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**An Economic Approach to Abuse of  
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Federico Etro, Ioannis Kokkoris  
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Dipartimento di Economia Politica  
Università degli Studi di Milano - Bicocca  
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# An Economic Approach to Abuse of Dominance

Federico Etro<sup>\*</sup> and Ioannis Kokkoris<sup>+</sup>

## Abstract

The European debate on abuse of dominance issues in antitrust has been recently characterized by an emphasis on purely economic aspects, and by an emerging consensus on the merits of taking an “effects-based approach” aimed at the maximization of consumer welfare and the protection of competition. The European Commission has recently issued a Guidance Paper on exclusionary abuses which purports to move EU enforcement on abuse of dominance in this direction. In spite of these developments, we are still far from reaching any consensus on the best way to apply competition policy to specific issues such as predatory pricing, bundling, vertical restraints, exclusive dealing and so on. We analyze the genesis of the European approach to antitrust and discuss the leading economic theories on competition policy and abuse of dominance, as developed by the Chicago School, the post-Chicago approach and the endogenous market structures approach. Finally, we use these economic foundations to analyze the EU approach to abuse of dominance, we examine the Guidance Paper, we provide a comparison with the American approach, and we discuss the implications of some recent important cases.

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<sup>\*</sup> University of Milan, Bicocca and Intertic.

<sup>+</sup> University of Reading, IMEDIPA and Organisation for Security and Cooperation in Europe.

The basis of the European approach to antitrust with reference to abuse of dominance issues is Art 102 of the Treaty. Its application has engendered a wide debate between economists, antitrust scholars and policymakers. Enforcement of the rules against exclusionary abuses, in particular, has revealed fundamental conflicts arising from differences in approach to industrial policy. Following a trajectory similar to that in the U.S., the European debate has been recently characterized by an emphasis on purely economic aspects, and by an emerging consensus on the merits of taking an “effects-based approach” aimed at the maintenance of competition and consumer benefit (rather than protection of the interests of competitors ). The EU’s top enforcement authority, the European Commission, has recently issued a “Guidance” paper<sup>1</sup> which purports to move EU enforcement on abuse of dominance in this direction. In spite of these developments, we are still far from reaching any consensus on the best way to apply competition policy to specific issues such as predatory pricing, bundling, rebates, exclusive dealing and so on. This paper analyzes the genesis of the European approach to antitrust and discusses the leading economic theories on competition policy and abuse of dominance, as developed by the Chicago School, the post-Chicago approach and more recent developments associated with the concept of endogenous entry in markets. Finally we use these economic foundations to analyze the EU approach to abuse of dominance, we examine the Guidance paper, provide a comparison with the American approach to antitrust, and we discuss the implications of some recent important cases.

The paper is organized as follows. First, in Section 1 we provide a short historical discussion on the development of the European approach to competition policy and abuse of dominance in particular. In Section 2 we provide an introduction to the leading economic theories on competition policy and abuse of dominance as developed by the Chicago School, and to the post-Chicago approach and more recent developments in industrial organization associated with the concept of endogenous entry in markets. In

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<sup>1</sup> *Guidance on the Commission's Enforcement Priorities in Applying Article 102 EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings.*

Section 3 we use these economic foundations to analyze the EU approach to abuse of dominance, we examine the Guidance paper, provide a quick comparison with the American approach, and we discuss the implications of some recent important cases. Section 4 concludes.

### **1. The development of the European approach to abuse of dominance**

The European Union has its origins in the common market for coal and steel established by the Treaty of Paris of 1952.<sup>2</sup> The aim of the ECSC Treaty, as stated in Article 2, was to contribute, through the common market for coal and steel, to economic expansion, growth of employment and a rising standard of living. In the light of the establishment of the common market, the ECSC Treaty introduced the free movement of products without customs duties or taxes. It prohibited discriminatory measures or practices, subsidies, aids granted by States or special charges imposed by States and restrictive practices. The Treaty's Article 66 contained provisions that would allow the newly created "High Authority" to intervene in case of distortions of competition on the markets for coal and steel: economic concentrations in the coal and steel sectors were subject to a notification procedure and had to be authorised before they could proceed, and Article 66(7) empowered the High Authority to make recommendations to prevent enterprises with a dominant position from using that position for purposes contrary to those of the Treaty, and if necessary, to impose remedies.

The origins of the concept of dominance evoked in Article 66(7) of the ECSC Treaty can be traced back to German competition law, which used this concept since the Abuse Regulation of 1923.<sup>3</sup> One reason for adopting the term dominance rather than the term

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<sup>2</sup> The ECSC Treaty expired on 23 July 2002. Thus, the coal and steel sectors are now subject to Articles 101 and 102, rather than Articles 65 and 66 ECSC.

<sup>3</sup> Verordnung Gegen Missbrauch Wirtschaftlicher Machtstellungen, 1923, Reichsbesetzblatt, [R6B.1] I, 1067, 2 November 1923.

“monopolization”, used in the American Sherman Act<sup>4</sup>, was the influence that the German competition law had on the drafter of the ECSC Treaty, Jean Monnet.

The notion of dominance has been addressed both in law and economics.<sup>5</sup> In the realm of economics, dominance has been analyzed by theories dealing with market leadership in oligopolistic market structures. In the realm of law, the concept of dominance is found in two sets of legal provisions, namely Article 102<sup>6</sup> and the EC Merger Regulation.<sup>7</sup> The legal definition of dominance has been an issue of intense debate. The standard legal definition of dominance was laid down by the Court of Justice in *United Brands*. The Court of Justice stated that:

*The dominant position thus referred to (by Article [102]) relates to a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers.*<sup>8</sup>

In *Hoffmann-La Roche*<sup>9</sup> the Court of Justice defined dominance as “a position of economic strength enjoyed by an undertaking, which enables it to behave to an appreciable extent independently of its competitors, its customers and ultimately of consumers”. The Court of Justice further stated in *Hoffman-La Roche*:

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<sup>4</sup> 15 U.S.C. §2: “Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine not exceeding \$10,000,000 if a corporation, or, if any other person, \$350,000, or by imprisonment not exceeding three years, or by both said punishments, in the discretion of the court.”

<sup>5</sup> For a good economic introduction to the topic see Motta, Massimo, 2004, *Competition Policy. Theory and Practice*, Cambridge, Cambridge University Press.

<sup>6</sup> Articles 101 and 102 TFEU (ex 85 and 86 prior to the Treaty of Amsterdam which came into force on the 1<sup>st</sup> of May 1999. Article 12 of the Treaty of Amsterdam provided for the renumbering of the EC Treaty Articles from Article 85 and 86 to Article 81 and 82 respectively. The TFEU renumbered them from 81 and 82 to 101 and 102 etc.). The EC Treaty was signed on 25<sup>th</sup> of March 1957.

<sup>7</sup> Article 102 deals with the abuse of an already existing dominant position (ex post), whereas the ECMR deals with the prospective assessment of dominance (ex ante).

<sup>8</sup> Case 27/76, *United Brands Co. and United Brands Continental BV v Commission* [1978], ECR I-207. At §65.

<sup>9</sup> Case 85/76, *Hoffmann-La Roche & Co AG v Commission* [1979] ECR I-461, at §38.

*Furthermore although the importance of the market shares may vary from one market to another the view may legitimately be taken that very large shares are in themselves, and save in exceptional circumstances, evidence of the existence of a dominant position. An undertaking which has a very large market share and holds it for some time (...) is by virtue of that share in a position of strength...*<sup>10</sup>

The statement from *Hoffman-La Roche* contains no definition of what is to be meant by “some time”. Thus, the lack of a consistent definition might result in an arbitrary interpretation. In *Continental Can*,<sup>11</sup> the Commission, in defining a “dominant position”, focused on the ability of entities to behave independently in making decisions that affect the market as a whole. There has been some attempt to use a consistent approach to the term in merger cases: the formulation of dominance in *United Brands* was echoed in the Court of Justice *Kali-Salz*<sup>12</sup> decision with respect to collective dominance.<sup>13</sup> As mentioned above, the definition of dominance contains two elements: the ability to prevent effective competition and the ability to behave independently. However, what is unclear is how these two elements relate to each other.

Four requirements must be met for the application of Article 102. One (or more, in the case of collective dominance) undertaking(s) must be in a dominant position, and such position must be held within the common market or a substantial part of it. In addition,

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<sup>10</sup> Case 85/76 *Hoffman-La Roche & Co. AG v. Commission of the European Communities* [1979] ECR-461 at §41.

<sup>11</sup> Case 6/72 *Europemballage Corp and Continental Can Co. Inc v. Commission (Continental Can)*, [1973] ECR I-215. At §3.

<sup>12</sup> Case M308 *Kali und Salz/MdK/Treuhand* [1998] OJ C275/3; on appeal Cases 68/94 and C-30/95 *France v Commission, Societe Commerciale es Potasses et de l'Azore (SCPA) v Commission* [1998] ECR I-1375.

<sup>13</sup> See § 221 of case C-68/94 and C-30/95 *France v Commission, Societe Commerciale es Potasses et de l'Azore (SCPA) v Commission* [1998] ECR I-1375. According to this paragraph, in the case of an alleged collective dominant position, the Commission is therefore obliged to assess, using a prospective analysis of the reference market, whether the concentration which has been referred to it leads to a situation in which effective competition in the relevant market is significantly impeded by the undertakings involved in the concentration and one or more other undertakings which together, in particular because of correlative factors which exist between them, are able to adopt a common policy on the market and act to a considerable extent independently of their competitors, their customers, and also of consumers.

there must be an abuse and this must have an effect on inter-State trade.<sup>14</sup> Dominance is analyzed in relation to three variables: the product market, the geographical market and the temporal market.<sup>15</sup> Importantly, Article 102 does not prohibit the existence of a dominant position, rather it only prohibits its abuse.<sup>16</sup> The main types of abuse are:<sup>17</sup> excessive pricing<sup>18</sup> (*United Brands*), predatory pricing<sup>19</sup> (*AKZO*<sup>20</sup>), discriminatory pricing<sup>21</sup> (*United Brands*), refusal to supply<sup>22</sup> (*Commercial Solvents*<sup>23</sup>), tying and

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<sup>14</sup> Jones, Alison and Sufirin, Brenda, *EC Competition Law-Text, cases and materials*, second edition, 2004, Great Britain, p. 255.

<sup>15</sup> Craig Paul, and De Burca, Gráinne, *EU law-text, cases and materials*, third edition, 2003, Great Britain, p. 993.

<sup>16</sup> Korah, Valentine, *An introductory guide to EC competition law and practice*, fifth edition, 1994, Oxford, p. 83.

<sup>17</sup> An excellent and updated economic survey of the economic analysis of the main types of abuse can be found in Belleflamme, P., Peitz, M., 2010, *Industrial Organization: Markets and Strategies*, Cambridge University Press.

<sup>18</sup> On excessive pricing see indicatively: Elliott D., (2007), “*What is an excessive price?*” *Comp. L.I.*, 6(8), 13-15, Kon S., Turnbull S. (2003), “*Pricing and the dominant firm: implications of the Competition Commission Appeal Tribunal’s judgment in the Napp case*”, *E.C.L.R.*, 24(2), 70-86, Glader M., Larsen S., (2006) “*Article 82: excessive pricing*” *Comp. L.I.*, 5(7), 3-5, Geradin D., Rato M., (2006) “*Excessive pricing: in reply*” *Comp. L.I.*, 5(10), 3-5, Oliver P., (2006) “*The concept of “abuse” of a dominant position under Article 102 EC: recent developments in relation to pricing*” *Euro. C.J.*, 1(2), 315-339.

