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TAXATION, DATA PROTECTION AND *EXAI*: A THING 'WRIT IN WATER'?

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SUMMARY: 1.- Introduction: understanding *eXAI*; 2.1.- Current Applications of AI in Tax Law; 2.2.- Tax-AI system in Italy and their compliance with EU and national Law; 2.3.- Taxpayers 'Rights and Remedies; 3.- Conclusion: Towards a minimum legal framework.

1.- **Introduction: understanding *eXAI*.**

At the end of the 5th century a.c., the ordeal[1] (ordalium / Ur-Theil) was widespread again in the Roman Empire. The ordalium literally means "the judgement of God" and involves "a way of trying to find out if someone is guilty or innocent by making them suffer extreme pain. If they did not die, this was considered proof from God that they were innocent"[2]. Hence, in this trial, the outcome of the process was considered the direct will of God, not being humans able to understand why so, but only to behave consequently. With AI we take a similar risk of being sentenced or seeing our rights jeopardized without any explanations whatsoever. We cannot think of an unfettered development of AI in which no ethical consideration is involved; indeed: "The development of AI requires socio-political deliberation and consensus, because of a long-term strategy about what kind of AI should be developed, for what purpose, for whom, and according to which ethical priorities"[3]. Transparency is surely one of the virtues of an ethical AI system[4], and explainable AI can foster this and other lofty values [5]. Due to the empirical success of Deep learning, transparent systems have become more opaque[6]. Machine learning algorithms are tricky to comprehend because they work without understanding the material[7]. Despite their high effectiveness, relying on these systems can be concerning, particularly when we are aware that they are not free from bias and various errors. Typically, complex models (black-box) like neural networks, fuzzy modeling, and gradient boosting offer more flexibility and higher predictive accuracy but at the cost of interpretability[8]. The branch

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[1] See E. Cantarella, *I supplizi capitali in Grecia e a Roma*, II ed., Milano 1991, 264 ss.

[2] Cambridge Dictionary. https://dictionary.cambridge.org/dictionary/english/ordeal.

[3] L. Floridi, *Establishing the Rules for Building Trustworthy AI. Nature Machine Intelligence.*, 2019, 1. 1-2. 10.1038/s42256-019-0055-y.

[4] Artificial Intelligence: Commission Takes Forward its Work on Ethics Guidelines (European Commission, 2019); http://europa.eu/rapid/press-release_IP-19-1893_en.htm

[5] see Ch. 2 ethical…

[6] An example of opaque system is Deep Neural Networks. DNNS success is derived from a combination of efficient learning algorithms and their huge parametric space. This last space comprises hundreds of layers and millions of parameters, which makes the DNS considered as black-box complex models. See D. Castelvecchi, "*Can we open the black box of AI?*." In *Nature News* 538.7623 (2016): 20. To understand how we passed from ML to Deep Learning see Janiesch, C., Zschech, P. & Heinrich, K. Machine learning and deep learning. Electron Markets 31, 685–695 (2021). https://doi.org/10.1007/s12525-021-00475-2.

[7] For example: a ML algorithm can translate from a language without knowing it. See K. Hammond, *Practical Artificial Intelligence for Dummies* (Wiley 2015).

[8] On the other hand, simpler models (white box) like linear regression and decision trees, known as "white box" models, may have weaker predictive capabilities. But, to be more precise, we should say that: "given the premise that the function to be approximated entails certain complexity, that the data available for study is greatly widespread among the world of suitable values for each variable and that there is enough data to harness a complex model, the statement presents itself as a true statement". A. Barredo Arrieta, N. Díaz-Rodríguez, J. Del Ser, Adrien Bennetot, S. Tabik, A. Barbado, S. Garcia, S. Gil-Lopez, D. Molina, R. Benjamins, R. Chatila, F. Herrera. Explainable Artificial Intelligence (XAI): *Concepts,*

eXplainable AI tries to respond by creating "a suite of machine learning techniques that enables human users to understand, appropriately trust, and effectively manage the emerging generation of artificially intelligent partners"[9]. XAI move towards creating several ML techniques that 1) produce more explainable models without undermining performance, and 2) helping individuals comprehend, confidently rely on, and efficiently oversee the upcoming cohort of artificially intelligent companions. We can divide XAI techniques into two big families:

A)   Transparent models: A model is deemed transparent when it is inherently comprehensible. Transparent models not only provide an overarching explanation of the entire model but also offer a detailed interpretation of each decision by processing individual inputs through the model. This self-interpretable model can offer localized explanations for every decision made[10].

