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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 (AI) systems are widely adopted by public administrations. This is unsurprising, given AI systems' promise to address well-documented flaws in human decision-making. Any human decisionmaker is prone to bias, either because one stops searching once the first plausible explanation is found (*search satisfaction*) or because all subsequent information is interpreted to fit that first preconceived opinion (*anchoring* and *confirmation bias*). Public administrations, as they are composed of human beings, are similarly biased. There is a very human tendency to continue an action previously instigated by someone else without considering any new information and changing plan accordingly, especially if that action was initiated by a hierarchical superior (*hindsight bias*). Corollary, a decision-maker sometimes suffers from a dreaded tunnel-vision when the same person combines the role of investigation and prosecution (*prosecutorial bias*). As a result, decision-maker might be unwilling to adopt a decision that contradicts what has been done during the investigation phase (*commitment bias*, or *escalation of commitment*).

AI system are allegedly fairer than public servants, impartial and bias-free. It has been largely demonstrated this is not the case. First, an AI system is as good as its training set. If the latter was biased, so will the recommendation. Second, it has been hypothesised an algorithmic recommendation will be more often followed than rejected because the public officer develops an overreliance towards the AI system which is, statistically, more often right than wrong (*automation bias*). This leads to complacency and rubberstamping on the part of public officials. An algorithmic recommendation is, after all, merely the first plausible explanation that comes from a somehow superior authority – the AI system being allegedly more reliable than human officers (*hindsight bias*). This first plausible explanation will tempt the public servants 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*).

Against that background, this paper argues that both the combination of investigation and prosecution powers and algorithmic recommendation raise the same issue, namely, a biased decision-making. Therefore, this paper calls for a similar solution for algorithmic recommendations to the one developed to mitigate administrative bias. If the distinction between investigation and decision-making within an administration mitigates the confirmation and commitment biases, an independent team should scrutinise the algorithmic recommendation and its use during the investigation phase. This should mitigate the automation bias encountered at the information-gathering phase by assessing the algorithmic recommendation with a fresh set of eyes. To build the argument, the paper discusses the bicephalic organisation of French and Belgian Competition Law Authorities. However, the solution proposed – a four-eyes principle – is transposable to other law enforcement activities.

Keywords:

Cartel Screening; Cognitive Bias; Procedural Fairness; Human Oversight; Competition

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1. Introduction

In a competition law context, effectiveness and fairness are the keywords of the moment. Taking a look at European Commission (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.'[1] 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.'[2] 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.'[3] With this ambition, the EC joined the ranks of other public administrations that

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[1] Keynote of EVP Vestager at the European Competition Law Tuesdays: A Principles Based approach to Competition Policy, October 25, 2022, https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_22_6393 (emphasis added). *See also* Speech by Executive Vice-President Margrethe Vestager at the State Aid High Level Forum of the Member States, November 16, 2020, https://ec.europa.eu/commission/commissioners/2019-2024/vestager/announcements/speech-executive-vice-president-margrethe-vestager-state-aid-high-level-forum-member-states_en, noting that '*effective* competition policy is part of the design that makes our markets deliver quality and innovation, at a *fair* price' (emphasis added).

[2] Speech by EVP M. Vestager at the Italian Antitrust Association Annual Conference – A new era of cartel enforcement, October 22, 2021, https://ec.europa.eu/commission/commissioners/2019-2024/vestager/announcements/speech-evp-m-vestager-italian-antitrust-association-annual-conference-new-era-cartel-enforcement_en (emphasis added). This paper does not discuss the development of more effective strategies to enforce the prohibition of abuse of dominance. On this matter, *see eg*, 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), OJ L 265, 12 October 2022, 1-66. Recital 10 of the DMA lays down that its aim is 'to complement the enforcement of competition law' (ie, to increase competition law effectiveness) by increasing *fairness* and contestability in the digital sector. *See* eg, Rupprecht Podzun, Philipp Bongartz and Sarah Langenstein, 'The Digital Markets Act: Moving from Competition Law to Regulation for Large Gatekeepers' (2021) 10 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* eg, Pierre Larouche and Alexandre de Streel, 'The European Digital Markets Act: A Revolution Grounded on Traditions' (2021) 12 Journal of European Competition Law & Practice 542 (noting at 542 that the DMA 'is the lost child of competition law'); Belle Beems, 'The DMA in the Broader regulatory landscape of the EU: an institutional perspective' (2023) 19 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'); Konstantina Bania, 'Fitting the Digital Markets Act in the existing legal framework: the myth of the "without prejudice" clause' (2023) 19 European Competition Journal 116 (doubting the DMA will apply without prejudice to competition law); Alba Ribera Martinez, 'An inverse analysis of the digital markets act; applying the Ne bis in idem principle to enforcement' (2023) 19 European Competition Journal 86 (discussing the risk of infringement of the *ne bis in idem* principle).

