



## ARTICLES

### ARTIFICIAL INTELLIGENCE AND EU LAW ENFORCEMENT

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# WHOSE BIAS IS IT, ANYWAY? THE NEED FOR A FOUR-EYES PRINCIPLE IN AI-DRIVEN COMPETITION LAW PROCEEDINGS

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ABSTRACT: Artificial Intelligence (hereafter, 'AI') systems are widely adopted by public administrations. Competition law does not escape the rule. This is unsurprising, given AI systems promise to address well-documented flaws in human decision-making, *e.g.* arbitrariness or bias. What is more, AI systems carries the potential to strengthen *ex officio* investigations. AI-driven cartel screening flags indicators of collusion that then trigger the need for further investigation. This *Article* does not discard that AI systems increase effectiveness that in turn increase substantive fairness. Rather, it questions whether increasing effectiveness with AI systems has an impact on procedural fairness. The argument is that although the use of algorithms increases procedural fairness by removing noise and cognitive biases from the decision-making process, the overall impact on procedural fairness remains far from clear given that the introduction of AI systems in public administration might perniciously generates new type of biases or harmful behaviours. This *Article* suggests that a four-eyes principle is a workable solution to mitigate that pitfall.

KEYWORDS: cartel screening – cognitive bias – procedural fairness – human oversight – competition enforcement – dawn raid.

## I. INTRODUCTION

In a competition law context, achieving effective and fair market and competition (enforcement) are the key objectives of the moment. Taking a look at European Commission

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(hereafter, EC) Vice-President Margrethe Vestager's speeches is enough to be convinced. Her ambition is, indeed, "to defend and promote [...] the principles which underpin *fair* and *effective* competition, which protect the well-being of consumers and which lead to growth and innovation".<sup>1</sup> She explained the European Union (hereafter, EU) entered a "new era of cartel enforcement" that aims to design "more *effective* strategies to detect and prosecute cartels".<sup>2</sup> It has been suggested artificial intelligence (hereafter, AI) might have a role to play in this quest for increasing effectiveness of competition law enforcement that, in turn, increases fairness on the internal market. In October 2017, the EC published a consultancy tender seeking advice on how AI could "potentially improve DG Competition's processes of evidence management, legal drafting, and market intelligence gathering".<sup>3</sup> With this ambition, the EC joined the ranks of other public administrations that have chosen to adopt AI solutions.<sup>4</sup> This is unsurprising, given that AI systems are

<sup>1</sup> M Vestager, 'Keynote of EVP Vestager at the European Competition Law Tuesdays: A Principles Based approach to Competition Policy' (25 October 2022) ec.europa.eu (emphasis added). See also M Vestager, 'Speech by Executive Vice-President Margrethe Vestager at the State Aid High Level Forum of the Member States' (16 November 2020) ec.europa.eu, noting that "*effective* competition policy is part of the design that makes our markets deliver quality and innovation, at a *fair* price" (emphasis added).

<sup>2</sup> M Vestager, 'Speech by EVP M. Vestager at the Italian Antitrust Association Annual Conference – A new era of cartel enforcement' (22 October 2021) ec.europa.eu (emphasis added). This *Article* does not discuss the development of more effective strategies to enforce the prohibition of abuse of dominance. On this matter, see e.g. the large debate on the Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act), 1-66. Recital 10 of the DMA lays down that its aim is "to complement the enforcement of competition law" (i.e., to increase competition law effectiveness) by increasing *fairness* and contestability in the digital sector. See e.g., R Podzun, P Bongartz and S Langenstein, 'The Digital Markets Act: Moving from Competition Law to Regulation for Large Gatekeepers' (2021) *Journal of European Consumer and Market Law* 60 (noting at 61 that the DMA "aims at speeding up the process by stepping out of the conventional competition law regime"). However, the DMA is (allegedly) not competition law. On this, see e.g., P Larouche and A de Streel, 'The European Digital Markets Act: A Revolution Grounded on Traditions' (2021) *Journal of European Competition Law & Practice* 542 (noting at 542 that the DMA "is the lost child of competition law"); B Beems, 'The DMA in the Broader Regulatory Landscape of the EU: An Institutional Perspective' (2023) *European Competition Journal* 1 (noting at 1 that "the DMA is – at least formally – not a competition law instrument but also differs from sector-specific regulation"); K Bania, 'Fitting the Digital Markets Act in the Existing Legal Framework: The Myth of the "Without Prejudice" Clause' (2023) *European Competition Journal* 116 (doubting the DMA will apply without prejudice to competition law); A Ribera Martinez, 'An Inverse Analysis of the Digital Markets Act; Applying the *Ne bis in idem* Principle to Enforcement' (2023) *European Competition Journal* 86 (discussing the risk of infringement of the *ne bis in idem* principle).

<sup>3</sup> Consultancy COMP/2017/017 from the Commission of 22 October 2017 on Artificial Intelligence Applied to Competition Law.

<sup>4</sup> See e.g., EE Joh, 'The New Surveillance Discretion: Automated Suspicion, Big Data, and Policing' (2016) *Harvard Law & Policy Review* 15; LA Shey, W Hartzog, J Nelson, D Larkin and G Conti, 'Confronting Automated Law Enforcement' in R Calo, AM Froomkin and I Kerr (eds), *Robot Law* (Edward Elgar 2016) 235; A Guthrie Ferguson, 'Policing Predictive Policing' (2017) *Washington University Law Review* 1115; K Yeung, 'Algorithmic Regulation: A Critical Interrogation' (2018) *Regulation & Governance* 505; JB Bullock, 'Artificial Intelligence, Discretion and Bureaucracy' (2019) *The American Review of Public Administration* 751; M Veale and I Brass, 'Administration

able to process and analyse large datasets quicker and more efficiently than any human public officer could.<sup>5</sup>

This paper does not discard that AI systems increase effectiveness that in turn increase *substantive* fairness, namely, a commitment to mitigate distortions of competition and, corollary, support competition on the merits.<sup>6</sup> It seems uncontroversial that a more effective competition law enforcement (*i.e.*, a better detection and sanctioning of anti-competitive behaviours) leads to more contestable markets and more competition on the merits. Rather, this paper questions whether increasing effectiveness with AI has an impact on *procedural* fairness, that is, “the ability to contest and seek redress against decisions made by AI systems and by the humans operating them”.<sup>7</sup>

This debate is paradoxical. It has been widely demonstrated by behavioural economy that human beings are noisy and biased. Public administration, composed of human beings, does not escape the rule. On the contrary, as a machine, an AI system is supposed to be noiseless and more impartial (or less biased) than humans. This is counterintuitive given that it is quite common knowledge that AI systems can be biased and discriminatory. However, unbiased algorithm is not necessarily an oxymoron. As Sunstein pointed out, “it is an artifact of the English language, and a most unfortunate one, that the word ‘biases’ includes both *cognitive biases* [...] and biases that involve *illicit discrimination*”.<sup>8</sup> Therefore, the argument is this: although human beings suffer from identifiable cognitive biases (as they use mental shortcuts) and that their judgements display unwanted variability due to exogenous and completely irrelevant factors as fatigue or weather (*i.e.*, human are noisy), algorithms eliminate

by Algorithm? Public Management Meets Public Sector Machine Learning’ in K Yeung and M Lodge (eds), *Algorithmic Regulation* (Oxford University Press 2019); MM Young, JB Bullock, and JD Lecy, ‘Artificial Discretion as a Tool of Governance: A Framework for Understanding the Impact of Artificial Intelligence on Public Administration’ (2019) *Perspectives on Public Management and Governance* 301; R Calo and D Keats Citron, ‘The Automated Administrative State: A Crisis of Legitimacy’ (2021) *Emory Law Journal* 797; C Coglianese and A Lai, ‘Antitrust by Algorithm’ (2022) *Stanford Computational Antitrust* 1; M Hickok, ‘Public Procurement of Artificial Intelligence Systems: New Risks and Future Proofing’ (2022) *AI & Society* 1213; A Rachovitsa and N Johann, ‘The Human Rights Implications of the Use of AI in the Digital Welfare State: Lessons Learned from the Dutch *Syri* Case’ (2022) *HRLRev* 1; S Ranchordas, ‘Empathy in the Digital Administrative State’ (2022) *DukeLJ* 1341.

