Sociedad Internacional de Derecho del Trabajo y de la Seguridad Social

XXIII Congreso Mundial

7 - 10 de Septiembre de 2021 - Lima, Perú

RETOS DE LOS SISTEMAS DE LEGISLACIÓN LABORAL Y SEGURIDAD SOCIAL

- Transformación del trabajo: desafíos para el Derecho del Trabajo
- Comercio internacional y trabajo
- Nuevos retos de la Seguridad Social
- Trabajadores migrantes
- Trabajadores atípicos e informales
- Igualdad en el trabajo
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TRANSFORMACIÓN DEL TRABAJO: DESAFÍOS PARA EL DERECHO DEL TRABAJO

TRANSFORMATION OF WORK: CHALLENGES TO LABOR LAW

ALGORITHMIC BOSSES CAN'T LIE!

How to foster transparency and limit abuses of the new algorithmic managers

GIOVANNI GAUDIO

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ABSTRACT: This paper wants to understand whether there are rules that may foster transparency and prevent abuses of managerial prerogatives potentially arising from the increasing recourse to algorithmic management practices. This article points to three types of regulatory techniques that may alleviate these issues, which are: a) information and access rights, to be exercised before a claim has been brought; b) rules that, within a trial, switch the burden of proof on the employer; and c) rules that, within a trial, grant judges with broad powers to gather evidence. All these regulatory techniques incentivise employers to recur to only those algorithmic tools with a decision-making process that can potentially be made transparent, thus uncovering possible abuses of employers' managerial prerogatives. a more massive recourse to these regulatory antibodies can constitute an effective policy recommendation to better face the challenges posed by the algorithmic revolution.

KEYWORDS: algorithms; transparency; employment.

1. EXERCISING MANAGERIAL PREROGATIVES THROUGH ALGORITHMIC MANAGEMENT DEVICES, BETWEEN INFORMATION ASYMMETRIES AND RISKS OF ABUSES FROM THE NEW ALGORITHMIC BOSSES

Technology is changing the way entrepreneurs manage their human resources. Decisions that used to be taken by humans are, always more often, partially or totally delegated to algorithms[1]. This phenomenon, which has been labelled 'data-driven' or 'algorithmic management'[2], consists in automating managerial functions that traditionally were performed by human managers in order to optimise business processes[3]. In other words, this can be defined as 'a diverse set of technological tools and techniques to remotely manage workforces, relying on data collection and surveillance of workers to enable automated or semi-automated decision-making'[4].

Algorithmic managements practices have been tracked down and researched in greatest details with reference to platform work, which is the sector where

1 The technical terms used in this article have the meaning indicated in the glossary for lawyers prepared by the Research Group on the Regulation of the Digital Economy.

2 According to O'Connor, this expression has been coined by Lee - Kusbit - Metsky - Dabbish, 1603-1612.

3 Kellogg - Valentine - Christin and Wood.

4 Mateescu - Nguyen, 1.

algorithms have been widely used to direct, monitor, and discipline workers[5]. However, research and news reports show how these tools have been used, even if to a lesser degree, in other sectors[6]. From logistics to services, many employers have already started to dismiss the completely human exercise of their managerial prerogatives, totally or partially delegating them to more or less smart machines. Data collected through people or workforce analytics practices[7] are the fuel to fill the tank of algorithmic management tools[8], which are capable of taking automated or semi-automated decisions affecting the workforce[9]. Thanks to the progresses made in the field of Artificial Intelligence (AI)[10], companies are thus increasingly recurring to these tools to perform several HR managements functions, such as recruiting candidates, allocating tasks, scheduling work-shifts, and managing the performance of their workforce[11]. Technology is not only used to monitor workers more closely, but also to give them instructions and, mostly in the delivery and logistics industries, even to discipline those employees who do not obey the orders of their new algorithmic bosses[12]. This is not a dystopian picture of what the future of work will look like. Rather, this is already the reality characterising many modern workplaces.

Notwithstanding the advantages in terms of increased labour productivity, recurring to algorithmic management tools is often justified by the idea, popular also among employees, that algorithmic decision-makers, above when equipped with AI tools, are more accurate, impartial, and objective than human ones[13]. Although the level of accuracy of these tools is increasingly higher, recurring to technology is not always risk-free. It has already happened that algorithms have revealed themselves as biased decision-makers. First, the data used to program the algorithm may embed human and societal biases. Second, a human input is always needed when building the architecture of an automated decision-making model. Therefore, even in those cases where there are no issues with the data

5 Mateescu - Nguyen, 3; Adams-Prassl, 131-132; and Wood, 11. This is also confirmed by the fact that management studies have used the gig-economy as a case-study of this trend: Duggan - Sherman - Carbery - McDonnell, 114 ff. and Jarrahi - Sutherland, 578 ff.

6 Mateescu - Nguyen, 5-12; Kellogg - Valentine - Christin, 372-382 and Wood, 2-9.

7 Cherry, 7-11 and Dagnino, 4-9.

8 Aloisi - De Stefano, 78-79.

9 Wood, 11-13.

10 Research Group on the Regulation of the Digital Economy.

11 De Stefano, 23-31 and Adams-Prassl, 131-137.

12 Kellogg - Valentine - Christin, 372-382 and Wood, 2-9.

13 Kellogg - Valentine - Christin, 368-369.

used as input of the model, the decision may be in any cases flawed because of the algorithmic programmer's biases[14]. In both cases, the issue is that algorithmic decision makers, more than human ones, can deploy these biases at scale. These risks have already materialised in the HR management context[15].

This problem has often been exacerbated by the lack of transparency characterising most part of automated decision-making processes. Algorithms can be described as black boxes, characterised by different types and degrees of opacity[16]. This means that the recipients of a decision taken by an algorithm may not have any idea of how and why the model has reached a certain conclusion using the processed data. In addition, black boxes' degree of opacity may be even higher because, in most cases, no one knows which data have been used as input of the algorithmic decision-making process, except for their original programmers or those working with these devices[17].

Therefore, workers are mostly unaware of the decision-making processes of the algorithms that manage the performance of their employment. While people or workforce analytics practises make workers transparent to their managers, the reasons behind the decisions taken by algorithmic management tools are inscrutable for workers[18], because algorithms are legally inaccessible or technically indecipherable. The resulting scenario is employees are managed by opaque algorithms, thus increasing the information asymmetries in the already unbalanced relationship between the parties to an employment contract[19].

The existing literature on this topic has claimed that workforce analytics and algorithmic management practices 'can lead to a "genetic variation" of managerial prerogatives, by "upgrading" them to levels unheard in the past'[20]. The advent of AI technologies would allow employers to monitor their workforce more pervasively, thus given them more opportunities to discipline them when do not obey the orders of their new algorithmic bosses. This would also allow them to manage their workforce pervasively, 'whilst scrupulously avoiding the

14 Hacker, 1146-1150; Kullmann, 5; Xenidis - Senden, 2-9.

15 Otto, 393 and De Stefano, 27-29.

16 Pasquale.

17 Burrell, 1 and Gerards - Xenidis, 45-46.

18 Aloisi - De Stefano, 70-71.

19 Otto, 392-393. See also Rosenblat - Stark, 3758 ff. and Duggan - Sherman - Carbery - McDonnell, 120.

20 De Stefano, 36.

appearance of traditional employer control'[21]. For all these reasons, it has also been claimed that this should entail an update – or even a rethinking – of employment laws that, as they are today, may be inadequate to address the issues posed by the algorithmic revolution[22].

The aim of this paper is thus to understand whether there are rules that may foster transparency and avoid abuses of employers' managerial prerogatives potentially arising from the increasing recourse to algorithmic management practices. In other words, this article will try to check whether there are any existing regulatory techniques that may be helpful in alleviating the issues of lack of transparency and augmentation of managerial prerogatives. In order to perform this task, I will analyse three different case-studies of algorithmic management devices developed and deployed by Amazon in the US, to understand whether the implementation of these specific tools in the EU may have been legally feasible from an employment and data protection laws perspective, analysing three discrete legal issues, which are often at stake in employment litigation: a) limits to employers' monitoring powers and dismissal protection; b) non-discrimination; and c) classification of workers.

Section 2 begins by clarifying the assumptions behind this analysis and its limitations. Section 3 continues by simulating how a court in an EU Member State would decide on the legitimacy of the implementation of three discrete algorithmic devices used by Amazon in the US. Section 4 summarizes the findings of the case-studies analysis carried out at Section 3, showing that these techniques, which are pretty common in the EU legal systems and beyond, may constitute effective regulatory responses to increase the transparency of algorithmic management devices and consequently limit the risk of abuses of managerial prerogatives deriving from their implementation. Section 5 concludes, by highlighting how algorithmic transparency may be fostered even through legal techniques that, counterintuitively, do not uncover the truth hidden behind the algorithm.

