the recoupment requirement in the same market.[67]

Edlin argues that due to the current tests, there will never be any competitive threat to dominant firms allowing consumers to be exploited by very powerful firms for two main reasons.[68] The first one being the assumption that price cuts are good for consumers in the short run involves a fundamental flaw as they are only done to combat a threat from an entrant.[69] His second claim is that there is no single appropriate

[63]See Brooke Group (n 53); See also Baker (60) 595–600.
[64]*Weyerhaeuser Company v. Ross-Simmons Hardwood Lumber Company*, 549 U.S. 312 (2007).
[65]See Brooke Group (n 53) [225].
[66]ibid [214–19].
[67]ibid [224]. Court stressed on the need to assess the rationality of predation which requires the need to prove recoupment.
[68]Aaron Edlin, 'Predatory Pricing: Limiting Brooke Group to Monopolies and Sound Implementation of Price-Cost Comparisons' (2018) The Yale L.J Forum 1001, 1003.
[69]ibid 1007–11.

measure of cost and by imposing AVC/MC as the appropriate measure of comparison with price in the Areeda-Turner test, cases involving situations where a monopoly firm engages in predatory pricing by pricing above AVC but below ATC can be found to be predatory as the intent of the pricing is not questioned.[70] Therefore, he suggests that the court take a more flexible approach while comparing price to cost.

On the other hand, Crane cautions against overdeterrence as he feels that too many plaintiffs use predatory pricing suits to deter socially beneficial price cuts in order to avoid pricing their products at a lower price.[71] This is because firms will be reluctant to reduce prices knowing that there may be a allegation of predatory pricing that may come their way. He also is reluctant to let a jury decide on matters that might seem too complicated for them.[72]

The approach that is used in the US courts is one where the Areeda-Turner price and cost comparison test is used along with the need to prove probable recoupment test which makes it hard for plaintiffs to prove a case of predatory pricing against dominant firms as there is a high burden of proof.[73] It also discourages plaintiffs from bringing cases of predatory pricing due to the higher burden of proof and evidence required to prevail.[74] This leads to the conclusion that US courts only allow predatory pricing claims when there is proof of predatory pricing carried out by a dominant firm already having achieved the goals which may have already led to the exit of efficient competitors.[75] The approach in the US has been one of apprehension when it comes to charging firms with predatory pricing as the tendency has been to err on the side of underenforcement rather than overenforcement due to the belief that markets will eventually correct themselves. On the other hand, the EU's approach is different to that of the US with regard to placing a lesser burden on plaintiffs.

2.1.3. Difference in approach

This difference in approach between the US and the EU towards using recoupment as a requirement has been instrumental towards firms

[70]ibid 1012.
[71]See Crane (n 17) 36, 39.
[72]ibid.
[73]See *Brooke* test (n 54).
[74]Brenda S. Levine, 'Predatory Pricing Conspiracies After Matsushita Industrial Co. v. Zenith Radio Corp.: Can an Antitrust Plaintiff Survive the Supreme Court's Skepticism?' (1988) 22(2) The International Lawyer.
[75]ibid.

being held to a higher standard in the EU in comparison to the US when it comes to judging predatory pricing cases. For example, the case of *Qualcomm* which involved an issue concerning the predatory pricing of baseband chipsets, was decided based on a price-cost test and an intention to eliminate a rival and a fine of 242 million euros was levied by the European Commission.[76] This would not have happened in the US due to the requirement of showing recoupment as a possibility. Courts in the US have on the other taken a much softer approach on firms as they worry about causing a disruption to business. This can be evidenced by the decision passed in *Qualcomm's* case in the US.[77] The case was ruled by the court of appeals in favour of the chipmaker, Qualcomm instead of the Federal Trade Commission (FTC) because they weren't able to prove that there were considerable negative effects to consumers using the rule of reason approach.[78] However, it is interesting to note that the acting chair of the FTC, Rebecca Kelly Slaughter issued a statement suggesting that the court of appeals did make an error in its conclusion but chose to not further appeal the case to the US Supreme Court while at the same time acknowledging the need to take action against abusive actions of dominant firms in high-tech markets.[79]

Predatory pricing is akin to a two-stage investment strategy according to Petit and Neyrinck and is more pervasive than is predicated by industrial organization theory if behavioural aspects are taken into consideration.[80] The outcome of predation can be irrational and not have definite economic gains at the end. The reasons for engaging in predation can be other than just recouping later such as to scare off competitors.[81] EU competition law accommodates predatory pricing claims that do not hint at possible recoupment in the future unlike the US law.[82]

Recently, several US academics argued to give up the recoupment requirement for platform markets as they feel that they do not reflect

[76]European Commission, Antitrust: Commission fines US chipmaker Qualcomm €242 million for engaging in predatory pricing, 18 July 2019. This case will be discussed in Section 4.3.
[77]Don Clark, 'Qualcomm Wins Reprieve in F.T.C. Antitrust Case with Appeals Court Ruling, New York Times, (August 2020), https://www.nytimes.com/2020/08/11/technology/qualcomm-antitrust-appeal-ruling.html#:~:text=the%20main%20story-,In%20Victory%20for%20Qualcomm%2C%20Appeals%20Court%20Throws%20Out%20Antitrust%20Ruling,monopoly%20position%20in%20wireless%20chips.,; Case was related to abuse of dominance but not predatory pricing.
[78]*F.T.C v Qualcomm Inc.*, 411 F.Supp.3d 658 (2019).
[79]Federal Trade Commission, Statement by Acting Chairwoman Rebecca Kelly Slaughter on Agency's Decision not to Petition Supreme Court for Review of Qualcomm Case, March 29, 2021.
[80]Nicolas Petit and Norman Neyrinck, 'Behavioural Economics and Abuse of Dominance: A Proposed Alternative Reading of the Article 102 TFEU Case-Law', ÖZK 2010 / 6, Abhandlungen, 203–09.
[81]See Harry Gerla (n 30).
[82]See Petit and Neyrinck (n 80).

the economics of platform markets.[83] Among them, the most famous argument in recent times can be said to have been made by the current Chairwoman of the FTC, Lina Khan,[84] who criticized the historical development of the recoupment requirement in US predatory pricing cases as it fails to consider motives other than direct profit maximization by a dominant firm.[85] For platform markets, she argues for a presumption of abuse rule when a price is below cost but refrains from engaging on which measure of cost would be appropriate.[86] This paper agrees with Khan's argument regarding the recoupment requirement and the need to have a presumption of abuse rule for platform markets and will explore the ideal cost measure in Section 4. When considering platform markets, it is important to consider their two-sidedness as well. When related to predatory pricing, cross-subsidization is an aspect that may play a role in platform markets as it has done in past cases.