B)   Post-hoc explainability techniques: separate software tools that must be devised and applied to the opaque model to explain its decisions. They can be Local (explain a subset of inputs) or Global (post-hoc explanations on the entire algorithm)[11]. These methods include Explanation by simplification, visual explanation techniques etc[12].

Here, we tried to unfold what is and what are the purposes of explainable AI, but determining 'the state of the art' of XAI isn't surely the main goal of this research. In the next paragraphs, we move to a legal analysis and evaluation of Tax-AI systems.

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*taxonomies, opportunities and challenges toward responsible AI, Information Fusion,*Volume 58, 2020, Pages 82-115, SSN 1566-2535, https://doi.org/10.1016/j.inffus.2019.12.012.

[9] Gunning, D., Stefik, M., Choi, J., Miller, T., Stumpf, S., & Yang, G. Z, XAI—Explainable artificial intelligence. Science robotics, 2019, 4(37), eaay7120.

[10] An example of these are decision trees and regression models, logistic regression, Bayesian models etc. We can single out three different level of Interpretability: 1) Simulatability: the ability of a model of being simulated or thought about strictly by a human; 2) Decomposability: the ability to explain each of the parts of a model; 3) Algorithmic transparency: the ability of the user to comprehend the steps taken by the model in generating a specific output from the input data. A. Barredo Arrieta, N. Díaz-Rodríguez, J. Del Ser, A. Bennetot, S. Tabik, A. Barbado, S. Garcia, S. Gil-Lopez, D. Molina, R. Benjamins, R. Chatila, F. Herrera. Explainable Artificial Intelligence (XAI): *Concepts, taxonomies, opportunities and challenges toward responsible AI,* in *Information Fusion,*Volume 58, 2020, Pages 82-115, SSN 1566-2535, https://doi.org/10.1016/j.inffus.2019.12.012.

[11] A complete analysis of this topic would require much more space and would overflow the frame of this work. See Phillips, P. , Hahn, C. , Fontana, P. , Yates, A. , Greene, K. , Broniatowski, D. and Przybocki, M. (2021), Four Principles of Explainable Artificial Intelligence, NIST Interagency/Internal Report (NISTIR), National Institute of Standards and Technology, Gaithersburg, MD, [online], https://doi.org/10.6028/NIST.IR.8312, https://tsapps.nist.gov/publication/get_pdf.cfm?pub_id=933399 (Accessed November 5, 2024); A. Salih., Zahra, Raisi-Estabragh., Ilaria, Boscolo, Galazzo., Petia, Radeva., Steffen, E., Petersen., Karim, Lekadir., Gloria, Menegaz. (2024). A Perspective on Explainable Artificial Intelligence Methods: SHAP and LIME. Advanced intelligent systems, doi: 10.1002/aisy.202400304; Rudin, C. Stop explaining black box machine learning models for high stakes decisions and use interpretable models instead. Nat Mach Intell 1, 206–215 (2019). https://doi.org/10.1038/s42256-019-0048-x; Dallanoce, F. 2022. "Explainable AI: A Comprehensive Review of the Main Methods." Medium January 4. Available at: https://medium.com/mlearning-ai/explainable-ai-a-complete-summary-of-the-main-methods-a28f9ab132f7. A. Barredo Arrieta, N. Díaz-Rodríguez, J. Del Ser, A. Bennetot, S. Tabik, A. Barbado, S. Garcia, S. Gil-Lopez, D. Molina, R. Benjamins, R. Chatila, F. Herrera. Explainable Artificial Intelligence (XAI): Concepts, taxonomies, opportunities and challenges toward responsible AI, Information Fusion, Volume 58, 2020, Pages 82-115, SSN 1566-2535, https://doi.org/10.1016/j.inffus.2019.12.012.