21 Adams-Prassl, 144-146.

22 Adams-Prassl, 124.

2. SIMULATING EMPLOYMENT ALGORITHMIC LITIGATION IN THE EU: SOME PRELIMINARY COMPARATIVE ASSUMPTIONS

In order to analyse the three case-studies, it will be necessary to choose a specific legal system of an EU Member State where running a simulation on how a certain case would be decided. In fact, also when a certain domain is extensively regulated at the EU level, 'the effective normative outcomes … necessarily occur at the national level and are inevitably distinctive or specific to each Member State in their fine texture, even if they all conform to a general norm which has been formulated at the EU level'[23]. In addition, it shall be considered that, when simulating how a specific case will be decided, many substantial and, above all, procedural aspects are exclusively regulated at national level, without any intervention at the EU one. Therefore, I will choose the Italian legal system, which is part of the EU one, as the legal environment where I will carry out the case-study simulations, because I am an Italian trained lawyer.

Notwithstanding the above, this analysis may be interesting for a broader audience for the following two reasons. First, it does not specifically intend to focus on the outcome of a specific case, but rather on the regulatory techniques used to decide such a case. Therefore, if these regulatory techniques prove to be effective in a certain legal system, they may be cautiously transplanted in other legal systems that wants to implement effective regulatory tools to better facing the issues of algorithmic opacity and abuses of managerial prerogatives. Second, the assumption behind this analysis is that these regulatory techniques are already widely in place at least within civil-law EU legal systems, and they can be thus directly used in these other Member States. This is why civil-law EU legal systems seem to have many critical similarities when looking at their substantial and procedural laws to be applied when simulating how these three case-studies will be decided in Italy. Therefore, it seems possible to assume that regulatory techniques already exist not only in Italy, but at least in all civil-law EU legal systems, as it will be seen shortly. In any case, in order to further validate this point, when in Section 4 I summarizes the findings of the case-study analysis carried out under Italian law, I will also show how these legal techniques have been experimented elsewhere in the EU, referring to legislation or decisions taken within legal systems of other Member States.

23 Freedland - Kountouris, 418.

With regard to substantial laws that will be analysed in running the simulations, the above assumption is based on the following two reasons. First, certain domains, such as non-discrimination[24] and data protection[25] laws, are extensively regulated at the EU level and they are thus heavily harmonized or even uniform in all the legal systems of all Member States. Second, other domains, although not specifically regulated at the EU level, are in any case similar throughout the EU. Most Member States limit employers' monitoring powers, not only from a data protection perspective, but also from a purely employment one[26]. In addition, despite variations among Member States, all of them provide employees with certain protections against unfair dismissals[27] and guarantee all employment rights only to those individuals which are party to an employment relationship, whose existence is determined applying tests and criteria that, on a very general basis, can be considered similar to each other[28].

With regard to procedural laws, Italian laws are similar to the ones of other civil-law EU systems, at least when looking at the main rules used to define the issues of a legal proceeding and to gather evidence[29], which are the key norms that will be referred to in running our simulations. These rules have to be briefly introduced here, because their content will be essential in understanding who, between the parties of an employment proceedings, has to burden to describe and demonstrate how an algorithmic management device has taken a specific decision that impacted on an employee.

In absence of pre-trial discovery devices typical of common-law jurisdictions[30], 'a system of fact pleading prevails in the civil-law model of procedure' characterizing continental EU countries[31], also with regard to employment proceedings[32]. In general terms, this means that civil-law litigants have to allege the

24 Craig - de Búrca, 929-994.

25 The so-called GDPR: among many, Aloisi - Gramano, 100-108.

26 See the analysis regarding France, Germany and Italy carried out by Aloisi - Gramano, 108-119.

27 See the comparative analysis among EU and non-EU European countries carried out by Herma van Voss - Waas - ter Haar.

28 Waas, xxvii-lxvii.

29 Varano, 9-10 and, more in details on German, French, and Italian civil-law systems, see Zuckerman, 251-334.

30 For a very general analysis, see Geeroms 15-19 and, more in details on UK and US common-law systems, see Zuckerman, 286-290 on the UK and 325-329 on the US.

31 Varano, 9.

32 See the answers of employment civil-law judges to questions B.12 and ff. in ILO (National Reports of European Labour Court Judges).

facts on which they establish their action and have to offer and specify the means of evidence on which they want to rely in support of the factual allegations they have made in their pleadings[33]. In such a context, the rules regarding the burden of proof play a fundamental role, because they 'make it possible for a trial to arrive at a decision for one side or another in a contested case, even though all the facts of the case may not be known, and, for various reasons, may never be known'[34]. To put it simply, the burden of proof distributes between the parties the risk of losing the case[35]. In civil-law systems, the burden of proof is generally on the claimant, while the respondent has the burden regarding exceptions[36]. However, this customary burden of proof may be shifted for various reasons, including when a party is at disadvantage in gathering evidence that, instead, can be more easily obtained by the counterparty because, for example, this is closer to the source of evidence[37]. Similar practical effects may be also produced through presumptions, i.e., those legal mechanisms that deem one fact to be true within a trial, even in absence of direct evidence of that fact. Presumptions substantially relieve the party that has the burden of proof to fully prove certain facts that may be very difficult to demonstrate[38]. This happens quite often in the employment context, when, depending on the circumstances, the burden of proof can be entirely or partially shifted to the employer, irrespective of whether he is the claimant or the respondent, or certain facts can be presumed when the employee may have difficulties in discovering and offering evidence to prove them[39].

Traditionally, civil-law systems are all characterised by the principle 'nemo tenenetur edere contra se', i.e., no party has to help his opponent in his enquiry of the facts and in his searching of the evidence that may be necessary to decide a specific case[40]. Nevertheless, there have always been certain, albeit traditionally very limited, exceptions to this general principle. All continental systems empower judges to issue ex officio certain measures to gather evidence

33 Geeroms, 27-28.

34 Walton, 1.

35 Summers, 506.

36 Walton, 52 and 68-69.

37 Taruffo, 230.

38 Walton, 1 and 276-277.

39 See the answers of employment civil-law judges to questions B.25 in ILO (National Reports of European Labour Court Judges).

40 Trocker - Varano, 255-258. For the Italian legal system, see Grossi - Pagni, 9-10 in general, but note that there are certain specificities in employment proceedings, 327-332.

that may be useful to find out whether the facts, as alleged by the parties, are true: e.g., order the production of certain documents, order a person to give a witness testimony, order an expert to inspect scenes or other things and provide an expert declaration on his findings[41]. More recently, also to balance the absence of pre-trial discovery devices, reforms have been introduced in many civil-law countries aimed at broadening these judges' power to gather evidence from either the opponent or third parties, allowing each party to have access to evidence not in his possession, because this would be instrumental to get as close as possible to the 'substantive truth'[42] of the case[43]. This has been the case, for example, in Italian employment proceedings, where, since the '70s, judges have been empowered with broad power to gather evidence[44], on the assumption that this may be necessary to unveil the substantive truth of the case, a purpose that may be prejudiced by the information asymmetries between the parties to an employment relationship, that may put the employee at disadvantage in gathering evidence that often are in the exclusive possession of the employer[45]. As a result, the traditional principle that no party has to help his opponent has been, to some extent, watered down, at least in those cases where judges have been granted with ex officio powers to gather evidence, because this can practically help the party who, despite having the burden of proving a fact, fails to collect the evidence at his own initiative before the trial begins.

3. LITIGATING THE ALGORITHM

1. Bringing a claim based on the alleged violation of the limits to the managerial prerogative of remotely monitor the workforce: the algorithm that tracks and fires employees for productivity

Amazon has developed an automated system to measure productivity of its warehouse's workforce. This system constantly tracks the rates of each individual associate's productivity and automatically generates warnings or terminations regarding quality or productivity without input from supervisors. According to his own lawyers, between August 2017 and September 2018, Amazon fired

41 Geeroms, 28-31.
42 Summers, 498-499.
43 Varano, 9-10 and Trocker - Varano, 255-258.
44 Grossi - Pagni, 333. See also ILO (National Reports of European Labour Court Judges), 106.
45 Ales, 370.

in his warehouse in Baltimore 300 full-time associates (the so-called 'pickers') for productivity reasons (approx. 10% of its staff annually)[46].

It is now time to understand how this case could be decided before an Italian employment Court, simulating a claim brought by a picker asserting that he was unfairly terminated because Amazon allegedly violated the limits to employers' monitoring powers. In running this simulation, we will assume that the dismissal for poor performance in itself could have been considered grounded under Italian law[47], and we will just focus on the issues relating to the data collected and processed by the algorithmic device that constantly tracked the picker's productivity to terminate him with a fully automated decision[48]. In this respect, it is critical to consider that, when certain data are collected and processed by the employer in violation of employment and data protection laws, these cannot be legitimately used as evidence in a claim, including unfair dismissal ones[49]. Therefore, a dismissal based on evidence illegitimately gathered will have to be considered unfair under Italian law, irrespective of whether the employer theoretically had factual and legal grounds for dismissing that employee for poor performance.