2.1.4. Cross-subsidization and predation cases: relation to predation in two-sided platforms

Cross-subsidization refers to offsetting or subsidizing losses in a place different from where the loss is incurred.[87] When cross-subsidization occurs in two-sided markets, it may not mean that one side is better off if they stop subsidizing the other side as explained by Wright in his example of heterosexual nightclubs where the men pay to enter while women enter for a lower cost or no cost. The lowering of price for men or disincentivizing of women by charging them a price might lead to an inefficient outcome for both sides as the number of frequenters may fall. Similarly, the asymmetric pricing structure of a platform may be a method for deriving demand from both sides leading to an overall benefit.[88]

However, cross-subsidization can lead to a finding of abuse of dominance if a firm uses its dominance in one market to attempt to become dominant in an adjacent or related market by deliberately making losses in the market where it isn't dominant. This is similar to a situation when a firm has deep pockets or is able to take out large bank loans to

[83]Shaoul Sussman, 'Prime Predator: Amazon and the Rationale of Below Average Variable Cost Pricing Strategies Among Negative-Cash Flow Firms' (2020) 8(2) Journal of Antitrust Enforcement 447; See also Sandeep Vaheesan, 'Reconsidering Brooke Group: Predatory Pricing in Light of the Empirical Learning' (2013) 12 Berkeley Business Law Journal 81.
[84]Lina M. Khan, 'Amazon's Antitrust Paradox' (2017) 126(3) The Yale Law Journal 710.
[85]ibid 730.
[86]ibid 791–92.
[87]See Gates, Milgrom and Roberts (n 1) for the definition.
[88]Julian Wright, 'One-Sided Logic in Two-Sided Markets' (2004) 3(1) Review of Network Economics 1, 7–9.

fund entry into a market.[89] However, the difference is that there is knowledge of existence of another market which is in many of the following cases an adjacent market. Referring to some cases that exhibit this may be helpful in understanding the concept.

Tetra Pak II is one of the prominent examples of a situation where a firm that was dominant in one market (90 % dominance in the aseptic carton market) used that dominance to subsidize their losses in the adjacent market (non-aseptic carton market) where it was the market leader holding 50–55% market share. It incurred deliberate losses to eliminate its competitors.[90] This was a case where the intention to eliminate the competitor was proven (prices were below AVC) by the Commission as they showed a link between dominance in one market and the ability to abuse an adjacent market which allowed the finding that this was a case of predatory pricing.[91]

Another case that concerns cross-subsidization is the British case of *First Edinburgh/Lothian*.[92] In the case, the two companies "First" and "Lothian" had a dominant position in the "Surrounding Edinburgh and South East Scotland" region and the "Greater Edinburgh" region respectively while having smaller market shares in the other regions. Lothian claimed that First engaged in predatory pricing by adopting a loss-making strategy in the Greater Edinburgh market by pricing below AVC in some areas and between AVC and ATC in others in that market.[93] It was claimed that First used its dominance in the Surrounding Edinburgh market to subsidize its losses in the Greater Edinburgh market in order to try to gain more share of the subsidized area. The OFT found that it had offered lower fares and made losses over a period, but it concluded that this was not done with a predatory intent since the promotional pricing practice was to allow First to compete with Lothian in the greater Edinburgh market and not to eliminate it.[94] The view of the OFT in this case seems fair as First did not hold a dominant position in the market where it was sacrificing profits.

In the US Supreme Court case of *Matsushita v. Zenith*,[95] the case concerned Japanese TV manufacturers that jointly decided to impose price

[89]See Bolton et al. (n 18).
[90]See *Tetra Pak v Commission* (n 35).
[91]ibid [27–33].
[92]*First Edinburgh / Lothian*, Decision of the Office of Fair-Trading, No. CA98/05/2004, Case CP/0361-01, 29 April 2004. Note that Paper II Prohibitions in the UK are based on Article 102 TFEU.
[93]ibid [60–63].
[94]ibid [66–75]. The Office of Fair Trading referred to its internal documents to prove that it had no predatory intent in the case. It was found that First did not consider itself capable of eliminating Lothian from the market.
[95]See *Matsushita* case (n 676).

cuts in the American TV market in order to increase their presence and drive out local competition for a period of over 15 years. While the case largely dealt with the issue of horizontal collusion among the Japanese firms, one of the other points of importance was whether the Japanese firms engaged in predatory pricing by cross-subsidizing their losses to the Japanese TV market where they sold the television sets for artificially high prices in order to be able to subsidize the American market. The court ruled that the Japanese firms did not engage in predation but instead engaged in hard competition as there was no evidence of them being able to recoup the losses made. The court also ruled out the possibility of recouping the losses even if American competitors were eliminated by stating that the Japanese firms' ability to recoup losses made over 15 years would be very limited.[96] This case was one of the landmark cases in American Antitrust jurisprudence which led to the formulation of the recoupment test in *Brooke Group*.

Noting that all three cases are from different jurisdictions, there are diversions of opinion with respect to finding whether a cross-subsidizing practice can be considered predatory. One of the major differences in *Tetra Pak II* and *Matsushita* is regarding the evidence of predation. In the former's case, the intent to predate was confirmed by the duration, continuity and scale of the losses made by the subsidizing firm,[97] whereas in the case of the latter, clear evidence of loss making was portrayed as engaging in hard competition. This showcases the clear difference in approach between the US and EU with respect to dealing with predation. The approach taken by the UK competition authority (Office of Fair Trading (OFT))[98] in *Lothian* meets both these approaches midway as cross-subsidization was recognized in the case but it was held that elimination of the competitor was not the final intention due to lack of evidence showing the same. The dominance of the firms has been one of the issues that has been lacking in the case of *Matsushita* since the case dealt with several firms which directed the case towards issues dealing with collusion.

With regard to *Lothian* and *Tetra Pak II*, both cases concerned firms that were dominant in one market which were trying to become dominant in the other. In both cases, the OFT and the EU Commission

[96]M. Steven Wagle, 'Predatory Pricing, A case study: *Matsushita Electric Industries Co. v. Zenith Radio Corporation*' (1989) 22 Creighton Law Review.
[97]See Tetra Pak v Commission (n 35) [190].
[98]This body was the predecessor of the Competition and Market Authority which is the current Competition Authority in the UK.

respectively agreed that the firm had incurred deliberate losses. However, in the case of the former, the OFT used confidential documents to come to its finding that First Edinburgh had a lack of intent to predate, whereas, the Commission assessed the intent in the case of the eliminatory effect on the market to come to its finding. One notable aspect in the two cases is the fact regarding the market shares of the dominant firm. While in *Lothian* the firm in question had 70 percent market share in the related market and 20 percent market share in the loss-making market, it had only one main competitor in that loss making market.[99] In *Tetra Pak,* the firm had a 90 percent market share in its dominant market and a 50 percent market share in the non-dominant market with its closest competitor having 27 percent market share before it engaged in cross-subsidization.[100] Having an able competitor can be seen to be a metric for competition authorities to assess whether a dominant firm has the ability to cause an adverse effect to competition in a related market through cross-subsidization. This assumption can be used to answer whether a dominant firm uses cross-subsidization and promotional pricing to eliminate competitors or to establish a presence and compete with the existing firm(s).