[12] The most common methods are: a) SHAP is a global method used to provide insight into the operation of a complex model by assessing the significance and impact of each feature on the model's prediction output. It ranks or evaluates the relevance and importance of individual features in the model's explanation process; b) LIME: It explains the influence of each feature to the outcome for a single subject. In the classification models, it shows the probability that the subject might belong to any class; c) Counterfactuals: it says "if the input were this new input instead, the system would have made a different decision" S. Wachter, B. Mittelstadt, and C. Russell. Counterfactual explanations without opening the black box: Automated decisions and the GDPR. Harv. JL & Tech., 31:841, 2017.

2.1.- **Current Applications of AI in Tax Law.**

The utilization of AI technology in tax administration has significantly increased within the European Union over the past decade, with the majority of tax authorities now implementing AI tax systems[13]. This shift towards digital transformation is driven by the growing amount of tax-related data that needs to be processed efficiently. Currently, at least 63% of EU Member States are using AI, these Member States are Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Latvia, Lithuania, The Netherlands, Poland, Slovakia, Slovenia, Spain[14] and Italy[15][16]. Some scholars interpreted this as a 'Weberian rationalization process' which is "a long-term process whereby beliefs based on tradition are replaced by rules based on logic and (instrumental) efficiency"[17]. Tax agencies can rely on huge volumes of tax-sensitive data and are therefore abetted in the implementation of algorithms, because the sheer volume of data is too vast for manual examination, and the presence of significant amounts of data helps eliminate random errors, leaving behind a distinct signal that an AI model can learn. Practically, tax administrations commonly utilize AI systems for a variety of tasks such as a) Taxpayer assistance: it refers to voluntary tools used by taxpayers to seek help from the tax administration, such as Virtual Conversational Assistants (VCA); b) Automated data collection tools collect taxpayer data from various sources like webpages, social media, e-commerce, and e-sharing platforms, and compare it with existing data in tax administration databases, utilizing AI web-scraping devices and web-crawlers; c) Risk-detection tools help tax authorities analyze a group of taxpayers, such as all taxpayers in a certain area or legal entity, to pinpoint unusual tax returns or suspicious transactions by comparing data. Social Network Analysis (SNA) and Transaction Network Analysis (TNA) are commonly used methods for this purpose; d) Risk management systems (RMS) are tools that analyze and predict potential risks related to fraud or non-compliance. They classify taxpayers based on their level of risk, helping tax officials identify individuals or businesses for further audits[18]. AI systems are diverse and versatile, comprising a range of tools rather than a single entity. Each AI tool poses distinct risks to the rights of citizens and

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[13] The Norwegian Tax Authorities utilize data analytics and machine learning methods to enhance the effectiveness of case selection for VAT inspection. The success rate of audits using these techniques is nearly two times higher compared to manual methods. Likewise, the Finnish tax administration utilizes AI-powered software to analyze and oversee the tax collection email inbox, which receives communications from 1,500 to 3,000 tax collection stakeholders monthly, including courts of law and inheritance administrators. In the UK, the HMRC has been utilizing information from social media platforms since 2010, cross-referencing it with data from various databases to identify instances of fraud. This function is carried out by an artificial intelligence system called Connect, which was launched in 2010 and created in collaboration with BAE Systems. See B. Kuźniacki et al., Towards eXplainable Artificial Intelligence (XAI) in Tax Law: The Need for a Minimum Legal Standard, 14 World Tax J. 4 (2022), 1 Journal Articles & Opinion Pieces IBFD (accessed 2 September 2022). https://doi.org/10.59403/2yhh9pa.

[14] D. Hadwick, 'Behind the One-Way Mirror: Reviewing the Legality of EU Tax Algorithmic Governance '(June 1, 2022). EC Tax Review, Volume 31, Issue 4 (2022) pp. 184-201 https://doi.org/10.54648/ecta2022019, Available at SSRN: https://ssrn.com/abstract=4264930 p.186; D. Hadwick, and S. Lan, Lessons to Be Learned from the Dutch Childcare Allowance Scandal: A Comparative Review of Algorithmic Governance by Tax Administrations in the Netherlands, France and Germany (October 10, 2021). In: World tax journal. - Amsterdam. - Vol. 13 (2021), no. 4; p. 609-645, Available at SSRN: https://ssrn.com/abstract=4282704.