<sup>5</sup> A von Bonin and S Malhi, ‘The Use of Artificial Intelligence in the Future of Competition Law Enforcement’ (2020) *Journal of European Competition Law & Practice* 468, 469. See also D Lim, ‘Can Computational Antitrust Succeed’ (2021) *Stanford Computational Antitrust* 38.

<sup>6</sup> See, by analogy, E Loozen, ‘Strict Competition Enforcement and Welfare: A Constitutional Perspective Based on Article 101 and Sustainability’ (2019) *CMLRev* 1265; A Pera, ‘Fairness, Competition on the Merits and Article 102’ (2022) *European Competition Journal* 229.

<sup>7</sup> This dyad in fairness is found under the pen of the EC’s High Level Expert Group (hereafter, HLEG) on AI noting in their Ethic Guidelines that “fairness has both a substantive and a procedural dimension”. For the record, the HLEG defines substantive fairness as “ensuring equal and just distribution of both benefits and costs”. See Independent High-Level Expert Group on Artificial Intelligence set up by the European Commission, ‘Ethics Guidelines for Trustworthy AI’ (8 April 2019) 12-13.

<sup>8</sup> CR Sunstein, ‘Governing by Algorithm? No Noise and (Potentially) Less Bias’ (2022) *DukeLJ* 1175, 1179 (emphasis added).

noise (*i.e.*, they are immune to irrelevant exogenous factors) and oust cognitive biases (as they rely on statistical predictors rather than mental shortcut).<sup>9</sup> As a result, introducing AI system in law enforcement should increase procedural fairness. However, it cannot be said that an AI system is bias-free given that bias also means illicit discrimination.<sup>10</sup> An AI system is, indeed, only as good as its training set. As such, if it was trained using biased data, it is likely to reproduce them. In addition, the very use of an AI system in public administration might perniciously generate new types of biases or harmful behaviours. The positive impact of the introduction of an AI system on procedural fairness is therefore far from clear.<sup>11</sup>

This *Article* proposes to contextualise that background in the light of AI-driven cartel screening and suggests a four-eyes principle as a potential solution to biased decision-making. To build the argument, the structure is fivefold. Section II maps the different types of cognitive bias and noise in human assessment. Section III explains what AI-driven cartel screening is about. Section IV highlights the potential bias in (algorithmic) competition law proceedings. Section V argues that a four-eyes principle is a workable solution. Section VI concludes.

## II. BIASES AND NOISE: MAPPING THE DEBATE

It is colloquially known that *errare humanum est*; to err is human. For Richard Thaler and Cass Sunstein, they even “predictably err”.<sup>12</sup> There is a prolific literature in this regard. First and foremost, the reason why humans err is their bounded rationality,<sup>13</sup> best shown with cognitive biases (section II.1) and noise (section II.2) that impact competition law procedure (section II.3).

### II.1. COGNITIVE BIASES

Biases, defined as “any systemic error that inclines people’s judgements in a particular direction”,<sup>14</sup> are well known in behavioural economics<sup>15</sup> that has identified, in particular,<sup>16</sup>

<sup>9</sup> CR Sunstein, ‘The Use of Algorithms in Society’ (2023) *The Review of Austrian Economics* doi.org. See *contra*, to some extent, S Mills, ‘The Misuse of Algorithms in Society’ (7 April 2023) papers.ssrn.com.

<sup>10</sup> CR Sunstein, ‘Governing by Algorithms?’ cit. 1179.

<sup>11</sup> Jon Kleinberg J Kleinberg, J Ludwig, S Mullainathan and CR Sunstein, ‘Discrimination in the Age of Algorithms’ (2018) *Journal of Legal Analysis* 113.

<sup>12</sup> RH Thaler and CR Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness* (Yale University Press 2008) 6. See also CR Sunstein, *Why Nudge? The Politics of Libertarian Paternalism* (Yale University Press 2015).

<sup>13</sup> HA Simon, ‘A Behavioural Model of Rational Choice’ (1955) *Quarterly Journal of Economics* 99.

<sup>14</sup> CR Sunstein, ‘Governing by Algorithm?’ cit. 1178.

<sup>15</sup> A Tversky and D Kahneman, ‘The Framing of Decisions and the Psychology of Choice’ (1981) *Science* 453.

<sup>16</sup> D Kahneman, ‘Maps of Bounded Rationality: Psychology for Behavioral Economics’ (2003) *American Economic Review* 1449.

availability, search satisfying, anchoring, confirmation, diagnostic momentum and hindsight biases.<sup>17</sup>

*Availability bias* supposes an overreliance on the information immediately brought to mind without seeking other elements that may contradict the former.<sup>18</sup> As a corollary to this, *search satisfaction* induces the idea to stop searching once a first plausible explanation is found, due to human's "cognitive laziness".<sup>19</sup> *Anchoring* means a premature decision-making based on limited information initially available.<sup>20</sup> The anchor effect suggests the officials will fail to adjust their decision when new information becomes available.<sup>21</sup> In the same vein, for public officers who take decision in sequence, "the decisions that immediately preceded it serves as an implicit frame of reference" and, as a result, they are "more likely to decide in the opposite direction than would be strictly justified".<sup>22</sup> This "gambler fallacy" has been empirically documented.<sup>23</sup> The anchoring bias is strengthened by the *confirmation bias*, that is, the tendency to interpret information to fit their preconceived opinion.<sup>24</sup> Drawing a parallel with medical practices, the anchoring bias is reinforced by the *diagnostic momentum*, defined as the pursuit of an action previously instigated by someone else without considering any new information and changing plan accordingly, "particularly if plan commenced by more senior clinician".<sup>25</sup> This is sometimes referred to as an *hindsight bias*, that is the eagerness "to justify past efforts, in particular to hierarchical supervisors".<sup>26</sup> This leads to *commitment bias*, or escalation of commitment, namely, the unwillingness for decisionmakers to adopt a decision that contradicts what they have done in the past due to the involvement of their "human resources and reputation capital".<sup>27</sup> The combination of confirmation, hindsight and commitment biases generates a *tunnel vision* (or *prosecutorial bias*

<sup>17</sup> To name but a few. See e.g., D Kahneman, *Thinking Fast and Slow* (Farrar, Straus and Giroux 2011); RH Thaler, *Misbehaving: The Making of Behavioral Economics* (W.W. Norton & Company, Inc. 2015); D Kahneman, O Sibony and CR Sunstein, *Noise: A Flaw in Human Judgement* (William Collins 2021).

<sup>18</sup> CR Sunstein and T Kuran, 'Availability Cascades and Risk Regulation' (1999) *StanLRev* 683; CR Sunstein, 'The Availability Heuristic, Intuitive Cost-Benefit Analysis, and Climate Change' (2006) *Climate Change* 195.

<sup>19</sup> LJ Skikta, KL Mosier and MD Burdick, 'Accountability and Automation Bias' (2000) *International Journal of Human-Computer Studies* 701.

<sup>20</sup> KE Jacowitz and D Kahneman, 'Measures of Anchoring in Estimation Tasks' (1995) *Personality and Social Psychology Bulletin* 1161.

<sup>21</sup> A Tversky and D Kahneman, 'Judgement under Uncertainty: Heuristics and Biases' (1974) *Science* 1124.

<sup>22</sup> D Kahneman, O Sibony and CR Sunstein, *Noise* cit. 90.