A contrasting case to this one is the UK case of *Napp Pharmaceuticals* in which the OFT and Competition Appeal Tribunal (CAT) concluded that the firm,[101] Napp had discounted sales to a predatory level in one market segment while covering the losses made by overcharging on a different market segment.[102] The firm had enjoyed a dominant position in both markets which allowed the OFT and CAT to reach their decision more easily compared to situations where firms are only dominant in one market. One takeaway from this case is that a firm that is dominant in both markets should not cross-subsidize one side by charging excessive or unfair prices on the other.

Cross-subsidization is an issue that has also been dealt with by regulatory authorities. One example is of the case of *Severn Trent laboratories* in which the UK's Water Services Regulatory Authority (Ofwat) accepted structural commitments from the firm that was accused of using profits from an affiliated company to subsidize predatory prices to win water analysis services contracts.[103] Ofwat referred to the UK's

[99]See First/Lothian [35].
[100]See *Tetra Pak v Commission,* (n 35) [191].
[101]Note that Paper II Prohibitions under the Competition Act 1998 are based on Article 102 TFEU.
[102]*Napp Pharmaceutical Holdings Limited v Director General of Fair Trading*, Case No. 1001/1/01.
[103]OFWAT, Decision to accept binding commitments from Severn Trent PLC, Severn Trent Water Limited and Severn Trent Laboratories Limited (17 January 2013).

Competition Act, 1998 to decide that the predatory pricing was possible due to the structural link between firm and its subsidiary and accepted a divestiture that was proposed by the parent firm, Severn Trent.[104] Barring the commitments, a case of predatory pricing through cross-subsidization would have been established, but since the commitments were considered satisfactory, a case was not pursued.[105] Predatory pricing cases remedies have mostly been in the form of fines being imposed. A structural remedy such as this also has the scope of rectifying the harm caused to the market.

One case that can be considered before engaging on the relevance of this section to digital platform markets is the case of *Aberdeen Journals*[106] which is a case that resembles how many digital platforms function due to the presence of an advertising side and a reader side.[107] In the case, the firms were engaged in the supply of high-quality free newspapers and made their revenue through advertising making it a clear case of cross-subsidization. The dominant firm reduced the price to advertise in its newspaper with a view to restrict or eliminate the entrant from the market. It was found that the dominant firm had abused its dominance by engaging in predatory pricing on the advertisers' side of the market which would affect the supply of newspapers to customers.[108] By relying on *Tetra Pak II* and *Napp Pharmaceuticals*, the CAT ruled out the need to consider the possibility of recoupment and found the ability of a firm to leverage its dominance in one market to protect its market share in the other to be a form of recoupment in itself.[109] However, applying the Filistrucchi approach to this case, the result could have been different as the two sides of the Newspaper market do not have a direct transaction between each other. This would require two distinct markets to be defined and for predatory pricing to be assessed separately on each. The approach in *Aberdeen Journals* takes into consideration the effect of below cost pricing on the market and considers how competitors would be affected by the practice which seems to be more ideal compared to a form-based approach that requires markets to be separated when a direct transaction does not take place. The

[104]ibid.
[105]See Whish and Bailey (n 45) 793.
[106]*Aberdeen Journals Ltd. V. OFT*, [2003] CAT 11.
[107]Social media platforms use a similar business model where the users pay for using the service of the platform by sharing personal information regarding themselves which is then monetized by the platform firm. Other platforms exist as intermediaries between different user groups like how a marketplace functions as the meeting point between customers and sellers.
[108]See *Aberdeen Journals* (n 107).
[109]ibid [437–45].

approach taken to judge the case resembles one that can be taken towards dealing with platforms as the activities in one side of the market affected the other side. It is important to consider the occurrence of cross-subsidization in platform markets as it helps inform the ideal test to be used in such markets considering how firms may be able to shift their costs.

3. Cross-subsidization and predation: relation to two-sided markets

In two-sided markets where cross-subsidization occurs, both the price level (the sum of the two prices expressed in the same unit of measurement) and price structure (ratio of the two prices) determine the firms' profits.[110] Evans and Noel suggest to compare the overall price level with the joint marginal cost of the two-sides of the market as a test for predation in a two-sided market in transaction markets.[111] An Areeda-Turner test for two-sided markets would entail looking at the net profit or loss made after computing the prices charged to both sides of the market in order to see whether the weighted average profit should be negative.

In the case of Daily Times-Independent price war,[112] it was held that prices were predatory by looking only at the readers' side of the market and not looking at the advertisers' side of the market.[113] By not considering a two-sided price-cost margin test, there is a failure to account for the net gains that are made. It is important to define the relevant market in both sides in markets where there are two distinct sides. In *L'Equipe versus Journal du Sport*, a case involving a firm with a two-sided platform, the French competition authority based its decision on the predatory intent of the firm and not on whether the pricing on the customers' side and on the advertisers' side was predatory.[114] It argued that the actions were economically irrational and could only have been done to eliminate the competitor.

Behringer and Filistrucchi argue that in the case of *Times-Independent*, the Office of Fair Trading (OFT) utilized the Areeda-Turner test

[110]ibid 13, 21.
[111]David Evans and Michael Noel, 'Defining Antitrust market when firms operate Two-sided platforms' (2005) Columbia Business Law Review 127.
[112]Tim Kelsey, 'Newspaper Price War Takes to TV (CORRECTED)' *The Independent* (June 1994) https://www.independent.co.uk/news/newspaper-price-war-takes-to-tv-corrected-1425490.html.
[113]ibid.
[114]Decision by the French Competition Authority no. 14-D-02 of 20 February 2014, available on http://www.autoritedelaconcurrence.fr/pdf/avis/14d02.pdf.

inappropriately while in the case of *Aberdeen Journals* it did so appropriately with the main difference being that the OFT considered only one market to assess predation in the case of Times-Independent while it considered both sides of the market in Aberdeen Journals. Even though it was held in both cases that the dominant firm is engaged in predation, the formers' case is one in which the OFT would not have considered the practice predation if the test had been applied for both sides of the market.[115]