46 Lecher.

47 However, this cannot be taken for granted, as the case-law requires the employer not only to prove the poor performance of the employee, compared to the ones of his colleagues performing similar tasks, over a prolonged period of time, but also that the poor performance is the exclusive result of the employee's serious lack of diligence, and is not at all attributable to the way the employer organizes its workforce: for a review of the Italian case-law, see Gramano, 1506 ff.
In addition, Italian employers, before serving any disciplinary measure including dismissal, have to carry out a disciplinary procedure, where the employee can defend himself against the objections made against him by the employer. For the purposes of our simulation, we will also assume that Amazon fulfilled this duty.

48 Note that the issue of automated individual decision-making under the GDPR will not be directly analysed here: see, in general, Drożdż and, for an employment law perspective on these topics, De Stefano, 38-39; Aloisi - Gramano, 105-108; Hendrickx, 383-385; and Otto, 398-401.
However, the Amazon case would probably do not fall within the general prohibition of automated decision-making under Article 22(1) GDPR, but would be fall within the exception under Article 22(2)(a) GDPR. However, Amazon's algorithmic management device implementation would be probably unlawful. This is why it did not respect the safeguards provided under Article 22(3) GDPR, which provides that, also in the exception cases under Article 22(2)(a) GDPR, 'the data controller shall implement suitable measures to safeguard the data subject's rights and freedoms and legitimate interests, at least the right to obtain human intervention on the part of the controller, to express his or her point of view and to contest the decision'.

49 Within the employment law domain, this is provided by Article 4(3) of the Law no. 300 of 1970. Within the data protection law domain, this is provided by Article 2-decies of the Legislative Decree no. 196 of 2003. On this topic, see Gamba 122 ff.; Barbieri, 205-208; and Sartori, 283-285.

In a fact pleading system as the Italian one, the claimant employee, at the outset of the case, has to allege the facts on which he establishes his claim and has to offer the evidence on which he wants to rely on support of his factual allegations[50]. Nevertheless, in an unfair dismissal claim, the claimant employee has just to allege and demonstrate the fact that he was dismissed, because the law explicitly switches to the employer the burden of proving that the dismissal was grounded[51]. This means that, if Amazon does not want to lose the case, it will have to be able to gather and offer evidence regarding the termination decision automatically taken by the algorithm to show that the dismissal was factually and legally grounded on the picker's poor performance.

Notwithstanding the above, it can be argued that the scope of the burden of proof covers not only the grounds of the dismissal, but also the fact that the data relating to the picker's productivity, used to automatically terminate him, were legitimately collected and processed by Amazon through its algorithmic device, as this was an integral part of the decision-making process that led to the dismissal. Therefore, Amazon bears the risk of losing the case if it fails to produce in court the evidence regarding the data that fed the algorithm, and that they were gathered in compliance with data protection and employment laws. With regard to data protection law, Amazon will thus have the prove not only that it complied with a series of organizational requirements provided under the GDPR[52], but also that the data processing activity has respected all the principles laid down under Article 5(1) GDPR, which are lawfulness, fairness and transparency; purpose limitation; data minimisation; accuracy; storage limitation; integrity and confidentiality; and accountability[53]. With regard to employment law, Amazon will thus have to prove not only that it gave prior and adequate information to the picker regarding the modalities in which the

50 Article 414 of the Italian Civil Procedural Code provides that the claimant has to file an initial motion that has to contain 'the statement of facts and law on which the claim is based' and 'the specific indication of the evidence which the movant intends to exhibit and of the documents exhibited', see Grossi - Pagni, 326-327.

51 Article 5 of the Law no. 604 of 1966 specifically provides that the burden of proof of the legitimate grounds of the dismissal rests upon the employer: see ILO (National Reports of European Labour Court Judges), 107-108.

52 Namely, provide the employee with a series of information (Article 13 of the GDPR); carry out a data protection impact assessment (Article 35 GDPR); and, if it employs more than 250 persons, maintain a record of processing activities (Article 30 GDPR).

53 de Terwangne, 311 ff.

algorithmic device was used to remotely monitor him[54], but also that this device was installed in compliance with Article 4 of the Law no. 300 of 1970, that generally[55] prohibits remote monitoring of employees' working activity, unless there are certain specific needs that would allow the employer to set up a monitoring device[56], from which may also derive the possibility of remote control of the activities of the employees, whose use has to be in any case regulated by a policy which must previously be either agreed with the trade unions or authorized by the Italian Labour Inspectorate[57].

This conclusion is not only based on the specific provision that, under Italian law, says that the burden of proving the factual and legal grounds of the dismissal lies on the employer[58], whose scope would be in any case limited to the cases when the data collected and processed while remotely monitoring an employee are used as grounds to dismiss him. Rather, it is possible to reach the same conclusion relying on other provisions that specifically restrict the managerial prerogative of remotely monitoring the workforce. From a data protection law perspective, Article 5(2) GDPR provides that the employer, as a data controller, must be able to demonstrate that the processing has been carried out in compliance with the principles set out at Article 5(1) GDPR, a concept later restated by Article 24(1) GDPR. There is already a general consensus, among commentators, that these provisions shift the burden of proof to the data controller[59]. Therefore, Amazon would have the general burden of proving that its algorithmic management device lawfully collected and processed picker's data while he performed his tasks, regardless of the fact that these data were used to terminate his employment relationship. From an employment law perspective, Italian scholars agree that, when the law provides that managerial prerogatives can be exercised only when certain substantial or procedural requirements are met, it is the employer that has to demonstrate within a trial that it complied

54 This information requirement is set out by Article 4(3) of the Law no. 300 of 1970.

55 According to Article 4(2) of the Law no. 300 of 1970, this prohibition does not apply to those devices specifically used to perform the working activity or to the ones used to control access to the workplace and attendance.

56 According to Article 4(1) of the Law no. 300 of 1970, these monitoring devices can be set up, but only for organizational and production needs, for safety at work reasons or for protecting business assets.

57 Aloisi - Gramano, 116-119. Note that these policies normally limit the possibility for an employer to indiscriminately use data collected through these devices for disciplinary reasons.

58 See footnote 51.

59 Voigt - von dem Bussche, 31-32 and Docksey, 567-568.

with them, also in absence of a specific provision shifting the burden of proof to the employer[60]. Therefore, Amazon would have the burden of proving that the picker was remotely monitored in compliance with Article 4 of the Law no. 300 of 1970.

As a result, if Amazon wants to meet this burden of proof, it will have to make transparent within the trial the whole automated decision-making process, from the collection of the picker's data to the reasons behind the termination decision taken by its algorithmic device through the processing of these data. Assuming for the purposes of this simulation that Amazon respected all the other requirements set out by data protection and employment laws[61], the company would reveal to the court a probable violation of Article 4 of the Law no. 300 of 1970[62] and what seems an undeniable breach of Article 5 GDPR. This is why the collection and processing of the picker's data would be contrary, at least[63], to the principle of data minimization, which provides that personal data should only be processed if the chosen legitimate purpose cannot be reasonably fulfilled by other means[64]. In the Amazon's case, the purpose of measuring pickers' performance, also for disciplinary reasons, could have certainly be fulfilled through less intrusive and de-humanized means, not involving a huge amount of data processed by an algorithmic management device without any human intervention.

To sum up, when the burden of proof is totally shifted to the employer, this entirely bears the risk of losing the case for the failure of demonstrating the

60 Vallebona, 61-67 and 129-137.

61 The ones reported under footnotes 48, 52 and 54.

62 First, it does not seem that an algorithm specifically intended to remotely monitor the workforce to structurally terminate the worst performers may be considered a device 'specifically used to perform the working activity' of Amazon's pickers. Therefore, Amazon could not effectively trigger the provision under Article 4(2) of the Law no. 300 of 1970, on which see footnote 55. Second, it is debatable that, given the general prohibition to remotely monitor employees' working activity, case-law would consider a legitimate 'organizational and business need' under Article 4(2) of the Law no. 300 of 1970, on which see footnote 56, the Amazon's need of remotely monitor pickers' performance for disciplinary reasons: see Ingrao, 162 ff. and Tullini 102 ff. In addition, note that, as pointed out at footnote 57, trade unions and the Italian Labour Inspectorate normally limit the possibility for an employer to indiscriminately use data collected through these devices for disciplinary reasons.

63 Nevertheless, if the court deems illegitimate to indiscriminately use data collected through these devices for disciplinary reasons as pointed out at footnote 62, this would also amount to a violation of the purpose limitation principle provided under Article 5 GDPR: see Ingrao, 176 ff.

64 de Terwangne, 317.

decision-making process behind the algorithm. Therefore, if he does not want to unveil within the trial the substantial truth hidden behind an opaque algorithmic management device or if he cannot because this is technically difficult or even impossible, the defendant employer will lose the case against the claimant employee. On the contrary, if he decides to fulfil its burden of proof, the employer will have to offer evidence to show to the court that all the limits to the legitimate exercise of his managerial prerogatives were respected: something that, at least in the case of our simulation, would be improbable. Therefore, the rules that entirely switch the burden of proof to the employer constitute a strong incentive to set up only those algorithmic devices whose underlying decision-making logic and consequences for employees can be made transparent within a trial and, at least for a rational employer that does not intend to bear additional legal, managerial and reputational costs, only those that can be implemented in compliance with data protection and employment laws limiting the managerial prerogative of remotely monitor the workforce.