[3] Commission, 'Consultancy "Artificial Intelligence Applied to Competition Enforcement"' (October 2017) COMP/2017/017.

have chosen to adopt AI solutions.[4] This is unsurprising, given that AI systems are able to process and analyse large datasets quicker and more efficiently than any human public officer could.[5]

This paper does not discard that AI systems increase effectiveness that in turn increase *substantive* fairness. It seems uncontroversial that a more effective competition law enforcement (ie, a better detection and sanctioning of anticompetitive 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.'[6]

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 impartial, less biased and noiseless. As a result, introducing AI system in law enforcement should increase procedural fairness. Yet, an AI system is not bias-free. On the one hand, it is only as good as its training set. As such, if it was trained using biased data, it is likely to reproduce them. On the other hand, 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.

This paper proposes to contextualises 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.

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[4] *See* eg, Elizabeth E. Joh, 'The New Surveillance Discretion: Automated Suspicion, Big Data, and Policing' (2016) 10 Harvard Law & Policy Review 15; Lisa A. Shey and others, 'Confronting Automated Law Enforcement' in Ryan Calo, A. Michael Froomkin and Ian Kerr (eds.), *Robot Law* (Edward Elgar 2016) 235; Andrew Guthrie Ferguson, 'Policing Predictive Policing' (2017) 94 Washington University Law Review 1115; Karen Yeung, 'Algorithmic Regulation: A Critical Interrogation' (2018) 12 Regulation & Governance 505; Justin B. Bullock, 'Artificial intelligence, discretion and bureaucracy' (2019) 49 The American Review of Public Administration 751; Michael Veale and Irina Brass, 'Administration by Algorithm? Public management meets public sector machine learning' in Karen Yeung and Martin Lodge (eds.), *Algorithmic Regulation* (Oxford University Press 2019); Matthew M. Young, Justin B. Bullock, and Jesse D. Lecy, 'Artificial discretion as a tool of governance: A framework for understanding the impact of artificial intelligence on public administration' (2019) 2 Perspectives on Public Management and Governance 301; Ryan Calo and Danielle Keats Citron, 'The automated administrative state: A Crisis of Legitimacy' (2021) 70 Emory Law Journal 797; Cary Coglianese and Alicia Lai, 'Antitrust by Algorithm' (2022) 2 Stanford Computational Antitrust 1; Merve Hickok, 'Public procurement of artificial intelligence systems: new risks and future proofing', AI & Society, 2022, https://doi.org/10.1007/s00146-022-01572-2; Adamantia Rachovitsa and Niclas Johann, 'The Human Rights Implications of the Use of AI in the Digital Welfare State: Lessons Learned from the Dutch *Syri* Case' (2022) 22 Human Rights Law Review 1-15; Sofia Ranchordas, 'Empathy in the Digital Administrative State' (2022) 71 Duke Law Journal 1341.

[5] Andreas von Bonin and Sharon Malhi, 'The Use of Artificial Intelligence in the Future of Competition Law Enforcement' (2020) 11 Journal of European Competition Law & Practice 468, 469. *See also* Daryl Lim, 'Can Computational Antitrust Succeed' (2021) 1 Stanford Computational Antitrust 38.

[6] 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.

2. 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.'[7] There is a prolific literature in this regard. First and foremost, the reason why humans err is their bounded rationality,[8] best shown with cognitive biases (A) and noise (B) that impact competition law procedure (C).

A. Cognitive Biases

Biases, defined as 'any systemic error that inclines people's judgements in a particular direction,'[9] are well known in behavioural economics[10] that has identified, in particular,[11] availability, search satisfying, anchoring, confirmation, diagnostic momentum and hindsight biases.[12]

Availability bias supposes an overreliance on the information immediately brought to mind without seeking other elements that may contradict the former.[13] 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.'[14] *Anchoring* means a premature decision-making based on limited information initially available.[15] The anchor effect suggests the officials will fail to adjust their decision when new information becomes available.[16] 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.'[17] This 'gambler fallacy' has been empirically documented.[18] The anchoring bias is strengthened by the *confirmation bias*, that is, the tendency to interpret information to fit their preconceived opinion.[19] 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

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[7] Richard H. Thaler and Cass R. Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness* (Yale University Press 2008) 6. *See also* Cass R. Sunstein, *Why Nudge? The Politics of Libertarian Paternalism* (Yale University Press 2015).