<sup>23</sup> DL Chen, TJ Moskowitz and K Shue, 'Decision Making Under the Gambler's Fallacy: Evidence from Asylum Judges, Loan Officers, and Baseball Umpires' (2016) *The Quarterly Journal of Economics* 1181.

<sup>24</sup> J Klayman, 'Varieties of Confirmation Bias' (1995) *Psychology of Learning and Motivation* 385; RS Nickerson, 'Confirmation Bias: A Ubiquitous Phenomenon in Many Guises' (1998) *Review of General Psychology* 175.

<sup>25</sup> ED O'Sullivan and SJ Schofield, 'Cognitive Bias in Clinical Medicine' (2018) *Journal of the Royal College of Physicians of Edinburgh* 225, 227.

<sup>26</sup> *Ibid.*

<sup>27</sup> C Teleki, *Due Process and Fair Trial in EU Competition Law: The Impact of Article 6 of the European Convention on Human Rights* (Brill 2021) 266.

in the context of law enforcement), namely, the process that leads decisionmaker “to focus on a particular conclusion and then filter all evidence in a case through the lens provided by that conclusion” and eventually to adopt unreasoned or unfair decisions based on irrelevant factors, namely, efforts and time invested during the investigation phase.<sup>28</sup> In addition, the willingness to avoid cognitive dissonance also strengthens the diagnosis momentum. A cognitive dissonance arises when the decisionmaker in  $t$  disagree with what was decided in  $t-1$ . It has been argued that “cognitive dissonance being psychologically uncomfortable, people are generally motivated to avoid it by avoiding information likely to create such dissonance”.<sup>29</sup>

## II.2. NOISE

Noise is different from bias. While bias is systematic, noise is an “unwanted variability in judgements”.<sup>30</sup> Noise makes decision-making akin to a roulette.<sup>31</sup> More concretely, Sunstein argued there exist three kinds of noise: occasion, level, and pattern noise.

The first, *occasion noise*, is personal to the human at stake. A same person decides a case differently depending on her fatigue,<sup>32</sup> blood sugar levels,<sup>33</sup> local news,<sup>34</sup> or the weather.<sup>35</sup> This means a decision depends “irrelevant features of the particular situation”.<sup>36</sup>

The second, *level noise*, implies that what will be decided in a particular case depend on the person who will decide. Level noise explains, for instance, the difference between some lenient and severe judges granting or denying probation or asylum.<sup>37</sup> With level noise, people are treated differently “because of a kind of lottery”.<sup>38</sup>

The third, *pattern noise*, is a refinement of level noise and comes from “different patterns of severity and leniency” of different actors. In level noise, actor A is more severe or lenient than actor B. In pattern noise, actors A and B are receptive to grounds W and X, but non-receptive to grounds Y and Z, while actors C and D show opposite patterns. This

<sup>28</sup> KA Findley and MS Scott, ‘The Multiple Dimensions of Tunnel Vision in Criminal Cases’ (2006) *The Wisconsin Law Review* 291, 292.

<sup>29</sup> WPJ Wils, ‘The Combination of the Investigative and Prosecutorial Function and the Adjudicative Function in EC Antitrust Enforcement: A Legal and Economic Analysis’ (2004) *World Competition* 201, 215.

<sup>30</sup> CR Sunstein, ‘Governing by Algorithms?’ cit.1178.

<sup>31</sup> J Ramji-Nogales, AI Schoenholtz and PG Shrag, ‘Refugee Roulette: Disparities in Asylum Adjudication’ (2007) *StanLRev* 295.

<sup>32</sup> D Kahneman, O Sibony and CR Sunstein, *Noise* cit. 89.

<sup>33</sup> S Danziger, J Levav, and L Avnaim-Pesso, ‘Extraneous Factors in Judicial Decision’ (2011) *Proceedings of the National Academy of Sciences of the United States of America* 6889.

<sup>34</sup> O Eren and N Mocan, ‘Emotional Judges and Unlucky Juvenile’ (2018) *American Economic Journal* 171.

<sup>35</sup> A Heyes and S Saberian, ‘Temperature and Decisions: Evidence from 207,000 Court Cases’ (2019) *American Economic Journal* 238.

<sup>36</sup> CR Sunstein, ‘Governing by Algorithms?’ cit. 1183.

<sup>37</sup> D Kahneman, O Sibony and CR Sunstein, *Noise* cit. 7.

<sup>38</sup> CR Sunstein, ‘Governing by Algorithms’ cit. 1184.

configuration displays significant noise not because of a “general difference in the level of severity” between A and B, and C and D, but because of a “difference in their respective patterns of severity and leniency”.<sup>39</sup>

### II.3. BIAS AND NOISE IN COMPETITION LAW PROCEDURE

In the context of competition law proceedings, the question is whether there is room for noise and biases among competition authorities and, if so, at what stages of the procedure. In this regard, it should be borne in mind that the EC’s notice on best practices highlights that “all cases, irrespective of their origin, are subject to an initial assessment phase” during which “the Commission examines whether the case merits further investigation”.<sup>40</sup> In *Automec*, the EU General Court confirmed that the EC is entitled to give different priority degrees to complaints received.<sup>41</sup> The EC is therefore free to focus its resources “on areas where they make a significant contribution to the enforcement of Articles [101] and [102 TFEU]”.<sup>42</sup> Human biases and noise enter since this initial stage. It has indeed been suggested (albeit in environmental law enforcement and not in competition law) that this prosecutorial discretion in choosing which case to prioritise leads to discrepancies in enforcement.<sup>43</sup>

Furthermore, in the context of EU competition law proceedings, there is a longstanding debate related to an alleged *prosecutorial bias* on the part of the EC. It has been shown that there is a risk of prosecution bias when “staff members who might have spent years gathering information about the anti-competitive practices of the defendants” are suddenly “requested to act as prosecutors”.<sup>44</sup> At a later stage of the proceedings, those in charge also have to exercise adjudicative powers. Eva Lachnit explains “investigatory teams that have dedicated months to finding enough evidence to support an infringement might suffer from the dreaded ‘tunnel vision’, which could cause them to adopt an unfair or biased decision”.<sup>45</sup> The point is apt. The fact that EU law confers on it both investigative and decision-making powers raises the spectre of a biased investigation favouring information concluding to a collusive behaviour (*confirmation bias*) and discarding the others (*hindsight bias* and

<sup>39</sup> *Ibid.* (emphasis omitted).

<sup>40</sup> Commission notice on best practices for the conduct of proceedings concerning arts 101 and 102 TFEU [2011].

<sup>41</sup> Case T-24/90 *Automec Srl v Commission of the European Communities* ECLI:EU:T:1999:97 para. 85.

<sup>42</sup> Commission Staff Working Paper SEC(2009) 574 of 29 April 2009 accompanying the Communication from the Commission to the European Parliament and Council: Report on the Functioning of Regulation 1/2003 (COM (2009) 206 final), 13.

<sup>43</sup> DM Uhlmann, ‘Prosecutorial Discretion and Environmental Crime’ (2014) *HarvEnvtlRev* 159; JC Cochran, MJ Lynch, EL Toman and RT Shields, ‘Court Sentencing Patterns for Environmental Crimes: Is There a “Green” Gap in Punishment’ (2018) *Journal of Quantitative Criminology* 37.

<sup>44</sup> C Teleki, *Due Process and Fair Trial in EU Competition Law* cit. 264.

<sup>45</sup> E Lachnit, *Alternative Enforcement of Competition Law* (Eleven International Publishing 2016) 88.