<sup>19</sup> On predatory pricing see indicatively: Gal M., (2007) “*Below-cost price alignment: meeting or beating competition? The France Telecom case*” *E.C.L.R.*, 28(6), 382-391, Gravengaard M. (2006), “*The meeting competition defence principle - a defence for price discrimination and predatory pricing?*” *E.C.L.R.*, 27(12), 658-677, Andrews P., (1998), “*Is Meeting Competition a Defence to Predatory Pricing?--The Irish Sugar Decision Suggests a New Approach*” *E.C.L.R.* 49, Eilmansberger T., (2005) “*How to Distinguish Good From Bad Competition Under Article 102 EC: In Search of Clearer and More Coherent Standards for Anti-competitive Abuses*” *C.M.L.R. (PP)* 129, OECD, “*Competition Policy Roundtable on Predatory Foreclosure*” (March 15, 2005), pp.1-279.

<sup>20</sup> Case C-62/86, *AKZO Chemie BV v Commission*, [1991] ECR I-3359.

<sup>21</sup> On price discrimination/rebates see indicatively: OECD, “*Competition Policy Roundtable on Loyalty and Fidelity Discounts and Rebates*” (March 4, 2003), pp.1-239, Lang J.T., (2005) “*Fundamental Issues Concerning Abuse Under Article 102 EC*” *Regulatory Policy Institute* 19, Lang J.T., (2002) “*Defining Legitimate Competition: How to Clarify Pricing Abuses Under Article 82*” *F.I.L.J.* 83, Lorenz M., Lübbig M., and Russel A., (2005), “*Price Discrimination, a Tender Story*” *E.C.L.R.* 355, Akman P. (2007), “*To abuse, or not to abuse: discrimination between consumers*”, *E.L. Rev.*, 32(4), 492-512, Gerard D., (2005) “*Price Discrimination under Article 82(c) EC: Clearing up the Ambiguities*” in (July) *Global Competition Law Centre Research Papers on Article 102 EC* 133, Lang J.T. and O’Donoghue R., (2002) “*Defining Legitimate Competition: How to Clarify Pricing Abuses under Article 82EC*” 26 *Fordham International Law Journal* 83, Perrot A., “*Towards an Effects-based Approach of Price Discrimination*” in *The Pros and Cons of Price Discrimination* (Swedish Competition Authority, 2005), Ridyard D., (2002) “*Exclusionary Pricing and Price Discrimination Abuses under Article 82--An Economic Analysis*” 6 *E.C.L.R.* 286.

<sup>22</sup> On refusal to deal/essential facilities see indicatively: Nagy C. (2007), “*Refusal to deal and the doctrine of essential facilities in US and EC competition law: a comparative perspective and a proposal for a workable analytical framework*” *E.L. Rev.*, 32(5), 664-685, Doherty B., (2001) “*Just What Are Essential Facilities?*” 38 *C.M.L.R.* 397, Jones A., “*A Dominant Firm’s Duty to Deal: EC and US Antitrust Law Compared*” in *Handbook of Research in Transatlantic Antitrust* (Philip Marsden, ed. 2006), Lang J.T. (1994), “*Defining Legitimate Competition: Companies’ Duties to Supply Competitors and Access to Essential Facilities*” 18 *Fordham International Law Journal* 437, Lao M., (2005) “*Aspen Skiing and Trinko:*

bundling<sup>24</sup> (*Hilti*<sup>25</sup>, *Tetra Pak II*<sup>26</sup>), loyalty rebates (*Hoffman-La Roche*), abuse of intellectual property rights (*Magill*<sup>27</sup>) and vexatious litigation (*Promedia*<sup>28</sup>). As the judgment in *Continental Can*<sup>29</sup> clarified though, Article 102 did not set out an exhaustive enumeration of the types of abuses of a dominant position.<sup>30</sup>

For dominance to exist the undertaking concerned must not be subject to active competitive constraints. In other words, it must have substantial market power. It is also not required for a finding of dominance that the undertaking in question has eliminated all opportunity for competition on the market. In conducting the analysis of whether the allegedly dominant undertaking is indeed dominant, it is relevant to adopt an economic approach and assess in particular the market position of the allegedly dominant undertaking, the market positions of competitors, barriers to expansion and entry, and the

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*Antitrust Intent and Sacrifice*” 73 *Antitrust Law Journal* 171, OECD, “*The Essential Facilities Concept*” Background Note, OCDE/GD(96)113, Robinson G, (2002) “*On Refusing to Deal with Rivals*” 87 *Cornell Law Review* 1177, Stratakis A., (2006), “*Comparative Analysis of the US and EU Approach and Enforcement of the Essential Facilities Doctrine*” 27 *E.C.L.R.* 434, Venit J., (2005) “*Article 82: The Last Frontier – Fighting Fire with Fire?*” 28 *Fordham International Law Journal* 1157.

<sup>23</sup> Cases 6&7/73, *Instituto Chemioterapico Italiano SpA and Commercial Solvents Corp v Commission (Commercial Solvents)* [1974] ECR 223.

<sup>24</sup> On tying and bundling see indicatively: Spector D. (2006), “*From harm to competitors to harm to competition: one more effort, please!*”, *Euro. C.J.*, 2(1) Supp (Special issue), 145-162, Kuhn K-U., Stillman R., Caffarra C. (2005) “*Economic theories of bundling and their policy implications in abuse cases: an assessment in light of the Microsoft case*” *Euro. C.J.*, 1(1), 85-121, Ridyard D. (2005), “*Tying and bundling - cause for complaint?*” *E.C.L.R.*, 26(6), 316-319, Furse M. (2004), “*Article 82, Microsoft and bundling, or “The Half Monti”*” *Comp. L.J.*, 3(3), 169-178, Jean Tirole, *The Analysis of Tying Cases: A Primer*, 1 *Comp. Policy Int’l* 1 (2005), Bellamy & Child, *European Community Law of Competition*, 6<sup>th</sup> ed., 2008, para 10.119-10.120, Bishop/Walker, *The Economics of EC Competition Law*, London, Sweet and Maxwell, 2<sup>nd</sup> edition, 2002, 209, W.S. Bowman, *Tying Arrangements and the Leverage Problem*, 67 *Yale L.R.* 19 (19-36) (1957), Hylton/Salinger, *Tying Law and Policy: A decision-theoretic approach*, 69 *Antitrust L.J.* 469 (486) (2001), Christian Ahlborn/David S. Evans/A. Jorge Padilla, *The antitrust economics of tying: a farewell to per se illegality*, *The Antitrust Bulletin/Spring-Summer* 2004, 287 (323), KN Hylton & M Salinger, *Tying Law and Policy: A Decision – Theoretic Approach*, 69 *Antitrust Law Journal*, 469 (470-71) (2001), K-U Kühn, R Stillman, C Caffarra, *Economic Theories of Bundling and Their Policy Implication in Abuse Cases: An Assessment in Light of the Microsoft Case*, CEPR Discussion Paper No. 4756 (2005), Thomas A. Lampert, *Evaluating Bundled Discounts*, 89 *Minn. L. Rev.* 1688, 1700-1705 (2004-2005), Daniel A. Crane, *Multiproduct Discounting: A Myth of Nonprice Predation*, 72 *U. Chi. L. Rev.* 27, (2005) .

<sup>25</sup> Case T-30/89, *Hilti v Commission* [1991], ECR II-1439, confirmed C-53/92P, [1994] ECR I-666.

<sup>26</sup> Case T-83/91, *Tetra Pak Rausing SA v Commission (Tetra Pak II)*, [1994] ECR II-755.

<sup>27</sup> *Magill TV Guide* [1989] OJ L78/43.

<sup>28</sup> Case T-111/96, *ITT Promedia NV v Commission (Promedia)*, [1998] ECR II-2937.

<sup>29</sup> Case 72/71 *Re Continental Can Co. Inc.* [1972] OJ L7/25.

<sup>30</sup> See further: *Europemballage Corp and Continental Can Co. Inc v Commission (Continental Can)*, supra note 62, at § 26.

market positions of buyers. The existence of a dominant position may derive from several factors which, taken separately, are not necessarily determinative.

The concept of dominance has been analyzed by leading economists in the Report by the Economic Advisory Group on Competition Policy “An economic approach to Article 82”.<sup>31</sup> According to this Report, traditional means of establishing dominance through information about market structure are proxies for the determination of dominance – they assess the ability to exert power and impose abusive behavior on other market participants.<sup>32</sup> It is clear that an economic approach is needed, in order to be sure that one is evaluating the alleged competitive harm on the basis of how competition in the particular market actually works and what the practice in question means for market participants. The standard for assessing whether a given practice is detrimental to competition or whether it is a legitimate tool of competition should be derived from the effects of the practice on consumers.<sup>33</sup> Most important, the Economic Advisory Group argued that taking a more the economic or effects-based approach towards Article 102 implies that there is no need to establish a preliminary and separate assessment of dominance. The emphasis should be on establishing significant competitive harm which is already proof of dominance (since a non-dominant company would not have the ability

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<sup>31</sup> The Report was written by Jordi Gual (IESE Business School and “la Caixa”, Barcelona), Martin Hellwig (Max Planck Institute for Research on Collective Goods, Bonn), Anne Perrot (University Paris I and Conseil de la Concurrence, Paris), Michele Polo (Bocconi University, Milan), Patrick Rey (Coordinator, University of Toulouse), Klaus Schmidt (University of Munich) and Rune Stenbacka (Swedish School of Economics, Helsinki and RUEEG, University of Helsinki).

<sup>32</sup> EAGCP Report page 14.

<sup>33</sup> The OECD in its policy brief on *Substantial Market Power and Competition*<sup>33</sup> argued that there is substantial agreement that single firm conduct provisions should apply only to firms with a high degree of market power. Unilateral acts by a firm with high degree of market power are much more likely to harm consumer welfare and distort the competitive process than are unilateral act by firms with little or no power. The OECD adds that there is no single, clear economic test that can be used to distinguish between market power that is of concern in unilateral conduct cases and the lesser degree of market power that should not be. It all depends on the ability of undertakings to adversely influence competition. Thus, it is clear that non-dominant firms can also have an adverse impact on consumer welfare by adopting unilateral acts. The importance of the dominance test lies in the fact that a screening based on a legal concept similar to the economic notion of market power prevents the prohibition of pro-competitive unilateral practices, thus reducing Type I errors (i.e. prohibit a conduct which is not anticompetitive). Competition authorities and courts could focus their assessment on the economic impact of an allegedly anticompetitive conduct, and apply competition legislation to genuinely anticompetitive unilateral conduct, without having to analyze first whether a dominant position exists.

to impose anticompetitive foreclosure). We should emphasize an argument made by the Economic Advisory Group:<sup>34</sup>

*..in proposing to reduce the role of separate assessments of dominance and to integrate the substantive assessment of dominance with the procedure for establishing competitive harm itself, we depart from the tradition of case law concerning Art. 102 of the Treaty, but not, we believe, from the legal norm itself. Article 102 of the Treaty is concerned not just with dominance as such, but with abuses of dominance. The case law tradition of having separate assessments of dominance and of abusiveness of behaviour simplifies procedures, but this simplification involves a loss of precision in the implementation of the legal norm.*

*The structural indicators which traditionally serve as proxies for “dominance” provide an appropriate measure of power in some markets, but not in others. In a market where these indicators do not properly measure the firm’s ability to impose abusive behaviour on others, the competition authority’s intervention under traditional modes of procedure is likely to be inappropriate, too harsh in some cases and too lenient in others. Given that the Treaty itself does not provide a separate definition of dominance, let alone call for any of the traditionally used indicators as such, it seems more appropriate to have the implementation of the Treaty itself focus on the abuses and to treat the assessment of dominance in this context.*

They also argue that:<sup>35</sup>

*This approach also allows us to capture in a balanced and meaningful way the notion of special responsibility of a dominant firm... Since in this analysis we do not need to assess the existence of dominance separately, the special*

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<sup>34</sup> § 14.