2. Bringing a claim based on the alleged violation of a non-discrimination duty: the ML recruiting tool that does not like women

From 2014 to 2015, Amazon experimented a hiring tool that used AI to give job candidates scores ranging from one to five stars. But by 2015, the company realized that this ML algorithm was not rating candidates for technical positions in a gender-neutral way, although gender was not a variable directly inputted in the system. Amazon's algorithmic models were trained to rate applicants on the basis of resumes submitted to the company over a 10-year period. Since most of them came from men, the system taught itself that male candidates were to prefer. First, it penalised applications containing the word 'women's', as in cases where this was just reported to 'women's chess club captain'. Second, it did the same with reference to applicants that attended all women's colleges. Third, it favoured candidates who described themselves using verbs that were more often used by male applicants[65].

It is now time to understand how this case could be decided before an Italian employment court, simulating a claim brought by a female applicant asserting that she was discriminated because of her sex. In running this simulation, we will focus on the third example of discriminatory outcome, i.e., the algorithm

65 Dastin.

favoured candidates who described themselves using verbs that were more often used by male applicants, that would constitute an example of indirect proxy discrimination based on sex[66], according to the provision which has transposed in Italy the relevant EU definition of indirect discrimination. In addition, since Amazon collected personal data from the applicants to vet their resumes, we will also assume that the company has just formally complied with the organizational requirements provided by the GDPR[67] and, prior to carry out the selection through its automated hiring tool, has provided all the applicants, only formally in compliance with Article 13 GDPR, with very general information about the decision-making process, just informing them that an algorithm, fed by data contained in the resumes, would have been used in vetting the applicants[68]. No further information has been provided to them. We will also assume that the claimant decided to apply for the vacancy with other three girlfriends and that all of them were rejected by the algorithm. This is the reason why, after reading on the internet that algorithms can be biased, she started having a suspicion

66 Under EU law, the distinction between direct and indirect discrimination in the context of algorithmic decision-making may be categorized as follows: a) direct discrimination, which occurs when a certain decision is directly related to a protected characteristic: e.g., the algorithmic decision-making system downgrades all the applications filed by female applicants because being a woman is directly inputted as a negative variable in the model or because they contain a proxy, that is exclusively connected to being a woman; or b) indirect discrimination, which occurs when an apparently neutral provision, criterion or practice would put a person of one protected group at particular disadvantage, unless this can be objectively justified: e.g., the algorithmic decision-making system downgrades all the applications, irrespective of whether they have been filed by male or female applicants, because they contain a proxy, that is statistically, but not exclusively, correlated to being a woman. This distinction is substantially in line with the one made by Hacker, 1151-1154; Kelly-Lyth, 7-8; Xenidis - Senden, 18-23; Gerards - Xenidis, 63-64 and 67-73. While the first proxy may be deemed as direct discrimination, the second (most probably) and above all the third one (for sure) used by Amazon's algorithm can be considered as examples of indirect discrimination.

67 More specifically, we will assume that Amazon has carried out a data protection impact assessment (Article 35 GDPR) on its hiring tool, but without specifically identifying the risk of discrimination. In addition, we will assume that Amazon employs more than 250 persons, and has thus maintained a record of processing activities (Article 30 GDPR) related to the hiring tool, including the number of male and female applicants that participated to the specific selection process in which the claimant has been involved.

68 Note that, in this case, Amazon's decision would fall within the scope of Article 22 GDPR. This should have two consequences. First, Amazon's device would be probably unlawful for the same reasons highlighted below at footnote 48: more generally on this point, Kelly-Lyth, 18-19. Second, Amazon would have been in breach of Article 13 GDPR, because it would have provided the applicants with 'meaningful information about the logic involved, as well as the significance and the envisaged consequences of such processing for the data subject', because they were subject to an automated decision-making tool pursuant to Article 22 GDPR.

that Amazon could have implemented a discriminatory hiring system. These facts are not easy to materialize in the real world, but assuming them would be useful for the purposes of this simulation, i.e., showing how certain rules may help employees to uncover algorithmic discriminations. Therefore, she brought a claim against the company, arguing that she was discriminated because of her sex, but without complaining about possible violations of the GDPR.

As it has already been seen in analysing the first case study, the claimant employee, at the outset of the case, has to allege the facts on which she establishes her claim and to offer the evidence on which she wants to rely on support of his factual allegations[69]. Nevertheless, in a discrimination claim, there is a specific provision, which has transposed in Italy the applicable EU directive, holding that, when the claimant employee establishes facts from which it may be presumed that there has been an indirect discrimination, then it is for the respondent to prove that this was not the case, or that the differential treatment could be objectively justified[70]. This mechanism can be read as a partial switch of the burden of proof. This means that, if the claimant manages to offer prima facie evidence of the alleged discrimination, then the risk of losing the case shifts to Amazon, unless the company can prove that the discrimination did not occur or that there was an objective justification for the unequal treatment. Since Amazon's algorithmic device actually discriminated female applicants and there was no objective justification whatsoever, it is possible to conclude that the court could rule in favour of the claimant, but only if she manages to offer prima facie evidence of discrimination that would require, at minimum, that there is a statistical disparity between the impact of the algorithmic decision on the protected group, on the one hand, and on a comparable group, on the other[71], e.g., the outcome of the selection process statistically penalised women over men. The issue here is that this information would be almost impossible to obtain for the claimant.

Nevertheless, since the entry into force of the GDPR, workers have been equipped with another regulatory tool that may help them in collecting infor-

69 See footnote 50.

70 Article 40 of the Legislative Decree no. 158 of 2006, which has transposed Article 19 Directive 2006/54/EC of the European Parliament and of the Council of 5 July 2006 on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation (recast).

71 Hacker, 1169.

mation to be used as evidence in court. Article 15 GDPR allows the claimant to exercise a right to access against Amazon, that would have the duty to provide her 'meaningful information about the logic involved' in the automated decision taken by the algorithm, as well as on the consequences of such processing for the applicant[72]. Since Amazon has also a duty to maintain a record of the processing activities under Article 30 GDPR, the company may easily provide the claimant with precise information on the outcome of the selection process, something that would show how women were statistically penalised by the algorithm[73]. This would be critical in helping the claimant to try to offer evidence of a prima facie discrimination, something that may switch the burden of proof to Amazon, thus potentially determining a ruling in favour of the claimant[74].

To sum up, when the burden of proof is partially shifted to the employer, this bears the risk of losing the case for the failure of demonstrating that the decision-making process behind the algorithm was not discriminatory, but only once the claimant has managed to offer prima facie evidence of discrimination. Although this may be difficult, but not impossible[75], for individual litigants, these rules may still constitute an incentive for employers to set up algorithmic devices whose underlying decision-making logic and consequences for employees are fair and can be made transparent. This is even more true when this partial shift in the burden of proof is combined with information and access rights under Article 13 and 15 GDPR, that may require employers to offer data subject sig-

72 See footnote 68.

73 See footnote 67.

74 However, although Article 15 may be theoretically useful in collecting information and evidence, it shall be noted that certain shortcoming remains, because analysing information regarding algorithmic decision-making to spot potential discrimination can be extremely time-consuming and technically challenging for individual litigants, as pointed out by Hacker, 1173-1174; Kullmann, 13; Kelly-Lyth, 23. In addition, it cannot be taken for granted that companies will voluntarily provide potential litigants with meaningful information, so that workers would need to enforce their access rights, something that would worsen the abovementioned shortcomings. Nevertheless, it shall be taken into account that, according to the ECJ in Meister, a 'refusal to grant any access to information may be one of the factors to take into account in the context of establishing facts from which it may be presumed that there has been direct or indirect discrimination', Case C415/10, Meister, para 47. Therefore, even if companies do not voluntarily comply with his duty under Article 15 GDPR, a failure to disclose may be used by a court as a factor in assessing whether the claimant managed to establish a prima facie case of discrimination.

75 See Tribunal of Bologna 31 December 2020. In this case, that will be discussed in greater details in Section 4 below, the claimants managed to offer prima facie evidence of algorithmic discrimination and won the case against the respondent company, which was unable to prove that the discrimination did not occur or that the potential differential treatment could have been objectively justified.

nificant information on the functioning of the algorithmic management device they have decided to implement. Nevertheless, there are other tools that may even more effective to provide evidence of the exact functioning of algorithmic management devices, as it will be seen analysing the third and last case study.