[15] Agenzia delle Entrate [italian revenue agency]: "informativa sulla logica sottostante ai modelli di analisi del rischio basati sui dati dell'archivio dei rapporti finanziari" https://www.agenziaentrate.gov.it/portale/web/guest/analisi-basate-sui-dati-archivio-dei-rapporti-finanziari ; Marello, Enrico. La digitalizzazione del sistema tributario. Rivista di Diritto Tributario, 2024. https://www.rivistadirittotributario.it/2024/01/16/la-digitalizzazione-del-sistema-tributario/;

[16] To see the state of the art, visit https://taxadmin.ai/country-reports/ . (accessed November 2024).

[17] Mökander, J., & Schroeder, R. (2024). Artificial Intelligence, Rationalization, and the Limits of Control in the Public Sector: The Case of Tax Policy Optimization.Social Science Computer.

[18] Hadwick, supra.

taxpayers. This aspect is often overlooked when discussing the potential pitfalls of Machine Learning and algorithmic governance. In the following sections, we will examine various instances and controversies in which algorithmic governance was not executed correctly.

2.2.- **Tax-AI system in Italy and their compliance with EU and national Law.**

When it comes to implementing GDPR[19], Italy has its code of privacy[20], but for general purposes, it relies on the regulation directly applicable according to art. 288 TFEU. The AI act[21] has not completely entered into force[22], but as we said, being a European regulation, it is also directly applicable. Art 117 of the Italian constitution, foresees that EU law stands at the apex Of hierarchy of Laws, underneath fundamental principles[23]. Regarding audits, we provide an overview of the use of AI in audit selection by the Italian tax administrations (Agenzia delle Entrate[24]-AGE). Tax audits typically begin with a risk assessment conducted by tax authorities, during which they review available information. While random audits are carried out by most tax administrations, the focus is primarily on risk-based audits that consider specific selection criteria. This includes targeting individuals or businesses believed to pose a higher risk of errors or fraud[25]. In Italy, over the years 2018-2020, a tax gap of 93,3 billion euros has been estimated[26]; however, more than 19,7 billions of euros have been collected through tax audits[27]. AGE's algorithms evaluate Tax-risk[28] using deterministic and stochastic models and analysis techniques. These algorithms leverage data from databases to determine the likelihood of a tax risk occurring and, when feasible, predict the potential outcomes that may result from addressing it[29]. Under the art 35 GDPR, the Italian Revenue Agency published the Data Protection Impact Assessment (DPIA)[30], where the data analysis process is unfolded. According to DPIA the process consists of the following stages: 1) identification of the target audience; 2) selection of databases; 3) making the databases available; 4) quality analysis; 5) definition of risk criteria; 6) choice of an analytical model; 7) verification of the correct application

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[19] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (Text with EEA relevance) (OJ L 119 04.05.2016, p. 1, ELI: http://data.europa.eu/eli/reg/2016/679/oj)

[20] [decree] D.lgs. n. 196/2003.

[21] 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.

[22] see https://www.ai4business.it/intelligenza-artificiale/ai-act-dopo-lentrata-in-vigore-ecco-tutte-le-tappe-successive/

[23] R. Bin, G. Pitruzzella, *Le fonti del diritto,* Giappichelli IV ed.

[24] https://www.agenziaentrate.gov.it/portale/web/english.

[25] M. Zackrisson, A.J. Bakker & J. Hagelin, AI and Tax Administrations: A Good Match, 74 Bull. Intl. Taxn. 10 (2020), Journal Articles & Opinion Pieces IBFD (accessed 8 Nov. 2024). https://research-ibfd-org.ezproxy.its.uu.se/#/doc?url=/document/bit_2020_10_o2_2.

[26] https://www.finanze.gov.it/export/sites/finanze/.galleries/Documenti/Varie/Allegato_NADEF2023_RAPPORTO_EVAS IONE_28set_finale.pdf.

[27] https://www.agenziaentrate.gov.it/portale/documents/20143/5866243/Risultati+2023_1+02+2024_def.pdf/79eae9e0-ad85-4a1a-b049-5fc093743f00.