*diagnosis momentum*).<sup>46</sup> This bias is driven by the EC officials' tendency "to push through what they perceived to be 'their' case" and explains why "arguments put forward by the parties often appear to fall on deaf ears".<sup>47</sup> This is quite natural as the same team that "so far cumulated investigative and prosecutorial powers" has also to "exercise adjudicative powers".<sup>48</sup> This *commitment bias* creates a momentum favouring the adoption of the decision. In that vein, the prosecutorial bias also triggers a *policy bias*, namely the willingness to demonstrate a high level of enforcement "in order to keep up the statistics".<sup>49</sup> There is therefore the risk of pursuing notwithstanding evidence of non-collusion or inflating fines because "promotions flow from taking decisions, and not from not taking decisions".<sup>50</sup>

### III. THE PROMISES: DEBIASING, ACCELERATING, PRIORITISING

Daniel Kahneman, Olivier Sibony and Cass Sunstein proposed to solve these noise and cognitive biases with "mechanical prediction [...] and judgement".<sup>51</sup> An AI system is, by its very nature, silent and not noisy (*i.e.*, it offers the same recommendation notwithstanding, *e.g.*, the weather, local news, or personal preferences).<sup>52</sup> Similarly, an AI system might constitute a technological fix to cognitive biases as it relies on statistics and, therefore, is immune to them (*i.e.*, still by its very nature, an AI will not, *e.g.*, stop searching once the first plausible explanation is found).<sup>53</sup>

Andreas van Bonin and Sharon Malhi suggested a way to operationalise Kahneman, Sibony and Sunstein's solution in competition law at the initial assessment phase: using AI system to help EC officials open the right investigation.<sup>54</sup> By processing data quicker and more efficiently, AI systems identify sooner market deficiencies that help EC's official to focus on "right" investigations, and reversely to drop the others.<sup>55</sup> This selection, recommended by an algorithm, is supposed to be more rational than the one made by a (arguably) biased and noisy human public officer.

<sup>46</sup> WPJ Wils, 'The Combination of the Investigative and Prosecutorial Function and the Adjudicative Function in EC Antitrust Enforcement' cit.

<sup>47</sup> *Ibid.* 216.

<sup>48</sup> C Teleki, *Due Process and Fair Trial in EU Competition Law* cit. 266.

<sup>49</sup> WPJ Wils, 'The Combination of the Investigative and Prosecutorial Function and the Adjudicative Function in EC Antitrust Enforcement' cit.

<sup>50</sup> IS Forrester, 'From Regulation 17/62 to Article 52 of the Charter of Fundamental Rights' in U Bernitz, X Groussot and F Schulyok (eds), *General Principles of EU Law and European Private Law* (Kluwer Law International 2013) 353.

<sup>51</sup> D Kahneman, O Sibony and CR Sunstein, *Noise* cit. 113.

<sup>52</sup> CR Sunstein, 'Governing by Algorithms?' cit. 1185.

<sup>53</sup> *Ibid.* 1888.

<sup>54</sup> A von Bonin and S Malhi, 'The Use of Artificial Intelligence in the Future of Competition Law Enforcement' cit. 469.

<sup>55</sup> *Ibid.*

One tool to operate such prioritisation is AI-driven cartel screening.<sup>56</sup> According to Jean Tirole, there exists “conventional wisdom on collusion” that permits the identification of “factors that are supposed to hinder or facilitate” anticompetitive behaviours.<sup>57</sup> These factors – known as trust or cartel-facilitating devices – may either be structural (*i.e.*, what is the market structure that increases the probability of cartelisation) or behavioural (*i.e.*, what are the methods and collusive outcomes of cartelisation).<sup>58</sup>

It is of the utmost importance to keep in mind that screening does not prove collusion but anomaly with the competitive model.<sup>59</sup> As such, a screen is solely “statistical evidence” that identifies a *potential* violation.<sup>60</sup> This is why screening might be very useful to answer whether a particular case brought to the attention of the competition authority is worthy of further investigation (*e.g.*, worthy of a dawn raid),<sup>61</sup> that is, the second step of antitrust enforcement that aims at verifying the red flag raised during screening.<sup>62</sup> The third step, enforcement, will occur if the investigation excludes competition as an explanation for the spotted behaviour.<sup>63</sup>

Numerous empirical studies prove both econometric and algorithmic screening works.<sup>64</sup> In addition, if screening predates AI, it has been demonstrated that its accuracy increases when it is powered-up with AI.<sup>65</sup> AI-driven cartel screening may therefore assist

<sup>56</sup> M Huber and D Imhof, ‘Machine Learning with Screens for Detecting Bid-Rigging Cartels’ (2019) *International Journal of Industrial Organization* 277.

<sup>57</sup> J Tirole, *The Theory of Industrial Organisation* (The MIT press 1994, 7<sup>th</sup> edn) 239.

<sup>58</sup> CR Leslie, ‘Trust, Distrust, and Antitrust’ (2004) *Texas Law Review* 515, 519 and 564.

<sup>59</sup> RM Abrantes-Metz, M Kraten, AD Metz, and GS Seow, ‘Libor Manipulation?’ (2012) *Journal of Banking & Finance* 136, 138.

<sup>60</sup> JM Ortner, S Chassang, K Kawai and J Nakabayashi, ‘Screening Adaptive Cartels’ (NBER Working Paper 30219-2022) [www.nber.org](http://www.nber.org); A Sanchez-Graells, ‘“Screening for Cartels” in Public Procurement: Cheating at Solitaire to Sell Fool’s Gold?’ (2019) *Journal of European Competition Law & Practice* 199.

<sup>61</sup> RM Abrantes-Metz, ‘Recent Successes of Screens for Conspiracies and Manipulations: Why Are there still Sceptics?’ (2014) *CPI Antitrust Chronicle* 1, 7. RM Abrantes-Metz and DD Sokol, ‘The Lessons from Libor for Detection and Deterrence of Cartel Wrongdoing’ (2012) *Harvard Business Law Review Online* 10, 11; D Sama, ‘Cartel Detection and Collusion Screening: An Empirical Analysis of the London Metal Exchange’ in M Kovac and A-S Vandenberghe (eds), *Economic Evidence in EU Competition Law* (Intersentia 2016) 204.

<sup>62</sup> JE Harrington, Jr, ‘Detecting Cartels’ in P Buccrossi (ed.), *Handbook of Antitrust Economics* (The MIT Press 2008) 215.

<sup>63</sup> *Ibid.*

<sup>64</sup> Y Bolotova, JM Connor and DJ Miller, ‘The Impact of Collusion on Price Behavior: Empirical Results from Two Recent Cases’ (2008) *International Journal of Industrial Organization* 1290; T Schrepel and T Groza, ‘The Adoption of Computational Antitrust by Agencies: 2021 Report’ (2022) *Stanford Computational Antitrust* 78.

<sup>65</sup> M Huber and D Imhof, ‘Machine Learning with Screens for Detecting Bid-Rigging Cartels’ *cit.*; G Mas-sarotto and A Ittoo, ‘Gleaning Insight from Antitrust Cases Using Machine Learning’ (2021) *Stanford Computational Antitrust*; D Silveira, S Vasconcelos, M Resende and DO Cajueiro, ‘Won’t Get Fooled Again: A Supervised Machine Learning Approach for Screening Gasoline Cartels’ (2022) *Energy Economics* 105711.

“antitrust regulators to better pinpoint potential legal violations”.<sup>66</sup> Albeit some commentators heralded this technology as “a new beacon of hope”,<sup>67</sup> others remain sceptical.<sup>68</sup> Without discarding its usefulness, it has to be acknowledged that screening faces at least three drawbacks. These are the topic of the next section.