3. Bringing a claim based on alleged worker's classification as an employee: the invisible algorithm that guides and disciplines couriers

Flex is the program used by Amazon to deliver parcels throughout the US. Amazon uses couriers, classified as independent contractors, who have to own a personal smartphone with the app Flex installed and use their own car. After securing a working block through Flex app, each courier has to get in line behind the other cars at a fulfilment centre, check in, receive the goods to be delivered, scan and pack them into the car, and then deliver them to the client following the app's suggested route. When working blocks go unclaimed, Amazon increases couriers' pay, to incentivise drivers to accept them. Couriers may provide Amazon with their tracking data, including location, movements, speed at which they are traveling and other personally identifiable information. If they deny Amazon access to these data, this could affect the availability and functionality of the Amazon Flex app. Couriers also claim that they can be individually deactivated from using the Flex app in case of serious mistakes, and that they can grab working blocks less frequently in case of minor ones[76].

It is now time to understand how this case could be decided before an Italian employment Court, simulating a claim brought by an Amazon's courier asserting that he was an employee and not an independent contractor. In running this simulation, we will assume that the existence of disciplinary mechanisms, i.e., the fact couriers may grab less blocks or even be deactivated when they do not comply with implicit instructions given to them by Amazon, may be a crucial criterion to classify the claimant as an employee under Italian law[77]. In addition, since Amazon collected personal data from the couriers, we will also assume that the company has formally complied with the organizational requirements

76 Menegus.

77 This point is debated among Italian scholars, but the most recent decision on the topic has classified as employee a platform worker formally engaged as independent contractor by a food delivery company, holding that the existence of disciplinary mechanism is a critical sign of subordination: Tribunal of Palermo 20 November 2020. On the criteria used to classify a worker as an employee in Italy, see, in general, Ales, 351-375.

provided by the GDPR[78] and that, prior to be engaged as an independent contractor, has been informed that Amazon implemented an algorithm that, among other things, managed the assignment to working blocks though the Amazon Flex app and also tracked the courier while performing his activity[79]. No further information was provided to the couriers. We will also assume that, after completing certain deliveries after the expected time, the claimant started being assigned with less working blocks. Later in time, he did not complete a specific delivery because he was involved in a car accident and, starting from that day, he was deactivated, with no possibility of challenging this decision. We will also assume that the claimant knows that other colleagues, in similar situations, ended up being deactivated from the Flex app.

Under Italian law, there are no exceptional rules that, in classification claims, modifies the customary rule on burden of proof. Therefore, at the outset of the case, the claimant courier has to allege all the facts on which he establishes his claim and has to offer the evidence on which he wants to rely on support of his factual allegations[80]. The issue here is that, before bringing his claim, he has only the suspect that Amazon's algorithm uses disciplinary mechanisms against couriers, but he does not have any evidence that may confirm this alleged fact. If he fails to offer evidence when he initiates his claim against Amazon, he will lose the case because of the rules on the burden of proof. Nevertheless, there are certain tools that may help him in gathering evidence that may be useful to effectively plead his case.

Before initiating the claim, the courier may try to enforce his right of access under Article 15 GDPR with a view to gather evidence that may substantiate his suspect. First, the courier may exercise this right to request Amazon to provide him the number and duration of each block worked by the courier. This information would be useful to prove that, starting from a certain moment, the courier was assigned with less working blocks and was finally deactivated from the Flex app. In addition, the courier may request Amazon to inform him

78 More specifically, we will assume that Amazon has carried out a data protection impact assessment (Article 35 GDPR) on the algorithm behind its Flex app. In addition, we will assume that Amazon employs more than 250 persons, and has thus maintained a record of processing activities (Article 30 GDPR), including the number and duration of the working blocks that each courier accepts.

79 There is no specific information to assess whether this algorithm would fall within the scope of Article 22 GDPR. If this is the case, there would be the same consequences highlighted at footnote 68.

80 Ales, 370.

on the existence of any data processing activity that led to the deactivation of his account from the Flex app and, if this exists, on the reasons that led to the deactivation. This information would be even more useful for the courier, because he could be provided with evidence on the existence of mechanisms used by Amazon's algorithm to discipline a courier that did not diligently complied with the soft instructions given to him. For the purposes of this simulation, we will assume that Amazon fulfilled the first request filed by the courier, confirming that, starting from a certain moment, the courier was assigned with less working blocks and was finally deactivated from the Flex app. Nevertheless, the company provided the courier only general information regarding the second request, confirming the existence of a data processing activity with regard to the decision of deactivating his account, without any information on the reasons that led to this decision[81].

The courier has then gained enough information to try to plead the facts of his claim against Amazon. However, this would not be sufficient to win the case, because, due to opacity issues, he still lacks specific information, and above all evidence, on the existence of any mechanisms, hidden behind Amazon's algorithm, potentially used to discipline its couriers. Therefore, the claimant decides to plead these facts also in absence of any pre-established evidence, indicating in his initial claim that he will try to prove them asking the court to call as witnesses two categories of individuals: first, his colleagues who were deactivated by Amazon; second, those Amazon's employees who developed the Flex algorithm or, in any case, those who directly supervised its operations in managing the couriers. His colleagues' witness statements could not constitute evidence of the alleged facts, because they have not direct knowledge, but a mere suspect, of the existence of any disciplinary mechanisms. However, these may be useful to further substantiate his claim and convince the court to call as witnesses Amazon's employees, who would indeed have direct knowledge of the functioning of the Flex's algorithm that, otherwise, would have inexorably remained hidden behind technical or legal secrets[82].

81 This is exactly what happened in Tribunal of Palermo 20 November 2020, where the claimant platform worker, before the trial, exercised his right of access under Article 15 GDPR and the company provided only general information on the reasons that led to the deactivation of his account.

82 It shall be noted that, according to Italian case-law, the witness testimony rendered by Amazon's employees would not constitute a violation of neither their duty of loyalty nor the regulation on trade secrets, because, within certain limits, the right of defence of the claimant worker may pre-

Lastly, another technical tool would be even more effective than witness evidence to have direct and full knowledge, within the trial, of the substantive truth hidden behind the algorithm. A court can in fact order an expert to inspect the Amazon's algorithm and provide a witness expert opinion regarding its functionalities. Although experts are normally called to give their opinions on facts and evidence that have been already introduced within the trial by the parties, Italian case-law has admitted that they can be used as auxiliaries of the court in discovering secondary facts connected to the primary facts alleged by one of the parties, through the inspection of scenes or other things, when the court deems this necessary to ascertain facts of technical nature that cannot be otherwise discovered by the party bearing the burden of proof[83]. Discovering evidence on the functioning of an opaque algorithmic management device through its inspection by an expert witness seems to perfectly fits the above definition, also considering that the introduction of these tools has augmented the already existent information asymmetries between workers and entrepreneurs. First, the expert can directly discover how a certain decision has been taken, through reverse engineering practises. Second, when revealing the substantive truth behind the algorithm is technically not feasible, the expert can in any case provide the court with general information on the functioning of the algorithm, designing an alternative model to produce a comparable outcome to a certain decision, or offering a counterfactual explanation on how a certain decision may have been taken by an algorithmic management device.

In this respect, it shall also be considered that, under Italian law, employment judges have been granted with broad powers to gather evidence within the trial[84]. When the substantive truth of the case remains hidden behind the algorithm, they may thus supplement the evidence offered by the claimant with a view to understand if and how his working relationship has been managed by an opaque algorithmic device. Therefore, even if the claimant courier did not indicate in his initial pleading the witness testimony of Amazon's employees or

vail over the confidentiality needs of the company, also considering that, under Italian procedural laws, it is the Judge (and not the parties) who examines the witnesses and, in conducting the witness examination, shall balance the defence needs of the worker with the confidentiality needs of the company: see, among many, Italian Corte di Cassazione 8 August 2016, no. 16629.

83 Italian Corte di Cassazione 26 February 2013, no. 4792 and, more recently, Italian Corte di Cassazione 8 February 2019, no. 3717. Among scholars, Dittrich, 120-123 and P. Comoglio, 139-141.

84 Ales, 370.

the expert's inspection of the algorithm as specific means of evidence to rely on, it can be argued that an Italian employment judge could have issued ex officio these measures, in order to reveal within the trial whether Amazon actually exercised disciplinary powers on his couriers through his opaque algorithmic management device[85]. If this were the case, the courier would have thus won the case, and the court would have consequently classified him as an employee.

To sum up, when the burden of proof lies on the claimant worker, he entirely bears the risk of losing the case for the failure of demonstrating the decision-making process behind the algorithm. Nevertheless, there are certain rules that can help them in reducing the risk of losing the case due to algorithmic lack of transparency. First, information and even more access rights under Article 13 and 15 GDPR may constitute an effective tool to obtain, before the trial, significant information on the functioning of opaque algorithmic management devices that entrepreneurs have decided to implement. Second, granting employment judges with broad powers to gather evidence ex officio may contribute to reveal within the trial the substantive truth hidden behind the algorithm. These regulatory tools would thus help workers to obtain those means of evidence that are necessary to satisfy their burden of proof in classification claims, thus practically shifting part of the risk of losing the case on the defendant employer.