<sup>35</sup> § 15.

*responsibility implicitly applies to any conduct and firm that (is able to) interfere and distort the competitive process of entry into the market.*<sup>36</sup>

Both these points illustrate a generalization of the application of Article 102 to any conduct and firm that (is able to) interfere and distort the competitive process of entry into the market. A thorough assessment of the conditions for entry, -- of how easy and/or rapid entry can be is always essential in order to judge the ability of a firm or firms to harm consumers.

The Economic Advisory Group adds that an economic approach to Article 102 should focus on improving consumer welfare and, thus, should avoid confusion between the protection of competition and the protection of competitors. An economic-based approach would require a careful examination of how competition works in each particular market in order to evaluate how specific unilateral conduct affects consumer welfare. Such an approach would ensure that anti-competitive behavior does not outwit legal provisions and guarantees that the statutory provisions do not unduly thwart pro-competitive strategies.<sup>37</sup>

On this basis, in the next section we review the development of the economic theory of antitrust policy and emphasize the theoretical foundations of an updated economic approach to abuse of dominance and, in particular, to exclusionary abuses.

## **2. Economic analysis of abuse of dominance issues: old and new approaches**

### *2.1. The Chicago Law School*

Much of the academic debate on the role of antitrust policy has taken place in the U.S., where the field was first established in the 19<sup>th</sup> century. Only subsequently, and with a

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<sup>36</sup> Thus, more than one firm can have this special responsibility since more than one non-dominant firm may have the ability to *interfere and distort the competitive process of entry into the market*.

<sup>37</sup> See further page 2. EAGCP Report.

certain delay, did it spread to Europe. During the 1950s and '60s, the studies associated with the University of Chicago Law School introduced a systematic economic approach to antitrust focusing on the defense of consumers and, in economic terms, on the protection of consumer surplus and/or total welfare as the primary objectives of antitrust policy.<sup>38</sup> Most scholars in this tradition had a *laissez-faire* view of mergers and exclusionary practices: the idea was that when there are entrants that provide a strong competitive pressure in a given sector, mergers are mostly aimed at creating beneficial cost efficiencies, and aggressive strategies such as bundling, price discrimination and exclusive dealing are not necessarily anti-competitive, but instead usually have an efficiency rationale.

For instance, according to this view, bundling is generally done for price discrimination purposes and not for exclusionary purposes. According to the so-called *single-monopoly profit theorem* a monopolist in one market cannot use tying or any other practice to leverage market power in a secondary market where entry is free. Similarly, exclusive dealing cannot be used to exclude more efficient entrants because consumers would need compensation to sign an exclusivity agreement, yet the gains created by an entrant are too large to be compensated by an inefficient incumbent. Finally, according to a widespread view in the Chicago school, there is no such thing as predatory pricing: the main reason is that, if the predator can sustain the initial losses needed to induce the exit of a rival, the rival can also sustain the induced losses (on condition that credit markets are working properly), therefore predatory pricing would be ineffective.<sup>39</sup> Notice, however, that Posner has recently taken a less extreme position, proposing a moderate standard for judging practices claimed to be exclusionary: “*in every case in which such a practice is alleged, the plaintiff must prove first that the defendant has monopoly power and second that the challenged practice is likely in the circumstances to exclude from the defendant's market an equally or more efficient competitor. The defendant can rebut by proving that although it is a monopolist and the challenged practice exclusionary, the practice is, on*

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<sup>38</sup> See Bork, Robert, 1993, *The Antitrust Paradox. A Policy at War with Itself*, The Free Press, New York, and Posner, Richard, 2001, *Antitrust Law*, University of Chicago Press, Chicago.

<sup>39</sup> McGee, John, 1958, Predatory Price Cutting: the Standard Oil (N.J.) Case, *Journal of Law and Economics*, 1, 137-69.

*balance, efficient*".<sup>40</sup> This efficiency defense is at the basis of the "rule of reason" approach, for which a business practice is not "per se" illegal, but can be justified if it does not harm consumers or if it creates efficiencies.

The Chicago school provided fundamental insights into many antitrust issues, but it failed to provide a complete understanding of the behavior of market leaders. In particular, it limited most of its analysis to the understanding of how monopolistic and perfectly competitive markets work, and in a few cases it focused on markets characterized by a monopolist facing a competitive fringe of potential entrants. However, it largely neglected the role of imperfect competition and technological conditions departing from those assumed under perfect competition.

Dismissing the important advances in the application of game theory, the Chicago school ignored the role of the strategic interactions between incumbents and entrants. The consequence was that its approach to exclusionary practices has been often biased against a pro-competitive role played by the incumbents without an updated theoretical support, and it has been neglected in practice whenever markets were characterized by imperfect competition.

## *2.2. The post-Chicago approach*

In the 80s, while the Chicago school was succeeding in raising the threshold for antitrust intervention in the US, a (later called) post-Chicago approach started to expand its influence amongst economists and, in the following decade, also amongst antitrust scholars. This approach has introduced new game theoretic tools to study complex market structures and derive sound normative implications, always for the maximization of consumer surplus (in line with the economic consensus). For instance, with reference to exclusionary practices, the post-Chicago approach has shown that in the presence of

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<sup>40</sup> Posner, 2001, pp. 194-5.

strategic commitments to undertake preliminary investments, asymmetric information between firms,<sup>41</sup> limited forms of irrational (non-profit-maximizing) behavior or credit market imperfections, predatory pricing can be an equilibrium strategy for the incumbent, deterring entry and harming consumers. Similarly, it has shown that bundling can be used to strengthen price competition and exclude a rival from a secondary market.<sup>42</sup> Analogously, many other strategies can have an exclusionary purpose, while mergers have typically an accommodating purpose which again hurts consumers.

One should keep in mind that many of the conclusions of the post-Chicago approach depend on a number of restrictive assumptions. For example, predatory pricing has been shown to be exclusionary under extreme circumstances, including forms of irrational behavior (in reputation models) or pervasive market imperfections, and, even when exclusion emerges under more plausible conditions, it is not necessarily associated with a pricing below cost or even with reductions in consumer welfare (in signaling models), which is what should matter from an antitrust point of view.

Another crucial limitation of the post-Chicago approach and modern game theoretic literature that has been identified in the most recent literature is that in most cases, they have focused on the behavior of incumbent monopolists facing a single potential entrant. To cite only the best-known examples, this was the case for the Dixit model of entry deterrence, the models by Milgrom and Roberts of predatory pricing, by Fudenberg and Tirole on strategic investment, by Rey and Stiglitz and Bonanno and Vickers on vertical restraints, by Whinston on bundling for entry deterrence purposes and by Fumagalli and Motta and Abito and Wright on exclusive dealing, as well as many other works based on analysis of duopolies.<sup>43</sup> Also most of the standard results on the behavior of incumbents

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<sup>41</sup> Milgrom, Paul and Roberts, John, 1982, Limit Pricing and Entry Under Incomplete Information: an Equilibrium Analysis, *Econometrica*, 50, 2, 443-59.

<sup>42</sup> Whinston, Michael, 1990, Tying, Foreclosure and Exclusion, *The American Economic Review*, 80, 837-59.

<sup>43</sup> See Abito, Jose Miguel and Julian Wright, 2008, Exclusive dealing with imperfect downstream competition, *International Journal of Industrial Organization*, 26, 227-46; Bonanno, Giacomo and John Vickers, 1988, Vertical Separation, *Journal of Industrial Economics*, 36, 257-265; Bulow, Jeremy, John Geanakoplos and Paul Klemperer, 1985, Multimarket Oligopoly: Strategic Substitutes and Complements, *Journal of Political Economy*, 93 (3) 488-511; Dixit, Avinash, 1980, The Role of Investment in Entry-

in terms of pricing, R&D investments, mergers, quality choices and vertical and horizontal differentiation are derived in simple oligopolistic models, where the incumbent chooses its own strategies in competition with a fixed number of competitors. While this analysis simplifies the interaction between incumbents and competitors, it can be highly misleading, since it assumes away the possibility of endogenous entry, and therefore limits its relevance to situations where the incumbent already has an exogenous amount of market power. In most (unregulated) markets entry of firms can be regarded as endogenous (if the analysis examines conduct over a reasonable period of time), therefore a relevant benchmark for antitrust theory must be the analysis of strategies by leaders in markets where the number of competitors is endogenous.

### *2.3. The endogenous entry approach to competition policy*

The entry conditions of the market must be at the core of any economic approach to antitrust. Even if these have been often mentioned in the law & economics literature on antitrust policy, they have only recently been introduced in the theoretical analysis and in its application to antitrust issues. In this section we examine this recent evolution.

The traditional industrial organization literature has emphasized the important role played by barriers to entry, but there has been much debate as to definitions of what constitutes a meaningful barrier to entry. Bain associated it with a situation in which established firms can elevate their selling prices above minimal average costs of production without inducing entry in the long run.<sup>44</sup> Broadly speaking, such a situation corresponds to what we define as competition between an exogenous number of firms: even if positive profits can be obtained by a new firm in the market, entry is not possible. Stigler has proposed a

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Deterrence, *The Economic Journal*, 90, 95-106; Fudenberg, Drew and Jean Tirole, 1984, The Fat Cat Effect, the Puppy Dog Ploy and the Lean and Hungry Look, *The American Economic Review*, Papers and Proceedings, 74 (2), 361-68; Fumagalli, Chiara, and Massimo Motta, 2006, Exclusive Dealing and Entry, When Buyers Compete, *The American Economic Review*, 96 (3), 785-95; Milgrom, Paul and Roberts, John, 1982, Limit Pricing and Entry Under Incomplete Information: an Equilibrium Analysis, *Econometrica*, 50, 2, 443-59; Rey, Patrick and Joseph Stiglitz, 1988, Vertical Restraints and Producers' Competition, *European Economic Review*, 32, 561-68.

<sup>44</sup> Bain Joe, 1956, *Barriers to new competition: their character and consequences in manufacturing industry*. Harvard University Press, Cambridge.

different definition of barriers to entry, associating them with costs of production which must be borne by firms seeking to enter an industry but not borne by the incumbents; a similar approach has been prevailing more recently so that we can talk of barriers to entry as sunk costs of entry for the competitors which are above the corresponding costs of the incumbent (or have been already paid by the incumbent). According to this definition, subsequently adopted by the *contestability theory* of Baumol and others and by the *endogenous sunk cost approach* of Sutton,<sup>45</sup> sunk costs can be binding on the entry decisions of followers, therefore, they can be a crucial determinant of the endogeneity of entry in a market. A final category is that of simple fixed costs of entry: these are faced equally by the incumbent and by followers, but they can also represent a binding constraint on entry. While there is a fundamental difference between the concepts of sunk and fixed costs of entry, their role in endogenizing entry is virtually the same, and in the analysis that follows the two concepts will be assimilated more or less into one. Another important aspect concerns the source of these barriers and costs. They can constitute a legitimate cause of antitrust concern if they have been artificially created or enlarged by the incumbent; they cannot if their origin is purely technological. Nevertheless, according to the Chicago approach, it is hard to imagine how artificial barriers could be erected under normal circumstances, as we can conclude from the following position of Bork:

*If everything that makes entry more difficult is viewed as a barrier, and if barriers are bad, then efficiency is evil. That conclusion is inconsistent with consumer-oriented policy. What must be proved to exist, therefore, is a class of barriers that do not reflect superior efficiency and can be erected by firms to inhibit rivals. I think it clear that no such class of artificial barriers exists.*<sup>46</sup>

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<sup>45</sup> Baumol, William, John Panzar and Robert Willig, 1982, *Contestable Markets and the Theory of Industry Structure*, San Diego, Harcourt Brace Jovanovich; Stigler, George, 1968. *The Organization of Industry*, Homewood, Ill.: Richard D. Irwin; Sutton, John, 1991, *Sunk Costs and Market Structure*, MIT Press, London.

