A Transparent Decision-Making in the Digital Age

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Abstract

The aim of this paper is to focus on the ways in which the use of algorithms in public decisions affects the administrative proceedings, in relation to compliance with the principle of transparency. Algorithms, especially machine learning ones, possess an inherent dose of obscurity: a linguistic, legal, and structural opacity. Since these algorithms are not inspired by a precise logic, but generate and create new paths, they have been defined as black boxes within which it is difficult to peer. Given this basic opacity, which makes the functioning of the algorithms potentially knowable even if not always comprehensible, the insufficiency of the exercise of the right of access to the source code to achieve an adequate and sufficient level of transparency is evident. Considering these premises and taking into account the positions of jurisprudence and doctrine, it is clear how the concept of transparency that is hypothetically compatible with the use of algorithms in public decision-making processes changes.

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1. Introduction

Digital transformation is also revolutionising the public administration and the main place where it conducts its business and its privileged relations with citizens. That is the administrative procedure, which is no exception to the challenges of innovation it must embrace and respond to.

The aim of this essay is to focus on the due observance of one of the cardinal principles that inspire and govern administrative action: transparency. For a procedure to culminate in a fair decision, it is in fact necessary for the procedure – in addition to guaranteeing the participation of private parties – to be transparent. The interested parties must know about transparency and understand the methods and logics guiding the administration in the privileged seat of its decisions. Any measure that harms the right or interest of these parties is also to be familiar with. Transparency is fundamental and bears inevitable repercussions on the resulting measure and on its motivation.

The questions we will attempt to answer, therefore, concern the effectiveness and efficacy of the transparency principle under current legislation with regards to algorithmic decisions. It will be imperative to ask whether the regulatory provisions – especially those concerning the exercise of the right of access – are sufficient to guarantee the necessary transparency within the algorithmic administrative procedure, so that an impartial decision can be reached. In other words, we must ask whether the regulation of the right of access alone a necessary and sufficient condition for the algorithmic procedure is to comply with canons of effective transparency.

Subsequently, we will describe how the algorithmic administration faces the challenges of transparency. This will be done by distinguishing between decisions taken with model-based algorithms and those taken with the use of machine learning algorithms, analysing the problem of the so-called black boxes. It will be possible, subsequently, to move on to case-study analysis, more precisely decisions of the Italian administrative judge about access to the algorithm's source code. Concrete examples of algorithmic applications will follow, such as the use of algorithms by the Italian tax administration. A few considerations are to tie up this paper.

Through the study of current legislation, including some practical applications of algorithms to public decisions, we will

attempt to outline the directions that transparency takes in the face of digital transformation. It will be possible to assess whether the level of transparency necessary to make the algorithmic procedure and the subsequent measure valid and compliant with the keystones of administrative action can be considered effectively achieved.

2. The evolution of transparency: from official secrecy to the administration as a glass house

The principle of transparency[1], as a general principle of administrative law, has a peculiar relevance within the

[1] Regarding the transparency of public administration and the evolution of the notion itself, the writings are numerous. See, *ex multis*: R. Villata, *La trasparenza dell'azione amministrativa*, 4 Diritto processuale amministrativo 528 ff. (1987); G. Virga, *Trasparenza della p.a. e tutela giurisdizionale del diritto di accesso agli atti amministrativi*, 19-20 Nuova rassegna di legislazione, dottrina e giurisprudenza 2118 ff. (1989); G. Arena, *Trasparenza amministrativa e democrazia*, 97-98 Studi parlamentari e di politica costituzionale 25 ff. (1992); F. Patroni Griffi, *Un contributo alla trasparenza dell'azione amministrativa: partecipazione procedimentale e accesso agli atti (legge 7 agosto 1990, n. 241)*, 1 Diritto processuale amministrativo 56 ff. (1992); L. Cannada Bartoli, *A proposito di tutela della riservatezza e trasparenza amministrativa*, 3 Diritto processuale amministrativo 725 ff. (1999); M. Clarich, *Trasparenza e protezione dei dati personali nell'azione amministrativa*, 12 Foro amministrativo-T.A.R. 3885 ff. (2004); E. Carloni, *Nuove prospettive della trasparenza amministrativa: dall'accesso ai documenti alla disponibilità delle informazioni*, 2 Diritto pubblico 573 ff. (2005); E. Carloni, *La "casa di vetro" e le riforme. Modelli e paradossi della trasparenza amministrativa*, 3 Diritto Pubblico 779 ff. (2009); M. Bombardelli, *Fra sospetto e partecipazione: la duplice declinazione del principio di trasparenza*, 3-4 Istituzioni del federalismo 1 ff. (2013); F. Patroni Griffi, *La trasparenza della Pubblica Amministrazione tra accessibilità totale e riservatezza*, 8 federalismi.it 1 ff. (2013); M. Savino, *La nuova disciplina della trasparenza amministrativa*, 8-9 Giornale di diritto amministrativo, ff. 795 (2014); B. Neri, *"Il Big Bang della trasparenza"*, 3 Rivista trimestrale di diritto pubblico ff. 1142 (2015); M. Savino, *Il FOIA italiano. La fine della trasparenza di Bertoldo*, 2016 Giornale di diritto amministrativo 593 ff. (2016); E. Carloni, *Alla luce del sole. Trasparenza amministrativa e prevenzione della corruzione*, 3 Diritto amministrativo 497 ff. (2019); E. D'Alterio, *Pubbliche amministrazioni in crisi ai tempi della trasparenza*, 4 Giornale di diritto amministrativo 511 ff. (2018); A. Moliterni, *La via italiana al "FOIA": bilancio e prospettive*, 1 Giornale di diritto amministrativo 24 ff. (2019); D. Bolognino, *Anticorruzione e trasparenza: ridisegnarne l'ambito soggettivo di applicazione?*, 6 Giornale di diritto amministrativo 704 ff. (2020); C. Colapietro, *Il complesso bilanciamento tra il principio di trasparenza e il diritto alla "privacy": la disciplina delle diverse forme di accesso e degli obblighi di pubblicazione*, 14 federalismi.it 64 ff. (2020); M.A. Sandulli, L. Droghini, *La trasparenza amministrativa nel FOIA italiano. Il principio della conoscibilità generalizzata e la sua*

administrative procedure, even though it is not exhausted within the same[2].

In fact, the concept of transparency, characterised by changing and constantly shifting boundaries, takes on both a static and a dynamic significance within the public administration: in its static quality, it captures the condition of the administration at a given moment, making it visible from the outside; in its dynamic value, it becomes an objective itself and, thus, an end to which a legal system tends[3]. Transparency means the knowability and comprehensibility of administrative action from the outside[4]. This is the reason why the principle of transparency is primarily enshrined within law no. 241 of August 7, 1990. Before the introduction of the Italian procedural law, the relationship between citizens and the administration was guided by secrecy[5]. According to the provisions of art. 15 of the Statute of the Civil Servants of the State – d.P.R. no. 3 of January 10, 1957 – employees were required to maintain official secrecy and prohibited from circulating information about administrative measures or operations, except for those who were exceptionally entitled to it.