4. CONFIRMING THE PRELIMINARY COMPARATIVE ASSUMPTIONS: TRACKING DOWN REGULATIVE ANTIBODIES AGAINST ALGORITHMIC OPACITY IN THE EU LEGAL SYSTEMS AND BEYOND

As already anticipated in Section 2, these techniques have been widely experimented in the EU and beyond, and may be effectively used, both before and within a claim, to foster algorithmic transparency and consequently avoid potential abuses of managerial prerogatives. In other words, many jurisdictions already have more or less strong regulatory antibodies to face the challenges deriving from the rise of algorithmic bosses.

Before a claim has been brought, information and access rights can be critical for employees to collect information that may be used in pleading the facts and presenting the evidence to a court, above all in those EU continental systems that lack pre-trial discovery procedures and generally ban phishing expeditions

85 ILO (National Reports of European Labour Court Judges), 106.

once the trial has begun[86]. Information and access rights under Articles 13 and 15 GDPR are the most important ones, also because they are uniform in all the EU legal systems. These provisions have a far-reaching scope, because they can be triggered by an individual each time an entrepreneur uses algorithmic management devices that are fed with that individual's data. Another advantage is that these rights can be effectively enforced in the EU, because Articles 77 and 79 GDPR allow data subjects to lodge complaints both before supervisory authorities and courts in case of non-compliance with the GDPR. The importance of these rights when dealing with algorithmic management devices has already been tested in Italy and in the Netherlands in relation to certain cases involving platform workers.

In a case decided by the Tribunal of Palermo[87], a platform worker brought a claim against the food-delivery company Glovo to be classified as an employee instead of as an independent contractor, after his account was deactivated by the platform. With a view to gather evidence that may have been useful in pleading the fats and presenting the evidence, the platform worker decided, before bringing the claim, to exercise his right of access under Article 15 GDPR, requesting Glovo to provide him information regarding the number and duration of each session that he worked for the platform as well as the existence of any data processing activity that led to the deactivation of his account from the Glovo app and, if this existed, on the reasons that led to the deactivation. Glovo fully complied with the first request, providing the claimant precious evidence to demonstrate that Glovo de facto terminated him. However, it only formally complied with the second request, and it did not give the rider any valuable information regarding the reasons that led to his deactivation.

Nevertheless, the rider could have tried to judicially enforce his right to access in order to gather even more useful evidence to present it in his classification claim, as it has recently happened in the Netherlands[88]. In three recent

86 More generally, Trocker - Varano, 255-258 observes that those provisions that, in civil-law countries, establishes information rights that can be enforced judicially in the context of specific legal relationships can be considered, from a comparative point of view, as functionally equivalent to pre-trial discovery procedures typical of common-law countries.

87 Tribunal of Palermo 20 November 2020.

88 Amsterdam District Court 11 March 2021, cases C/13/687315/HARK20-207, C/13/689705/HARK/20-258, and C/13/692003/HARK20-302. The English translation of these cases is available at https://ekker.legal/2021/03/13/dutch-court-rules-on-data-transparency-for-uber-and-ola-drivers/

cases decided by the Amsterdam District Court, certain drivers engaged by two different platform companies, Uber and Ola, judicially enforced their access requests made under Article 15 GDPR. While not all the requests made by these drivers were granted, the Amsterdam District Court ordered Uber to provide access to the personal data used as basis for the decision to deactivate certain drivers' account and to the ones used to establish their individual ranking. Most importantly, after having recognized that Ola implemented an automated systems of discounts and fines, the Amsterdam District Court ordered the company to communicate the main assessment criteria and their role in taking automated decisions regarding the workers, so that they could be able to understand the criteria on the basis of which the decisions were taken, and check the correctness and lawfulness of the data processing.

The Glovo rider could have also tried to lodge a complaint before a national data protection authority to obtain compliance with their access request made under Article 15 GDPR. This strategy would have probably been successful looking at a recent decision where the Italian data protection authority, after an investigation in the form of a data protection audit, acknowledged that Glovo was not providing to its riders all the information required under Article 13 GDPR and ordered the company to comply with this provision with regard to future communications to its riders[89]. The Italian authority found that Glovo collected and processes high amounts of riders' data of the riders, who were subject to automated decisions to organize their working shifts and carry out performance management activities. Basically, Glovo implemented a system that used certain criteria, including clients' evaluations and reliability of each rider, to prepare a ranking among them, thus rewarding with more rides the best performers and punishing the worst ones with less opportunities to grab working slots in the future. Nevertheless, Glovo was silent with its riders on the existence of these automated decision-making mechanisms and did not provide them with any information in this respect pursuant to Article 13 GDPR. Therefore, the authority ordered Glovo to provide to the riders all the information regarding the processing of their data, including the ones regarding the existence of an automated decision-making systems used to assign working shifts to each rider and manage their performance, including meaningful information on the logic used by the algorithm and envisaged consequences of the processing of their data for the riders.

89 Italian Data Protection Authority, 10 June 2021, no. 234.

The cases discussed above shows how these rights can be enforced, both before courts and data protection authorities, to collect information and gather evidence that, reducing the information asymmetries between the parties, may be then used by workers to litigate opaque algorithms more effectively.

However, Articles 13 and 15 GDPR are not the only tools that may be used by workers to gather information to be later used in court as evidence. Similar rights may also be negotiated by trade unions to include them in collective bargaining agreements, with a view to enlarge the scope of the information that shall be provided to trade unions and workers by employers when processing their personal data[90]. This is even expressly envisaged by Article 88 GDPR, when allows collective bargaining agreements to 'provide for more specific rules to ensure the protection of the rights and freedoms in respect of employees' personal data in the employment context', which 'shall include suitable and specific measures safeguard the data subject's human dignity, legitimate interests and fundamental rights, with particular regard to the transparency of processing'. In addition, it shall be noted certain Member States already provide that trade unions have to be informed and consulted before installing monitoring tools in the workplace[91]. These rights may be then enforced by trade unions not only judicially, but also through strikes and social unrest, thus better guaranteeing their effectiveness.

When a trial has already started, other rules can incentivize algorithmic transparency. The first set of these rules are the ones that facilitate the possibility for workers to directly offer evidence that can reveal the substantive truth hidden behind the algorithm. Certain evidence may be directly useful to do so: calling witnesses who directly know the functioning of the algorithm and, above all, appointing expert witnesses to inspect the algorithm and then provide a technical opinion describing its functioning. In civil-law systems, rules granting employment judges with broad powers of obtaining evidence may be critical in this respect, because judges may possibly supplement the evidence offered by the worker at the outset of the case, above all when this need emerges from the allegations of the counterparty or from other indicia revealed within the trial in other ways, for example by witnesses called to testify. Although civil-law systems have been characterised by the principle that no party has to help his opponent,

90 De Stefano, 45.

91 Aloisi - Gramano, 109-119 and Dagnino - Armaroli, 173-195.

we have already seen in Section 2 that this has been partially watered down, when reforms have been introduced to allow judges to issue ex officio measures in order to help one party against his counterparty[92]. This may facilitate the quest for the substantive truth hidden behind the algorithm when dealing with algorithmic management devices.

The second set of these rules are the ones that entirely or partially shift the burden of proof to the employer and the ones the introduce presumptions in favour of the employee, which, as it has been seen in the above case-law analysis, foster transparency only indirectly, because an employer will lose the case if he is not able to show how an algorithmic management device has taken a certain decision. These regulatory techniques are widespread in several sub-domains of many national employment legal systems, both in the EU and beyond. For example, in termination claims, most Member States specifically provides that the burden of proving the existence of a valid reason for the dismissal shall be on the employer[93]. This rule is pretty common also in non-EU countries[94] and it has been adopted by the most important international legal instrument on this topic, i.e., ILO Termination of Employment Convention, 1982 (No. 158)[95]. The same is true in case of discrimination, where EU Directives, harmonizing the legal landscape in all the Member States, provide that the burden of proof is partially switched to the employer[96]. Similar techniques are also present in many non-EU legal systems, that have often introduced rules to ease the employee's burden of proving that a discrimination occurred[97]. In classification claims, some EU Member States provide general or specific presumptions of existence of an employment relationship[98], a legal technique that has also been recently used by the EU legislator when enacting the EU Directive on transparent and

92 Varano, 9-10 and Trocker - Varano, 255-258.

93 Heerma van Voss - Waas - ter Haar, 104-109.

94 See, for example: Australia, Estreicher - Hirsch, 357-358; Brazil, Estreicher - Hirsch, 366; Canada, Estreicher - Hirsch, 373; Israel, ILO (National Reports of European Labour Court Judges), 98-99; Mexico, Estreicher - Hirsch, 432; the UK, Estreicher - Hirsch, 435-436.

95 Article 9(2)(a) of ILO Termination of Employment Convention, 1982 (No. 158).

96 Craig - de Búrca, 989-991.

97 See, for example, the UK, Kelly-Lyth, 8 and the US, Estreicher - Hirsch, 349.

98 Waas, lvi-lxi.

predictable working conditions[99]. Similar provisions, whose introduction has been recommended by the ILO[100], also exist in non-EU countries[101].