[8] Herbert A. Simon, 'A Behavioural Model of Rational Choice' (1955) 69 Quarterly Journal of Economics 99.

[9] Cass R. Sunstein, 'Governing by Algorithm? No Noise and (Potentially) Less Bias' (2022) 71 Duke Law Journal, 1175 at 1178.

[10] Amos Tversky and Daniel Kahneman, 'The Framing of Decisions and the Psychology of Choice' (1981) 211 Science 453.

[11] Daniel Kahneman, 'Maps of Bounded Rationality: Psychology for Behavioral Economics' (2003) 93 American Economic Review 1449.

[12] To name but a few. *See* eg, Daniel Kahneman, *Thinking Fast and Slow* (Farrar, Straus and Giroux 2011); Richard H. Thaler, *Misbehaving: The Making of Behavioral Economics* (W.W. Norton & Company, Inc. 2015); Daniel Kahneman, Olivier Sibony and Cass R. Sunstein, *Noise: A Flaw in Human Judgement* (William Collins, 2021).

[13] Cass R. Sunstein and Timur Kuran, 'Availability Cascades and Risk Regulation' (1999) 51 Stanford Law review 683; Cass R. Sunstein, 'The Availability Heuristic, Intuitive Cost-Benefit Analysis, and Climate Change' (2006) 77 Climate Change 195.

[14] Linda J. Skikta, Kathleen L. Mosier and Mark D. Burdick, 'Accountability and automation bias' (2000) 52 International Journal of Human-Computer Studies 701.

[15] Karen E. Jacowitz and Daniel Kahneman, 'Measures of Anchoring in Estimation Tasks' (1995) 21 Personality and Social Psychology Bulletin 1161.

[16] Amos Tversky and Daniel Kahneman, 'Judgement under Uncertainty: Heuristics and Biases' (1974) 185 Science 1124.

[17] Kahneman, Sibony and Sunstein (n 12) 90.

[18] Daniel L. Chen, Tobias J. Moskowitz and Kelly Shue, 'Decision Making Under the Gambler's Fallacy: Evidence from Asylum Judges, Loan Officers, and Baseball Umpires' (2016) 131 The Quarterly Journal of Economics 1181.

[19] Joshua Klayman, 'Varieties of Confirmation Bias' (1995) 32 Psychology of Learning and Motivation 385; Raymond S. Nickerson, 'Confirmation Bias: A Ubiquitous Phenomenon in Many Guises' (1998) 2 Review of General Psychology 175.

and changing plan accordingly, 'particularly if plan commenced by more senior clinician.'[20] This is sometimes referred to as an *hindsight bias*, that is the eagerness 'to justify past efforts, in particular to hierarchical supervisors.'[21] 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 argued that 'cognitive dissonance being psychologically uncomfortable, people are generally motivated to avoid it by avoiding information likely to create such dissonance.'[22]

B. Noise

Noise is different from bias. While bias is systematic, noise is an 'unwanted variability in judgements.'[23] Noise makes decision-making akin to a roulette.[24] 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,[25] blood sugar levels,[26] local news,[27] or the weather.[28] This means a decision depends 'irrelevant features of the particular situation.'[29]

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.[30] With level noise, people are treated differently 'because of a kind of lottery.'[31]

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 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.'[32]

C. 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 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

[20] Eoin D. O'Sullivan and Susie J. Schofield, 'Cognitive bias in clinical medicine' (2018) 48 Journal of the Royal College of Physicians of Edinburgh 225, 227.
[21] Ibid.
[22] Wouters. P. J. Wils, 'The Combination of the Investigative and Prosecutorial Function and the Adjudicative Function in EC Antitrust Enforcement: A Legal and Economic Analysis' (2004) 27 World Competition, 201, 215.
[23] Sunstein (n 9) 1178.
[24] Jaya Ramji-Nogales, Andrew I. Schoenholtz and Philip G. Shrag, 'Refugee Roulette: Disparities in Asylum Adjudication' (2007) 60 Stanford Law Review 295.
[25] Kahneman, Sibony and Sunstein (n 12) 89.
[26] Shai Danziger, Jonathan Levav, and Liora Avnaim-Pesso, 'Extraneous Factors in Judicial Decision' (2011) 108 Proceedings of the National Academy of Sciences of the United States of America 6889.
[27] Ozkan Eren and Naci Mocan, 'Emotional Judges and Unlucky Juvenile' (2018) 10 American Economic Journal 171.
[28] Anthony Heyes and Soodeh Saberian, 'Temperature and Decisions: Evidence from 207,000 Court Cases' (2019) 11 American Economic Journal 238.
[29] Sunstein (n 9) 1183.
[30] Kahneman, Sibony and Sunstein (n 12) 7.
[31] Sunstein (n 9) 1184.
[32] Ibid (emphasis omitted).