As a result of having established the guarantees relevance to voice and participation, jurisprudence and legislation have also given prominence to «vision», leading to the possibility of making public administration documents accessible and knowable[6]. As it is well known, the evolution of the right of access to administrative documents contributes to generating a change of course in the interpretation of the very idea of public administration. Indeed, today the latter must be considered – unlike in the past and especially thanks to the new developments around transparency –

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difficile attuazione, 19 federalismi.it 401 ff. (2020); F. Lorè, *La trasparenza amministrativa, tra conoscibilità e tutela dei dati personali*, 4 federalismi.it 206 ff. (2021); E. Carloni, *Il paradigma trasparenza. Amministrazione, informazione, democrazia* (2022).

[2] B.G. Mattarella, *Il procedimento*, in S. Cassese (ed.), *Istituzioni di diritto amministrativo* (2012), 314.

[3] E. Carloni, *Il paradigma trasparenza. Amministrazione, informazione, democrazia*, cit. at 1, 23 f.

[4] For this definition, A. Corrado, *Il principio di trasparenza e i suoi strumenti di attuazione*, in M.A. Sandulli (ed.), *Princìpi e regole dell'azione amministrativa* (2020), 123.

[5] A. Averardi, P. Rubechini, *L'amministrazione trasparente*, in L. Torchia (ed.), *La dinamica del diritto amministrativo. Dieci lezioni* (2017), 232.

[6] M. D'Alberti, *Lezioni di diritto amministrativo* (2019), 51.

accessible, knowable, and transparent, in the same way as a «glass house»[7].

As a matter of fact, art. 1, par. 1, l. no. 241/1990, provides that the administrative activity pursues the ends determined by law and is guided by a series of principles, which are – in addition to those of European law – the criteria of cost-effectiveness, effectiveness, impartiality, publicity, and transparency. The original version of the rule, however, did not include the principle of transparency, which was only enshrined in Italian procedural law following the amendments made to the paragraph in question by art. 1, par. 1, lett. a), l. no. 15 of February 11, 2005. Although the principle of publicity found regulatory recognition in l. no. 241/1990 on its very onset, transparency did struggle to take hold. The concept of transparency is, in fact, an idea that is both less penetrating and broader than publicity. If publicity is to be understood as knowledge of what is public as uncovered by secrecy, transparency is a less penetrating principle because it is limited to the shadowy areas represented by what can be defined as non-public, obscure, secret. At the same time, the principle of transparency has a broader scope because, in a way, it absorbs publicity, thus making areas that are generally non-public and unknown potentially knowable by some. In other words, transparency refers to a full knowledge because it can be extended beyond the boundaries of publicity: a complete – even if potential – knowability, and therefore abstractly capable of allowing an adequate understanding of phenomena[8]. Transparency is, in this way, both knowledge and understanding[9].

Transparency of administrative action – which is attained not only through the participation of the interested parties in the proceedings and in the motivation of the measure, but also and above all through the exercise of the right of access – is a fundamental tool to achieve a direct and effective relationship between the governors and the governed. In fact, it allows a conscious participation of the latter and a full control of the

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[7] According to the fortunate definition used as early as 1908 by Filippo Turati during a speech in the Chamber of Deputies, which then entered into common usage.

[8] Of this opinion, E. Carloni, *Il paradigma trasparenza. Amministrazione, informazione, democrazia*, cit. at 1, 25 ff.

[9] G. Arena, M. Bombardelli, *Il diritto di accesso ai documenti amministrativi*, in V. Cerulli Irelli (ed.), *La disciplina generale dell'azione amministrativa. Saggi ordinati in sistema* (2006), 411.

correspondence of administrative action to the interests of the community and to regulatory precepts[10]. If we begin by assuming there can be no true transparency without right of access, we also concluded that the regulation of the latter is an important parameter of the actual degree of transparency of a given legal system[11]. Administrative transparency is not directly backed up by the Constitution, although certain foundation for it within the impartiality principle in art. 97 of the Constitution can be detected. On the administration end, impartiality presumes an evaluation, which requires the participation of citizens and, therefore, knowledge of the data and information held by the administration[12].

The enshrinement of the principle of transparency within procedural law is expressed through the provision of the so-called cognitive access, provided for in arts. 22 ff. of the same law[13]. This type of access is supplemented by the so-called civic access provided for in d.lgs. no. 33 of March 14, 2013, subsequently amended by d.lgs. no. 97 of May 25, 2016[14]. The latter decree

[10] In this sense, M.A. Sandulli, *Accesso alle notizie e ai documenti amministrativi*, in 4 Enciclopedia del diritto (2000).

[11] In these terms, P. Alberti, *L'accesso ai documenti amministrativi*, in P. Alberti, G. Azzariti, G. Canavesio, C.E. Gallo, M.A. Quaglia, *Lezioni sul procedimento amministrativo* (1992), 126.

[12] A. Moliterni, *La trasparenza amministrativa: recenti tendenze e prospettive future*, special issue Rivista italiana per le scienze giuridiche 481 (2014).

[13] Among the main contributions since the introduction of l. no. 241/1990: G. Arena, *L'accesso ai documenti amministrativi* (1991); V. Italia, M. Bassani (dirs.), *Procedimento amministrativo e diritto di accesso ai documenti (Legge 7 agosto 1990, n. 241)* (1991); M. Clarich, *Diritto d'accesso e tutela della riservatezza: regole sostanziali e tutela processuale*, 3 Diritto processuale amministrativo 430 ff. (1996); A. Scognamiglio, *Il diritto di accesso nella disciplina della l. 7 agosto 1990 n. 241 e il problema della legittimazione*, 1 Rivista trimestrale di diritto pubblico 93 ff. (1996); M.A. Sandulli, *Accesso alle notizie e ai documenti amministrativi*, cit. at 10; F. Merloni (ed.), *La trasparenza amministrativa* (2008).

[14] On civic access, among many, see: V. Torano, *Il diritto di accesso civico come azione popolare*, 4 Diritto amministrativo 789 ff. (2013); D.-U. Galetta, *Accesso civico e trasparenza della Pubblica Amministrazione alla luce delle (previste) modifiche alle disposizioni del D.Lgs. n. 33/2013*, 5 federalismi.it 1 ff. (2016); S. Villamena, *Il c.d. FOIA [Freedom of Information Act] (o accesso civico 2016) ed il suo coordinamento con istituti consimili*, 23 federalismi.it 1 ff. (2016); A. Averardi, P. Rubechini, *L'amministrazione trasparente*, in L. Torchia (ed.), *La dinamica del diritto amministrativo*, cit. at 5; M. Filice, *I limiti all'accesso civico generalizzato: tecniche e problemi applicativi*, 4 Diritto amministrativo 861 ff. (2019); M. Lipari, *Il diritto di accesso e la sua frammentazione dalla legge n. 241/1990 all'accesso civico: il problema delle esclusioni e delle limitazioni oggettive*, 17 federalismi.it 1 ff. (2019); A. Moliterni,

provided for the introduction of so-called generalised civic access, which allows anyone (without the need for a direct, concrete, and current interest to exist) to access data, documents and information held by public administration. The set of rules to be analysed adds to making the core of protection of what is now considered a true «right to administrative transparency»[15], constituted by the set of cognitive faculties recognised and protected by the system, of which it constitutes the overall condition of visibility[16].