The importance of this second set of rules, and more specifically the ones that partially switch the burden of proof to the employer, has been already tested in a discrimination claim brought in Italy by trade unions against the food-delivery company Deliveroo[102]. The claimants, on the basis of certain information made public by the company on its website or reported in the individual contracts entered into with the riders, asserted that Deliveroo's algorithm was discriminatory for trade union reasons, because it allegedly penalized workers that, after having booked a shift, decided to not work during that shift to go on strike. The witnesses called by the Judge only partially confirmed the existence of such a mechanism, as alleged by the claimants at the outset of the case. Nevertheless, even in absence of any evidence that shed full light on the functioning of Deliveroo's algorithm within the trial, the Tribunal of Bologna found that it was discriminatory. The claimants, mainly through documents and witness testimonies, managed to prove facts from which it was possible to presume that Deliveroo's algorithm was indirectly discriminatory against those workers that would have wanted to go on strike instead of working during the pre-booked shift. Nevertheless, once the burden of proof switched to Deliveroo, the company was unable to prove that this mechanism was not discriminatory or that the potential differential treatment could have been objectively justified. As a result, although the concrete functioning of the algorithm was not actually revealed within the trial, Deliveroo lost the case against the claimant trade unions.

Other important provisions that switch the burden of proof to the employer are contained in the GDPR[103] and they can be enforced when the employer is processing employees' data. When dealing with algorithmic management devices, these rules are even more significant than the previous ones. While the provisions listed above switching the customary burden of proof are characterised by domain specificity and can be enforced only in certain types of employment claims, the ones in the GDPR have a far-reaching scope, as they can be

99 Article 11(b) of Directive (EU) 2019/1152 of the European Parliament and of the Council of 20 June 2019 on transparent and predictable working conditions in the European Union.

100 Article 11(b) of ILO R198 - Employment Relationship Recommendation, 2006 (No. 198).

101 See, for example, Turkey and Russia, Waas, lvi-lxi.

102 Tribunal of Bologna 31 December 2020.

103 Articles 5(2) and 24 GDPR.

triggered each time an algorithmic management device using employees' data is implemented in the workplace. Therefore, switching to employers the burden of proof regarding algorithmic compliance with data protection laws may force them to make algorithms transparent before and within a trial, thus uncovering potential violations of not only privacy laws, but also employment ones.

5. ENFORCING EPISTEMIC AND ANTI-EPISTEMIC REGULATORY ANTIBODIES TO FOSTER ALGORITHMIC TRANSPARENCY AND LIMIT ABUSES OF EMPLOYERS' MANAGERIAL PREROGATIVES

The analysis carried out in this article has demonstrated how the rules entirely or partially shifting the burden of proof to the employers or setting presumptions in favour of an employee, the ones granting workers information and access rights, as well as those attributing judges broad power to obtain evidence, are instrumental to show if, how and why an employer has taken a managerial decision regarding its workforce through algorithms. Once the truth behind the algorithm has been revealed, then the worker would be able to assess whether those employment laws generally devoted to limit managerial prerogatives[104] have been actually violated by their employer that decided to use algorithmic management devices. Promoting transparency would be thus strictly instrumental to uncover breaches of employment protective legislation, thus reducing the risk of augmentation of managerial prerogatives.

Nevertheless, it has to be pointed out that, although all these rules are all means to achieve the goal of enhancing algorithmic transparency, they operate through opposite mechanisms if they are assessed as means to achieve the goal of finding the 'substantive truth'[105] within a trial.

On the one hand, the rules on burden of proof are characterized by an anti-epistemic function, because they admit that, when the party having the burden of proof fails to prove certain facts, then 'the facts alleged will be taken to be "not proven", even though the facts alleged may be in fact true', so that there may be a 'divergence between formal legal truth and substantive truth'[106]. The same can be said for those rules that set presumptions, i.e., those legal mechanisms that deem one fact to be true within a trial, even in absence of

104 De Stefano, 31-35.
105 Summers, 497-501.
106 Summers, 506.

specific and direct evidence of that fact, that may be actually false in the real world[107]. Nevertheless, the party that has the burden of proof or against who a presumption is put forward is incentivised to prove it within the trial if he does not want to lose the case. Therefore, those rules switching the burden of proof to the employer and those ones easing the employee's burden of proof thanks to a presumption implicitly foster algorithmic transparency, because constitute strong incentives to set up only those algorithmic devices whose underlying decision-making logic and consequences for employees can be made transparent within a trial. Being aware of the risk of losing the case when unable to prove in court how an algorithmic management device has taken a specific decision, a rational employer would never use unexplainable or incomprehensible algorithms to manage his workforce, in order to avoid bearing additional legal, managerial, and reputational costs. As a result, switching the burden of proof to the employer or setting a presumption in favour of an employee constitute legal tools disincentivising entrepreneurs from using opaque algorithms even without the need of opening the black box, because they allocate on the employer the risk of technical unexplainability or incomprehensibility of the decisions taken by an algorithm.

On the other, information and access rights, as well as the ones granting employment judges with broad powers to gather evidence ex officio, are characterized by an epistemic function, because they are means that are directly aimed at pursuing the search for the substantive truth[108]. These rules also foster algorithmic transparency, both before and within a trial. Information and access rights can be enforced by workers and powers to gather evidence can be exercised ex officio by judges, thus reducing or even resetting the information asymmetries created by the use of algorithmic management devices, and giving the chance to an employee to effectively prove in a trial the facts at the basis of his claim. Therefore, a rational employer would be perfectly conscious that he would not be able to effectively defend himself in trial if he tries to hide violations of employment laws behind algorithmic opacities, which would hinder workers to be aware of or prove facts that they cannot know or cannot demonstrate because they are far from the source of the evidence. As a result, a rational employer, in order to avoid additional costs, would be incentivized to implement only those algorithmic devices that can be made transparent and whose functioning

107 Douglas, 85 ff.

108 With exclusive reference to powers to obtain evidence ex officio, Taruffo, 178-1789.

is not biased or even discriminatory. In other words, these legal techniques may constitute the picklock to open the black boxes of algorithmic management devices that would otherwise remain indecipherable to workers: obviously, with the exception of those ones that would remain technically impenetrable to human minds.

In conclusion, this analysis has shown as, notwithstanding their apparently conflicting functions, the described epistemic and anti-epistemic rules constitute effective regulatory antibodies against the issues created by the use of algorithmic management devices in the workplace. Legal systems in the EU and beyond already know how to foster transparency, and this would be instrumental to uncover violations of employment laws, thus limiting abuses of employers' managerial prerogatives. Therefore, a rethinking of employment laws as they are today does not really seem needed. Nevertheless, if they need a fitness check in light of the always more massive use of algorithmic management devices, recurring more often to the regulatory antibodies described in this article can constitute an effective policy recommendation to better face the challenges posed by the algorithmic revolution.

REFERENCES

Adams-Prassl J., "What if Your Boss was an Algorithm? Economic Incentives, Legal Challenges, and the Rise of Artificial Intelligence at Work", Comparative Labor Law & Policy Journal, 2019, Vol. 41, No. 1

Ales E., "The Concept of 'Employee': The Position in Italy", in (eds) B. Waas - G. Heerma van Voss, Restatement of Labour Law in Europe. Volume I. The Concept of Employee, Hart Publishing, 2017, 351-375

Aloisi A. - De Stefano V., Il tuo capo è un algoritmo, Laterza, 2020

Aloisi A. - Gramano E., "Artificial Intelligence is Watching You at Work: Digital Surveillance, Employee Monitoring, and Regulatory Issues in the EU Context", Comparative Labor Law & Policy Journal, 2019, Vol. 41, No. 1

Menegus B., "Amazon's Last Mile", Gizmodo, 16 November 2017, available at https://gizmodo.com/amazons-last-mile-1820451224

Barbieri M., "L'utilizzabilità delle informazioni raccolte: il Grande Fratello può attendere (forse)", in P. Tullini, Controlli a distanza e tutela dei dati personali del lavoratore, Giappichelli, 2017, 183 ss.

Burrell J., "How the machine 'thinks': Understanding opacity in machine learning algorithms", Big Data & Society, 2016, 1

Cherry M.A., "People Analytics and Invisible Labor", Saint Louis University School of Law, 2016, Vol. 61, No. 1, 1-16

Comoglio L.P., "I poteri d'ufficio del giudice del lavoro", Problemi attuali sul processo del lavoro, Giuffrè, 2006

Comoglio P., Nuove tecnologie e disponibilità della prova, Giappichelli, 2018

Craig P. - de Búrca G., EU Law. Text, Cases, and Materials, 7th ed., OUP, 2020

Dagnino E., "People Analytics: lavoro e tutele al tempo del management tramite big data", Labour & Law Issues, 2017, Vol. 3, No. 1, 3-31.