#### IV. THE PITFALLS: BIASING AGAIN

The first drawback of AI-driven cartel screening is a data challenge. As an algorithm, AI-driven cartel screening is silent (*i.e.*, not affected by noise) but not necessarily bias-free.<sup>69</sup> AI-driven cartel screening is a data-dependent solution that is therefore impacted by problems in the availability<sup>70</sup> and quality<sup>71</sup> of the data it relies on. This may be summarized in two idioms: without data, no prediction; without quality data, bad prediction.<sup>72</sup> In this regard, it should be borne in mind that the AI-driven cartel screening training data will be subject to a selection bias.<sup>73</sup> The training dataset will be composed of *discovered* anticompetitive behaviour.<sup>74</sup> However, there is no evidence that this sample is statistically representative of the entire population of cartel.<sup>75</sup> In addition, the selection bias might also come from policy objectives as the EC is free to focus “on cases with the most significant impact on the functioning of competition in the internal market and risk of consumer harm”.<sup>76</sup> Shortly after the entry into force of Regulation 1/2003, the EC started

<sup>66</sup> C Coglianesse and A Lai, ‘Antitrust by Algorithms’ cit. 8. AJ Casey and A Niblett, ‘Micro-Directives and Computational Merger Review’ (2021) *Stanford Computational Antitrust* 132, 133.

<sup>67</sup> N Köbis, C Starke and I Rahwan, ‘The Promise and Perils of Using Artificial Intelligence to Fight Corruption’ (2022) *Nature Machine Intelligence* 418.

<sup>68</sup> RM Abrantes-Metz, ‘Recent Successes of Screens for Conspiracies and Manipulations’ cit. 7; T Schrepel, ‘Computational Antitrust: An Introduction and Research Agenda’ (2021) *Stanford Computational Antitrust* 1, 2.

<sup>69</sup> D Kahneman, O Sibony and CR Sunstein, *Noise* cit. 334-335.

<sup>70</sup> A Sanchez-Graells, ‘Procurement Corruption and Artificial Intelligence: Between the Potential of Enabling Data Architectures and the Constraints of Due Process Requirements’ (2021) *papers.ssrn.com*.

<sup>71</sup> A Sanchez-Graells, ‘Data-Driven and Digital Procurement Governance: Revisiting Two Well-Known Elephant Tales’ (2019) *Communications Laws* 157.

<sup>72</sup> RM Abrantes-Metz and DD Sokol, ‘The Lessons from Libor for Detection and Deterrence of Cartel Wrongdoing’ cit. 11.

<sup>73</sup> For the record, it should be borne in mind that this “selection bias” is not a cognitive bias as discussed in section II.1. As is argued in the present part, selection bias suggests that the training set of the algorithm might be biased, that is, might not be representative of the targeted population (*i.e.*, discovered cartels might not be representative of the population of cartels).

<sup>74</sup> JE Harrington, Jr. and M-H Chang, ‘Modeling the Birth and Death of Cartel with an Application to Evaluating Competition Policy’ (2009) *Journal of the European Economic Association* 1400.

<sup>75</sup> JE Harrington, Jr. and Y Wei, ‘What Can the Duration of Discovered Cartels Tell Us About the Duration of All Cartels?’ (2017) *The Economic Journal* 1977.

<sup>76</sup> Commission notice on best practices for the conduct of proceedings concerning Articles 101 and 102 TFEU cit. 13.

an investigation to pinpoint “sectors for priority action”.<sup>77</sup> All this suggests that the EC might be characterised by “some kind of selective bias, as when certain [sectors] are treated with excessive stringency, and other with excessive leniency”.<sup>78</sup>

The second is an algorithmic challenge. Some AI systems are opaque. That opacity has a twofold origin. On the one hand, it may be due to public officers’ illiteracy (*i.e.*, they do not have the required knowledge to understand the AI system).<sup>79</sup> On the other hand, the opacity may be intrinsic to the AI system (*i.e.*, the so-called black box problem),<sup>80</sup> that is, where neither the systems’ parameters nor their weight nor interactions are known.<sup>81</sup> In any case, this opacity infringes the principle of good administration and the duty to state reasons.<sup>82</sup> According to that principle, whose *raison d’être* is to protect against arbitrariness by making an effective judicial review possible,<sup>83</sup> any administrative decision has to explain facts of the case, relevant law *in casu* and the fact-to-law leap.<sup>84</sup> In the context of AI-driven cartel screening, fulfilling this obligation may be difficult. As hinted above, screening highlights red flags that then trigger the need for further investigation, for example, dawn raid. According to the ECJ, a dawn raid is legal if the EC has “information and evidence providing reasonable grounds for suspecting infringement of the competition rules by the undertaking concerned”.<sup>85</sup> If the EC does not comply with this requirement, the decision authorising the dawn raid is annulled.<sup>86</sup> The upshot is this. The EC cannot rely on evidence collected during the illegal dawn raid. The question is therefore whether cartel screening provides such reasonable grounds. There is room for

<sup>77</sup> Report on the Functioning of Regulation 1/2003 cit. 15-16.

<sup>78</sup> CR Sunstein, ‘Governing by Algorithms?’ cit. 1182 (discussing successively the adjudicative system and administrative prosecutors).

<sup>79</sup> M Fink and M Finck, ‘Reasoned A(l)ministration: Explanation Requirements in EU Law and the Automation of Public Administration’ (2022) ELR 376, 383.

<sup>80</sup> F Pasquale, ‘Restoring Transparency to Automated Authority’ (2011) *Journal on Telecommunications & High Technology Law* 235; F Pasquale, *The Black Box Society: The Secret Algorithms That Control Money and Information* (Harvard University Press 2016); HP Olsen, JL Slosser and TT Hildebrandt, ‘What’s in the Box? The Legal Requirement of Explainability in Computationally Aided Decision-Making in Public Administration’ in H-W Micklitz, O Pollicino, A Reichman, A Simoncini, G Sartor and G De Gregorio (eds), *Constitutional Challenges in the Algorithmic Society* (Cambridge University Press 2022).

<sup>81</sup> C Coglianese and D Lehr, ‘Regulating by Robot: Administrative Decision Making in the Machine Learning Era’ (2017) *Georgetown Law Review* 1147, 1167.

<sup>82</sup> “Every person has the right to have his or her affairs handled impartially, fairly and within a reasonable time by the institutions and bodies of the Union. This right includes [...] the obligation of the administration to give reasons for its decisions”. Charter of Fundamental Rights of the European Union [2012] art. 41(1) and (2)(c).

<sup>83</sup> HP Nehl, ‘Good Administration as Procedural Right and/or General Principle?’ in HCH Hofmann and AH Türk (eds), *Legal Challenges in EU Administrative Law: Towards an Integrated Administration* (Edward Elgar 2009).

<sup>84</sup> M Fink and M Finck, ‘Reasoned A(l)ministration’ cit. 383.

<sup>85</sup> Case C-94/00 *Roquette Frères* ECLI:EU:C:2002:603 para. 61; case T-340/04 *France Télécom SA v Commission of the European Communities* ECLI:EU:T:2007:81 para. 53.

<sup>86</sup> Case C-583/13 P *Deutsche Bahn AG and Others v European Commission* ECLI:EU:C:2015:404.

doubt. In *HeidelbergCement*, the ECJ annulled a request for information<sup>87</sup> because its statement of reasons was “excessively succinct, vague and generic – and in some respects, ambiguous”.<sup>88</sup> As such, a decision authorising a dawn raid whose only ground is screening might not pass the ECJ reasonableness test. A ground such as “the AI system said so”<sup>89</sup> will definitely be qualified as, in the words of the ECJ, “excessively succinct, vague and generic”.<sup>90</sup> A mere reference to the AI system’s recommendation cannot fulfil the duty to state reasons as its opacity (either due to illiteracy or because the system is a black box) does not allow an effective judicial review of the administrative decision and hence infringes the right of the defence.<sup>91</sup>

All this leads to the third challenge. The principle of good administration and the duty to state reasons require an explanation of the AI system *and* of the influence that system has on human decision-making.<sup>92</sup> To put it differently, the statement for reason requires an explanation of how a public servant weighted the algorithmic recommendation in the decision-making. This might be a problem. AI-driven cartel screening is an “interactive computing system designed to change people’s attitudes”,<sup>93</sup> that is, an AI system that solely *recommends* to open or discard an investigation. Karen Yeung labels such system “recommender system”.<sup>94</sup> This means that, in theory, the public officer is the one in charge. Yet, recommender systems should not be underestimated. They render “the exercise of discretion costlier”<sup>95</sup> as deciding otherwise than the recommendation would require a well-written reasoned decision while following that recommendation eases the statement of reasons. It has been hypothesised the algorithmic recommendation will be more often followed than rejected, if only because the public officer is (legitimately) afraid of making a mistake as an AI system is, statistically,<sup>96</sup> more often right than wrong.<sup>97</sup> All

<sup>87</sup> Pursuant art. 18(3) of Regulation 1/2003. However, the conclusion of *HeidelbergCement* can be extended to dawn raid. On this, see H Andersson, *Dawn Raids Under Challenge: Due Process Aspects on the European Commission’s Dawn Raid Practices* (Hart Publishing 2018) 86.