case merits further investigation.'[33] In *Automec*, the EU General Court confirmed that the EC is entitled to give different priority degrees to complaints received.[34] 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].'[35] 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.[36]

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.'[37] 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.'[38] 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 diagnosis momentum).[39] 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.'[40] This is quite natural as the same team that 'so far cumulated investigative and prosecutorial powers' has also to 'exercise adjudicative powers.'[41] This leads to *commitment bias*, or escalation of commitment, ie, the unwillingness for EC officials to adopt a decision that contradict what they have done in the past due to the involvement of 'both the Commission's human resources and reputation capital.'[42] This create 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.'[43] 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.'[44]

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[33] Commission notice on best practices for the conduct of proceedings concerning Articles 101 and 102 TFEU [2011] OJ C308/6, 12.
[34] Case T-24/90 *Automec Srl v Commission of the European Communities*, ECLI:EU:T:1999:97, 85.
[35] Commission, 'Commission Staff Working Paper 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.
[36] David M. Uhlmann, 'Prosecutorial Discretion and Environmental Crime' (2014) 38 Harvard Environmental Law Review 159; Joshua C. Cochran and others, 'Court Sentencing Patterns for Environmental Crimes: Is There a "Green" Gap in Punishment' (2018) 34 Journal of Quantitative Criminology 37.
[37] Cristina Teleki, *Due Process and Fair Trial in EU Competition Law: The Impact of Article 6 of the European Convention on Human Rights* (Brill 2021) 264.
[38] Eva Lachnit, *Alternative Enforcement of Competition Law* (Eleven International Publishing 2016) 88.
[39] Wils (n 22).
[40] Ibid, 216.
[41] Teleki (n 37) 266.
[42] Ibid.
[43] Wils (n 22).
[44] Ian S. Forrester, 'From Regulation 17/62 to Article 52 of the Charter of Fundamental Rights' in Ulf Bernitz, Xavier Groussot and Felix Schulyok, *General Principles of EU Law and European Private Law* (Kluwer Law International 2013) 353.

3. 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.'[45] An AI system is, by its very nature, silent and not noisy (ie, it offers the same recommendation notwithstanding, eg, the weather, local news, or personal preferences).[46] Similarly, an AI system might constitute a technological fix to cognitive biases as it relies on statistics and, therefore, is immune to them (ie, still by its very nature, an AI will not, eg, stop searching once the first plausible explanation is found).[47]

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.[48] 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.[49] 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.

One tool to operate such prioritisation is AI-driven cartel screening.[50] 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.[51] These factors – known as trust or cartel-facilitating devices – may either be structural (ie, what is the market structure that increases the probability of cartelisation) or behavioural (ie, what are the methods and collusive outcomes of cartelisation).[52]

It is of the utmost importance to keep in mind that screening does not prove collusion but anomaly with the competitive model.[53] As such, a screen is solely 'statistical evidence' that identifies a *potential* violation.[54] 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 (eg, worthy of a dawn raid),[55] that is, the second step of antitrust enforcement that aims at verifying the red flag raised during screening.[56] The third step, enforcement, will occur if the investigation excludes competition as an explanation for the spotted behaviour.[57]

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[45] Kahneman, Sibony and Sunstein (n 12) 113.
[46] Sunstein (n 9) 1185.
[47] Ibid, 1888.
[48] von Bonin and Malhi (n 5) 469.
[49] Ibid.
[50] Martin Huber and David Imhof, 'Machine learning with screens for detecting bid-rigging cartels' (2019) 65 International Journal of Industrial Organization 277.
[51] Jean Tirole, *The Theory of Industrial Organisation* (7th printing, The MIT press 1988, 1994) 239.
[52] Christopher R. Leslie, 'Trust, Distrust, and Antitrust' (2004) 82 Texas Law Review 515, 519 and 564.
[53] Rosa M. Abrantes-Metz and others, 'Libor manipulation?' (2012) 36 Journal of Banking & Finance 136, 138.
[54] Juan M. Ortner and others, 'Screening Adaptive Cartels' (2022) NBER Working Paper, http://www.nber.org/papers/w30219; Albert Sanchez-Graells, '"Screening for Cartels" in Public Procurement: Cheating at Solitaire to Sell Fool's Gold?' (2019) 10 Journal of European Competition Law & Practice 199.
[55] Rosa M. Abrantes-Metz, 'Recent successes of screens for conspiracies and manipulations: Why are there still sceptics?' (2014) *CPI Antitrust Chronicle* 1, 7. Rosa M. Abrantes-Metz and D. Daniel Sokol, 'The Lessons from Libor for Detection and Deterrence of Cartel Wrongdoing' (2012) 3 Harvard Business Law Review Online 10, 11; Danilo Sama, 'Cartel Detection and Collusion Screening: an Empirical Analysis of the London Metal Exchange' in Mitja Kovac and Ann-Sophie Vandenberghe (eds.), *Economic Evidence in EU Competition Law* (Intersentia 2016) 204.
[56] Joseph E. Harrington, Jr, 'Detecting Cartels' in Paolo Buccirossi (ed.), *Handbook of Antitrust Economics* (The MIT Press 2008) 215.
[57] Ibid.