<sup>46</sup> See Bork, Robert, 1993, *The Antitrust Paradox. A Policy at War with Itself*, The Free Press, New York,.

Recent theoretical advances in industrial organization have proposed an economic approach to antitrust based on the analysis of endogenous market structures,<sup>47</sup> in which profit maximizing strategies and entry decisions by an endogenous number of firms are taken into account to verify the impact of different conducts on consumer surplus and welfare. This approach combines the game-theoretic foundations of the post-Chicago approach with the emphasis on entry pressure typical of the Chicago approach, and can provide a bridge between the two leading approaches.

In the endogenous market structure approach entry should be regarded as endogenous not when it is free, as in the perfectly competitive paradigm, but when sunk or fixed costs of entry constrain endogenously the number of firms that interact strategically in a market and therefore their market power. A number of normative results with important implications for competition and innovation policy emerge from this approach. In particular, the theory has shown that whether entry in a market is exogenous or endogenous makes a lot of difference for the way leaders behave. In markets where entry is independent of profitability conditions, market leaders can adopt accommodating strategies to increase prices, or aggressive ones to exclude rivals and then monopolize the market; their strategies tend to harm consumers in both cases. However, when entry is endogenously dependent on profitability conditions in the market, the leaders always adopt aggressive strategies which typically do not harm consumers.<sup>48</sup> A few examples will illustrate the point.

Consider unilateral conduct by a firm. A firm competing with a single rival could engage in accommodating pricing to increase mark ups (i.e.: choosing a high price to induce the rival to do the same), or in predatory pricing to induce the exit of the rival, but a firm facing endogenous entry of competitors will ordinarily adopt aggressive pricing strategies without exclusionary purposes.

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<sup>47</sup> For an introduction to this approach see Etro, Federico, 2006a, Competition Policy: Toward a New Approach, *European Competition Journal*, Vol. 2 (March), 29-55 and 2010, Endogenous Market Structures and Antitrust Policy, *International Review of Economics*, Vol. 57, 1, pp. 9-46.

<sup>48</sup> Etro, Federico, 2006b, Aggressive Leaders, *The RAND Journal of Economics*, Vol. 37 (Spring), 146-54

Consider a monopolist in a primary market competing also in a secondary market: when the latter is characterized by a single rival, the monopolist may bundle its goods to strengthen competition, induce the exit of the rival, and monopolize both markets (setting the monopolistic bundle price after the rival exits). However, when the secondary market is characterized by endogenous entry, the purpose of bundling can only be to strengthen price competition in the secondary market without inducing exit of all the competitors, and therefore without generating *ex post* monopolization: in other words, there cannot be a predatory purpose behind the bundling.

Imagine now that an incumbent manufacturer is threatened by a more efficient entrant, and both can only sell to consumers through retailers. If the number of retailers is exogenous, the incumbent may deter entry with an exclusive dealing contract with each retailer: this is the case when the competition downstream is strong enough and the retailers can be easily convinced to sign an exclusive agreement which will lead to high prices. However, when entry in the downstream market is endogenous, high prices only attract entry of new retailers which will be served by the entrant manufacturer. In such a case, exclusive dealing contracts can only be unprofitable (under linear prices) or pro-competitive (they lead to aggressive pricing without deterring entry in the presence of two-part tariffs).<sup>49</sup>

Finally, consider a merger between two firms in a market with price competition: if the number of firms is fixed (for instance because they have an exclusive and superior technology), this stimulates an accommodating behavior by the merged entity, which tends to increase prices and profits, but when entry is endogenous this attracts entry and defeats the strategic purpose of the merger. The conditions under which such a merger can hurt consumers have been investigated recently for horizontal mergers,<sup>50</sup> but the same results apply to more complex cases as horizontal agreements for R&D joint

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<sup>49</sup> Ryoko Oki provided insightful discussions on this point.

<sup>50</sup> Erkal, Nisvan and Daniel Piccinin, 2010, Welfare-Reducing Mergers in Differentiated Oligopolies with Free Entry, *Economic Record*, in press.

ventures or for the standardization of new technologies (which are harmless when taking place in markets with endogenous entry) or even cases of vertical mergers.

Thus it should be evident that efficiency reasons can still motivate aggressive pricing, bundling, exclusive dealing or mergers. In this respect, the overall flavor of the endogenous market structure approach is reminiscent of the Chicago school, while the analysis is based on game theoretic foundations consistent with the post-Chicago tradition (and can be seen as complementary to it).

It is clear that the relevance of these results depends on the relevance of the hypothesis that entry is endogenous in a given market. One may argue that in most markets entry can be usually regarded as endogenous in the medium and long run, but not in the short run. If this is the case, and if antitrust policy is aimed at correcting distortions in the medium and long run (as opposed to short run distortions which self-correct through market mechanisms), then the results of the endogenous entry approach are potentially relevant for policymakers. However, if antitrust policy is also aimed at correcting short run distortions emerging in the absence of entry pressure, the traditional post-Chicago analysis based on exogenous entry applies. Antitrust enforcement thus needs to make a policy choice – whether the objective is to ensure an absence of distortions over the short-term, as well as the medium- and longer-term --, and an economic assessment – of whether entry conditions in the time-frame chosen are endogenous or not. A rule of reason approach allows implementation on a case-by-case basis, taking account of the policy choice (elimination of short-term vs. elimination of medium- or longer-term distortions). In what follows, we will show in detail the implications of the general economic approach to abuse of dominance issues based on endogenous entry considerations for markets with competition in quantities and prices.

#### *2.4 The behavior of dominant firms under competition in quantities*

A large part of the modern economic analysis of abuse of dominance deals with models of dominant firms interpreted as incumbent leaders in a market. Such leadership can be

attributable to a first mover advantage, the so-called Stackelberg advantage, or to a preliminary commitment to market strategies. We will analyze the two cases starting from that of a quantity leadership, in which dominance is associated with the ability to commit to a certain production level before competitors can. An important insight that emerges from an economic analysis of market leaders' behavior that takes account of whether they are facing endogenous entry is that it shows that standard measures of market concentration may be unreliable indicators of dominance or market power and may lead to misleading welfare comparisons. This point emerges quite clearly when we analyze different entry conditions in the simplest environment, that of competition in quantities with homogenous goods and firms using the same technology with constant marginal costs and a fixed cost of production. Such a simple structure approximates the situation of many sectors where product differentiation is not very important, but there are high start-up costs (e.g. in many high-tech sectors).

Let us consider first the case of an exogenous number of firms. In such a context, an increase (a reduction) in the output of a firm leads competing firms to reduce (expand) their own output, although not to the extent of fully compensating the initial output change. As long as the fixed costs of production are not too high, the leader is aggressive but leaves space for the followers to be active in the market. As external observers, we would look at this as a market characterized by an incumbent with a market share typically larger than its rivals, but with a certain number of competitors whose supply of goods reduces the equilibrium market price. The higher the number of these competitors, the lower the price will be: in such a case, higher concentration (e.g. as a result of a merger) would correctly be associated with lower welfare.

Radical changes occur when entry in the market is endogenous, and is determined by the existence of profitable opportunities in the same market.<sup>51</sup> In such a case the leader would expand production until no one of the potential entrants has incentives to supply its goods in the market. The intuition for this extremely aggressive behavior of the market leader is

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<sup>51</sup> Etro, Federico, 2008, Stackelberg Competition with Endogenous Entry, *The Economic Journal*, 118: 1670-97.

simple. When entry is endogenous, the leader understands that a low production creates a large space for entry in the market while a high production reduces entry opportunities. More precisely, knowing how technological constraints govern the incentives to enter in the industry, the leader is aware that its output exactly crowds out the output of competitors, leaving unchanged the aggregate supply and hence the equilibrium price. However, taking this equilibrium price as given, the leader can increase its profits by increasing its output and reducing the average costs of production. Here the fixed costs of production (associated with constant marginal costs) are crucial: on one side they constrain the profitability of entry, while on the other side they create scale economies in the production process that can be exploited by the leader through an expansion of its output. Actually, it is always optimal for the leader to produce enough to crowd out all the output of competitors: exploiting economies of scale over the entire market allows the leader to enjoy positive profits even if there is not an (equally efficient) competitor that could obtain positive profits from entering the market. As external observers, in this case, we would simply see a single firm obtaining positive profits in a market where no one else enters, and we might erroneously associate this situation with a monopolistic environment. In reality, it is the competitive pressure of the potential entrants that induces the leader to produce so much to drive down the equilibrium price until no other (as-efficient) firm can enter. One can even show that this equilibrium with only the leader in the market generates higher welfare than the endogenous entry equilibrium without a leadership, which would involve (too) many firms active in the market earning zero profits.

A similar and more realistic situation emerges in the presence of U-shaped average cost functions or with some product differentiation: in these cases the dominant firm produces more than the rivals but does not find it optimal to exclude entry. Moreover, under endogenous entry the output expansion of the dominant firm crowds out entry of

homogenous producers without affecting total production, and the price remains the same as in the absence of a leader, without negative consequences for consumers.<sup>52</sup>

The crucial lesson from this analysis is that we should be careful in drawing any conclusion on dominance and market power from indices of concentration or from market share. Of course, abusive behavior can be still associated with aggressive strategies aimed at foreclosing rivals and with negative consequences for consumers. But this can only be the case under two circumstances: 1) when these strategies are implemented by leaders with genuine market power which is not constrained by effective entry, or 2) when the same leader has built barriers to artificially constrain entry and without efficiency reasons. Of course, a complete analysis of the consequences of entry deterrence would require a dynamic model taking into account the behavior of the leader before and after deterrence,<sup>53</sup> but our goal here is only to emphasize the risk of automatically associating aggressive strategies that reduce prices and entry with exclusionary strategies that harm consumers.

### *2.5. The behavior of dominant firms under competition in prices*

Other important implications of the general economic approach to antitrust emerge when goods differ in quality and firms compete on price. In this typical situation, the traditional

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<sup>52</sup> Let us consider the case of average costs with a U-shape. A market leader facing endogenous entry of competitors may not have incentives to produce enough to be alone in the market, but would still behave in an aggressive way. Notice that, given the strategy of the leader, all the entrants maximize their own profits and therefore they price above the marginal cost. However, endogenous entry reduces the equilibrium price at a level that is just high enough to cover the fixed costs of production. This equilibrium generates a production below the efficient scale (which should equate marginal and average costs). Also in this case, the leader takes into account these elements and, in particular, takes as given the equilibrium price emerging from the endogenous entry of the competitors. Accordingly, the leader finds it optimal to produce enough to equate its marginal cost to the price, which requires a production above the efficient scale. Since marginal costs are increasing for such a high production level, the leader is pricing above its average cost, and hence obtains positive profits. In this case the strategy of the leader does not even affect the market price, which is fully determined by endogenous entry of firms. Nevertheless, the leader obtains a larger market share than its rivals and positive profits. Moreover, one can show that the aggressive behavior of the leader, that adopts a price equal to the marginal cost, improves the allocation of resources compared to the same market with free entry and no leadership.