The success of digital platforms can be based on the idea of subsidizing one side by recouping the losses from the other side or from a different part of its businesses. Evans and Schmalensee argue that any platform that provides two groups of users with a service must be viewed jointly when deciding whether their activities are anti-competitive to avoid errors.[116] They further argue that the services of a two-sided platform should never be seen in isolation because they are competing with other providers of the same service on two sides and not with one-sided markets. That argument is based on the idea that prices and costs in two-sided markets are set based on assessment of both sides while one-sided markets base their prices on only one side.[117]

The US recoupment test may not be satisfactory when dealing with a firm with more than one side as it makes a possibly strict assessment method even stricter. Rysman notes that the high standard of proof in US predatory pricing cases due to the *Brooke Group* test make it unlikely for the test to have any effect on two-sided markets as it is already hard to prove predatory pricing cases in one-sided markets.[118] Especially considering the size of firms that come under the scope of Article 3 DMA, using a high standard of proof such as the US test of showing probable recoupment will defeat the purpose of creating a new method of assessment.

Since the law requires legal certainty, this paper proposes that currently, only firms that fall within the scope of Article 3 DMA be assessed using the $P <$ ATC = presumption of abuse standard. There is scope of an objective justification to be presented which will prevent cases where there are efficiencies or benefits to consumers. The recoupment requirement that needs to be shown in US predatory pricing cases may not have

[115]Stefan Behringer and Lapo Filistrucchi, 'Areeda-Turner in Two-Sided Markets' (June 13, 2014) CentER Discussion Paper Series No. 2014-038.
[116]David S. Evans and Richard Schmalensee, 'Applying the Rule of Reason to Two–Sided Platform Businesses' 26 University of Miami Business Law Review (2018) 1, 15.
[117]ibid.
[118]Marc Rysman 'The Economics of Two-Sided Markets' 23(3) Journal of Economic Perspectives (2009) 125, 139.

a role to play when core platforms are concerned considering the impact that a predatory price will already have. To have an additional criterion to show recoupment will defeat the purpose of moving away from the current under inclusive approach.

As seen previously,[119] in the EU, the test to assess predatory pricing has been modified after *France Telecom* to include cases where price charged is between AVC and ATC. Similarly, another modification is required with the emergence of online platform firms that have similar characteristics to telecommunications firms in terms of strong direct and indirect network effects depending on the type of platform.

In the past, the Commission has taken a more inclusive approach when considering cost measures. An example of that is the 2019 case of *Qualcomm* where it decided to include all R&D costs within the scope of LRAIC which was used as a proxy in this case.[120] The US Chipmaker, Qualcomm was fined 242 million Euros for abusing its dominant position by engaging in predatory pricing.[121] The case concerned Qualcomm, which was the dominant firm in the chipset supplier market and Icera, an entrant that was posing a growing threat to Qualcomm's chipsets due to its high data rate performance chipsets which had great growth potential in the Universal Mobile Telecommunications Segment (UMTS) chipsets market.[122] Qualcomm dealt with this threat by pricing below cost on the "leading-edge" Mobile Broadband (MBB) UMTS in which Icera was gaining market share since it offered advanced data rate performance (an innovation compared to what was currently offered) with its chipsets at competitive rates. Qualcomm also focused on offering below-cost prices to the two main leading edge Original Equipment Manufacturers (OEM), Huawei and ZTE. This led to Icera being unable to compete and being acquired by a larger firm. It also led to stifling of innovation as Icera could not continue producing better quality chipsets in the leading-edge segment.

In its assessment, the Commission used a revenue-based and volume-based R&D allocation to determine LRAIC since Qualcomm did not provide internal costs ex-ante.[123] During the case, Qualcomm had disputed the Commission's method of computing LRAIC by claiming that this would "move the goal post" of the price-cost test.[124] This was rejected

[119]See Section 2.1.1.
[120]CASE AT.39711 *Qualcomm (predation)* [786–87].
[121]ibid.
[122]ibid.
[123]ibid [933–34].
[124]ibid [936].

by the Commission and it confirmed that Qualcomm's actions were predatory in nature by referring to internal evidence which suggested that it acted with an exclusionary intent to limit Icera's growth.[125] The actions were found to be abusive by relying on the *France Telecom* formulae of Price < ATC/LRAIC is predatory if there is an intent to predate.[126]

In the case, the profit sacrifice to eliminate a competitor in the leading-edge segment was subsidized by normal rates in the Smartphone Segment in which Qualcomm did not yet face a competitive threat. In addition to internal evidence of Qualcomm's intent, the Commission found Qualcomm's prices to be below LRAIC to a period that coincided with Icera's acquisition by a larger firm which led to phasing out of the development of innovative leading-edge MBB chipsets.[127] By limiting Icera's ability in the leading-edge MBB market segment through cross-subsidization, Qualcomm was able to prevent it from challenging it in the other market in which it had no competition yet by leveraging its dominant position in that market.[128] This case is similar to *Napp Pharmaceuticals* as the dominant firm sacrificed short-term profits in one market to increase its dominance in another market. In both cases, it can be seen that the firm recoups its losses from the side of the market in which it is dominant while pricing below cost on the side that it tries to become dominant or remove competition.[129] Even from a US perspective where showing probable recoupment is one of the conditions to prove predatory pricing under the *Brooke Group* test, recoupment of losses on the other side can be a suitable metric of judging whether prices can be considered predatory on one market. However, this approach was not followed in *Brooke Group*.[130]

An example of a case that was initiated against a zero-price online platform is the case *of Bottin Cartographes* in France. In a two-sided market, any claims regarding predatory pricing require the pricing on both sides of the market to be considered irrespective of whether one single market is defined or two separate markets are defined. This paper will now consider an example of erroneous application of predatory pricing law to a two-sided market (Free maps to consumers cross-subsidized by

[125]ibid [1138–70].
[126]ibid [1116].
[127]ibid [989–99].
[128]Pietro Crocioni and Liliane Giardino-Karlinger, 'Predation as a Leveraging Abuse-Filling the Gap Between Economic Theory and Antitrust Enforcement' (2022) 1(1) Competition Policy International.
[129]ibid.
[130]See *Brooke Group* case (n 53) [230–232].

advertisers) in the French case of Google and Evermaps where a French Court looked at only one side of the market where Google had been providing its map service for free and concluded that the practice was predatory.[131] It failed to consider other sides of the market such as advertising which Google was using to subsidize the maps.[132] An error of under enforcement may also occur when only one side is looked at in a situation where a platform has its price above marginal cost in one side of the market and less than MC on the other but is making an overall loss.