Numerous empirical studies prove screening works.[58] In addition, if screening predates AI, it has been demonstrated that its accuracy increases when it is powered-up with AI.[59] AI-driven cartel screening may therefore assist 'antitrust regulators to better pinpoint potential legal violations.'[60] Albeit some commentators heralded this technology as 'a new beacon of hope,'[61] others remain sceptical.[62] Without discarding its usefulness, it has to be acknowledged that screening faces at least three drawbacks. These are the topic of the next section.

4. 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 (ie, not affected by noise) but not necessarily bias-free.[63] AI-driven cartel screening is a data-dependent solution that is therefore impacted by problems in the availability[64] and quality[65] of the data it relies on. This may be summarized in two idioms: without data, no prediction; without quality data, bad prediction.[66] In this regard, it should be borne in mind that the AI-driven cartel screening training data will be subject to a selection bias. The training dataset will be composed of *discovered* anticompetitive behaviour.[67] However, there is no evidence that this sample is statistically representative of the entire population of cartel.[68] 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.'[69] Shortly after the entry into force of Regulation 1/2003, the EC started an investigation to pinpoint 'sectors for priority action.'[70] 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.'[71]

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[58] Yuliya Bolotova, John M. Connor and Douglas J. Miller, 'The Impact of collusion on price behavior: Empirical results from two recent cases' (2008) 26 International Journal of Industrial Organization 1290; Thibault Schrepel and Teodora Groza, 'The Adoption of Computational Antitrust by Agencies: 2021 Report' (2022) 2 Stanford Computational Antitrust 78.

[59] Huber and Imhof (n 50); Giovanna Massarotto and Ashwin Ittoo, 'Gleaning Insight from Antitrust Cases Using Machine Learning' (2021) 1 Stanford Computational Antitrust; Douglas Silveira and others, 'Won't Get Fooled Again: A supervised machine learning approach for screening gasoline cartels' (2022) 105 Energy Economics 105711.

[60] Coglianese and Lai (n 4) 8. Anthony J. Casey and Anthony Niblett, 'Micro-Directives and Computational Merger Review' (2021) 1 Stanford Computational Antitrust 132, 133.

[61] Nils Köbis, Christopher Starke and Iyad Rahwan, 'The promise and perils of using artificial intelligence to fight corruption' (2022) 4 Nature Machine Intelligence 418.

[62] Abrantes-Metz (n 55) 7; Thibault Schrepel, 'Computational Antitrust: An Introduction and Research Agenda' (2021) 1 Stanford Computational Antitrust 1, 2.

[63] Kahneman, Sibony and Sunstein (n 12) 334-335.

[64] Albert Sanchez-Graells, 'Procurement corruption and artificial intelligence: between the potential of enabling data architectures and the constraints of due process requirements' (2021), available at https://papers.ssrn.com/abstract=3952665.

[65] Albert Sanchez-Graells, 'Data-Driven and Digital Procurement Governance: Revisiting Two Well-Known Elephant Tales' (2019) 24 Communications Laws 157.

[66] Abrantes-Metz and Sokol (n 55) 11.

[67] Joseph E. Harrington, Jr. and Myong-Hun Chang, 'Modeling the Birth and Death of Cartel with an Application to Evaluating Competition Policy' (2009) 7 Journal of the European Economic Association 1400.

[68] Joseph E. Harrington, Jr. and Yanhao Wei, 'What Can the Duration of Discovered Cartels Tell Us About the Duration of All Cartels?' (2017) 127 The Economic Journal 1977.

[69] Commission notice (n 33) 13.