<sup>88</sup> Case C-247/14 P *HeidelbergCement AG v European Commission* ECLI:EU:C:2016:149 para. 39.

<sup>89</sup> M Fink and M Finck, ‘Reasoned A(l)dmistration’ cit. 385.

<sup>90</sup> *HeidelbergCement* cit. para. 39.

<sup>91</sup> Case C-230/18 Pl v *Landespolizidirektion Tirol* ECLI:EU:C:2019:383 para. 57.

<sup>92</sup> M Busuioc, ‘Accountable Artificial Intelligence; Holding Algorithms to Account’ (2022) *Public Administration Review* 825, 832.

<sup>93</sup> BJ Fogg, *Persuasive Technology: Using Computers to Change What We Think and Do* (Elsevier 2003).

<sup>94</sup> K Yeung, ‘Algorithmic Regulation: A Critical Interrogation’ (2018) *Regulation & Governance* 505 (labelling such system “recommender systems” at 516).

<sup>95</sup> N Petit, ‘Artificial Intelligence and Automated Law Enforcement: A Review Paper’ (21 March 2018) papers.ssrn.com. For the usefulness of administrative discretion, see S Ranchordas, ‘Empathy in the Digital Administrative State’ cit.

<sup>96</sup> H Wallimann, D Imhof and M Huber, ‘A Machine Learning Approach for Flagging Incomplete Bid-Rigging Cartels’ (2022) *Computational Economics* 1669.

<sup>97</sup> D Keats Citron, ‘Technological Due Process’ (2008) *Washington University Law* 1249, 1254.

this is known as the *automation bias* (or “algorithmic dumbfounding”<sup>98</sup>), that is the irrational tendency to rely on automated decision even when the operator suspect malfunction.<sup>99</sup> This bias leads to complacency on the part of officials who then fall “asleep at the wheel” by mindlessly following the recommendation “without engaging in a substantive analysis of their (perceived) correctness in the specific instance”.<sup>100</sup> As such, the automation bias is the digital update of search satisfying, anchoring, and confirmation biases hinted above. Red flags constitute the first plausible explanation coming from a kind of “superior authority” (diagnosis momentum), algorithms having the “traditional reputation of being intelligent and fair, making them seem credible sources of information and advice”.<sup>101</sup> Officials will therefore be tempted to cease the scrutiny (search satisfaction). Even if further investigation were to be conducted, the recommendation would serve as an anchor as any new information gathered would be interpreted as strengthening the preconceived opinion (anchoring and confirmation biases). As a result, the automation bias carries the risk of human discretion being abdicated to artificial discretion.<sup>102</sup>

<sup>98</sup> N Köbis, J-F Bonnefon and I Rahwan, ‘Bad Machines Corrupt Good Morals’ (2021) *Nature Human Behavior* 679.

<sup>99</sup> R Parasuraman and V Riley ‘Humans and Automation: Use, Misuse, Disuse, Abuse’ (1997) *Human Factors* 230; K Mosier, M Dunbar, L McDonnell, LJ Skikta, M Burdick and B Rosenblatt, ‘Automation Bias and Errors: Are Teams Better than Individuals?’ (1998) *Proceedings of the Human Factors and Ergonomics Society Annual Meeting 201*; LJ Skikta, KL Mosier and MD Burdick, ‘Does Automation Bias Decision-Making?’ (1999) *International Journal of Human-Computer Studies* 991; LJ Skikta, KL Mosier and MD Burdick, ‘Accountability and Automation Bias’ cit.; LJ Skikta, KL Mosier, M Burdick and B Rosenblatt, ‘Automation Bias and Errors: Are Crews Better than Individuals?’ (2000) *The International Journal of Aviation Psychology* 85; K Mosier, LJ Skikta, M Dunbar and L McDonnell, ‘Aircrews and Automation Bias: The Advantages of Teamwork?’ (2001) *The International Journal of Aviation Psychology* 1; SR Dixon and CD Wickens, ‘Automation Reliability in Unmanned Aerial Vehicle Flight Control: A Reliance Compliance Model of Automation Dependence in High Workload’ (2006) *Human Factors* 474; ML Cummings, ‘Automation and Accountability in Decision Support System Interface Design’ (2006) *The Journal of Technology Studies* 23; SR Dixon, CD Wickens and JS McCarley, ‘On the Independence of Compliance and Reliance: Are Automation False Alarms Worse than Misses?’ (2007) *Human Factors* 564; R Parasuraman and D Manzey, ‘Complacency and Bias in Human Use of Automation: An Attentional Integration’ (2010) *Human Factors* 381; K Goddard, A Roudsari and JC Wyatt, ‘Automation Bias: A Systemic Review of Frequency, Effect Mediators, and Mitigators’ (2012) *Journal of the American Medical Informatics Association* 121; CD Wickens, BA Clegg, AZ Vieane and AL Sebok, ‘Complacency and Automation Bias in the Use of Imperfect Automation’ (2015) *Human Factors and Ergonomics Society* 728; D Lyell and E Coiera, ‘Automation Bias and Verification Complexity: A Systematic Review’ (2017) *Journal of the American Medical Informatics Association* 423; S Alon-Barkat and M Busuioc, ‘Human-AI Interactions in Public Sector Decision Making: “Automation Bias” and “Selective Adherence” to Algorithmic Advice’ (2022) *Journal of Public Administration Research and Theory* 153.

<sup>100</sup> A Sanchez-Graells, ‘Procurement Corruption and Artificial Intelligence’ cit.; CD Wickens, BA Clegg, A Z Vieane and AL Sebok, ‘Complacency and Automation Bias in the Use of Imperfect Automation’ cit. 728.

<sup>101</sup> B Fogg, *Persuasive Technology* cit.

<sup>102</sup> P Busch and H Henriksen, ‘Digital Discretion: A Systematic Literature Review of ICT and Street-Level Discretion’ (2018) *Information Polity* 3; R Peeters, ‘The Agency of Algorithms: Understanding Human-Algorithm Interaction in Administrative Decision-Making’ (2020) *Information Polity* 507; M Busuioc, ‘Accountable

## V. THE NEED FOR A FOUR-EYES PRINCIPLE

To sum up the argument so far, any human decision depends on the decisionmaker's bounded rationality. This means heuristics, preferences, tastes, ideology, and noises shape human judgement.<sup>103</sup> As a result, human decision-making is a "black box", defined by father of cybernetics Norbert Wiener as inaccessible internal structure.<sup>104</sup> The same goes for administration. Michel Callon and Bruno Latour demonstrated that any administration is a flowchart of black boxes linked to one another.<sup>105</sup> To mitigate noise and cognitive biases, some have proposed to algorithmicise decision-making. Theoretically, this should increase procedural fairness. The problem is that algorithms are, potentially, biased black boxes, too. More critical, that administration will solely use recommender systems and keep human-in-the-loop is akin to a sophism as automation bias – again, a cognitive bias – raises the risk of complacency towards the algorithmic recommendation. It is therefore back to square one: the impact of AI systems on procedural fairness is far from clear. As a result, the use of AI systems in competition law procedure "may seem a novelty, and technology may have changed, but basic human nature and institutional practice have not".<sup>106</sup> Ryan Calo and Danielle Keats Citron have summarised this quite elegantly: "Automation has not been as clear a win for governmental efficiency and fairness as administrators had hoped and as vendors have claimed. It has not eliminated bias but rather traded the possibility of human bias for the guarantee of systemic bias. Prior failures have not informed present efforts. Instead, problems have multiplied, diversified, and ossified".<sup>107</sup>

The good news is, the issue of automation bias has been forecasted by the EU legislator. The AI Act requires that any human overseer has to "remain aware of the possible tendency of automatically relying or over-relying on the output produced by a high-risk AI system ('automation bias'), in particular for high-risk AI systems used to provide information or recommendations for decisions to be taken by natural persons" (art. 14(4)(b)

Artificial Intelligence' cit.; N de Boer and N Raaphorst, 'Automation and Discretion: Explaining the Effect of Automation on How Street-Level Bureaucrats Enforce' (2021) *Public Management Review* 46.