The citizens' right to know is in fact articulated in three levels of guarantee[17]. The first, governed by procedural law, lets the applicant access documents owned by public administration toward which the private individual can claim a qualified interest. The second level of protection is represented by publication obligations (so-called simple civic access), whereby information on the organisation and activity of the administration is disclosed. The third and broader level of protection is represented by the so-called generalised civic access, which allows *erga omnes* accessibility to the administration's data and documents, regardless of a specific interest claimed by the applicant.

3. Algorithmic transparency

There is a close link between transparency and digitization that is difficult to ignore. In fact, digitisation is at the same time the objective, driver, and tool of every transparency project, while it remains a challenge for public administrations that are revolutionised by it[18].

La natura giuridica dell'accesso civico generalizzato nel sistema di trasparenza nei confronti dei pubblici poteri, 3 Diritto amministrativo 577 ff. (2019); A. Corrado, *L'accesso civico generalizzato, diritto fondamentale del cittadino, trova applicazione anche per i contratti pubblici: l'Adunanza plenaria del Consiglio di Stato pone fini ai dubbi interpretativi*, 16 federalismi.it 48 ff. (2020); A. Moliterni, *Pluralità di accessi, finalità della trasparenza e disciplina dei contratti pubblici*, 4 Giornale di diritto amministrativo 505 ff. (2020).

[15] These are the words of the Constitutional Court, decision no. 20, February 21, 2019.

[16] E. Carloni, *Il paradigma trasparenza. Amministrazione, informazione, democrazia*, cit. at 1, 157 f.

[17] On the three levels of protection, see A. Averardi, P. Rubechini, *L'amministrazione trasparente*, in L. Torchia (ed.), *La dinamica del diritto amministrativo. Dieci lezioni*, cit. at 5, 233.

[18] In these terms, T. Alti, C. Barbieri, *La trasparenza amministrativa come strumento di potere e di democrazia*, 2 Rivista trimestrale di diritto pubblico 816 (2023).

The instruments that the legal system makes available to exercise rights and to make administration act as a glass house are not by themselves sufficient, as we said, to ensure the effectiveness of transparency within the State itself. For this to happen, on the one hand, the means provided by law need to be efficient and effective and, on the other, the concept of transparency must evolve (normatively and otherwise) together with the changes in society, culture and in the very idea of administrative activity.

The technological revolution that is sweeping public administration requires a considerable adaptation of transparency to the new means used by public administration to carry out its activities. The degree of opacity of algorithms makes it complex to reconcile these intelligent systems with the concept of transparency. The main problems arising from the use of algorithms in public decision-making processes are mainly two: (i) the use of big data, whose volume, variety and velocity make the decision-making process difficult to understand and trace; (ii) the ability of algorithms – especially machine learning – to carry out their own decision-making processes that are difficult to predict[19]. It follows that transparency is once again among the issues that pertain to algorithm use in public decision making. Transparency declined, on the one hand, as verification of the quality of the data entered and, on the other, as transparency of the decision-making processes and, therefore, of the decision taken[20]. It has also been pointed out that, even if it was possible to eliminate any margin of opacity, it would be difficult, if not impossible, to control and prevent intelligent systems from being error-free[21] (although it is likewise utopian to think that a human decision-maker – precisely as such – cannot claim the right to make mistakes).

This is clearly reflected onto the rights of the addressees of the decision, which concern in addition to the aspects linked to the possibility of accessing the acts of an algorithmic procedure and even the source code of the algorithm itself, the possibility of challenging and defending oneself against the decisions taken by

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[19] On this point, again, E. Carloni, *Il paradigma trasparenza. Amministrazione, informazione, democrazia*, cit. at 1, 291 f.

[20] A. Corrado, *La trasparenza necessaria per infondere fiducia in una amministrazione algoritmica e antropocentrica*, 5 federalismi.it 197 (2023).

[21] This further element is highlighted by E. Longo, *I processi decisionali automatizzati e il diritto alla spiegazione*, in A. Pajno, F. Donati, A. Perrucci (eds.), *Intelligenza artificiale e diritto: una rivoluzione?* (2022), 354 f.

the administration through algorithms[22]. This is only possible – and this is where transparency in the sense of the exercise of access rights comes into play – by understanding the rationale behind a given decision, as in the case of measures taken by human decision-makers.

It is therefore imaginable to distinguish between two types of transparency: on the one hand, «fishbowl transparency» and, on the other, «reasoned transparency»[23]. The first type of transparency, as suggestively expressed by the term used to describe it, relates to the ability of interested parties to peek inside the administration and obtain information on what it does. It can be translated, in other words, into the exercise of rights of access to data, documents and information held by public administrations. Conversely, reasoned transparency relates to the reasons why the administration acts in a certain way, the rationale behind the decisions taken and, in other words, the reasons given by the administration itself. Although these are two different types of transparency, they are intrinsically linked, since in order for it to be possible for the administration to explain the rationale and the logical *iter* followed in making a certain decision, it is first necessary for it to make knowable what underlies the decision itself.

In the case of algorithmic procedures, certain fundamental principles come into play, specifically linked to the knowability and comprehensibility of the process used, and the decisions taken by the administrations. These principles – which have also been adopted by the Italian administrative courts – are also present within the GDPR. To have a closer look, this is the combined reading of art. 13, par. 2, lett. f) and art. 14, par. 2, lett. g), of the GDPR. By reading the two articles together, it can be inferred that the data controller – whether they obtained the data directly from the data subject – must provide the data subject. The aim is to ensure fair and transparent processing with information on the existence of an automated decision-making process, the logic used, and the consequences envisaged. By splitting the provisions, it is possible to draw the existence of two principles: a principle of knowability, according to which there is an obligation on the data controller to

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[22] With a related obligation for the administration to give reasons for such decisions. On this point, C. Colapietro, *Gli algoritmi tra trasparenza e protezione dei dati personali*, in 5 federalismi.it 157 (2023).

[23] On this distinction, see in particular C. Coglianese, D. Lehr, *Transparency and Algorithmic Governance*, in 71 Admin. L. Rev.18 ff. (2019).

inform the data subject of the existence of an automated decision-making process concerning their personal data; and a principle of comprehensibility demanding data controllers be obliged to explain to the data subject the working logic of algorithm and the envisaged consequences[24].

Art. 15 GDPR completes the picture of the transparency rules set out in the Regulation. This article enshrines the data subject's right to obtain from the data controller confirmation that data relating to him is being processed, as well as access to an array of information[25].

It should be noted at this point that the scope of application of art. 15 is different from that of arts. 13 and 14. The latter, in fact, refer to a moment prior to the start of processing, whereas art. 15 legitimises the request for further and subsequent information[26]. Transparency, therefore, affects all stages of the procedure and is expressed in the sense of both knowability and comprehensibility of the logic and the resulting decision.

These principles are then intertwined with national legislation and the tireless work of administrative jurisprudence, which in turn has produced relevant guidelines on algorithmic transparency. The correct starting assumption is that the future will certainly be digital, but it does not mean it will be, as such,

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[24] On whether or not a real *right of explanation* exists in the GDPR, see the contrasting positions of: S. Wachter, B. Mittelstadt, L. Floridi, *Why a right to explanation of automated decision-making does not exist in the General Data Protection Regulation*, in 2 Int'l Data Priv. L. 76 ff. (2017); G. Malgieri, G. Comandè, *Why a right to legibility of automated decision-making exists in the General Data Protection Regulation*, in 7 Int'l Data Priv. L. 243 ff. (2017).