[70] Report on the Functioning of Regulation 1/2003 (n 35) 15-16.

[71] Sunstein (n 9) 1182 (discussing successively the adjudicative system and administrative prosecutors).

The second is an algorithmic challenge. Some AI systems are opaque. This opacity infringes the principle of good administration and the duty to state reasons.[72] According to that principle, whose *raison d'être* is to protect against arbitrariness by making an effective judicial review possible,[73] any administrative decision has to explain facts of the case, relevant law *in casu* and the fact-to-law leap.[74] 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.'[75] If the EC does not comply with this requirement, the decision authorising the dawn raid is annulled.[76] The upshot is this. The EC cannot rely on evidence collected during the illegal dawn raid. The question is therefore whether cartel screening provide such reasonable grounds. There is room for doubt. In *HeidelbergCement*, the ECJ annulled a request for information[77] because its statement of reasons was 'excessively succinct, vague and generic – and in some respects, ambiguous.'[78] 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'[79] will definitely be qualified as, in the words of the ECJ, 'excessively succinct, vague and generic.'[80] A mere reference to the AI system's recommendation cannot fulfil the duty to state reasons as its opacity does not allow an effective judicial review of the administrative decision and hence infringes the right of the defence.[81] That opacity has a twofold origin. On the one hand, it may be due to public officers' illiteracy (ie, they do not have the required knowledge to understand the AI system).[82] On the other hand, the opacity may be intrinsic to the AI system (ie, the black box problem).[83] In the latter case, public officers cannot motivate their decisions by taking into consideration the relevant factors and weighting them appropriately because neither the factors nor their weight are known.[84]

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[72] '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, OJ C326, 26 October 2012, 391-407 (art. 41(1) and (2)(c)).

[73] Hanns Peter Nehl, 'Good Administration as Procedural Right and/or General Principle?' in Herwig C.H. Hofmann and Alexander H. Türk eds.), *Legal Challenges in EU Administrative Law: Towards an Integrated Administration* (Edward Elgar 2009).

[74] Melanie Fink and Michèle Finck, 'Reasoned A(I)dministration: Explanation Requirements in EU Law and the Automation of Public Administration' (2022) 3 European Law Review 376, 383.

[75] Case C-94/00, *Roquette Frères*, EU:C:2002:603, at para 61; Case T-340/04, *France Télécom SA v Commission of the European Communities*, EU:T:2007:81, § 53.

[76] Case C-583/13 P, *Deutsche Bahn AG and Others v European Commission*, EU:C:2015:404.

[77] Pursuant article 18(3) Regulation 1/2003. However, the conclusion of HeidelbergerCement can be extended to dawn raid. On this, *see* Helene Andersson, *Dawn Raids Under Challenge: Due Process Aspects on the European Commission's Dawn Raid Practices*, Oxford, Hart Publishing, 2018, p. 86.

[78] Case C-247/14 P, *HeidelbergCement AG v European Commission*, EU:C:2016:149, § 39.

[79] Fink and Finck (n 74) 385.

[80] *HeidelbergCement* (n 78) § 39.

[81] Case C-230/18 *PI v Landespolizidirektion Tirol*, EU:C:2019:383, § 57.

[82] Fink and Finck (n 74).

[83] Frank Pasquale, 'Restoring Transparency to Automated Authority' (2011) 9 Journal on Telecommunications & High Technology Law 235; Frank Pasquale, *The Black Box Society: The Secret Algorithms That Control Money and Information* (Harvard University Press 2016); Henrik P. Olsen, Jacob L. Slosser and Thomas T. Hildebrandt, 'What's in the Box? The Legal Requirement of Explainability in Computationally Aided Decision-Making in Public Administration' in Hans-W. Micklitz and Others (eds.), *Constitutional Challenges in the Algorithmic Society* (Cambridge University Press 2022).

[84] Cary Coglianese and David Lehr, 'Regulating by Robot: Administrative Decision Making in the Machine Learning Era' (2017) 105 Georgetown Law Review 1147, 1167.