The case of Google subsidizing its maps using its revenues from other areas is a clear example of cross-subsidizing by an online platform firm. As to whether that practice can amount to predatory pricing as suggested by the complainant in the case of *Bottin Cartographes v Google Inc.*,[133] this section will attempt to answer that question by assessing the factual background of the case. The main facts of this case are that the online commercial mapping services providing business of Bottin Cartographes was affected adversely by Google entering the market and providing its mapping services for free to consumers. Subsequently, Bottin filed a case of abuse of dominance against Google by alleging that this practice of provide a part of their services for free amounted to predatory pricing. It was found that Google offered 2 versions of the product- 1. A free basic version, and 2. A paid version that offers advanced features mainly for businesses.

When the case was first brought to the Commercial Tribunal of Paris in 2012, the Tribunal ruled that Google abused its dominance by infringing Article 420 of the Commercial Code by offering its mapping service for free and fined it 500,000 Euros as damages to be paid to Bottin. According to the Tribunal, the main reason for the ruling was that the free maps provided by Google had the ability to undercut its main French competitor, Bottin Cartographes which would result in a loss of market share for it. The Tribunal noted that while there was no intention to recoup the losses made due to the offering of free maps, Google acted with the intention to eliminate its competitor from the market.[134]

However, on appeal, the Paris Court of Appeal overturned the ruling and set aside the fine imposed on Google since it was part of a multi-sided market which is characterized by specific features. The Court referred to the *AKZO* test and the subsequent development in *France Telecom* to

[131]Tribunal de Commerce de Paris, 15ème ch., 31 janvier 2012, (Google/Bottin).
[132]Autorité de la Concurrence, Report to the Paris Court of Appeals Concerning the Litigation between Bottin Cartographes SAS and Google Inc. and Google France.
[133]*Bottin Cartographes v Google and Google France*, Opinion of Autorite de la Concurrence in in front of the Paris Court of Appeal, (16 December 2014). Note that the judgement is only available in French.
[134]ibid [4–5].

determine whether the prices were below cost.[135] In its assessment, the Court carried out 20 different Cost tests and found that Google's revenue exceeded its long-run average incremental cost on 18 of those tests when their overall revenues were considered.[136] Google's revenue from advertising was also considered in this assessment which is one of the main sources of revenues for digital platforms due to their multi-sided nature.

The Court rejected the Tribunal's ruling that Google acted with the intention to eliminate its rival and instead agreed with the French Competition Authority's and Google's argument that the offering of services for free in online platform markets is an accepted practice which is used to increase the user base of that firm. The ability to recoup losses would also not be possible in this case as open-source solutions cannot be prevented from entering the market and considering that the price of Google maps is zero, the recoupment would not occur through a monetary price.[137]

Interestingly, if the test suggested in this paper regarding having a presumption of abuse if prices were below ATC/LRAIC were considered, Google would have failed the test on two cost tests. This would have required Google to show efficiencies arising from its conduct, which arguably they do in terms of the creation of a new type of market.[138]

The Commercial Tribunal's decision has been criticized for not considering the nature of online platforms and the dynamic nature with which firms such as Google offer innovative possibilities for users.[139] In this case, the market can be seen to have moved forward to one where consumers are offered a product that is not charged a monetary price. By initially fining Google for this, consumers could have potentially lost out on being able to access mapping services for free. In this case, it can clearly be seen that the rival firm, *Bottin Cartographes* could not compete with Google's business model which makes it a lesser efficient rival. A case being brought against Google for offering its maps for free and the initial decision of the Tribunal was criticized even by those in the technology sector as the felt that this was a regressive step and lacked economic understanding of the market.[140]

[135]ibid [33–40].
[136]ibid [70–72].
[137]ibid [80–81]. It may occur through data collection which is outside the scope of this paper but is considered in another paper by the author.
[138]Pierre Larouche, 'Platforms, Disruptive Innovation and Competition on the Market', CPI Antitrust Chronicle, February 2020; (2020) University of Montreal Faculty of Law Research Paper, Available at SSRN: https://ssrn.com/abstract=3837085 or http://dx.doi.org/10.2139/ssrn.3837085.
[139]See Decision of Paris Court of Appeal.
[140]Techdirt, 'French Court Fails Digital Economics; Claims Free Google Maps Is Illegal', (Techdirt, 14 February 2012), https://www.techdirt.com/articles/20120203/03021117647/french-court-fails-digital-

Coming to assessing whether cross-subsidization by Google, the benefits to consumers and the overall improvement to the market in terms of certain services that used to be provided for a monetary cost being provided for consumer data instead need to be weighed against the elimination of competition. However, the fact is that another firm could replicate Google's strategy and business model by providing a better-quality map and attract consumers.[141] There is no restriction for users from Google to stay with their free map service as noted by the Court. This negates the argument regarding Google's actions in this case having predatory consequences. It can be argued that Google's size and deep pockets allows it to produce better quality maps which competitors might not have the luxury of. If this is an issue, it could be dealt with by a sector regulator rather than by a competition authority.

The case of Google's mapping services being provided for free is akin to how free newspaper companies work. The revenue model of a mapping platform like Google is based off advertisements placed on the side of the maps which is used by business users from that area. The mapping service is then cross-subsidized to consumers.[142] To assess any claims of predation through cross-subsidization, revenue generated via advertising must also be considered along with costs as was the case in *Aberdeen Journals* where the advertising revenues were included in the cost analysis. At the same time, Google has brought mapping services for free to consumers and changed the dynamics of the market. It can be concluded that the analysis carried out by the Paris Court of Appeal is the accurate one as the consider the dynamic efficiencies that are seen in the case. Therefore, it is important to consider efficiencies while developing a test for assessing predatory pricing in platform markets.

3.1. Pricing below LRAIC/ATC: presumption of abuse in two-sided platforms within the scope of Article 3 DMA

For some markets, an alternative test was suggested by Joskow and Klevorick to include the US rule of reason (by considering market characteristics) with a predatory pricing assessment framework which consisted of

economics-claims-free-google-maps-is-illegal.shtml; Scientific American, Google Must Pay $660,000 for Offering Google Maps for Free, 2 Feb 2012, https://www.scientificamerican.com/article/google-must-pay-660000-for-offering-2012-02/.

[141]Though there are high fixed costs to develop a search engine.