<sup>53</sup> As the one developed by Kováč, Eugen, Viatcheslav Vinogradov and Kresimir Zigic, 2010, Technological Leadership and the Persistence of Monopoly under Endogenous Entry: Static versus Dynamic Analysis, *Journal of Economic Dynamic & Control*, in press.

analysis of Stackelberg oligopolies with a fixed number of competitors shows that dominant firms are either accommodating (setting high prices) or trying to exclude rivals by setting prices that are low enough to drive them to exit the market. The first case occurs when the fixed costs of entry are small (and predation would be too costly). In this case, since prices tend to be “strategic complements,”<sup>54</sup> an increase in one firm’s prices triggers a positive response from the other firms, thereby further encouraging this firm to raise its own prices. Because of this strategic complementarity, the direct impact of an accommodating conduct on the market is exacerbated by the rival firms’ adaptation. Thus, more generally, the adoption of any anticompetitive conduct by any firm is likely to induce significant consumer harm, since the rival firms will not be able to fully compensate for the consumer harm induced by this conduct. The alternative case in which a dominant firm tries to exclude rivals with a predatory strategy occurs when fixed costs are high: in such a case a low price can induce followers to exit because they are unable to produce enough to cover their fixed costs.

It is important to note that the inclination of the post-Chicago approach to see aggressive pricing strategies as predatory generates the risk of systematically - and erroneously - associating any aggressive pricing strategy by a dominant firm with an abuse of dominance. In reality, when we take into consideration the endogeneity of entry in the market, we find that dominant firms never adopt accommodating pricing strategies while they are always aggressive, and in a different way: in equilibria with price competition and endogenous entry, leaders increase their market share and obtain positive profits through an aggressive pricing strategy. This reduces entry, without excluding all rivals (as long as product differentiation is substantial), while strengthening competition between the leader and a smaller number of rivals, with price reductions benefitting consumers.

Therefore, we must be extremely careful in associating aggressive pricing with predatory intent. Traditionally, predatory strategies are considered anti-competitive because they

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<sup>54</sup> See Bulow, Jeremy, John Geanakoplos and Paul Klemperer, 1985, Multimarket Oligopoly: Strategic Substitutes and Complements, *Journal of Political Economy*, 93 (3) 488-511.

aim to exclude future competition, allowing the dominant firm to behave in a monopolistic fashion once competitors have been forced to exit the market. Clearly, if a low-price strategy is aimed at excluding some but not all competitors, the monopolistic threat is absent or, at least, more limited, and the gains for consumers in terms of low prices can be quite relevant.

### *2.5. Strategic commitments by dominant firms*

In general, the above analysis is relevant also when market leaders cannot commit to output or pricing strategies, but they can undertake preliminary investments that change their incentives to adopt certain strategies in future. For instance, a market leader facing an exogenous number of competitors may elect either to under-invest or to over-invest in cost-reducing R&D, depending on the nature of the competition it is facing (respectively competition on price or competition on quantity), because it may want to commit through these investments to adopting an accommodating or an aggressive strategy in the market: underinvestment is optimal in the face of price competition, while overinvestment is optimal in the face of competition in quantities.<sup>55</sup> However, this ambiguity collapses if the leader is facing endogenous entry of competitors. In such a case, strategic overinvestment in cost reducing R&D is always optimal, independently of the nature of the competition, because it allows one to be aggressive against competitors.<sup>56</sup> Both effective and potential competition are crucial here. On this point, we are close to early informal theories of the Chicago school. For instance, Posner noticed that:

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<sup>55</sup> See Fudenberg and Tirole, 1984.

<sup>56</sup> See Etro, 2006b. A similar role of the cited forms of preliminary investments is attached to investment in production capacity, to the adoption of debt financing (see Etro, Federico, 2010, Endogenous Market Structures and the Optimal Financial Structure, *Canadian Journal of Economics*, in press, Vol. 43, 4), and to many other strategic commitments.

*notions of potential competition cannot and should not be banished entirely from antitrust law... a monopolist who creates excess capacity in order to reduce his marginal cost, so that entrants (who have to be able to cover their average total cost if they are to make a go of entry) are deterred, is reacting to potential competition.*<sup>57</sup>

From an antitrust point of view, an interesting situation emerges when demand is characterized by network effects. In such a case, incumbent leaders tend to underprice their products initially in order to attract customers in the future. As is known, these strategies may include pricing below marginal cost without entry deterrence purposes. Moreover, dominant firms facing endogenous entry may have further strategic incentives to reduce initial prices (or expand initial production): by doing so, they enhance network externalities and are able to reduce their prices also in the future. Therefore, antitrust authorities should be careful when evaluating aggressive pricing in the presence of network effects. This point applies in particular to multi-sided markets, where network effects between different kinds of customers can be observed, and firms can charge different customers differently. In such an environment dominant leaders tend to price one side of the market quite aggressively, but again without exclusionary purposes.

The same care is required in the analysis of complementary strategies that induce aggressive behavior. One of these is bundling. In an influential paper, Whinston has studied bundling in a market with two goods.<sup>58</sup> The primary good is monopolized by one firm, which competes with a single rival in the market for the secondary good. A commitment to bundle strengthens competition in the secondary market. Therefore, in case of entry of the single rival, it reduces the profits of the monopolist in both markets. However, in case of entry deterrence, the monopolist remains alone and can choose the monopolistic price of the bundle: even if this delivers lower profits than the unconstrained monopolistic prices, under weak conditions it is a profitable strategy and reduces consumer utility. This is a classic example of a predatory strategy aimed at inducing exit

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<sup>57</sup> Posner, 2001, p. 145.

<sup>58</sup> Whinston (1990).

and establishing a monopoly. This conclusion, however, can be highly misleading when entry is endogenous: the assumption of a single rival neglects the possibility of additional competitors and further entry in the secondary market, which is quite important in many real world cases. If the secondary market is characterized by endogenous entry, the monopolist of the primary market will always choose to be aggressive in this market, and bundling may be the right way to commit to an aggressive strategy. Bundling would not necessarily deter entry in this case, especially if there is a high degree of product differentiation in the secondary market, but may instead increase competition in this market and reduce prices, with positive effects on consumers.<sup>59</sup>

Another application of the theory of endogenous market structures concerns vertical restraints affecting inter-brand competition (Bonanno and Vickers; Rey and Stiglitz). Also in this case, the behavior of the market leader can be anticompetitive or pro-competitive depending on the entry conditions. In particular, under price competition, the optimal contract delegating distribution to a downstream firm tends to soften price competition when entry in the market is exogenous, because the upstream firm imposes high prices through direct or indirect contractual restraints. However, the optimal contract strengthens price competition when entry is endogenous, in which case the upstream firm can only gain by inducing aggressive behavior by the downstream firm. The consequences for consumers tend to be negative in the former case but positive in the latter case.

Finally, entry conditions are crucial also for analyzing exclusive dealing between manufacturers and retailers, a field recently explored by economic theory (in particular by Fumagalli and Motta and by Abito and Wright).<sup>60</sup> Consider an incumbent manufacturer threatened by a more efficient entrant, and imagine that both of them can sell to consumers through retailers. If the number of retailers is exogenous, the incumbent

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<sup>59</sup> This point was first made by Etro (2006,b, 2010).

<sup>60</sup> See Abito, Jose Miguel and Julian Wright, 2008, Exclusive dealing with imperfect downstream competition, *International Journal of Industrial Organization*, 26, 227-46; Fumagalli, Chiara, and Massimo Motta, 2006, Exclusive Dealing and Entry, When Buyers Compete, *The American Economic Review*, 96. (3), 785-95.

may deter entry with an exclusive dealing contract with each retailer: this is the case when the downstream competition is strong and retailers can be easily convinced to sign an exclusive agreement that will lead to high prices (for instance when the goods are homogenous, or nearly so). However, when entry in the downstream market is endogenous, high prices attract entry of new retailers, and these new retailers will be served by the entrant manufacturer. In such a case, exclusive dealing contracts are either unprofitable (under linear prices) or pro-competitive (they lead to aggressive pricing without deterring entry in the presence of two-part tariffs).

In conclusion, economic theory provides a wide range of models to understand abuse of dominance issues and, in particular, exclusionary strategies. The model of competition (in quantities or prices), the entry conditions (exogenous or endogenous) and the entry costs appear to be crucial to understanding the nature of the dominant firm conduct. On the basis of this theoretical apparatus, we will now review the state of the art of the approach to abuse of dominance in the EU.

### **3. An Economic Analysis of the EU approach to Article 102 TFEU and a comparison with the US approach**

In this section we use the economic analysis of the previous section to evaluate the economic foundations of the European approach to abuse of dominance, to provide a comparison with the American approach, and to comment on the most recent and relevant case law.

#### *3.1. The genesis of the European approach to consumer protection*

Economic aspects related to consumer protection have been always present in the European debate on competition policy. Early European Commission Reports on Competition Policy evoked the importance of consumer welfare. The First Report on competition policy in 1971, stated that:

*“competition policy endeavours to maintain or create effective conditions of competition by means of rules applying to enterprises in both private and public sectors. Such a policy encourages the best possible use of productive resources for the greatest possible benefit of the economy as a whole and for the benefit, in particular of the consumer”.*

In spite of this, early decisions by the Commission and the case law of the Court of Justice, notably in the 1970s, assimilated protection of competition to protection of the economic freedom of market actors.<sup>61</sup> Many decisions in these formative years were not based on economics or with consumer welfare in mind, but instead aimed to protect the economic freedom of market players and to prevent firms from using their economic power to undermine competitive structures.<sup>62</sup>

The legal definition of dominance as it has emerged through the case law suffers from some important shortcomings. The essence of the Court of Justice definition of dominance as outlined in *United Brands* is the ability to act independently to an appreciable extent of competitors, customers and consumers.<sup>63</sup> One of the criticisms of this definition of dominance is that in reality, it can never – or almost never – be satisfied: firms cannot act to an appreciable extent independently of their consumers, due to the downward-sloping demand curve which implies that the higher the price of the product, the lower the quantity demanded. This argument holds both for dominant and non-dominant firms, and as Azevedo and Walker (2002) argue, “*trying to define dominance with respect to the ability of a firm to behave to an appreciable extent independently of its consumers will not distinguish adequately between dominant and non-dominant firms*”.<sup>64</sup>

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<sup>61</sup> Kokkoris I. “A Gap in the Enforcement of Article 82”, BIICL, 2009.

<sup>62</sup> Gormsen L., (2006), “Article 102 EC: Where are we coming from and where are we going to?”, *The Competition Law Review*, vol.2, 2, March, p. 19.

<sup>63</sup> Case 27/76, *United Brands Co. and United Brands Continental BV v Commission* [1978], ECR I-207. At §65.

<sup>64</sup> Azevedo J. P., Walker M. (2002), “*Dominance: Meaning and Measurement*”, ECLR, 23(7), pp. 363-367, page 364. Additional work on the same definition includes: Dethmers F., Dadoo N. (2006), “*The abuse of Hoffmann-La Roche: the meaning of dominance under EC competition law*” ECLR, 27(10),

A further criticism relates to the difficulty of *measuring* firms' ability to behave independently from competitors. Every firm that faces competitors is constrained to some extent by the conduct of these competitors. The pricing policy of even a dominant firm is dependent on the pricing of its competitors. A dominant firm will raise prices above the competitive level to a point that will be determined by its demand curve, as well as by the constraints imposed on the firm by its competitors' strategy. So even a dominant firm does not act completely independently of its competitors, nor is it immune from the the pressure exerted by the potential entry of future competitors. This argument also holds in cases where the market is focused on other dimensions of competition such as quality and innovation.<sup>65</sup>

Azevedo and Walker (2002) argue that the definition of dominance as outlined in *United Brands* could be made more economically coherent by replacing “*behave to an appreciable extent independently*” with “*not restrained by the independent actions*”.<sup>66</sup> They also suggest an approach that mitigates the drawbacks related to the definition of dominance in *United Brands*. They argue that dominance can be defined as the ability to restrict output<sup>67</sup> substantially in the marketplace. Dominant firms have power over price and thus, by restricting output in the market, to decrease consumer welfare. According to these authors, focusing on output restriction is consistent with most of the standard factors that are usually considered relevant in the appraisal of dominance.<sup>68</sup> In addition, in cases where the observation of price and costs cannot be easily achieved, concentrating on the ability to reduce quantity may provide an alternative means of assessing dominance. Thus, according to the authors, this definition would be consistent with

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537-549, Jones A. and Sufrin B. (2004), “*EC Competition Law*”, 2<sup>nd</sup> ed., Oxford University Press, page264, Dobbs I., Richards P., (2005) “*Output restriction as a measure of market power*”, ECLR, 26(10), 572-580.