[25] Among this information, pursuant to art. 15, par. 1, GDPR: the purposes of the processing; the categories of personal data concerned; the recipients or categories of recipients to whom the personal data have been or will be disclosed, in particular if recipients in third countries or international organisations; where possible, the period for which the personal data is to be retained or, if this is not possible, the criteria used to determine this period; the existence of the data subject's right to request from the controller the rectification or erasure of personal data or the restriction of the processing of personal data concerning him or her or to object to its processing; the right to lodge a complaint with a supervisory authority; where the data is not collected from the data subject, all available information as to its source; the existence of automated decision-making, including profiling, and meaningful information on the logic used, as well as the importance and the envisaged consequences of such processing for the data subject.

[26] These insights have been highlighted by C. Colapietro, *Gli algoritmi tra trasparenza e protezione dei dati personali*, cit. at 22, 160.

automatically more transparent and democratic. Indeed, that will be possible only if governed with the appropriate tools[27]. In the following paragraphs, we will move on to analyse the types of algorithms and the transparency questions they pose. Subsequently, an attempt will be made to assess whether the means made available by the legal system to guarantee the transparency of public decision-making processes are adequate and sufficient for that purpose, in the light of an administration that is already digital and is likely to become increasingly so.

3.1. Traditional and machine learning algorithms: the problem of black boxes

This section is to be introduced by making a few initial considerations. It has been said that transparency must follow not so much and not only the legislative dictate but the evolution of society to be considered effective and efficient. An evolution that irreversibly leads towards the digitisation of many activities, including administrative activities. Public administration often employs intelligent tools such as algorithms to make decisions. Algorithms, as described above, are not all the same nor do they have the same capabilities, nor do they all pose the same questions. In this point of the research, we need to consider the sometimes-incendiary relationship between algorithms and transparency.

To do so, the logical starting point is based upon certain assumptions concerning the inherent opacity of algorithms. Three specific issues arise: (i) all algorithms are characterised by a certain «linguistic» opacity due to being programmed in informational language rather than in legal rules; (ii) many of these, whose contents may be subject to intellectual property rights with the consequent secrecy of the source codes, feature some percentage of «legal» opacity; (iii) machine learning or deep learning algorithms – whose functioning remains impenetrable even to the programmers themselves - are characterised by a «structural» opacity[28].

These profiles have been and will be discussed in the remainder of this work. The keystone from which we must start, however, relates to the last of the aspects highlighted above: the

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[27] T. Alti, C. Barbieri, *La trasparenza amministrativa come strumento di potere e di democrazia*, cit. at 18, 816 f.

[28] For these considerations, see G. Lo Sapio, *La trasparenza sul banco di prova dei modelli algoritmici*, 11 federalismi.it 243 f. (2021).

difference in opacity between model-based and machine learning algorithms[29].

Indeed, model-based algorithms are programmed to execute a given command under certain conditions. Such algorithms, in other words, obtain results determined directly by the computer rules, which in turn are dictated by a human programmer. By responding to an «if/then» logic, model-based algorithms come to predictable conclusions that humans can explain by retracing the logical path followed by such powerful computers. This is because the logical sequence that characterises such algorithms somehow resembles legal reasoning: when a rule is set, certain consequences are produced when certain conditions are met.

Machine learning algorithms, instead, consist of two distinct components, which are the source code and a model: the former, as with model-based algorithms, is intelligible, while the latter is composed of numerical parameters to be used in the execution phase and is generated during the training phase. The model, which is not directly comprehensible to humans, is derived from the learning phase, a moment that is fundamental for the representations[30] used later on to make decisions. The goal of the algorithm in the training phase is thus to find representations of a known dataset, based on which unknown data can then be analysed and a reliable result produced. To better put it, by calculating the extent to which the new unknown data is in line with the representation of the known data evaluated in the training phase, the system can make a reliable evaluation of the analysed data. For this second type of algorithm, there is no direct and obvious link between input and output, which makes it difficult for humans to understand and thus explain how and why the algorithm achieves certain results.

Machine learning algorithms are implemented with artificial neural networks. These mimic what happens in biological neurons through the information exchange of synapses, the process that enables human brain to learn. In these intelligent systems, it is possible to distinguish an input layer connected to sensors that perceive the information to be processed, which may be located in

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[29] The reference on the precise distinction between the different types of algorithms is, again, to G. Carullo, *Decisione amministrativa e intelligenza artificiale*, in 3 Diritto dell'informazione e dell'informatica 434 ff. (2021).
[30] Representations are mathematical-numerical abstractions capable of representing a pattern.

several hidden layers, and an output layer that transmits the results of the processing[31]. It follows that the reconstruction of the logical path followed is arduous: neural networks, in fact, collect data from experience and re-process them within non-visible developments, within which the calculations are performed: the so-called black boxes[32].

In other words, while model-based algorithms leave much of the work to humans, the same cannot be said for machine learning algorithms. In the former case, humans specify which input variables of the dataset are to be considered and how they are to be combined to obtain a prediction. In contrast, for machine learning algorithms, it is not humans who define how certain variables combine, but rather this is done directly by the machine. Humans still hold the power to select the training data to be processed and to evaluate the work of the algorithms[33].

Given that artificial intelligence with its black box has already silently entered the glass house of the administration[34], as brilliantly pointed out, we must attempt to define what these black boxes are and if and how the opacity generated by them can be remedied[35]. By black box, we mean the highest level of opacity that

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[31] For such a reconstruction, E. Falletti, *Decisioni automatizzate e diritto alla spiegazione: alcune riflessioni comparatistiche*, in 2 Il diritto dell'informazione e dell'informatica 174 f. (2020).

[32] On algorithms and black boxes, among others: F. Pasquale, *Black box society. The secret algorithms that control money and information* (2015); C. Coglianese, D. Lehr, *Regulating by Robot: Administrative Decision Making in the Machine-Learning Era*, in 6 Geo. L. Rev. 1147 ff. (2017); G. Lo Sapio, *La black box: l'esplicabilità delle scelte algoritmiche quale garanzia di buona amministrazione*, 16 federalismi.it 114 ff. (2021); A. Masucci, *L'automatizzazione delle decisioni amministrative algoritmiche fra "big data" e "machine learning". Verso l'"algocratic governance"?*, 2 Diritto e processo amministrativo 265 ff. (2022); E. Troisi, *Automated Decision Making and right to explanation. The right of access as ex post information*, in 1 European Journal of Privacy Law & Technologies 181 ff. (2022); S. Foà, *Intelligenza artificiale e cultura della trasparenza amministrativa. Dalle "scatole nere" alla "casa di vetro"?*, 3 Diritto amministrativo 515 ff. (2023).

[33] For more on this point, see C. Coglianese, D. Lehr, *Transparency and Algorithmic Governance*, cit. 23, 14 ff.

[34] Litterally, «*l'intelligenza artificiale (con la sua "scatola nera") è già entrata silenziosamente nella "casa di vetro" dell'Amministrazione, senza bussare, senza chiedere autorizzazioni*». These are the words of P. Otranto, *Riflessioni in tema di decisione amministrativa, intelligenza artificiale e legalità*, 7 federalismi.it 204 (2021).