[28] The potential danger of engaging in activities that breach tax regulations or go against the fundamental principles of the tax system; see AGE prot. n. 2023/74424. https://www.agenziaentrate.gov.it/portale/documents/20143/4791397/direttore_atto_2023_74424_modifiche_divcontr_d cpmi_15032023.pdf/2ba23ed7-6629-104f-3541-e737c53eae17.

[29] AGE prot. n. 2023/74424.

[30] https://www.agenziaentrate.gov.it/portale/documents/20143/5316839/Documento+di+Valutazione+di+Impatto+sulla+ Protezione+dei+Dati+%28Stralcio%29.pdf/f8491e14-aaca-34f1-c157-65f964fbb0a3.

of the model and risk criterion; 8) extraction and identification of subjects; 9) testing on a sample of the reference sub-platea; 10) preparation of the selective lists. Human intervention is always guaranteed in the analysis process and, as a result, no fully automated decision-making is used[31]. We could generally hold that the DPIA is in compliance with GDPR's prescription, namely the document treats[32] how a group of taxpayers is singled out, risks criteria, the need and suitability of the processing activities, risks to the rights and freedoms of data subjects and measures envisaged to address the risks. Nonetheless, through DPIA a complete evaluation of the algorithms and their functions is not possible. In paragraph 3.6.2, for example, it generally refers to "machine learning" and no other specific details are mentioned. This could undermine transparency, which is a fundamental value enshrined by art 15(1)TFEU, art 1 L. 241/1990 ('legge sul procedimento amministrativo'), and an underpinning principle related to the processing of personal data[33]. According to art 12.2 GDPR "The controller shall facilitate the exercise of data subject rights under Articles 15 to 22", thus a not detailed analysis could jeopardize the right enshrined by art .15.1 h) GDPR (right to access). Moreover, in 2026 the article 86 AI Act[34] will enter into force. Now, the right of explanation contained in art 86 only refer to High risk systems. According to recital 59: "AI systems specifically intended to be used for administrative proceedings by tax and customs authorities as well as by financial intelligence units carrying out administrative tasks analysing information pursuant to Union anti-money laundering law should not be classified as high-risk AI systems used by law enforcement authorities for the purpose of prevention, detection, investigation and prosecution of criminal offences."; however, the proposal published on the 21 April 2021 contained a different version in recital 37: "systems used by tax administrations should not be regarded as high-risk systems of law enforcement authorities". This change arrived only three months after the revelation of the Childcare benefit scandal caused by the Dutch tax administration[35]. The rationale behind Recital 59 suggests that AI systems utilized in tax authorities' administrative proceedings are considered to have a lower risk compared to their use in criminal proceedings; but, we know how tricky can be to distinguish between these two processes[36]. In addition, point 5 of Annex III considers High-risk systems as those utilized in the area of "Access to and enjoyment of essential private services and essential public services and benefits". In our opinion, the use of AI systems for administrative purposes by tax authorities should have safeguards in place to protect the fundamental rights of

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[31] 1) Risk criteria identification: this phase is entirely managed by the staff of the Revenue Agency; 2) verification of the presence of the identified risk about a group of taxpayers: this phase, although supported by computer tools, is fully supervised by Agency staff. 3) prior control of the results of the analysis: the results of the processing are returned to the staff of the Agency, which checks in a sampling manner their consistency with the technical specifications. AGE, DPIA. p.70

[32] see §3. ibid.

[33] "Personal data shall be […] processed lawfully, fairly and in a transparent manner in relation to the data subject ('lawfulness, fairness and transparency')" art 5.1 GDPR.

[34] "Any affected person subject to a decision which is taken by the deployer on the basis of the output from a high-risk AI system listed in Annex III, with the exception of systems listed under point 2 thereof, and which produces legal effects or similarly significantly affects that person in a way that they consider to have an adverse impact on their health, safety or fundamental rights shall have the right to obtain from the deployer clear and meaningful explanations of the role of the AI system in the decision-making procedure and the main elements of the decision taken".