<sup>65</sup> For an economic analysis of the R&D behavior of leaders facing exogenous or endogenous entry and of the welfare consequences of equilibrium competition for the market see Federico Etro, 2004, *Innovation by Leaders*, The Economic Journal, Vol. 114, 495 (April), pp. 281-310.

<sup>66</sup> Azevedo and Walker (2002), page 366.

<sup>67</sup> The authors clarify that the definition refers to the restriction of total output in the market below its current level.

<sup>68</sup> Factors such as market shares, barriers to entry, barriers to expansion, spare capacity, substitute products. Azevedo and Walker (2002), at page 6.

current practice and would have a firm economic foundation. However, focusing the definition of dominance on the restriction of output may be considered to be too narrow and possibly inadequate to incorporate conduct that has an adverse impact on competition entailing limited or no output restriction. One example of such an adverse impact would be a decline in quality. Notwithstanding the criticisms mentioned above, for our purposes dominance will be defined according to Court of Justice definition in *United Brands*.

Another criticism concern the vague relation between dominance and abuse. In the context of Article 102, as the Court of Justice argued in *Continental Can*, “*there is no need for a causal link to be established between the dominant position and the abuse. It is necessary only that the conduct strengthens the undertaking’s dominant position and fetters competition on the market*”.<sup>69</sup> Consequently, a dominant undertaking can abuse its position without using the market power that the position confers, but by ordinary commercial practices also engaged in by non-dominant undertakings.<sup>70</sup> The market on which the abusive conduct takes place need not be the same as that on which the dominant position is held;<sup>71</sup> although the alleged abusive conduct is normally found on the dominated market, it may also be found on a distinct, but closely associated market, where success can be leveraged to strengthen the position on the dominated market.<sup>72</sup> On the other side, under the EC Merger Regulation, as the Court of Justice confirmed in *Kali und Salz*,<sup>73</sup> there *must* be a causal link between the creation or the strengthening of dominance and the adverse impact on effective competition.

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<sup>69</sup> Case 6/72 *Europemballage Corp and Continental Can Co. Inc v. Commission* (Continental Can), [1973] ECR I-215, at §26-§27.

<sup>70</sup> *Europemballage Corp and Continental Can Co. Inc v Commission* (Continental Can), at §27; Case 85/76, *Hoffmann-La Roche & Co AG v Commission* [1979] ECR I-461, at §91 and §120.

<sup>71</sup> Case T-51/89, *Tetra Pak Rausing SA vs. Commission* (Tetra Pak I) [1990] E.C.R. II-309, [1991] 4 C.M.L.R. 334, §25.

<sup>72</sup> Case T-83/91, *Tetra Pak Rausing SA v Commission* (Tetra Pak II), [1994] ECR II-755, at §23-28.

<sup>73</sup> Case M308 *Kali und Salz/MdK/Treuhand* [1998] OJ C275/3; on appeal Cases 68/94 and C-30/95 *France v Commission, Societe Commerciale es Potasses et de l’Azore (SCPA) v Commission* [1998] ECR I-1375.

As regards the definition of “abuse”, although there is no definition of the concept in legislation<sup>74</sup> the Court of Justice has on numerous occasions dealt with this concept; for instance, in *Continental Can*<sup>75</sup>, it stated that,

“... abuse may therefore occur if an undertaking in a dominant position strengthens such position in such a way that the degree of dominance reached substantially fetters competition, i.e. that only undertakings remain in the market whose behaviour depends on the dominant one ... it can ... be regarded as an abuse if an undertaking holds a position so dominant that the objectives of the Treaty are circumvented by an alteration to the supply structure which seriously endangers the consumer’s freedom of action in the market such a case necessarily exists if practically all competition is eliminated.”<sup>76</sup>

The Court of Justice in that case concluded that Article 102 is aimed at practices which may cause damage to consumers directly, as well as to practices that are detrimental to consumers through their impact on an effective competitive structure.<sup>77</sup>

In *Hoffmann-La Roche*<sup>78</sup>, the Court of Justice, widened the concept by holding it to be an “objective concept” relating to the *behaviour of a dominant undertaking which influences the structure of the market thereby weakening competition* through methods different from those of normal practice and having an *effect of hindering the maintenance and the growth of competition*. A dominant undertaking can however, protect its commercial

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<sup>74</sup> Kokkoris I. “A Gap in the Enforcement of Article 82”, BIICL, 2009.

<sup>75</sup> *Europemballage Corp and Continental Can Co. Inc v. Commission (Continental Can)*, at §26.

<sup>76</sup> Case 6/72 *Europemballage Corp and Continental Can Co. Inc v. Commission (Continental Can)*, [1973] ECR I-215, § 26.

<sup>77</sup> See also the Opinion of AG Kokott in *BA v Commission, (British Airways Plc v Commission, C95/04 P)* § 69, about the protective purpose of Article 102 being to protect the structure of the market and thus competition as such because where competition as such is damaged, disadvantages for the consumers are also to be feared.

<sup>78</sup> Case 85/76, *Hoffmann-La Roche & Co AG v Commission* [1979] ECR I-461, at §91, repeated in e.g. Case 322/81, *Michelin v Commission* [1983] ECR 3461, at §70.

interests, but, the behaviour must be proportionate and not be intended to strengthen the dominant position and thereby abuse it.<sup>79</sup>

The concept of abuse is related to behaviour by an undertaking which is such as to (negatively) influence the degree of competition through methods different from those ensuring normal competition. Normal competition refers to a situation where an undertaking has a substantial market share resulting from efficient performance regarding quality of product, of service, efficient marketing and distribution. The first two paragraphs of Article 102 (a, b) refer to exploitative abuse of market power inducing harm to consumers. The final two refer to methods detrimental to consumers through their impact on effective competition structure.<sup>80</sup>

Turning to the objectives of Article 102, and to the approach that the Commission and National Competition Authorities should adopt in enforcing Article 102, Advocate General Jacobs has stated that:<sup>81</sup>

*“[I]t is important not to lose sight of the fact that the primary purpose of article 102 is to prevent distortion of competition - and in particular to safeguard the interest of consumers - rather than to protect the position of particular competitors.”*

The General Court in the *British Airways* case explained:

*“Article 102 EC does not require it to be demonstrated that the conduct in question had any actual or direct effect on consumers. Competition law concentrates upon protecting the market structure from artificial distortions*

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<sup>79</sup> e.g. *Europemballage Corp and Continental Can Co. Inc v Commission (Continental Can)*, at §189.

<sup>80</sup> *Europemballage Corp and Continental Can Co. Inc v. Commission (Continental Can)*, at §26.

<sup>81</sup> Opinion in the Oscar Bronner case, at 231 (*Oscar Bronner v Mediaprint C-7/97 [1998 ] ECR I-7791*).

*because by doing so the interests of the consumer in the medium to long term are best protected.”<sup>82</sup>*

The European Commission Notice on the Application of Art.101(3) provides that:

*“The concept of ‘consumers’ encompasses all direct or indirect users of the products covered by the agreement, including producers that use the products as an input, wholesalers, retailers and final consumers, i.e. natural persons who are acting for purposes which can be regarded as outside their trade or profession. In other words, consumers within the meaning of Article 101(3) are the customers of the parties to the agreement and subsequent purchasers. These customers can be undertakings as in the case of buyers of industrial machinery or an input for further processing or final consumers as for instance in the case of buyers of impulse ice-cream or bicycles.”<sup>83</sup>*

The Commission has further stated that<sup>84</sup> the objective of Article 101 is to protect competition on the market as a means of enhancing consumer welfare, which must be the same for Article 102, as both Article 101 and Article 102 seek to achieve the same aim.<sup>85</sup>

The former Competition Commissioner Neelie Kroes argued that:

*“consumer welfare is now well established as the standard the Commission applies when assessing mergers and infringements of the Treaty rules on cartels and monopolies ... An effects-based approach, grounded in solid economics, ensures that citizens enjoy the benefits of a competitive, dynamic market economy.”<sup>86</sup>*

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<sup>82</sup> *British Airways v Commission* at 264.

<sup>83</sup> *European Commission Notice Guidelines on the Application of Article 101(3)* [2004] O.J. C101, para.84.

<sup>84</sup> *European Commission Notice Guidelines on the Application of Article 101(3)* [2004] O.J. C101, paragraphs 13 and 33.

<sup>85</sup> *Case C-6/72 Continental Can v Commission* [1973] ECR 215, § 25.

<sup>86</sup> Kroes, N. “*European Competition Policy: Delivering Better Markets and Better Choices*”, September 15, 2005.

In addition, Commissioner Kroes in her speech of 23 September 2005 to the Fordham Corporate Law Institute mentioned that *the objective of Article 102 is the protection of competition on the market as a means of enhancing consumer welfare and ensuring an efficient allocation of resources.*<sup>87</sup> Former Director General of DG Competition Philip Lowe has emphasized that: *“competition is not an end in itself, but an instrument designed to achieve a certain public interest objective, consumer welfare”.*<sup>88</sup>

The Economic Advisory Group for Competition Policy in its report on Article 102 stated that:

*“Referring to this [consumer welfare added] standard is all the more important because, in the actual proceedings on a given case, competitors are usually much better organized than consumers. The competition authority receives more complaints and more material from competitors, so the procedure tends to be biased towards the protection of competitors. Developing a routine for assessing consumer welfare effects provides a counterweight to this bias.”*<sup>89</sup>

Finally, according to Cseres:

*“the adoption of the consumer welfare standard vis-à-vis the total welfare standard places consumers’ economic needs and responses to firm behaviour further into the focus of competition law enforcement. It, counterbalances firms’ information advantages, lobbying advantages, the fact they are better represented, as well as their first mover advantages in selecting the strategic*

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<sup>87</sup> Kroes N., (2005) “*Preliminary Thoughts on Policy Review of Article 102*” speech given on 23 September at the Fordham Corporate Law Institute New York.

<sup>88</sup> “*Preserving and Promoting Competition: A European Response*”, EC Competition Policy Newsletter, 2006 - Number 2 – Summer.

<sup>89</sup> Report by the EAGCP, “*An economic approach to Article 102*”, July 2005, p 9.