[35] On the relationship between transparency and algorithms employed by the public administration, among others, E. Carloni, *Transparency within the artificial*

characterises certain types of algorithms – machine learning and deep learning – and which renders the functioning mechanism and the path followed in the input-to-output processing inscrutable even to programmers and developers: a black box is configured when it is not possible for human beings to reconstruct the logical procedure followed by the machine to reach the assigned objective[36]. To better specify this statement, we can say that machine learning algorithms are often described as those capable of transforming inputs into outputs through a black box, into which humans cannot look to understand how the transformation occurs and describe it with the same causal language applied to traditional algorithms: this is different from saying that machine learning algorithms are irreversibly opaque[37].

As mentioned, the demand for transparency ends up in both fronts of the so-called fishbowl transparency and reasoned transparency: the former meaning the possibility to obtain information on what the administration does; and the latter meaning the possibility of obtaining information on how the administration acts and why. It is evident that the main problem with machine learning algorithms relates to the second type of transparency, which is made difficult by the existence of black boxes.

The questions that need to be asked, therefore, relate to the previously mentioned profiles concerning the linguistic, legal, and structural transparency of the algorithms. Among these profiles, the most complex is certainly related to the structural transparency (or rather, opacity) of certain systems, especially machine learning and deep learning.

Abiding by the principles enshrined in the GDPR, in Italy, as we shall see, the administrative judge has tried to unravel the knots in the tangle. Some of the considerations made by the judge, are then confirmed by supranational regulatory activity. The following paragraphs will analyse the profiles just outlined and attempt to answer the fundamental question that this chapter intends to answer: is algorithmic administrative activity compatible with the

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administrations, principles, paths perspectives and problems, 1 Italian Journal of Public Law 8 ff. (2024).

[36] For this description, G. Lo Sapio, *La black box: l'esplicabilità delle scelte algoritmiche quale garanzia di buona amministrazione*, cit. at 32, 117.

[37] C. Coglianese, D. Lehr, *Regulating by Robot: Administrative Decision Making in the Machine-Learning Era*, cit. 32, 1206 f.

principle of transparency, to which administrative action must be directed?

3.2. Access to source codes: the lack of transparency

To be able to function, algorithms need humans to provide them with data (input) that can be transformed into other data (output). For this to be possible, it is necessary for software to possess a source code, represented by the text of a calculation algorithm in programming language, which defines how the programme itself is executed. The source code, in other words, provides the instructions according to which the programme works[38].

It is immediately apparent how knowledge and understanding of the source code – achieving fishbowl transparency – is propaedeutic and necessary to understanding how and why the administration acts – allowing the requirement of reasoned transparency to be also considered guaranteed.

The issue has been addressed in Italy by the administrative judge, in the context of teachers' mobility[39]. In the case at hand, the applicants had requested, *inter alia*, access to the source code of an algorithm that managed the teacher assignment procedure, committing macroscopic errors. Following the application for access submitted by the applicant to the administration, the latter refused to grant access to the source code based on two arguments: the source code would not be an administrative document and would, therefore, not be accessible[40]; the actual prejudice would put

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[38] Programming language – to be understood by the computer – must be transformed into machine language by an interpreter or compiler.

[39] This is the judgment of the T.A.R. Lazio, no. 7526/2020. For comments on the decision, among others: I. Forgione, *Il caso dell'accesso al software MIUR per l'assegnazione dei docenti*, in 5 Giornale di diritto amministrativo 647 ff. (2018); E. Prosperetti, *Accesso al software e al relativo algoritmo nei procedimenti amministrativi e giudiziali. Un'analisi a partire da due pronunce del TAR Lazio*, in 4-5 Il diritto dell'informazione e dell'informatica 979 ff. (2019); F. Bravo, *Trasparenza del codice sorgente e decisioni automatizzate*, in 4-5 Il diritto dell'informazione e dell'informatica 693 ff. (2020).

[40] In fact, the source code could not be traced back to one of the forms in which the administrative act referred to in art. 22, par. 1, lett. d), l. no. 241/1990, could manifest itself. This is because only documents drafted and held by a public administration could be considered administrative acts, so that acts of a private nature – such as the text of an algorithm drafted by a private company – would automatically have to be excluded from the list of accessible ones. On this point, L. Previti, *La decisione amministrativa robotica* (2022), 212.

the freedom and secrecy of the information in danger, so much as the economic and commercial interests of the software owner (CINECA).

The administrative judge found arguments unfounded, stating for the first time that there are no legal obstacles to recognising the right of access to the source code of an algorithm used within an automated process[41].

Starting from the first profile and from the configurability of the source code as an administrative document within the meaning of art. 22, par. 1, l. no. 241/1990, the court found that the notion is broad and capable of expansion, also encompassing internal acts relating to activities in the public interest. It, therefore, questioned whether the algorithm used in the case at hand could fall within this broad definition, taking its starting point from the functions performed in the proceedings. In particular, the software allowed users to view the questions and provide the answers, as well as to save, collect and encrypt them for the availability of the examining boards.

As a result, the role played by the algorithm is framed in a context of undoubted public relevance, such as that of a public competition. The software, due to the characteristics of the case at hand, becomes instrumental in concretising the final will of public administration, affecting individual legal situations[42]. Since the rationale of access is to make the documents used by the administrations for the care of public interests knowable to the legitimised persons, the acts that contribute to concretising the will of the administration must also be considered accessible, even if they are drawn up by private subjects[43].

It follows that, in the judge's opinion, adhering to the argument put forward by the administration that the source code should be inaccessible would end up legitimising the obscuration of acts affecting the administrative activity relating to the management of public competitions and, in the final analysis,

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[41] Among the precedents in which the administrative court has, instead, denied the right of access in similar cases: T.A.R. Lazio, sez. III bis, March 21, 2017, no. 3742; T.A.R. Lazio, sez. III bis, 22 marzo 2017, no. 3769. Preliminarily, the panel found that, since a cumulative request for access had been submitted by the applicants (and therefore as cognitive access or generalised civic access), this issue had to be settled.

[42] On this point, see the considerations of I. Forgione, *Il caso dell'accesso al software MIUR per l'assegnazione dei docenti*, cit. at 38, 655.

[43] L. Previti, *La decisione amministrativa robotica*, cit. at 39, 214.

undermine transparency. Moreover, this would generate what the college defines as a «double track», such that transparency lose significance in proceedings managed by IT tools compared to traditional ones. The source code can therefore be configured as an accessible administrative document.

The second argument against the right of access to the source code concerns the potential harm that recognising such a right could pose to the confidentiality of information and the economic interests of the software-producing company. On this point, which is less important for the purposes of this work, the judge noted that knowledge of the source code does not imply a vulnerability of the security of the programmes used by the administration. Moreover, the configurability of the source code in terms of an administrative document outweighs any economic profiles relevant to the developer[44].

The administrative judge's decision represents an important precedent, the first to legitimise accessibility to the source code in the case of decisions taken by the administration through the use of algorithms. Faced with a discretionary choice of the administration to manage the procedure by means of software, deemed legitimate by the judge, the latter nevertheless specified the need for this not to correspond to a retreat of protections and guarantees[45]. The judge's intention and the innovative scope of the decision appear immediately evident, paving the way for stakeholders to familiarise with the decisional tools of the administration.