Dastin J., "Amazon scraps secret AI recruiting tool that showed bias against women", Reuters, 11 October 2018, available at https://www.reuters.com/article/us-amazon-com-jobs-automation-insight-idUSKCN1MK08G

De Stefano V., ""Negotiating the Algorithm": Automation, Artificial Intelligence, and Labor Protection", Comparative Labor Law & Policy Journal, 2019, Vol. 41, No. 1

de Terwangne C., "Comment to Article 5 Principles relating to processing of personal data", in Christopher Kuner, Lee A. Bygrave, Christopher Docksey, and Laura Drechsler (eds), The EU General Data Protection Regulation (GDPR): A Commentary, OUP, 2020, 309 ss.

Dittrich L., "La ricerca della verità nel processo civile: profili evolutivi in tema di prova testimoniale, consulenza tecnica e fatto notorio", Rivista di Diritto Processuale, 2011, 1

Docksey C., "Comment to Article 24 Responsibility of the controller", in Christopher Kuner, Lee A. Bygrave, Christopher Docksey, and Laura Drechsler (eds), The EU General Data Protection Regulation (GDPR): A Commentary, OUP, 2020, 555 ss.

Drożdż A., Protection of Natural Persons with Regard to Automated Individual Decision-Making in the GDPR, Kluwer Law International, 2020

Duggan J. - Sherman U. - Carbery R. - McDonnell A., "Algorithmic management and app-work in the gig economy: A research agenda for employment relations and HRM", Human Resource Management Journal, Vol. 30, Issue 1, 114-132

Dzieza J., "How hard will the robots make us work?", The Verge, 27 February 2020, available at https://www.theverge.com/2020/2/27/21155254/automation-robots-unemployment-jobs-vs-human-google-amazon

Estreicher S. - Hirsch J.M., "Comparative Wrongful Dismissal Law: Reassessing American Exceptionalism", North Carolina Law Review, Vol. 92, No. 2, 343-480

Freedland M. - Kountouris N., The Legal Construction of Personal Work Relations, OUP, 2011

Gamba C., "Il controllo a distanza delle attività dei lavoratori e l'utilizzabilità delle prove", LLI, 2016, 2, 1

Geeroms S., Foreign Law in Civil Litigation. A Comparative and Functional Analysis, OUP, 2004

Gerards J. - Xenidis R., Algorithmic discrimination in Europe: Challenges and opportunities for gender equality and non-discrimination law, EU Commission, 2020, available at https://op.europa.eu/en/publication-detail/-/publication/082f1dbc-821d-11eb-9ac9-01aa75ed71a1

Grossi S. - Pagni M.C., Commentary on the Italian Code of Civil Procedure, OUP, 2010

Hacker P., "Teaching fairness to artificial intelligence: existing and novel strategies against algorithmic discrimination under EU law", Common Market Law Review, 2018, Vol. 55, Issue 4, 1143-1185

Heerma van Voss, G., Waas, B., & ter Haar, B., Dismissal - particularly for business reasons - and Employment Protection, Thematic report - European Labour Law Network, 2011 available at http://www.labourlawnetwork.eu/reports/publications/prm/73/0/index.html

Hendrickx F., "From Digits to Robots: The Privacy Autonomy Nexus in New Labor Law Machinery", Comparative Labor Law & Policy Journal, 2019, Vol. 40, Issue 3

ILO (National Reports of European Labour Court Judges), Evidence in Labour Court Proceedings, XXVI Meeting Of European Labour Court Judges 25-26 September 2018, Madrid (Spain), available at https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---dialogue/documents/meetingdocument/wcms_719949.pdf

Ingrao A., Il controllo a distanza sui lavoratori e la nuova disciplina privacy: una lettura integrata, Cacucci, 2018

Jarrahi M.H. - Sutherland W., "Algorithmic Management and Algorithmic Competencies: Understanding and Appropriating Algorithms in Gig Work", in N. Taylor - C. Christian-Lamb - M. Martin - B. Nardi, Information in Contemporary Society. iConference 2019. Lecture Notes in Computer Science, vol. 11420, Springer, 2019

Kellogg K.C. - Valentine M.A. - Christin A., "Algorithms at work: the new contested terrain of control", Academy of Management Annals, 2020, Vol. 14, No. 1, 366-410

Kelly-Lyth A., "Challenging Biased Hiring Algorithm", Oxford Journal of Legal Studies, 2021, 00, 0, 1-30

Lecher C., "How Amazon automatically tracks and fires warehouse workers for 'productivity'", The Verge, 25 April 2019, available at https://www.theverge.com/2019/4/25/18516004/amazon-warehouse-fulfillment-centers-productivity-firing-terminations

Lee M.K. - Kusbit D. - Metsky E. - Dabbish L., "Working with Machines: The Impact of Algorithmic and Data-Driven Management on Human Workers", in Proceedings of CHI 2015, 2015

Kullmann M., "Discriminating job applicants through algorithmic decision-making", SSRN, 2019

Mateescu A. - Nguyen A., "Algorithmic Management in the Worklplace", Data & Society Research Institute, 2019, available at https://datasociety.net/wp-content/uploads/2019/02/DS_Algorithmic_Management_Explainer.pdf

O'Connor S., "When your boss is an algorithm", Financial Times, 8 September 2016, available at https://www.ft.com/content/88fdc58e-754f-11e6-b60a-de4532d5ea35

Otto M., "Workforce Analytics v Fundamental Rights Protection in the EU in the Age of Big Data", Comparative Labor Law & Policy Journal, 2019, Vol. 40, Issue 3, 389-404

Pasquale F., "The Black Box Society. The Secret Algorithms That Controls Money and Information", Harvard University Press, 2016

Summers R.S., "Formal Legal Truth and Substantive Legal Truth in Judicial Fact-Finding – Their Justified Divergence in Some Particular Cases", Cornell Law Faculty Publications, 1999, Paper 1186

Research Group on the Regulation of the Digital Economy, "Technical Aspects of Artificial Intelligence: An Understanding from an Intellectual Property Law Perspective", Max Planck Institute for Innovation and Competition Research Paper, n. 13/2019

Rosenblat A. - Stark L., "Algorithmic Labor and Information Asymmetries: A Case Study of Uber's Drivers", International Journal of Communication, 2016, Vol. 10

Sartori A., Il controllo tecnologico sui lavoratori, Giappichelli, 2020

Silberg J. - Manyika J., "Tackling bias in artificial intelligence (and in humans)", McKinsey Global Institute, 6 June 2019, available at https://www.mckinsey.com/featured-insights/artificial-intelligence/tackling-bias-in-artificial-intelligence-and-in-humans

Taruffo M., La semplice verità. Il giudice e la costruzione dei fatti, Laterza, 2009

Trocker N. - Varano V., "Concluding Remarks", in N. Trocker - V. Varano, The Reforms of Civil Procedure in Comparative Perspective, Giappichelli, 2005

Tullini P., "Il controllo a distanza attraverso gli strumenti per rendere la prestazione lavorativa. Tecnologie di controllo e tecnologie di lavoro: una distinzione possibile?", in P. Tullini, Controlli a distanza e tutela dei dati personali del lavoratore, Giappichelli, 2017

Vallebona A., L'onere della prova nel diritto del lavoro, Cedam, 1988

Varano V., "The Civil Law System", in O.G. Chase - H. Hershkoff - L.J. Silberman - J. Sorabji - R. Stürner - Y. Taniguchi - V. Varano, Civil Litigation in Comparative Context, 2nd edition, West Academic Publishing, 2017, 5-18

Voigt P. - von dem Bussche A., "The EU General Data Protection Regulation (GDPR). A Practical Guide", Springer, 2017

Waas B., "Comparative Overview", in (eds) B. Waas - G. Heerma van Voss, Restatement of Labour Law in Europe. Volume I. The Concept of Employee, Hart Publishing, 2017, xxvii-lxvii

Wachter S. - Mittelstadt B. - Russell C., "Counterfactual Explanations Without Opening the Black Box: Automated Decisions and the GDPR", Harvard Journal of Law & Technology, 2018, Vol. 31, No. 2

Walton D., Burden of Proof, Presumption and Argumentation, CUP, 2014

Wood J.A., "Algorithmic management consequences for work organisation and working conditions", JRC Working Papers Series on Labour, Education and Technology, n. 2021/07, European Commission, Joint Research Centre (JRC), Seville

Xenidis R. - Senden L., "EU non-discrimination law in the era of artificial intelligence: Mapping the challenges of algorithmic discrimination", in U. Bernitz et al. (eds) General Principles of EU law and the EU Digital Order, Kluwer Law International, 2020, publicly available at SSRN

Yampolskiy R.V., "Unexplainability and Incomprehensibility of Artificial Intelligence", 2019, available at https://arxiv.org/ftp/arxiv/papers/1907/1907.03869.pdf

Zuckerman A., "Initiating a Law Suit, Defining the Issues, Gathering the Evidence", in O.G. Chase - H. Hershkoff - L.J. Silberman - J. Sorabji - R. Stürner - Y. Taniguchi - V. Varano, Civil Litigation in Comparative Context, 2nd edition, West Academic Publishing, 2017, 221-339