*moves they pursue. The consumer welfare standard seems, from both the legal and political aspect, an appropriate standard of enforcement.”*<sup>90</sup>

In Europe there has been continuing debate over the concept of consumer welfare, and whether the concept should be construed narrowly or broadly. One can distinguish three components of consumer welfare.<sup>91</sup> The first component is “value for money”. Consumer welfare is enhanced if the price of goods/services is reduced, or the quality of those goods is increased while the price is not changed. The second component is consumer choice. Choice does not have value in itself. Nonetheless, if consumers have different tastes, then consumer welfare may increase if they can choose from a larger number of products, that is, by the entry of more producers of differentiated goods onto the market. The last component is innovation. Consumers may benefit and consumer welfare may increase if new products/services are developed, on the basis that there is actual or potential demand for the new products/services.<sup>92</sup>

Promotion of consumer welfare has traditionally been considered as one of the aims of antitrust, though not the sole aim, both in the United States and in Europe.<sup>93</sup> In the United States the Federal Trade Commission (“FTC”) acts to ensure that markets operate efficiently to benefit *consumers*. In the UK the Office of Fair Trading (“OFT”) declares that the OFT’s goal is to make markets work well *for consumers*. Most academics seem to agree that consumer protection must be the aim of antitrust policy. On the basis of this wide consensus on the need for an economic approach under which the protection of consumer surplus is the objective of competition policy, the European Commission has recently issued a “Guidance” document on exclusionary abuses<sup>94</sup>. This Guidance document, which only addresses unilateral conduct enforcement priorities under Article

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<sup>90</sup> Cseres KJ (2007) “*The Controversies of the Consumer Welfare Standard*”, *Competition Law Review*, vol.3 issue 2, page 170.

<sup>91</sup> Lindsay A., *The EC Merger Regulation: Substantive Issues* (London: Sweet & Maxwell, 2003).

<sup>92</sup> Malinauskaite J. (2007), “The development of “consumer welfare” and its application in the competition law of the European Community and Lithuania”, *I.C.C.L.R.*, 18(10), 354-364, page 355.

<sup>93</sup> Whish R. (2003), “*Competition Law*”, 5 ed., Butterworths, UK, at page15 et seq.

<sup>94</sup> *Guidance on the Commission’s Enforcement Priorities in Applying Article 102 EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings.*

102, will be discussed in the next subsection, and compared to the approach prevailing in the U.S. during the last years.

### 3.2. *The European Guidance Paper and a comparison with the American approach*

Without doubt, both the European and American antitrust enforcement have rapidly converged toward an economics-based approach in the last few years. The main differences remain in the general attitude toward market dominance and in the antitrust treatment of abuse of dominance/monopolization issues, which are extremely important not only for their impact on the effectiveness of competition, but also for their possible interference with aggressive competition (which is often borderline with abusive practices) and with innovation policy (which must protect some degree of market power to guarantee the proper incentives to invest). The different approaches are well illustrated by the Report issued by the U.S. Department of Justice in September 2008, *Competition and Monopoly: Single-Firm Conduct under Section 2 of the Sherman Act*,<sup>95</sup> and by the *Guidance on the Commission's Enforcement Priorities in Applying Article 102 to Abusive Exclusionary Conduct*, issued by the European Commission three months later. The U.S. Report largely reflects the approach to antitrust that was prevailing during the Bush Administration, on which we focus in what follows. The Obama Administration has announced a change of approach (with the DoJ withdrawing the same Report), but it is not clear yet how wide will be this change.

The approach emerging from the U.S. Report is aimed at the defense of the competitive process both in principle and in practice, reflecting “*a national commitment to the use of free markets to allocate resources efficiently and to spur the innovation that is the principal source of economic growth.*” The analysis of dominance pays a lot of attention to the limits imposed by endogenous entry, emphasizing the role of entry pressure in

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<sup>95</sup> The Report largely reflects the Chicago approach to antitrust that was prevailing during the Bush Administration, on which we focus in what follows. The Obama Administration has announced a change of approach (with the DoJ withdrawing the above Report), but it is not clear yet how wide will be this change.

disciplining market leaders notwithstanding their large market shares. The Report provides an enlightening example which is in perfect accordance with the implications of the economic approach:

*“Suppose a large firm competes with a fringe of small rivals, all producing a homogenous product. In this situation, the large firm's market share is only one determinant of its market power over price ... if the fringe firms can readily and substantially increase production at their existing plants in response to a small increase in the large firm's price (that is if the fringe supply is highly elastic), a decision by the large firm to restrict output may have no effect on market prices.”*

In general, the Report recognizes the poor correlation that can exist between market share and market power, especially in high-tech sectors:

*“in markets characterized by rapid technological change, for example, a high market share of current sales or production may be consistent with the presence of robust competition over time rather than a sign of monopoly power. In those situations, any power a firm may have may be both temporary and essential to the competitive process.”*

As a consequence the U.S. Department of Justice adopts a non-intrusive role for antitrust policy in the competition in and for the markets. For instance, predatory pricing can be established only when recoupment is likely, that is, only when entry is difficult once the market is monopolized. Moreover, the tying is recognized as having primarily an efficiency role (with this view marking a break with the historical hostility to tying), especially technological tying, *“an area where enforcement intervention poses a particular risk of harming consumers more than it helps them in the long run. Technological tying often efficiently gives consumers features they want and judicial control of product design risks chilling innovation.”*

Finally, the Report also downplays the need for intervention in cases of refusal to supply, because “*forcing a competitor with monopoly power to deal with rivals can undermine the incentives of either or both to innovate*” and because “*judges and enforcement agencies are ill-equipped to set and supervise the terms on which inputs, property rights, or resources are provided.*” In our reading of the U.S. approach over the last few years, this is based on the belief that competitive entry forces are the main constraints on the exercise of market power and when they are present antitrust intervention should be seen as a last resort, in line with the economic approach outlined in the previous section.<sup>96</sup>

In contrast with this and despite some recent progress, European unilateral conduct enforcement is characterized by a more interventionist and discretionary approach. The European Commission Guidance cited above aims to orient enforcement toward an “effect-based” approach that will maximize consumer welfare and protect an effective competitive process, and not simply competitors. An important new aspect in the Guidance is the emphasis given to the role of entry in determining whether a dominant position exists or not. The key element in the Guidance definition of dominance is the extent to which a firm can behave independently of its competitors, customers and consumers, which is determined by the degree of competitive constraints exerted on this firm by the supply of actual competitors, by the threat of expansion of competitors and potential entrants, and by the bargaining power of customers. Thus, entry plays a crucial role and a finding of dominance should be incompatible with the presence of a threat of endogenous entry. The Guidance acknowledges that a leader “*can be deterred from increasing prices if expansion or entry is likely, timely and sufficient*”, but in our view it would also be important to recognize that the same entry pressure can induce the leader to decrease its prices below those of the rivals, or to adopt other aggressive strategies, without any anti-competitive purpose, as the endogenous market structures approach has made clear.

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<sup>96</sup> For a related point by a moderate leader of the so-called Harvard approach to antitrust, see, Herbert Hovenkamp, 2005, *The Antitrust Enterprise. Principle and Execution*, Harvard University Press.

Disappointingly, much of the detailed language in the 2008 Guidance contrasted with the broad-brush passages purporting to move EU enforcement towards an effects-based approach focused on anticompetitive foreclosure and consumer harm, either contradicting outright the high-level messaging in the text, or leaving enforcement officials wide latitude to make exceptions to the guiding principles in their application of the law. An example of this is the nature of the foreclosure effects to be examined under the “effects-based” approach. The Guidance indicates that a key element of abuse is anti-competitive foreclosure, defined as “*a situation where effective access of actual or potential competitors to supplies or markets is hampered or eliminated as a result of the conduct of the dominant undertaking*” which is likely to profitably increase its prices with harm for consumers. However, it is not entirely clear which facts are going to prove foreclosure and which not. For instance, consider a situation in which new competitors enter in the market and some competitors increase their market share to a significant extent: one would expect that this proves that the dominant company's practice is not abusive, but not even this can be taken for granted on the basis of the Guidance as a case analyzed below will make clear.

Another issue is about the standard of undistorted competition. As regards pricing abuses, the European approach introduces the “as efficient competitor” test:

*“the Commission will normally intervene where the conduct concerned has already been or is capable of hampering competition from competitors which are considered to be as efficient as the dominant undertaking.”*

However, the document introduces several exceptions to this principle (for instance, a dynamic view for which less efficient competitors may become as efficient in the future through network or learning effects), and the test does not apply to non-pricing abuses. This means that companies are left without a clear standard.

A crucial aspect of the economic approach to antitrust is related to the efficiencies created by firms engaged in conduct under investigation. We welcome the introduction in the

Guidance of an efficiency defense: a conduct that may seem prima facie to be abusive may be justified by objective necessity or efficiencies that will benefit consumers. A dominant firm may justify a conduct leading to foreclosure on the ground that efficiencies are sufficient to guarantee that consumers are not penalized. The burden of proof is on the dominant firm, that has to show, with a sufficient degree of probability and on the basis of verifiable evidence, that the efficiencies are the result of the conduct, that this is indispensable (there is no less anticompetitive way) to produce the same efficiencies, and that these efficiencies more than compensate the negative effects on competition and consumer welfare.

Now, while the consideration of efficiencies generated by a conduct is extremely important to re-direct antitrust policy toward the maximization of consumer welfare, in our view the Commission's Communication appears to adopt too vague an approach and to make it hard, if not impossible, for dominant companies actually to avail themselves of the efficiencies defence. The main reason is that their verification appears to be postponed after the establishment of an anticompetitive foreclosure that harms consumers, and not during the decision on whether the same foreclosure harms consumers. Moreover, there appears to be a bias against the possibility that efficiencies can occur: they are explicitly considered "unlikely" for predation, and their treatment in the document is marginal. In addition, issues such as the most effective remedies in Article 102 cases as well as the treatment of conduct of non-dominant firms still remain highly controversial issues.

Notice that, to assert a successful efficiency defense under the proposed framework, dominant firms will be required to show that there are no other less anticompetitive alternatives to achieve the claimed efficiencies. This condition means that liability could be imposed even on a conduct whose efficiency is larger than its adverse effects on competitors simply because there exist alternatives that would have penalized rivals less. We doubt that such a rule would have any economic justification. Notwithstanding this, does the current rule mean that an efficiency defense must be rejected if the conduct creates more efficiency gains than other conducts, but is more restrictive on the

competitors? In other words, is it the size of the efficiencies that matters or what matters is the amount of restrictions imposed on competition to obtain those efficiencies?

Last, it is not clear why to exclude the possibility of an efficiency defense (and with it the possibility to enhance consumer welfare) is to be off-limits for an entire class of companies, as the Commission's document makes clear when it states that an "exclusionary conduct which maintains, creates or strengthens a market position approaching that of a monopoly can normally not be justified on the grounds that it also creates efficiency gains". In our view, efficiencies should be assessed in the same manner in all cases, regardless of the defendant's market share: firms that generate pro-competitive efficiencies that benefit consumers should not be penalized, regardless of the level of market share or potential impact on less efficient competitors.

Finally, the new guidelines do not seem to reduce the amount of uncertainty that is associated with the move toward the rule of reason approach. For instance, the potential conflicts between IPRs protection and antitrust policy remain entirely unsolved: while the U.S. have taken a clear position against the possibility of compulsory licensing of IPRs, the E.U. approach still contemplates this possibility under vague conditions. This kind of uncertainty can be a source of inefficiency and distorted behavior, especially when decision rules are imperfect and subject to errors. The lack of legal certainty is particularly regrettable in a context of increasing punitive fines and important efforts by the Commission to increase the scope for private enforcement to complement public enforcement of E.U. competition law. More in general, antitrust uncertainty on exclusionary strategies may deter genuinely competitive or innovative strategies to be adopted by leading firms, and therefore it may exert negative consequences on consumer welfare.

In conclusion, while the approach of the U.S. Report is close to the Chicago School or at least to the principles emerging from the endogenous market structures approach, the E.U. approach remains largely linked to a naive version of the post-Chicago approach,

which is biased against market leaders and in favor of their competitors in a way that can be largely unrelated to the real protection of consumers.