It is necessary, however, to ask whether this extensive interpretation[46] of the right of access is alone sufficient for the guarantees to achieve effective transparency. In other words, we must ask the question of whether access to source codes is sufficient to enable the achievement not only of fishbowl transparency – what the administration does – but also of reasoned transparency – how and why it does it. If the first of both transparency concepts can conceivably be protected in part through the exercise of the right of access, since this allows the private individual to at least know that

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[44] This is because, since the activity in question is in the public interest and constitutionally protected - a public competition being in evidence - such considerations outweigh any economic interest of the private operator.

[45] In this sense, P. Otranto, *Decisione amministrativa e digitalizzazione della p.a.*, 2 federalismi.it. 18 f. (2018).

[46] These are the terms used by L. Previti, *La decisione amministrativa robotica*, cit. at 39, 218.

the administration is acting through algorithms and of what kind, important doubts remain in relation to compliance with the second type of transparency. It does not seem, *prima facie*, possible that the interested party could be aware of the logical *iter* followed by the algorithm and, ultimately, understand the reasons leading to a particular decision on the sole basis of the text of a calculation algorithm.

First, it should be noted that the source code, as such, is not normally intelligible in an autonomous manner by a person lacking the technical skills necessary to fully understand how the algorithm works and, therefore, how the administration acts[47]. It follows that recognition of accessibility to such code does not have a direct correspondence with greater transparency in terms of comprehensibility.

Again, access to the source code allows for the possible knowledge of the algorithm's programming language and not that of the intermediate steps that led to the definition of the software instruction[48].

Finally, in order for an interested party to understand how and why the administration arrived at a certain result by means of the algorithm, it is necessary for the source data (input) to be known[49] beside the source code.

These considerations only confirm that granting the right of access to the source code of an algorithm used in a public decision-making process does not achieve the sufficient degree of transparency for it to be considered effectively protected.

Indications as to what characteristics an algorithmic decision-making process must possess to be considered truly transparent come, once again, from the administrative judge[50]. In the decisions considered, the importance of compliance with the principle of knowability and comprehensibility of the algorithmic

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[47] L. Torchia, *Lo Stato digitale. Una introduzione* (2023), 128 f. The person concerned will therefore need the help of an expert capable of deciphering and interpreting the language in which the programme was written.

[48] For further discussion, L. Previti, *La decisione amministrativa robotica*, cit. at 39, 220.

[49] An operation made even more complex when using big data. See G. Avanzini, *Decisioni amministrative e algoritmi informatici. Predeterminazione, analisi predittiva e nuove forme di intelligibilità* (2019), 146 f.

[50] These are the already cited: Cons. Stato, sez. VI, decision no. 2270, April 8, 2019; Cons. Stato, sez. VI, decision no. 8472, December 13, 2019; Cons. Stato, sez. VI, decision no. 881, February 4, 2020.

rule was again affirmed. These principles are attested as a reinforced declination of the principle of transparency, to be understood as the full knowability of a rule expressed in a language different from the legal one (a knowability that evidently cannot be satisfied by mere access to the source code). A knowability that branches out into all the phases and aspects of the procedure, so as to be able to verify that the criteria, prerequisites and outcomes of the same comply with the law and so that the modalities and rules of the procedure itself are clear. A knowability that attains, therefore, comprehensibility even of the logical procedure used by the machine to make the decision, such that both fishbowl transparency and reasoned transparency can be said to be realised. It would thus be possible to see light beyond the opaque glass of the algorithmic decision.

At the European level, the Artificial Intelligence Act[51] – in addition to the GDPR itself – is consistent with this approach. Within the Regulation, in fact, AI practices are divided into three levels of risk, to which a different degree of protection corresponds. There

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

For some comments: G. Finocchiaro, *La proposta di regolamento sull'intelligenza artificiale: il modello europeo basato sulla gestione del rischio*, 2 Il diritto dell'informazione e dell'informatica 303 ff. (2022); D. Messina, *La proposta di regolamento europeo in materia di Intelligenza Artificiale: verso una "discutibile" tutela individuale di tipo "consumer-centric" nella società dominata dal "pensiero artificiale"*, 2 MediaLaws 196 ff. (2022); G. Resta, *Cosa c'è di "europeo" nella Proposta di Regolamento UE sull'intelligenza artificiale?*, 2 Il diritto dell'informazione e dell'informatica 232 ff. (2022); G. Lo Sapio, *L'"Artificial Intelligence Act" e la prova di resistenza per la legalità algoritmica*, 16 federalismi.it 265 ff. (2024).

are thus AI systems that generate unacceptable risk[52], others that generate high risk[53], and still others low or minimal risk[54].

Comprehensibility, on the other hand, is dealt with in a specific rule for high-risk systems, to be found in art. 13 of the proposal. In this case, the systems themselves must be designed and developed in such a way to ensure that their operation is sufficiently transparent, so that users are able to interpret the output and use it appropriately. Such systems are also accompanied by instructions for use, which include concise, complete, correct, clear, relevant, accessible, and understandable information for users[55]. In other words, Article 13 mandates that high-risk AI systems must be designed with transparency to ensure that users can understand and utilise them effectively. These systems must be accompanied by clear and comprehensive instructions, which should include:(i) information about the provider of the AI system; (ii) details regarding the system's capabilities and limitations; (iii) an outline of any potential risks associated with its use. Additionally, the instructions must clarify how to interpret the system's outputs, account for any pre-determined modifications to the system, and provide guidance on its maintenance. Where applicable, they should also address the procedures for collecting, storing, and interpreting data logs.

As it has been correctly emphasised[56], the reference is no longer merely to the logic of automated processing – as provided

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[52] These practices are prohibited and consist of systems that manipulate human behaviour, using subliminal techniques; systems that exploit people's vulnerability due to age or disability; systems that assess the reliability of individuals on the basis of their social behaviour or personal characteristics; real time biometric identification practices in places open to the public, except for reasons of public security.

[53] Systems posing a high risk to the health and safety, or fundamental rights of natural persons are the subject of the entire Title III of the proposed regulation. High-risk systems are described in art. 6, par. 1 and Annex III to the proposed regulation. These systems represent the fundamental core of the entire regulation.

[54] These include virtual assistants and video games.

[55] The information to be provided includes: the identity and details of the supplier; the characteristics, capabilities, and performance limits of the artificial intelligence system (including its purpose, level of accuracy, performance...); any modifications made to the system; human surveillance measures; the expected lifetime and maintenance measures.

[56] G. Lo Sapio, *La black box: l'esplicabilità delle scelte algoritmiche quale garanzia di buona amministrazione*, cit. at 32, 126.

for in arts. 13 and 14, GDPR – but to the interpretability of the same, thus guaranteeing protection in terms of comprehensibility and not mere knowability of the functioning of intelligent systems.

The administration is, therefore, required to understand the language, operation, and logic of the algorithms itself, so that it can enable those concerned to do the same. Only in this way can the principle of comprehensibility be considered achieved as enunciated in case law and at supranational level. This means, in other words, that access to the components of the algorithm – although it is certainly a necessary condition – is insufficient to guarantee the degree of transparency that systems of this type require to be considered compliant with the principles governing administrative action. For the right of access and transparency to find practical application, comprehensibility must be ensured in addition to mere knowledge of what the algorithm does and how it does it, in order to obviate the danger of «knowing without understanding»[57].