<sup>103</sup> JG March, 'Bounded Rationality, Ambiguity, and the Engineering of Choice' in DE Bell, H Raiffa and A Tversky (eds), *Decision Making: Descriptive, Normative, and Prescriptive Interactions* (Cambridge University Press 1988) 33.

<sup>104</sup> N Wiener, *God and Golem, Inc.: A Comment on Certain Points where Cybernetics Impinges on Religion* (The MIT Press 1964) 42.

<sup>105</sup> M Callon and B Latour, 'Le grand Léviathan s'apprivoise-t-il?' in M Akrich, M Callon and B Latour (eds), *Sociologie de la traduction: Textes fondateurs* (Presses des Mines 2006) 5, 16.

<sup>106</sup> DL Burk, 'Algorithmic Fair Use' (2019) *UChiLRev* 283, 306.

<sup>107</sup> R Calo and DK Citron, 'The Automated Administrative State: A Crisis of Legitimacy' (2021) *Emory Law Journal* 797, 819.

AI Act).<sup>108</sup> This avowed reference to the automation bias is a call for effective human oversight. In a nutshell, the ambition is to prevent AI systems to “become the primary decision makers” that “take human decision making out of the process”<sup>109</sup> or relegate public officers to a role of “mindless rubberstamping of AI-generated proposed decisions”.<sup>110</sup>

The bad news is, it has been convincingly argued that merely requiring users to be “aware of the potential for automation bias” is an insufficient safeguard against this bias.<sup>111</sup> More than the awareness of that bias, it is the absence of overreliance that has to be proved.<sup>112</sup> A four-eyes principle is a way to do so.<sup>113</sup> This may be defined as any solution that mandates A to approve both the decision and statement of reasons of B.<sup>114</sup> This is not alien to competition law. For instance, both the Belgian and French National Competition Authorities are already separating investigation from fining.

In France, the Investigation Service (*le Service d’Instruction*) is independent from the Board (*le Collège*), that is, the decision-making department.<sup>115</sup> It is the Investigation Service that is in charge of deciding whether or not to open an investigation and, if so, of gathering evidence. It then sends a statement of objection (*notification des griefs*) to the concerned undertakings that then have the right to study the case. Then, the Investigation Service writes the report and sends it to the undertakings which have the possibility to answer. Then, the Investigation Service drafts the final report and sends it to the Board, which takes the final decision after having reviewed the case and heard the undertakings.

The structure and procedure are mostly similar in Belgium. Since 2013, the Belgian Competition Authority largely separates investigation (*l’Auditorat* in French; *Auditoraat* in Dutch) and fining (*le Collège de la concurrence* in French; *de Mededingings-college* in Dutch) within one single institution.<sup>116</sup> The *Auditor(a)t* decides whether or not to open an investigation. When the conclusion of the investigation is that there is actually a competition

<sup>108</sup> Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act).

<sup>109</sup> DK Citron, ‘Technological Due Process’ cit. 1252.

<sup>110</sup> A Sanchez-Graells, ‘Procurement Corruption and Artificial Intelligence’ cit.

<sup>111</sup> N Smuha, E Ahmed-Rengers, A Harkens, W Li, J MacLaren, R Piselli and K Yeung, ‘How the EU can Achieve Legally Trustworthy AI: A Response to the European Commission’s Proposal for an Artificial Intelligence Act’ (5 August 2021) dx.doi.org.

<sup>112</sup> *Ibid.*

<sup>113</sup> J De Cooman, ‘Outsmarting Pac-Man with Artificial Intelligence, or Why AI-Driven Cartel Screening is not a Silver Bullet’ (2023) *Journal of European Competition Law & Practice* 186.

<sup>114</sup> M Fink and M Finck, ‘Reasoned A(I)dmistration’ cit. 387 n. 69.

<sup>115</sup> Loi de modernisation de l’économie n° 2008-776 du 4 août 2008; Ordonnance n° 2008-1161 du 13 novembre 2008.

<sup>116</sup> D Vandermeersch, ‘De mededingingsregels en hun handhaving: de hervorming van 2013’ in A Tallon (ed.), *Le Nouveau Code de droit économique – Het Nieuwe Wetboek van Economisch Recht* (Larcier 2014) 53-54.

law infringement, the *Auditora(a)t* drafts a decision that contains a statement of reasons and sends that decision to the concerned undertakings and to the *College*. Since that moment, the *Auditora(a)t* hands over the case to the *College*, which will decide whether or not sanction the undertakings at stake. The *College* states the reasons of its decision either by reference to those proposed in the decision drafted by the *Auditora(a)t*, or, where appropriate, with additional or different reasons.<sup>117</sup> Interestingly, the *College* held that it solely intends “to check the material accuracy, consistency, completeness and reliability of the data put forward by the auditor”.<sup>118</sup>

The French and Belgian strict distinction between investigation and prosecution enhances procedural fairness<sup>119</sup> and is therefore “stronger than the ‘all in one’ EC-like set-up”.<sup>120</sup> This bicephalic structure improves internal independence and prevents the Competition Authority to become “the ‘judge, jury, and executioner’ of its own cases”.<sup>121</sup> This unbias decision-making.<sup>122</sup> In short, the separation of investigation and decision-making functions as well as their allocation to different units of the competition authority solves the dreaded tunnel vision previously mentioned.

Going back to AI-driven cartel screening, the point is this: if AI raises a similar issue, it calls for a similar solution. More concretely, if the separation of investigation and decision-making within competition authority mitigates the commitment bias, then an independent team should check the use of AI-driven cartel screening during the investigation phase to ensure there was no overreliance towards the algorithmic recommendation. This would ensure an effective human oversight embryonically required in art. 14(4)(b) of the AI Act. It will be easy to operationalise such solution in bicephalic competition authorities. The use of AI-driven cartel screening by the investigation department (either the French *Service d’Instruction* or the Belgian *Auditora(a)t*) will be under the scrutiny of the decision-making department (the Belgian or French *College*). Although this will prolong the proceedings duration, that extra time will be wisely spent if this prevents any challenge of decisions taken during the investigation phase (e.g., the annulment of the decision that authorised a dawn raid). However, the four-eyes principle will be more difficult to adapt to the unitarian structure of authorities like the EC that do not separate investigation from fining. It is well-known that public officers, a fortiori if they combine investigative and decision-making powers, “have a stake in maintaining their reputations and

<sup>117</sup> N Neyrinck, *Manuel de droit belge de la concurrence. Les pratiques restrictives de concurrence* (Larcier 2021) 528.

<sup>118</sup> ABC, Collège de la concurrence, Déc. N0ABC-2014-I/O-15 du 18 juillet 2014, aff. CONC-I/O-09-0015: Marché de gros de l’électricité, p. 10 (free translation).

<sup>119</sup> B Lasserre, ‘The New French Competition Law Enforcement Regime’ (2009) *Competition Law International* 15.