[142]Investopedia, How Does Google Maps Make Money?, 14 November 2019, https://www.investopedia.com/articles/investing/061115/how-does-google-maps-makes-money.asp#:~:text=Yes%2C%20Google%20Maps%20makes%20money,Google%20charges%20a%20price%20for.

two stages.[143] The first stage is to examine the market structure to assess whether failure to identify predatory pricing could lead to significant economic lost to society.[144] This is to screen out markets where predatory pricing might lead to harm from those where it doesn't.[145] The second stage involves checking whether the prices of the firm are below average variable cost. They suggest that after having considered the market structure and having weeded out markets where predatory pricing might not lead to significant loss to society, a price set below AVC will have no purpose other than predation.[146] If a price is below ATC but above AVC, Joskow and Klevorick suggest that the price be presumed to be predatory unless the dominant firm can defend it by showing that it is profit maximizing.[147]

The current test for gatekeepers or core platforms follows from this market structure test proposed by Joskow and Klevorick. The market structure of firms designated as gatekeepers or core platforms is one where they are deemed to be of such large size that they ought to be treated differently than other firms which might be considered dominant but not core platforms. The need for special regulation for platforms is evidenced by the creation of the DMA which considers the super-dominance of many online platforms to need a regulatory structure. The use of a test like allows potential competitors in the future to be able to enter markets that are currently dominated by a single platform.

Gal argues that it may be useful to price below cost for a firm to reach its minimum efficient scale by enlarging its consumer base and that this tendency is especially prevalent in network industries characterized by the winner-takes-most or winner-takes-all mentality and this should be allowed by courts.[148] She also argues that pricing below cost after achieving a minimum efficient scale should not be allowed. This supports the argument to have LRAIC/ATC as the base standard to assess predatory pricing cases concerning core platforms that may have achieved such minimum efficient scale. This brings the paper to the proposed test to asses predatory pricing in online platforms.

[143]Paul Joskow and Alvin Klevorick, 'A Framework for Analyzing Predatory Pricing Policy' (1979) 89(2) The Yale law Journal 213.
[144]ibid 244, 248. This is suggested to understand the structural characteristics such as the extent of a monopoly problem.
[145]ibid 243, 44.
[146]ibid 248, 51.
[147]ibid 253, 54.
[148]See Gal (n 41) 10, 14.

4. Pricing below LRAIC/ATC: presumption of abuse in two-sided platforms within the scope of Article 3 DMA or under Article 102 TFEU

For some markets, an alternative test was suggested by Joskow and Klevorick to include the US rule of reason with a predatory pricing assessment framework which consisted of two stages.[149] The first stage is to examine the market structure to assess whether failure to identify predatory pricing could lead to significant economic lost to society.[150] This is to screen out markets where predatory pricing might lead to harm from those where it doesn't.[151] The second stage involves checking whether the prices of the firm are below average variable cost. They suggest that after having considered the market structure and having weeded out markets where predatory pricing might not lead to significant loss to society, a price set below AVC will have no purpose other than predation.[152] If a price is below ATC but above AVC, Joskow and Klevorick suggest that the price be presumed to be predatory unless the dominant firm can defend it by showing that it is profit maximizing.[153]

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[150]ibid, 244–48. This is suggested to understand the structural characteristics such as the extent of a monopoly problem.
[151]ibid 243–44.
[152]ibid 248–51.
[153]ibid 253–54.
[154]See Gal (n 654) 10–14.

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4.1. The proposed test under the DMA and under the Article 102 TFEU regime

Stages	Under the DMA	Under Article 102 TFEU
Step 1- Qualification	Firms that fall within Article 3 of the DMA	Online platform firms that are super-dominant in nature
Step 2- Predatory pricing test	Presumption of abuse for prices below ATC	Presumption of abuse for prices below ATC
Step 3- Rebuttal	Opportunity to rebut the presumption by showing clear efficiencies- Does not exist within the DMA currently	Objective justification exists in competition law

4.1.1. Step 1- under the DMA regime

The first step is to consider which markets come under the purview of this proposed test. The process of designating a gatekeeper is established under Article 3 of the DMA.

Article 3(1) of the DMA lays down that:

> An undertaking shall be designated as a gatekeeper if:
>
> (a) it has a significant impact on the internal market;
> (b) it provides a core platform service which is an important gateway for business users to reach end users; and
> (c) it enjoys an entrenched and durable position, in its operations, or it is foreseeable that it will enjoy such a position in the near future.

This provision is satisfied if a firm meets certain financial thresholds laid down in Article 3(2)(a) DMA and if they provide their platform service to a minimum number of certain number of users under Article 3(2)(b) DMA.

Article 3(8) provides further discretion to the Commission in being able to assign the status of gatekeeper to certain firms in case Article 3 (2) DMA provisions.[155] Article 3(8) lays down that:

> For that purpose (assigning of gatekeepers), the Commission shall take into account some or all of the following elements, insofar as they are relevant for the undertaking providing core platform services under consideration:

[155]Notably the Commission is provided a considerable amount of discretion in designating gatekeepers.

(a) the size, including turnover and market capitalization, operations and position of that undertaking;
(b) the number of business users using the core platform service to reach end users and the number of end users;
(c) network effects and data driven advantages, in particular in relation to that undertaking's access to, and collection of, personal data and non-personal data or analytics capabilities;

(d) any scale and scope effects from which the undertaking benefits, including with regard to data, and, where relevant, to its activities outside the Union;
(e) business user or end user lock-in, including switching costs and behavioural bias reducing the ability of business users and end users to switch or multi-home;
(f) a conglomerate corporate structure or vertical integration of that undertaking, for instance enabling that undertaking to cross subsidize, to combine data from different sources or to leverage its position; or
(g) other structural business or service characteristics.

As far as assessment under the DMA is concerned, Article 3 DMA includes sufficient details of which type of firms would be considered core platforms and by virtue of that can be qualified for the modified test. When considering the dominance test in light of Article 3 DMA, it is clear that any firm that falls under the cope of Article 3 DMA would be considered a dominant position with significant market power.

4.1.2. Step 1- under the Article 102 TFEU regime

The aim of Article 102 TFEU is not to punish dominant firms, but to prevent them from impairing the market by abusing their dominance.[156] The qualification under the Article 102 TFEU regime would be for firms to be super-dominant and to also be a two-sided platform firm.[157] In the EU, the test to assess dominance is based on the *AKZO* test (presumption of dominance at 50 percent market share). Other cases such as *British Airways* and *United Brands* have shown that a firm may be dominant even with market shares of less than 50 percent.[158]

[156]See Commission Guidance on Article 82 [19].
[157]Case C-395/96 P *Compagnie Maritime Belge Case* EU:C:1998:518 [137–144].
[158]See *United Brands* [65–66]; See also Case C-95/04 P, *British Airways plc v. Commission of the European Communities* [75–76].