Meanwhile, in Italy, a bill concerning artificial intelligence is currently under consideration. The purpose of the bill, entitled «Provisions and Delegation to the Government on Matters Concerning Artificial Intelligence», is to establish regulatory criteria capable of balancing the opportunities and risks arising from the use of this technology. The objective is to improve citizens' quality of life, enhance social cohesion, and concurrently provide risk mitigation solutions. These solutions are primarily based on a vision that places human decision-making at the centre, within the contexts of experimentation, development, adoption, research, application, and use of artificial intelligence systems and models.

Moreover, the problem of ensuring sufficient transparency of machine learning algorithms remains unresolved, considering that making the logical processes performed by them comprehensible – obscure even to programmers and developers – is still a difficult nut to crack.

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[57] Literally, «sapere senza capire». In this terms, L. Torchia, *Lo Stato digitale. Una introduzione*, cit. at 46, 155.

4. Tax algorithms: the Italian case

The Italian tax authorities have been overwhelmed by the digital transformation[58]. At the very centre of this significant transition is the Agenzia delle entrate (the Italian Revenue Agency), which performs the functions concerning state tax revenues that are not assigned to other public administrations and has the task of pursuing the highest level of tax compliance through assistance to taxpayers and controls aimed at countering tax non-compliance and tax evasion[59].

With the precise aim of promoting tax compliance, the Indici Sintetici di Affidabilità Fiscale (ISA) – synthetic indexes of fiscal reliability – were established in 2017[60]. These are indicators that provide a value summary useful to verify the normality and consistency of the professional or business management of taxpayers by means of statistical-economic methods, data, and information relating to several tax periods. The ISAs allow economic operators to independently assess their own position, verifying the degree of reliability on a scale of values ranging from 1 to 10 and allowing self-employed workers and businesses that are reliable to

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[58] On this point, see the considerations of V. Bontempi, *L'amministrazione finanziaria dello Stato. La gestione della finanza pubblica in un sistema di governo multilivello* (2022), 217 ff.

[59] The Revenue Agency is regulated by art. 62, d.lgs. no. 300, July 30, 1999. Since 2012, the same Agency has incorporated the Agenzia del territorio and absorbed its functions (d.l. no. 95 July 6, 2012, converted by l. no. 95, August 7, 2012). The Revenue Agency is flanked by three other tax agencies: the Agenzia delle dogane e dei monopoli, which carries out services relating to the administration, collection and litigation of customs duties and internal taxation in international trade, excise duties on production and consumption, excluding those on manufactured tobacco (art. 63, d.lgs. no. 300/1999); the Agenzia del demanio (art. 65, d.lgs. no. 300/1999), which administers the State's immovable property, rationalising and enhancing its use, as well as confiscated property; the Agenzia delle entrate-Riscossione, an instrumental body of the Revenue Agency, subject to the operational guidance and control of the same and with the task, among others, of collecting the tax or property revenues of local authorities (art. 1, d.l. no. 193, October 22, 2016, converted by l. no. 225, December 1, 2016,).

[60] Synthetic Indices of Tax Reliability. Art. 9 bis, d.l. no. 50, April 24, 2017, converted by l. no. 96, June 21, 2017. These indices are applied as of the tax period in progress as of 31 December 2018. On the Isa see: M. Macchia, *Lo statuto giuridico dell'algoritmo amministrativo*, in *Osservatorio sullo Stato digitale*, Irpa (2020) (www.irpa.eu/lo-statuto-giuridico-dellalgoritmo-amministrativo/); A. Mascolo, *Intelligenza artificiale e amministrazione fiscale: non tutti gli algoritmi sono uguali*, in *Osservatorio sullo Stato digitale*, Irpa (2021) (www.irpa.eu/intelligenza-artificiale-e-amministrazione-fiscale-non-tutti-gli-algoritmi-sono-uguali/).

access significant bonus benefits[61]. The taxpayer «report card» is produced by means of an algorithm developed by the company Soluzioni per il sistema economico s.p.a. (SOSE), in which the Ministero dell'economia e delle finanze (Ministry of Economy and Finance) – MEF (88%) and Banca d'Italia – Bank of Italy – (12%) participate[62].

ISA's pose problems similar to black boxes, since it is unclear who are the subjects required to respond to taxpayers in the event of inconsistent outcomes[63], or what kind of interaction can be established with the subjects concerned[64]. These are, therefore, rigid and strictly predefined procedures, which lack cross-examination and feature significant uncertainties concerning the very imputability of the decision. There follows that difficulties emerge in identifying the parties responsible for providing the necessary explanations on the functioning and conclusions of the algorithm.

Another use of artificial intelligence by the Agency is the application called Verifica dei Rapporti finanziari (VERA)[65], also

[61] For this and further information on the indices, Agenzia delle entrate, *Gli Indici Sintetici di Affidabilità Fiscale*, update of January 2023, visible at the following link: www.agenziaentrate.gov.it/portale/documents/20143/233439/Gli_indici_sint etici_di_affidabilita_fiscale_2023.pdf/157b9f4e-8ce3-4693-5630-098dffb08f89#:~:text=Gli%20ISA%20sono%20particolari%20strumenti,dell'appli cazione%20di%20singoli%20indicatori. The benefits the taxpayer can access are set out in art. 9 bis, par. 1, d.l. no. 50/2017.

[62] On the other hand, the Revenue Agency is supported in its use of indexes by the Società generale di informatica s.p.a. (Sogei), a wholly owned subsidiary of the Mef. For this data, V. Bontempi, *L'amministrazione finanziaria dello Stato. La gestione della finanza pubblica in un sistema di governo multilivello*, cit. at 57, 221 f.

[63] The SOSE, when asked about the criteria adopted for the Isa, has indicated the MEF and the Revenue Agency as the subjects in charge of answering, since it would have limited itself to working on the project on their behalf. On this point, M. Gabanelli, A. Marinelli, *Tasse, ecco come un algoritmo difettoso ti fa pagare di più di quanto devi*, (2019) *Corriere della Sera*, November 10 (www.corriere.it/dataroom-milena-gabanelli/tasse-isa-ecco-come-algoritmo-difettoso-ti-fa-pagare-piu-quanto-devi/77bbc760-03dd-11ea-a09d-144c1806035c-va.shtml).

[64] M. Macchia, *Lo statuto giuridico dell'algoritmo amministrativo*, cit., points out how in the case of the ISA no relief comes to the aid of taxpayers, given that the algorithmic rule represents a rigid, almost predetermined procedure. The fact that it is not possible to indicate the factors that affect income, complicates, therefore, the ordinary management of the relationship with the tax administration, considering that the Isa concerns approximately six million taxpayers.

[65] Art. 1, pars. 681-686, l. no. 160, December 27, 2019, (legge di bilancio per il 2020), which was implemented by a decree of June 28, 2022, of the MEF.

aiming to contribute to the analysis of the risk of evasion. At the basis of this system is an algorithm, which makes it possible to make integrated use of the data in the Anagrafe tributaria and the information communicated by financial operators to the Archivio dei rapporti finanziari[66].