[35] B. Peeters, 'Editorial: European Law Restrictions on Tax Authorities 'Use of Artificial Intelligence Systems: Reflections on Some Recent Developments', (2024), 33, EC Tax Review, Issue 2, pp. 54-57, https://kluwerlawonline.com/journalarticle/EC+Tax+Review/33.2/ECTA2024006

[36] Engel and Others v. the Netherlands; Bendenoun v. France; Vegotex International s.a. C. Belgium; Ozturk v. German Federal Republic.

taxpayers, even if it is purely administrative. Therefore, de iure condendo, these AI systems should be considered High-risk systems, and, in that case, a non-exhaustive explanation of how the system works could not be compliant with Art. 86.

2.3.- **Taxpayers 'Rights and Remedies.**

GDPR and AI Act grant a set of rights concerning the processing of personal data; though "The right to the protection of personal data is not an absolute right; it must be considered about its function in society and be balanced against other fundamental rights, following the principle of proportionality"[37]. As regards taxpayers' rights, we consider which rights are involved and the types of remedies that can be used relying on data protection law and the AI act:

a) rights of information: Chapter III of the GDPR establishes clear responsibilities for the controller and acknowledges various rights for individuals whose personal data is being processed. These rights include the right to request information from the controller regarding the purposes of the data processing and the specific recipients who have or will receive the personal data. Article 13(1)(c) and (e) of the GDPR requires the controller to notify the data subject about the purposes and legal basis for processing personal data collected from them, as well as the recipients or categories of recipients of the data. Any processing of personal data without providing this information infringes on the data subject's rights under Articles 12 and 13 of the GDPR, violating the requirements of Article 5 of the regulation. This failure to inform the data subject should be considered a violation of the data subject's rights 'as a result of the processing' according to Article 80(2) of the GDPR. Therefore, it can be inferred that individuals have the right, as per Article 12(1) and Article 13(1)(c) and (e) of the GDPR, to request from the data controller clear and easily understandable information about the purpose of data processing and who the data is shared with. This right is essential and can be enforced through the representative action mechanism outlined in Article 80(2) of the regulation[38]. Notwithstanding this, art. 23 GDPR states that: «Union or Member State law to which the data controller or processor is subject may restrict by way of a legislative measure the scope of the obligations and rights provided for in Articles 12 to 22». The restriction must be proportional, of course, but still this right can be limited if its necessary to pursue «other important objectives of general public interest of the Union or of a Member State, in particular an important economic or financial interest of the Union or of a Member State, including monetary, budgetary and taxation a matters, public health and social security»[39].

b) right of human intervention: Article 22 of the GDPR, known as the right to human intervention, allows individuals to challenge decisions made using automated processes like AI. This right grants individuals, such as taxpayers, the ability to contest decisions that impact their legitimate rights or interests, such as tax benefits, when those decisions are based solely on the automated processing of their data. In relation to Article 22(2)(b) of the GDPR, it is clear from the wording of the provision that any national law allowing automated individual decisions must include measures to protect the rights, freedoms, and legitimate interests of the data subject. These measures also include granting the data subject the right to request human involvement from the controller, to voice their opinion, and to contest decisions made about them. The controller should be able to prove that they are

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[37] recital (4) GDPR.

[38] CJEU-2024/598. Judgment of the Court (Fourth Chamber) of 11 July 2024. *Meta Platforms Ireland Limited v Bundesverband der Verbraucherzentralen und Verbraucherverbände - Verbraucherzentrale Bundesverband* .