One aspect that may have led to its position as a core platform is it having to incur large financial reserves to create its platform. Some markets are characterized by high fixed costs and not so high variable costs. Online platforms fall within that characterization. A similar example is that of telecommunications where the cost of adding an additional consumer to the already existing network is minimal. In one article it is noted that the cost to build and sustain a platform for already existing businesses is different to building applications as it requires regular investment to evolve it in accordance with the business goals.[159] This might require a high initial investment but also regular subsequent investments. In the context of digital platforms, some of the fixed costs are the hosting costs and development costs. The subsequent cost of acquiring new consumers would not require a major overhaul for most platforms. This shows similarities between the online platforms and telecom networks when it comes to cost.

However, it ought to be noted that there exist several types of platforms, and this notion of high fixed cost and low variable costs may not apply to firms that have high operational costs such as Amazon which may incur a lot of shipping costs as part of its business. Other platforms such as Google, Apps under the control of Meta such as Facebook, Instagram and Whatsapp, firms such as Twitter and Snapchat, may fall within the scope of firms that have high fixed costs but low variable costs. This is because the cost of acquiring a new consumer is minimal for these firms after achieving a minimum efficient scale.

4.1.3. Step 2- same for both the DMA and Article 102 TFEU

It has been noted in the past that online platforms have low variable costs and high fixed costs.[160] In a study affiliated with the European Commission's science service, Duch-Brown noted that multi-sided platforms are characterized by a high proportion of fixed costs for developing and maintaining the platform, but these costs are independent of how many transactions take place within the platform.[161]

[159]Peter Bendor-Samuel, 'Understanding Digital Platform Costs', *Forbes* (30 Nov 2021), https://www.forbes.com/sites/peterbendorsamuel/2021/11/30/understanding-digital-platform-costs/.

[160]Bruno Jullien, 'Two-Sided Markets and Electronic Intermediaries' (2005) 51(2–3) CESifo Economic Studies 233; See also Daniel Mandrescu, 'Abusive Pricing Practices by Online Platforms: A Framework Review of Article 102 TFEU for future cases' (2022) 10(3) Journal of Antitrust Enforcement 469, 486.

[161]Nestor Duch-Brown, 'The Competitive Landscape of Online Platforms', JRC technical reports, Digital Economy working paper 2017–04.

In 1998, the Commission noted that network industries tend to be different to most other industries.[162] This prompted the Commission to note that in a network industry such as the telecommunications industry, the variable cost of providing a service may be substantially lower than the price charged to end users.[163] Applying the AKZO test to check whether predatory prices have been offered would not be suitable in such an industry. Therefore, the Commission suggests that total costs should be used in this industry which reflect the overall cost of providing the service. For this the Commission suggests the use of long run Average incremental cost (LRAIC). This is a proxy for ATC.[164]

Similarly, platform firms are characterized by high fixed costs and lower variable costs. Using LRAIC/ATC would be more beneficial in platform markets that are also characterized by cross-subsidization. By considering traditional tests of predatory pricing, the result might be that many cases that may be a case of predatory pricing may not be included within the scope of the law due to the underinclusive nature of the current test.

It was noted by Azati (a team of software developers who develop commercial search engines)[165] that the cost to build a search engine platform prototype would cost about $ 100 Million.[166] These costs include costs for servers, bandwidth, and electricity. It was also noted that there would be an estimated maintenance cost which would be about $ 25 Million per year.[167] Clearly, there is a high fixed cost of creating and maintaining the search engine. It has also been noted that the duration and cost of developing an App from scratch to compete with an existing one would require incurring cost to develop various functionalities as mentioned in this Article.[168]

After the designation process, the second step is to assess whether prices are below different measures of cost (AVC and ATC). Since the firms concerned here are platform firms which are characterized by two-sides, it is important to consider all costs associated with the platform if there is a transaction taking place between the two sides, while

[162]Notice on the application of the competition rules to access agreements in the telecommunications sector OJ [1998] C 265/2, [113].
[163]ibid [114].
[164]ibid [115–16].
[165]https://azati.ai/.
[166]Azati Team, 'Search Engine: How Much Does It Cost To Develop In 2021' (12 December 2022), https://azati.ai/how-much-does-it-cost-to-develop-search-engine/.
[167]ibid.
[168]Anastasia Kompaniets, 'How much does it Cost (and the Cost Structure) to Build an app like UberEats' (Uptech) < https://uptech.team/blog/how-much-to-build-app-likeubereats>.

considering only one side if there is no transaction taking place between the platform. This is in line with the model suggested by Filistrucchi and Behringer.[169]

The second step in this test will require to assess whether prices are below ATC. LRAIC may be used as a proxy to ATC. If the price is determined to be less than LRAIC/ATC, the platform will have presumed to have abused its dominance by engaging in predatory pricing under Article 102 TFEU. Presumptions deserve an important role in competition law.[170] Salop suggests that the basis of presumptions can be from inferred effects, or to cause a deterrent effect, or for some other public policy goal.[171] The presumption in this proposed test falls within the first category as it is based on the characteristics of digital platforms.

It is clear from the *Qualcomm* case that using LRAIC in tech based markets is possible.[172] It is noted in the Preamble of the DMA that the markets dominated by core platforms include high investment costs and high barriers to entry with access to data not easily available to any potential entrants.[173] One of the key aspects that is noted in the DMA which motivates the current test to assess predatory pricing is that these platforms within the scope of the DMA are characterized by extreme economies of scale which lead to a nearly zero marginal cost (MC) to add more users.[174] In competition law, AVC is often used as the proxy for MC.[175] This may suggest that presumption of abuse rule that currently exists with respect to it only extending to prices below AVC/MC, may not be suitable when applied to platforms under Article 3 DMA.

There is a special responsibility on dominant firms to act in a manner that does not distort competition.[176] In cases where a firm might be considered super-dominant, there is higher likelihood of harm being caused to the market due to the actions of the super-dominant firm.[177] Firms that meet the Article 3 DMA conditions can be considered to be such firms. This is the reason that they ought to be met with a stricter rule

[169]See Behringer and Filistrucchi.
[170]Steven C. Salop, 'An Enquiry Meet for the Case: Decision Theory, Presumptions, and Evidentiary Burdens in Formulating Antitrust Legal Standards' (2017) Georgetown Law Faculty Publications and Other Works 3–6.
[171]ibid 23.
[172]See *Qualcomm(predation)* [933–34].
[173]See Preamble of the DMA [3].
[174]ibid [2].
[175]See Areeda and Turner.
[176]Case T-203/01, *Michelin v Commission (Michelin II)* [2003] ECR II-4071 [97].
[177]See Whish and Bailey 198–99.