<sup>120</sup> W Devroe, B Van den Bosch and F Van den Bogaert, ‘Antitrust Enforcement in Belgium’ in T Toth (ed.), *The Cambridge Handbook of Competition Law Sanctions* (Cambridge University Press 2022) 328.

<sup>121</sup> E Lachnit, *Alternative Enforcement of Competition Law* cit. 42.

<sup>122</sup> *Ibid.* 87.

therefore opposing any second look at their decision-making process".<sup>123</sup> One should therefore expect a non-negligible amount of resistance to change from a unitarian to a bicephalic structure. Yet, this is not a dead-end. Rather than candidly recommending to institutionally split DG Competition – one must remain realist and note that the probability the Commission decides to change its mode of competition law enforcement is not likely, it is argued an extension of the Hearing Officer's role might achieve the same results.<sup>124</sup>

Historically, the position of hearing officer was created because, before 1982, "defendants did not have access to the whole of the Commission's file, and oral hearings were generally presided over by the director in charge of the case".<sup>125</sup> The deficiency of that procedure "certainly fuelled the concern that the Commission, in all unfairness, combined the function of judge, jury, and prosecutor".<sup>126</sup> To address this issue, the Commission created the post of Hearing Officer with the objective of reinforcing the objectivity of oral hearings.<sup>127</sup> In 1994, the Hearing Officer acquires decision-making powers for deadlines to respond to a Statement of Objections, dispute on access to file, and issues related to business secrets. Once again, the underlying idea was that "the objectivity of the proceedings would be better served if decisions as regards access to file and deadlines were taken by an official independent from the team investigating the case".<sup>128</sup> To reinforce that independence, the Hearing Officer was (administratively) attached to the Commissioner for Competition in 2001. Concurrently, it was tasked to control the objectivity of the market testing of commitments proposed by concerned undertakings.<sup>129</sup> Finally, in 2011, the Hearing Officer was heralded by the President of the Commission as the one who "shall safeguard the effective exercise of procedural rights which arise in the context of the exercise of the Commission's powers of investigation under Chapter V of Regulation (EC) No 1/2003".<sup>130</sup> In other words, the Hearing Officer is, since 2011, the person in charge of safeguarding procedural rights in the investigation phase.

<sup>123</sup> RE Barkow, 'Prosecutorial Administration: Prosecutor Bias and the Department of Justice' (2013) *ValRev* 271, 313.

<sup>124</sup> See, by analogy, T Calvani and J Leahy, 'A Larger Role for the Hearing Officer: A Modest Proposal' (2018) *Journal of Antitrust Enforcement* 213.

<sup>125</sup> M Albers and J Jourdan, 'The Role of Hearing Officers in EU Competition Proceedings: A Historical and Practical Perspective' (2011) *Journal of European Competition Law & Practice* 185, 186.

<sup>126</sup> *Ibid.*

<sup>127</sup> M Van Der Woude, 'Hearing Officers and EC Antitrust Procedures: The Art of Making Subjective Procedure More Objective' (1996) *CMLRev* 531.

<sup>128</sup> M Albers and J Jourdan, 'The Role of Hearing Officers in EU Competition Proceedings' cit. 187.

<sup>129</sup> For more on the power of the Hearing Officer, see e.g., WPJ Wils, 'The Role of the Hearing Officer in Competition Proceedings before the European Commission' (2012) *World Competition* 341.

<sup>130</sup> Art. 4(1) *in limine* of the Decision of the President of the European Commission of 13 October 2011 on the function and terms of reference of the hearing officer in certain competition proceedings.

Two elements can be deduced from this short historical review of the evolution of the Hearing Officer's powers. First, its main role is to ensure that the right to be heard has been duly respected in competition proceedings (hence its name, *Hearing Officer*). Second, the Hearing Officer is an institutional response to the combination of investigative and adjudicatory powers in the hands of the Commission. The more the awareness of the importance of procedural fairness, the more the mission and independence of the Hearing Officer were strengthened. Against that backdrop, it was suggested to rename the Hearing Officer the "Procedural Officer" to crystallise the fact that this position is no more solely concerned with the objectivity and effectiveness of the right to be heard, but now more generally with the rights of defence of any procedural dispute.<sup>131</sup> It is therefore unsurprising that an extension of the Hearing Officer's role has regularly been suggested, either through modest changes to its powers (e.g., by strengthening its existing powers),<sup>132</sup> or by granting her new powers (e.g., by allowing the Hearing Officer to control the legality of inspections),<sup>133</sup> or even by paradigmatically transforming this position as an independent quasi-judicial body.<sup>134</sup>

This *Article* is in line with these suggestions. In the context of AI-driven cartel screening, the proposal to extend the Hearing Officer's role to include human oversight of algorithmic recommendations makes sense. This independent public officer is, indeed, the person *already in charge* of ensuring the effective exercise of procedural rights is not infringed, especially in the context of the Commission's power of investigation – including, therefore, dawn raids.<sup>135</sup> To put it differently, both the function of the Hearing Officer and the proposed four-eyes principle share the same rationale: the enhancement of procedural fairness. Upshot? The Hearing Officer is the suitable person to be the human overseer required by art. 14(4)(b) AI Act. All in all, this proposal does not undermine or alter the Commission's unitarian structure combining investigation and decision-making powers. The Commission would still decide which cases to pursue would still make the ultimate decision. However, its decision to order a dawn raid based on algorithmic recommendation would be aided by a more robust human oversight.

<sup>131</sup> Wilmer Hale's reply to the Public Consultation on DG Competition Best Practices on antitrust proceedings and Hearing Officer Guidance Paper, ec.europa.eu cited in M Albers and J Jourdan, 'The Role of Hearing Officers in EU Competition Proceedings' cit. 199.

<sup>132</sup> T Calvani and J Leahy, 'A Larger Role for the Hearing Officer' cit. 227.

<sup>133</sup> A Schulz and P Berghe, 'A New Mandate – Or how to Improve the Role of the Hearing Officers' (2010) Mlex Magazine, cited in M Albers and J Jourdan, 'The Role of Hearing Officers in EU Competition Proceedings' cit. 199.

<sup>134</sup> N Zingales, 'The Hearing Officer in EU Competition Law Proceedings: Ensuring Full Respect for the Right to Be Heard?' (2010) Competition Law Review 129.

<sup>135</sup> Decision of the President of the European Commission of 13 October 2011 on the function and terms of reference of the hearing officer in certain competition proceedings.

## VI. CONCLUSION

To increase substantive fairness in the market, the EC is willing to increase the effectiveness of competition law enforcement. To do so, it is proposed to use AI systems and, more specifically, AI-driven cartel screening. This *Article* has argued that, while they increase effectiveness and substantive fairness, they might also decrease procedural fairness. This seems paradoxical. It is not discarded that AI systems solve the drawbacks raised by noisy and cognitively biased human officers. However, cognitive biases re-enter through the back-door of automation bias. The EU legislator has proposed human oversight as a solution to this challenge. To make this requirement effective, it is suggested that the human overseer should be separated from officers who use AI system. This model draws inspiration from the bicephalic structure of both French and Belgian National Competition Authorities that distinguish investigation from fining. This is, however, not a call for a separation of institutions that follow an all-in-one structure (e.g., the EC). Some public officer might be specifically appointed to play that role (e.g., the EC's hearing officer). With this safeguard, the effectiveness gained from the use of AI systems will increase the substantive dimension of fairness without reducing its procedural one.

Finally, the role and probative value of algorithmic "proof" from an evidence-based perspective remains to be discussed. Future research will need to be twofold. On the one hand, they should consider whether the evidentiary framework developed by the Court in the context of the use of economic and econometric evidence is still relevant against an algorithmic background. On the other hand, they should draw inspiration from the Latourian actor-network theory to better explore, from an institutional point of view, whether and how different teams of a competition authority organised in an unitarian structure interact, and whether and how these interactions (if any) influence decision-making.