[39] V. art. 23 (1) (e) GDPR

following these principles, as outlined in Article 5(2) of the regulation, which emphasizes accountability[40]. Therefore, if a Member State's law allows for a decision to be made solely through automated processing according to Article 22(2)(b) of the GDPR, this processing must adhere to the conditions outlined in that provision, as well as in Article 22(4) of the regulation, and also comply with the criteria specified in Articles 5 and 6 of the GDPR; as pointed out by the CJEU[41]: «[…] provision that the national law which authorises the adoption of an automated individual decision must lay down suitable measures to safeguard the data subject's rights and freedoms and legitimate interests. || In the light of recital 71 of the GDPR, such measures must include, in particular, the obligation for the controller to use appropriate mathematical or statistical procedures, implement technical and organisational measures appropriate to ensure that the risk of errors is minimised and inaccuracies are corrected, and secure personal data in a manner that takes account of the potential risks involved for the interests and rights of the data subject and prevent, inter alia, discriminatory effects on that person. Those measures include, moreover, at least the right for the data subject to obtain human intervention on the part of the controller, to express his or her point of view and to challenge the decision taken in his or her regard. It is also important to note that, in accordance with the settled case-law of the Court, any processing of personal data must, first, comply with the principles relating to the processing of data established in Article 5 of the GDPR and, secondly, in the light, in particular, of the principle of the lawfulness of processing, laid down in Article 5(1)(a), satisfy one of the conditions of the lawfulness of the processing listed in Article 6 of that regulation (judgment of 20 October 2022, Digi, C-77/21, EU:C:2022:805, paragraph 49 and the case-law cited). The controller must be able to demonstrate compliance with those principles, in accordance with the principle of accountability set out in Article 5(2) of that regulation […] Thus, in the event that the law of a Member State authorises, under Article 22(2)(b) of the GDPR, the adoption of a decision solely based on automated processing, that processing must comply not only with the conditions set out in the latter provision and in Article 22(4) of that regulation, but also with the requirements set out in Articles 5 and 6 of that regulation». In particular, art. 6.1(f) GDPR foresees that «processing is necessary for the purposes of the legitimate interests pursued by the controller or by a third party, except where such interests are overridden by the interests or fundamental rights and freedoms of the data subject which require protection of personal data». Hence, fundamentals freedoms and rights must be granted because a legitimate interest cannot write off such rights and the restriction must be limited to those situations where, pursuing public interests, the restriction is necessary in order to perform such tasks properly; according to art. 6.1(e) GDPR: «processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller». As underlined by the court: «With regard in particular to the conditions of lawfulness, provided for in Article 6(1)(a), (b), and (f) of the GDPR, which are likely to apply in a case such as that at issue in the main proceedings, Member States are not empowered to provide additional rules for the implementation of those conditions, such an option being, in accordance with Article 6(3) of that regulation, limited to the reasons referred to in Article 6(1)(c) and (e) of that regulation. || Furthermore, with regard more specifically to Article 6(1)(f) of the GDPR, Member States cannot, under Article 22(2)(b) of that regulation, dismiss the requirements resulting from the case-law of the Court following the judgment of 7 December 2023, SCHUFA Holding (Discharge

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[40] C-77/21, EU:C:2022:805, §24.
[41] CJEU C-634/21, SCHUFA Holding, §§65-70.

from remaining debts) (C-26/22 and C-64/22, EU:C:2023:XXX), in particular, by definitively prescribing the result of the balancing of the rights and interests at issue (see, to that effect, judgment of 19 October 2016, Breyer, C-582/14, EU:C:2016:779». Consequently, Member States are not permitted to enact regulations under Article 22(2)(b) of the GDPR that permit profiling without adhering to the requirements established in Articles 5 and 6.

Transparency, Right of explanation and principle of formal motivation: Article 296 TFEU explicitly sets out that "legal acts shall state the reasons on which they are based and shall refer to any proposals, initiatives, recommendations, requests or opinions required by the Treaties". When it comes to transparency, we can distinguish two types of it: fishbowl transparency and reasoned transparency[42]. Fishbowl transparency allows the public to see into the workings of the government and understand the actions of officials. On the other hand, reasoned transparency focuses on the value of this information. It highlights the significance of the government providing justifications for its actions by applying normative principles to the facts and evidence considered by decision-makers. Instead, reasoned transparency relies on thoroughly assessing the validity of an official's reasoning, rather than simply knowing if they have engaged with various interest groups. Article 52 AIA establishes a broad requirement for transparency that is relevant to AI systems designed to engage with individuals, regardless of their level of risk. In such cases, individuals must be notified that they are interacting with an AI system unless it is already apparent. Moreover, article 86 AIA (the right to explanation) emphasizes the importance of transparency in AI models. When tax authorities make automated decisions using an AI model, they should be able to provide taxpayers with a detailed explanation of how the decision was made. This explanation should be clear enough for taxpayers to understand, allowing them to challenge the decision, rectify any errors, or request the deletion of their information. In relation to art 22, recital (71) foresees that "in any case, such processing [decisions based solely on automated processing] should be subject to suitable safeguards, which should include specific information to the data subject and the right to obtain human intervention, to express his or her point of view, to obtain an explanation of the decision reached after such assessment and to challenge the decision". Regarding the right of explanation, in order to adhere to the principle of formal motivation, tax authorities are required to clearly state and explain all factual and legal reasons for their decisions. These justifications should be detailed, precise, and accurately reflect the actual reasons behind the decision[43]. The Court of Justice of the European Union (CJEU) determines that providing reasons for a decision serves a specific purpose: the person impacted by it must be provided with sufficient information to assess the validity of the decision and to question it if necessary[44]. When European Union institutions utilize the conclusions of specialized organizations, like EU agencies or global institutions, the governing body must still offer a detailed rationale outlining the specific factors that led to a particular decision. Therefore, simply attributing a decision to "the machine said so" will not meet legal standards[45]. The Constitutional Court of the Slovak Republic, in