when considering assessment of predatory pricing. The stricter rule in step 2 of this proposed test is also required due to the nature of platform firms which exhibit strong network effects leading to lowering of their cost of acquiring new consumers but having high fixed costs. Even though a stricter rule may be advised in predatory pricing cases concerning platforms, the rule cannot be arbitrary and must follow a particular line of evaluation. This is why prices above ATC are not considered within this test as those prices have been ruled to have a foreclosure effect only on firms that are inefficient.[178] In case of price cuts offered to only some end users or intermediate users, the law on price discrimination may provide more insights as discussed in Paper 2.[179]

The question has been asked previously regarding what price would be termed predatory if marginal costs were close to zero.[180] Lang suggests using an approach different from the *AKZO* test to assess predatory pricing in high-tech markets which are characterized by low to zero marginal costs. In such markets, he suggests that the approach move away from assessing whether the price is above AVC (proxy for MC), and instead assess whether the overall revenue of the firm exceeds its average variable cost of providing the good or service on a continuing basis.[181] In other words, he suggests the use of LRAIC instead of the standard AVC test determined in the *AKZO* case. This approach aligns with the one suggested in this paper with respect to platform firms which are one of the newest from of high-tech markets.

More recently, Mandrescu argues that assessing all platforms using the current *AKZO* test might be under-inclusive and may allow multi-product/multi-service platforms to circumvent legal scrutiny by allocating their costs differently.[182] He argues that EU Courts have considered other cost benchmarks in the past to assess predatory pricing cases which should also allow using a different cost benchmark than AVC in the case of platforms.[183] Mandrescu agrees with the Commission's approach to telecom markets and suggests the extension of the presumption of abuse rule to LRAIC.[184] This suggestion is again consistent with the proposal in this paper. However, for legal certainty, the test ought

[178]See *Post Danmark* [36].
[179]See Section 2.4.
[180]John Temple Lang, 'European Community Antitrust Law: Innovation Markets and High Technology Industries' (1996) 20(3) Fordham International Law Journal 717, 787–90.
[181]ibid 788.
[182]See Mandrescu 486.
[183]ibid 487.
[184]ibid.

to be limited only to platforms which may be considered super-dominant. This is achieved by limiting the scope to platforms that come under the scope of Article 3 DMA. An important aspect in designing a new method of assessment is to allow a counter argument. This brings the discussion to step 3 of the test.

4.1.4. Step 3- objective justification

Most competition law presumptions include a possibility for the defendant party to rebut the presumption.[185] If a platform under Article 3 DMA is found to have priced below ATC/LRAIC, the third step to the proposed model will allow the platform to present objective justifications which does not currently exist for the DMA. While assessing any abuse under Article 102 TFEU, the Commission allows a firm to put forward objective justifications for its conduct.[186] In the *United Brands* case, the CJEU laid down that a dominant firm is entitled to protect its commercial interests when faced with competition which might lead it to take certain actions that ought to be assessed whether they can be justified.[187] However, the Court stated that such actions cannot be condoned if they were for the purpose of strengthening the dominant position.[188] While the two may considered separate goals, the actions carried out to meet those goals could be very similar.

Unlike Article 101 TFEU which has a derogation provision in Article 101(3) TFEU, Article 102 does not have an explicit clause which leads to reliance on cases, Commission Guidance, and commentaries. However, Article 101(3) TFEU may seem to be transposed into Article 102 TFEU.[189] In its Guidance Paper, the Commission has laid down four cumulative conditions which allow in determining whether an objective justification on the ground of efficiencies can be claimed by a dominant firm.[190] They are: (1) Efficiencies ought to arise from the conduct such as technical efficiencies, (2) The conduct is necessary to bring about the efficiencies, (3) Negative consequences are outweighed by the efficiencies, and (4) All or most competition is not removed due to the conduct.[191] The CJEU's decision in *Intel* has made it easier for firms to provide evidence of a lack of anticompetitive effects in cases relating to rebates.[192]

[185]See Salop 36–45.
[186]See Commission Guidance on Article 82 [28].
[187]See *United Brands v. Commission* [184].
[188]ibid [189].
[189]Tjarda van der Vijver, 'Objective Justification and Article 102 TFEU' (2012) 35(1) World Competition 55.
[190]See Commission Guidance on Article 82 [30].
[191]ibid.
[192]See *Intel* case [138].

This may be extended to cases where there is presumption of abuse such as those falling within this proposed test.

If a firm is able to show that the net gains outweigh the loss of competition, there is no reason to penalize such a firm. Van der Vijver notes that an objective justification under Article 102 TFEU may be claimed if they fall under a legitimate business activity which refers to its commercial freedom, or if there are efficiencies, or if there are public interest considerations.[193] The case of *Bottin Cartographes* that was considered in Section 4.3 seem to fall under this category when a digital platform is concerned. The efficiency was that the dynamics of the existing market were changing from a paid service for end users to one where they pay using their data.

Therefore, the objective justification step which exists under the Article 102 TFEU regime is proposed to be introduced in the DMA obligation relating to the new presumption of abuse obligation.

5. Conclusion

This paper contributes to the literature on predatory pricing in two-sided digital markets by considering whether firms that are dominant two-sided platforms ought to be assessed under a higher standard in the EU. For the DMA, the qualification to meet this higher standard is not discussed in this paper as conditions in Article 3 DMA are accepted as the qualifying attributes of firms to be assessed under the presumption of abuse when Price < ATC standard under the DMA regime. Under the Article 102 TFEU regime, the test requires a firm to be super-dominant and to have characteristics of a two-sided online platform.

To arrive at this test, the paper considered past cases from the EU and the US which helped inform the test. Some of the past theories on predation by authors have been vital in helping understand the need and method to devise a new method of assessing predatory pricing in some markets. The strong network effects associated with online platforms that may be super-dominant under the Article 102 TFEU regime or fall within the definition of Article 3 DMA under the DMA regime suggest the need to change the cost benchmark for assessing predatory pricing and include fixed costs. This led to the current proposed test of requiring a presumption of abuse for prices below ATC/LRAIC. The test includes

[193]Tjarda van der Vijver 'Article 102 TFEU: How to Claim the Application of Objective Justifications in the Case of prima facie Dominance Abuses?' (2013) 4(2) Journal of European Competition Law & Practice 121, 121–33.

the possibility of refuting the claim of predation and abuse by providing the firm with the ability to claim objective justifications.

While there are no instances of the presumption of abuse of prices below LRAIC being used, this test is proposed as a more effective one in being able to detect the cross-subsidization of costs by online platforms which will mostly be above AVC owing to the low MC. By setting the presumption standard to LRAIC/ATC, the true cost of an online platform firm may be revealed. This accompanied by the room provided for an objective justification would make this an effective test.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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