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.[85] 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,'[86] that is, an AI system that solely *recommends* to open or discard an investigation. Karen Yeung labels such system 'recommender system.'[87] 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'[88] 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,[89] more often right than wrong.[90] All this is known as the automation bias (or 'algorithmic dumbfounding'[91]), that is the irrational tendency to rely on automated decision even when the operator suspect malfunction.[92] 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.'[93] As such, the automation bias

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[85] Madalina Busuioc, 'Accountable Artificial Intelligence; Holding Algorithms to Account' (2022) 81 Public Administration Review 825, 832.
[86] Brian J. Fogg, *Persuasive Technology: Using Computers to Change What We Think and Do* (Elsevier 2003).
[87] Karen Yeung, 'Algorithmic regulation: A critical interrogation' (2018) 12 Regulation and Governance 505 (labelling such system 'recommender systems' at 516).
[88] Nicolas Petit, 'Artificial Intelligence and Automated Law Enforcement: A Review Paper' (21 March 2018) available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3145133. For the usefulness of administrative discretion, *see* Sofia Ranchordas, 'Empathy in the Digital Administrative State' (2022) 71 Duke Law Journal 1341.
[89] Hannes Wallimann, David Imhof and Martin Huber, 'A Machine Learning Approach for Flagging Incomplete Bid-Rigging Cartels' (2022) Computational Economics, available at: https://doi.org/10.1007/s10614-022-10315-w.
[90] Danielle Keats Citron, 'Technological Due Process' (2008) 85 Washington University Law 1249, 1254.
[91] Nils Köbis, Jean-François Bonnefon and Iyad Rahwan, 'Bad machines corrupt good morals' (2021) 5 Nature Human Behavior 679.
[92] Raja Parasuraman and Victor Riley 'Humans and automation: Use, misuse, disuse, abuse' (1997) 39 Human Factors 230; Kathleen Mosier and others, 'Automation bias and errors: Are teams better than individuals?' (1998) 42 Proceedings of the Human Factors and Ergonomics Society Annual Meeting 201; Linda J. Skikta, Kathleen L. Mosier and Mark D. Burdick, 'Does automation bias decision-making?' (1999) 51 International Journal of Human-Computer Studies 991; Skikta, Mosier and Burdick (n 14); Linda J. Skikta and others, 'Automation bias and errors: Are crews better than individuals?' (2000) 10 The International Journal of Aviation Psychology 85; Kathleen Mosier and others, 'Aircrews and automation bias: the advantages of teamwork?' (2001) 11 The International Journal of Aviation Psychology 1; Stephen R. Dixon and Christopher D. Wickens, 'Automation reliability in unmanned aerial vehicle flight control: A Reliance compliance model of automation dependence in high workload' (2006) 48 Human Factors 474; Mary L. Cummings, 'Automation and accountability in decision support system interface design' (2006) 32 The Journal of Technology Studies 23; Stephen R. Dixon, Christopher D. Wickens and Jason S. McCarley, 'On the independence of compliance and reliance: Are automation false alarms worse than misses?' (2007) 49 Human Factors 564; Raja Parasuraman and Dietrich Manzey, 'Complacency and bias in human use of automation: An attentional integration' (2010) 52 Human Factors 381; Kate Goddard, Abdul Roudsari and Jeremy C. Wyatt, 'Automation bias: a systemic review of frequency, effect mediators, and mitigators' (2012) 19 Journal of the American Medical Informatics Association 121; Christopher D. Wickens and others, 'Complacency and Automation Bias in the Use of Imperfect Automation' (2015) 57 Human Factors and Ergonomics Society 728; David Lyell and Enrico Coiera, 'Automation bias and verification complexity: a systematic review' (2017) 24 Journal of the American Medical Informatics Association 423; Saar Alon-Barkat and Madalina 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, available at https://doi.org/10.1093/jopart/muac007.
[93] Sanchez-Graells (n 64); Wickens and others (n 92).

is a 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.'[94] 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.[95]

5. The Need for a Four-Eyes Principle

To sum up, any human decision depends on the decisionmaker's bounded rationality. This means heuristics, preferences, tastes, ideology, and noises shape human judgement.[96] As a result, human decision-making is a 'black box,' defined by father of cybernetics Norbert Wiener as inaccessible internal structure.[97] The same goes for administration. Michel Callon and Bruno Latour demonstrated that any administration is a flowchart of black boxes linked to one another.[98] 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 system 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.'[99] 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.[100]

The good news is, the issue of automation bias has been forecasted by the EU legislator. The Proposal for an 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