### 3.3. Recent developments

Even as the Commission's Competition Directorate-General was drafting the Guidance paper, the Microsoft case was working its way through the Court of First Instance (now the General Court). The Commission's Decision on Microsoft had been an exception to the trend that the Commission was supposed to be following towards a consumer welfare objective. As such the Decision can be seen as an important and unfortunate precedent. In its 2007 *Microsoft* judgement, the General Court upheld a Commission decision that was based on a *per se* finding of an infringement rather than an effects-based, rule of reason analysis – no evidence of consumer harm was ever adduced by DG Competition. In order to address the implications of this case on the future enforcement of Article 102, some brief background on the case is necessary.<sup>97</sup>

In its analysis, the Commission accused Microsoft of infringing Article 102 by: 1) refusing to supply interoperability information and allow its use for the purpose of developing and distributing work group server operating system products, and 2) making the availability of the Windows Client PC Operating System conditional on the simultaneous acquisition of Windows Media Player (WMP).

As regards the refusal to supply, according to the Commission, Microsoft had refused to provide Sun Microsystems with information enabling it to design work group server operating systems that could seamlessly integrate in the "Active Directory domain architecture", a web of interrelated client PC-to-server and server-to-server protocols that organize Windows work group networks. Microsoft's refusal was held to be eliminating competition in the relevant market for work group server operating systems because the refused input was indispensable for competitors operating in that market. Microsoft's

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<sup>97</sup> See Kokkoris I., "*Competition Cases from the European Union*", Sweet and Maxwell, London, 2007.

refusal could limit technical development to the prejudice of consumers, a violation of Article 102(b). If competitors had access to the refused information, they would be able to provide new and/or enhanced products to the consumer. The Commission further asserted that Microsoft's conduct involved a disruption of previous, higher levels of supply, and caused a risk of elimination of competition in work group server operating systems. As regards tying, the Commission argued that Microsoft infringed Article 102 by illegally tying WMP to the Windows PC operating system (Windows). The Commission based its finding of a tying abuse on four elements: (i) Microsoft held a dominant position in the PC operating system market; (ii) the Windows PC operating system and WMP were two separate products; (iii) Microsoft did not give customers a choice to obtain Windows without WMP; and (iv) this tying foreclosed competition. In addition, the Commission rejected Microsoft's arguments to justify the tying of WMP. The Commission argued that the tying of WMP to Windows foreclosed competition and afforded Microsoft unmatched ubiquity of its media player on PCs worldwide.

The General Court argued that the refusal by an undertaking holding a dominant position to license a third party to use a product covered by an intellectual property right could not in itself constitute an abuse of a dominant position within the meaning of Article 102. It was only in exceptional circumstances that the exercise of the exclusive right by the owner of the intellectual property right might give rise to such an abuse. It added that the following circumstances, in particular, must be considered to be exceptional: in the first place, the refusal relates to a product or service indispensable to the exercise of a particular activity on a neighboring market; in the second place, the refusal is of such a kind as to exclude any effective competition on that neighboring market; in the third place, the refusal prevents the appearance of a new product for which there is potential consumer demand. Once it is established that such circumstances are present, the refusal by the holder of a dominant position to grant a licence may infringe Article 102 unless the refusal is objectively justified. Microsoft did not prove that these circumstances were not present and there was no objective justification. Moreover, the General Court concluded that the Commission analysis of bundling was also correct. The Commission argued that Microsoft has a dominant position on the client PC operating systems market,

that streaming media players and client PC operating systems are two separate products, that Microsoft does not give customers the choice of obtaining Windows without WMP and that this tying forecloses competition in the media players market, and cannot be objectively justified.

The decision of the General Court was somewhat surprising, since it upheld both infringements, although the WMP did not seem to induce consumer demand as a standalone product and was competing in a secondary market with endogenous and competitive entry. Thus, there seemed to be no actual consumer harm or predatory purpose from bundling the Media Player with Windows. The *per se* type approach adopted in this case contradicts the rule of reason approach that the Commission seems to envisage using in Article 102 cases.<sup>98</sup> It will be interesting to see how the Commission will reconcile the thinking of the General Court in its Microsoft judgment with the trend towards an effects based approach in Article 102 cases. The decision of the General Court came as a shock to a good proportion of the EU antitrust observers, many of whom had doubts as to the compatibility of the Commission's original decision with EC case law and sound economic policy (including the concern for consumer welfare that the Commission claimed). It will be a step backwards in the development of the competition case law if the trend towards a consumer welfare objective in Article 102 cases is diverted as a result of the Microsoft judgment.<sup>99</sup>

In a further example of competition enforcement appearing at variance with economic evidence, 2008 saw the Commission launch another investigation into Microsoft, this time into the alleged tying of the Internet Explorer (IE) browser to Windows. This investigation concluded at the end of 2009, with a so-called Article 9 Decision pursuant to which Microsoft will now distribute its operating systems with a "choice screen" that reminds PC users that they can select a browser other than IE as their "default" browser, and facilitates the downloading of Microsoft's competitors' products (e.g. Mozilla Firefox, Google Chrome, etc.). To evaluate this outcome, we need to have a look at its

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<sup>98</sup> Judging from the "Discussion Paper on Article 102".

<sup>99</sup> Kokkoris I. "A Gap in the Enforcement of Article 82", BIICL, 2009.

background. In the last twelve years, Microsoft has distributed its operating system bundled with IE - and for eight of those twelve years, this has been done under a Consent Decree issued by the U.S. antitrust authorities. Even without the choice screen offering an opportunity to download rivals' browsers, alternative browsers could be easily installed on every PC. Competition in the field has been on the basis of quality and functionality, at least since the introduction of IE in the mid-90s resulted in browsers' prices dropping to zero. Recently Mozilla's Firefox has seen considerable success, with the gap between IE and Firefox's respective market shares narrowing with every passing month; Opera and Safari have consolidated their market positions, while the new entrant, Google Chrome, has quickly picked up about six percent of the global market. This tendency is even stronger in Europe.

In spite of such a dynamic competitive scenario, following a formal complaint by Opera, in January 2009 the European Commission sent a Statement of Objections to Microsoft concerning the possible anti-competitive consequences of tying Windows with IE. The Commission was applying the judgment rendered by the General Court in the WMP case, where Microsoft was forced to commercialise a new operating system without its WMP, which, by the way, no one purchased.

To a large extent, the browser industry seems extremely competitive, with a firm that is the leader in a primary market (operative systems) pressured by entry and innovation in a secondary market (browsers). The latter is characterised by an increasing degree of product differentiation (in terms of performance and visual experience) and by demand that overlaps with the primary good (almost any PC has access to the Internet) and typically covers multiple browsers at the same time (Internet users often try, and sometimes use, different browsers on their devices). According to the endogenous market structure approach to antitrust, exactly under these conditions, tying becomes a normal aggressive strategy of the leader without exclusionary purposes, but aimed at strengthening competition and reducing prices in the secondary market to gain scale economies in the secondary market (against a modest sacrifice of profits in the primary market). This is also the classic situation in which the pressure of entry in the browser

market reinforces innovation by leaders and followers, producing important consumer benefits in terms of price, quality, and product variety. In such a scenario, it was hard to see other pervasive anti-competitive consequences of the Microsoft strategy. It seemed unlikely that it could have a predatory purpose because any future increase in the price of IE would have been unrealistic. Moreover, Microsoft mostly gains from the introduction and the diffusion of other browsers because this increases the quality of PC user experience and therefore the demand for Windows and Office applications, its main products. Finally, there are technological efficiencies from the design of an operating system including a browser. In conclusion, tying Windows with IE could have represented a constraint for competing browsers in theory but not in practice; after all, IE could be substituted with another browser in a few seconds and freely even before the introduction of the choice screen.

With the agreed solution, however, minor browsers and even new entrants will get a boost, strengthening the competition against Microsoft. As a matter of fact, the choice screen appears if IE has been installed, but if computer manufacturers install an alternative browser when shipping a new PC, no choice screen appears for the final consumer: this may represent a substantial advantage for Firefox, Opera, and other competing browsers. What is certain is that all the possible constraints to entry and competition in the browsers' market are now eliminated, and it will be interesting to verify the effect of this policy shift on the browser market. And of course, it will be interesting to check the impact of these decisions on future tying cases.

While the Microsoft saga is at its end, another related tying case may now emerge in a related sector, this time around a well known but largely undisturbed monopolistic position, that of IBM in the mainframe market. Even if the mainframe represents a relatively small percentage by numbers of units of server shipments, rigid demand of mainframes by corporate and government customers worldwide along with technological peculiarities on the supply side make the mainframe market a largely separate and self-contained market which provides products that are not substitutable with standard Linux, UNIX or Windows servers. For half a century, IBM has been the leader of this market,

based on strong product performance and reliability. While a wide leadership is typical of markets characterized by network effects, dominance such as that exhibited by IBM goes beyond the effects of standard network externalities for the lack of any residual entry pressure. In past decades, mainframe customers benefited from the effective competition provided by manufacturers of hardware compatible with IBM architecture, such as Hitachi, Amdahl, Compaq, PSI and T3 Technologies, and from the potential entry of other producers and software developers. However, in the last several years, IBM has gradually moved toward a policy of bundling and integration of its hardware and software products, thereby becoming the only company selling IBM-compatible mainframes. This has allowed IBM to constantly increase its prices for mainframe solutions, against a declining trend in the rest of the industry.

The European Commission's Competition Directorate-General started to focus on IBM after receiving complaints from a small company, Platform Solutions, Inc. (PSI). In 2006, when Hewlett-Packard was about to buy PSI and enhance competition in the mid-range framework market, IBM stopped licensing to PSI and filed a patent suit against it. To terminate the legal proceedings against PSI, IBM had to buy this company in 2008. Then, at the beginning of 2009, IBM faced a second complaint from another smaller rival, T3 Technologies, which accused IBM of preventing sales of rival mainframe hardware through bundling of its operating system with its hardware, and withholding the intellectual property rights needed for interoperability. At the end of March 2010, DG Competition received a third complaint from TurboHercules, a Paris-based open-source company whose request to license z/OS was declined by IBM. Hercules is a "mainframe emulator", a program that allows software designed for IBM computers to run on other types of computer hardware, including personal computers. The alleged abuse by IBM would be to prevent customers from using Hercules by tying IBM's mainframe operating system to IBM hardware. Meanwhile even the Department of Justice has started a broader preliminary investigation on IBM's dominance last autumn, citing also the experiences of T3 and Hercules.

Given the absolute dominance of IBM in the market and the impossibility of entry it is possible that these preliminary investigations will lead to a new EU antitrust case of considerable importance. The similarity with the issues underlying the Microsoft cases is all too evident. Nevertheless, two major differences should be noted. First, Microsoft was not accused of tying hardware with its operating system. Rather, it was accused of tying two different software applications (media players and browsers) with Windows, and both these applications were already facing substantial competition (endogenous entry) in their respective markets. Second, the interoperability information that Microsoft was forced to licence by the European Commission under its 2004 Decision was protected by intellectual property rights and was never advertised as being available free of charge to the open source community. IBM, on the other hand, has pledged to share such information with the open source community, at least until now. Despite these differences between the IBM and Microsoft cases, the many similarities suggest that IBM may have a hard time defending its position against the most recent of the three complaints that have been submitted to the European Commission. In this and probably other future issues, the Microsoft case will definitely leave its footprint.

#### **4. Conclusion**

In this paper we have examined the European approach to antitrust and in particular to abuse of dominance issues from an economic perspective and in particular through the lenses of the endogenous market structures approach. This led us to criticize some aspects of European policymaking and to suggest a move toward a closer attention to the analysis of the entry conditions in abuse of dominance cases. Other aspects of antitrust policy, in particular those concerning mergers and horizontal agreements (especially in relation with R&D and standardization agreements) would require further investigation from the perspective of the endogenous market structures approach. We hope that this and related research will contribute to the improvement of European policymaking in the field of antitrust.