To explain how this operates to prevent and combat tax evasion, the Revenue Agency has issued guidelines in a memo as of June 2022[67]. The same memo specifically states that «the control strategy must be marked by a significant identification of the most insidious forms of fraud and evasion, making the selection of positions to be subjected to control in such a way as to combine the principle of fairness with that of profitable administrative action»[68].

The memo of the Agency was followed by an opinion of the Italian Data Protection Authority (Garante per la protezione dei dati personali – GPDP), dated July 2022[69], related to the impact assessment of the processing operations carried out by the Agency. The subject matter included the analysis of the risks and evasion/avoidance phenomena, using the data in the financial relations archive and their cross-referencing with other databases available to the Agenzia delle entrate. The GPDP emphasised the importance that the principles of knowability, non-exclusivity of the algorithmic decision and algorithmic non-discrimination be respected when using algorithms. It also stressed that transparency and fairness in decision-making processes based on automated processing constitutes one of the necessary safeguards in the use of AI systems in the context of administrative action, which may contribute to the containment of related risks that may arise, including discriminatory ones. Overall, the GPDP authorised the

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[66] The Anagrafe tributaria is governed by d.P.R. September 29, 1973, no. 605 and, according to art. 1 of the same decree, it collects and organises on a national scale the data and information resulting from the declarations and complaints submitted to the offices of the financial administration and from the relevant assessments, as well as the data and information that may be relevant for tax purposes. The tax archive is, on the other hand, established by art. 7, par. 6 of the same decree.

[67] Agenzia delle entrate, circular no. 21/E of June 20, 2022.

[68] Literally, «la strategia del controllo dovrà essere improntata ad una significativa individuazione delle forme più insidiose di frodi ed evasioni, effettuando la selezione delle posizioni da assoggettare a controllo in modo da coniugare il principio di equità con quello di proficuità dell'azione amministrativa».

[69] This is GPDP opinion of July 30, 2022, no. 276.

Agency to initiate the processing operations, but ordered it, *inter alia*, to: collect the opinions of the subjects involved in various capacities in the processing operations under consideration; publish an extract of the data protection impact assessment, omitting the annexes and the parts that could compromise the security of the processing operations; adopt processes to verify the quality of the analysis models used, documenting periodic reports of the metrics employed, the activities carried out, any critical issues encountered, and the resulting measures adopted.

Most recently, the Agency drew up a document[70] that sets out the information elements concerning the methodologies of risk analysis activities based on data use from the Archivio dei rapporti finanziari[71]. Risk analysis is broken down into several stages[72], within which human intervention is always guaranteed (no fully automated decision-making processes are in place). In the document, the Agency also describes the types of analysis that algorithms adopt: namely, deterministic and stochastic analysis. The first type of analysis features the set of models and analysis techniques based on the comparison and processing of data, referring to one or more taxpayers or to one or more tax periods. Its aim is to verify the occurrence of a tax risk, wholly or partially definable before the analysis is initiated, by means of selective criteria based on non-probabilistic relationships. The second type of analysis, on the other hand, is substantiated by the set of models

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[70] Agenzia delle entrate, *Informativa sulla logica sottostante i modelli di analisi del rischio basati sui dati dell'Archivio dei rapporti finanziari*, May 19, 2023 (www.agenziaentrate.gov.it/portale/documents/20143/5316839/Documento+ illustrativo+della+logica+degli+algoritmi.pdf/672a3ef3-8cbf-a442-3b19-de910e751666).

[71] Risk analysis is defined in the same document as the analysis encompassing the techniques, procedures and IT tools used to identify taxpayers who present a high tax risk, understood as the risk of operating, or having operated, in violation of tax regulations or contrary to the principles or purposes of the tax system. Once the tax-risk positions have been identified, they are forwarded to the organisational units in charge of controls, which carry out further investigations and assessments in order to identify the persons against whom investigations should be initiated.

[72] The steps in the risk analysis process are identification of the reference audience; choice of databases; provision of databases; quality analysis; definition of the risk criterion; choice of analysis model; verification of the correct application of the model and risk criterion; extraction and identification of subjects; testing of a sample of the reference sub-platea; preparation of selective lists.

and analysis techniques which exploit artificial intelligence or inferential statistics solutions and make it possible to isolate tax risks. Albeit unknown *a priori*, tax risk assessment can be used for the elaboration of autonomous selective criteria once identified, i.e. they make it possible to attribute a certain probability of occurrence to a known tax risk. An analysis of an example of the application of the logic of the algorithms used by the Agency follows in the technical annex to the document.

Tax administration is, therefore, no exception to the transparency considerations that generally apply to algorithmic administration. Indeed, the technological tools used by the Revenue Agency pose the same problems in terms of opacity and must also respond to the same principles of knowability, non-exclusivity and algorithmic non-discrimination.

5. Conclusions

This paper has focused on the ways in which the use of algorithms in public activity affects the administrative procedure, in relation to compliance with the principle of transparency. The main question the paper has attempted to answer concerns, in particular, the guarantee of effective procedural transparency in the case of use of algorithms. The starting assumption relates to the imperative need for transparency for a procedure to result in an impartial and adequately motivated measure.

To answer these questions, we discussed that the rules of transparency in Italy are fragmented and, *prima facie*, overabundant. They have been – if one may say so – «ordered» by the decisions of the administrative courts, including the subject of algorithmic decisions. With regards to the latter, access to the source code of software is a necessary but not sufficient condition for reasoned transparency, which concerns the logical process and motivations of the administration for using decision-making algorithms.

Algorithms, especially machine learning algorithms, are intrinsically obscure, affected by a linguistic, legal, and structural opacity. With special regards to this last component, the knots to untangle are multiple and complex. Since these algorithms are not inspired by a precise logic, but rather they generate and create new paths based on the input they have at their disposal, they have been defined as black boxes that are difficult to peer into. Given this basic

opacity, which makes the functioning of algorithms knowable even if not always comprehensible, the exercise of the right of access to the source code to achieve an adequate and sufficient level of transparency is blatantly insufficient.

The administrative judge has sought a solution to this problem, affirming, on the one hand, the need for interested parties to be able to access the source code and, on the other hand, a large number of additional guarantees. These are aimed at ensuring that the technical rule is translated into a legal rule that is knowable and comprehensible, that the data entered into the algorithm is knowable, and that the functioning of the decision-making mechanism is knowable: that it is possible, in other words, to obtain any information useful to understand how an algorithm works and how it reached certain results. The result is, therefore, a strengthened declination of the right of access and transparency that goes beyond the regulations in force, but which does not seem fully satisfactory for the effective compliance with the principle of transparency. A transparency that remains on paper, that may formally be respected, but which can hardly be so in substance. A transparency that clashes with the natural obscurity of some intelligent software.

If it is true that the concept of transparency must evolve in step with changes in society, culture, and the very idea of administrative activity, it is not as certain that this can be concretely achieved at the regulatory level. On one hand, the legislator clashes with a phenomenon that is constantly evolving and difficult to contain; on the other, with a skills deficit that affects more broadly the Italian public sector. Public administration, for its own part, fits into a master-servant dynamic, in which it masters the algorithm by governing and bending it for the sake of simplification and speed, while also seeming crushed by the algorithm's own logic, which is beyond human control and comprehension.