[94] Fogg (n 86).
[95] Peter Busch and Helle Henriksen, 'Digital discretion: A systematic literature review of ICT and street-level discretion' (2018) 23 Information Polity, 3; Rik Peeters, 'The agency of algorithms: Understanding human-algorithm interaction in administrative decision-making' (2020) 25 Information Polity 507; Busuioc (n 85); Noortje de Boer and Nadine Raaphorst, 'Automation and discretion: explaining the effect of automation on how street-level bureaucrats enforce' (2021) Public Management Review, available at https://doi.org/10.1080/14719037.2021.1937684.
[96] James G. March, 'Bounded Rationality, Ambiguity, and the Engineering of Choice', in David E. Bell, Howard Raiffa and Amos Tversky (eds.), *Decision Making: Descriptive, Normative, and Prescriptive Interactions* (Cambridge University Press, 1988) 33-57.
[97] Norbert Wiener, *God and Golem, Inc.: A Comment on Certain Points where Cybernetics Impinges on Religion* (The MIT Press, 1964) 42.
[98] Michel Callon and Bruno Latour, 'Le grand Léviathan s'apprivoise-t-il?', in Madeleine Akrich, Michel Callon and Bruno Latour (eds.), *Sociologie de la traduction: Textes fondateurs* (Presses des Mines, 2006) 5-26 at 16.
[99] Dan L. Burk, 'Algorithmic Fair Use' (2019) 86 The University of Chicago Law Review 283, 306.
[100] Ryan Calo and Danielle Keats Citron, 'The Automated Administrative State: A Crisis of Legitimacy' (2021) Emory Law Journal 797, 819.

or recommendations for decisions to be taken by natural persons' (art. 14(4)(b) AI Act)[101] 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'[102] or relegate public officer to a role of 'mindless rubberstamping of AI-generated proposed decisions.'[103]

The bad news is, it has been convincingly argued that merely require that users 'are aware of the potential for automation bias' is an insufficient safeguard against this bias.[104] More than the awareness of that bias, it is the absence of overreliance that has to be proved.[105] A four-eyes principle is a way to do so.[106] This may be defined as any solution that mandates A to approve both the decision and statement of reasons of B.[107] 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.[108] 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 send 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.[109] The *Auditora(a)t* decides whether or not to open an investigation. When the conclusion of the investigation is that there is actually a competition law infringement, the *Auditora(a)t* draft 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

[101] Commission, Proposal for a regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence (artificial intelligence act) and amending certain Union legislative acts, COM (2021) 206 final.
[102] Citron (n 90) 1252.
[103] Sanchez-Graells (n 64).
[104] Nathalie Smuha and others, 'How the EU can achieve Legally Trustworthy AI: A Response to the European Commission's Proposal for an Artificial Intelligence Act' (5 August 2021), available at http://dx.doi.org/10.2139/ssrn.3899991.
[105] Ibid.
[106] Jerome 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, lpad017, https://doi.org/10.1093/jeclap/lpad017.
[107] Fink and Finck (n 74) 387 n 69.
[108] Loi de modernisation de l'économie n° 2008-776 du 4 août 2008; Ordonnance n° 2008-1161 du 13 novembre 2008.
[109] Dirk Vandermeersch, 'De mededingingsregels en hun handhaving: de hervorming van 2013', in Alex Tallon (ed.), *Le Nouveau Code de droit économique – Het Nieuwe Wetboek van Economisch Recht* (Larcier, 2014) 53-54.

different reasons.[110] 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.'[111]

The French and Belgian strict distinction between investigation and prosecution enhances procedural fairness[112] and is therefore 'stronger than the "all in one" EC-like set-up.'[113] This bicephalic structure improves internal independence and prevents the Competition Authority to become 'the "judge, jury, and executioner" of its own cases.'[114] This unbiases decision-making.[115] 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 Article 14(4)(b) 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 decision taken during the investigation phase (eg, 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. Yet, this is not a dead-end. Rather than candidly recommending to institutionally split DG Competition, it is argued an extension of the Hearing Officer's role might achieve the same results. This independent public officer is, indeed, already in charge of ensuring procedural rights are not infringed.[116] 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 Article 14(4)(b) AI Act.

6. 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 paper 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.

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[110] Norman Neyrinck, *Manuel de droit belge de la concurrence. Les pratiques restrictives de concurrence* (Larcier 2021) 528.

[111] 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).

[112] Bruno Lasserre, 'The new French competition law enforcement regime' (2009) 5 Competition Law International 15.

[113] Wouter Devroe, Bruno Van den Bosch and Frances Van den Bogaert, 'Antitrust Enforcement in Belgium' in Tihamer Toth (ed.), *The Cambridge Handbook of Competition Law Sanctions* (Cambridge University Press 2022) 328.

[114] Lachnit (n 38) 42.

[115] Ibid, 87.

[116] 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, OJ L 275, 20 October 2011, pp. 29-37.

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 (eg, the EC). Some public officer might be specifically appointed to play that role (eg, the EC's hearing officer). With this safeguard, the effectiveness gained from the use of AI system will increase the substantive dimension of fairness without reducing its procedural one.