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[42] C. Coglianese, D. Lehr, "*Transparency and Algorithmic Governance*" (2019). All Faculty Scholarship. 2123. https://scholarship.law.upenn.edu/faculty_scholarship/2123

[43] Art. 41 Charter of Fundamental Rights of the European Union (the EU Charter), OJ C 326/391, 26 Oct. 2012. For national law, see, for example, the BE: Law of 29 July 1991 on the formal motivation of administrative decisions.

[44] France v Commission (C-17/99) EU:C:2001:78 at [35]; Club Hotel Loutraki AE v Commission (C-131/15 P) EU:C:2016:989 at [46]; Elf Aquitaine SA v Commission (C-521/09 P) EU:C:2011:620 at [148]; Corus UK v Commission (C-199/99) EU:C:2003:531 at [145].

[45] (European Commission v Kadi (C-584/10 P, C-593/10 P and C-595/10) EU:C:2013:518; [2014] 1 C.M.L.R. 24 at [111]–[116]).

The eKasa case[46], upheld that "the use of technology by public administrations cannot result in a State where decisions are inexplicable, unexplained and at the same time no is responsible for them"[47]. Moreover, As we have seen in paragraph 2.3, article 86 AIA sets out a Right to Explanation of Individual Decision-Making, but it only applies to high risks systems and, according to article 113, it will enter in force only on the 2nd August 2026.

We tried to collect different provisions and case law to draw a circle of the taxpayers rights under GDPR and AIA. As regards remedies, no specific case law on the right of explanation and right of human intervention is present; yet, we consider that GDPR grants individuals the right to seek compensation for any material or non-material harm they have experienced as a result of a violation committed by the Controller or Processor (article 82.1). The Federal Court of Australia in Robodebt[48], analyze the possible remedies that arise consequently to a system that doesn't perform properly into identifying the taxpayers and the amount of the levy: "The document puts forth two main arguments against the Commonwealth (a) a claim for unjust enrichment, specifically for money received unjustly by the Commonwealth through the recovery of debts that were incorrectly imposed on the applicants and group members; and (b) a negligence claim under common law, seeking compensation for economic losses incurred by the applicants and group members due to the Commonwealth's alleged failure to exercise care in pursuing and collecting debts that were wrongly asserted. Additionally, the claim includes damages for emotional distress, anxiety, and stigma caused by the demand for repayment of the debts, which the applicants referred to as distress damages"[49]. When it comes the EU Law, The term "damage" should be understood in a broad sense, consistent with the interpretation set by the Court of Justice of the European Union (recital 146).On one hand, the legal sources could be satisfying, but, on the other hand, many pitfalls remain such as the non-applicability of the GDPR to legal persons[50]. We could think to fill the gap through a systematic interpretation of article 14 ECHR (Prohibition of discrimination) and the article 1 protocol 1 ECHR (Protection of Property), but it would require further analysis.

3.- Conclusion: Towards a minimum legal framework.

When it comes to the application of eXplainable AI in Tax Law, we should consider that Transparency couldn't be the ultimate goal. In XAI, with transparency we mean that the model is, by itself, understandable; but, in §1 we have seen how XAI is related not only to Interpretable models but also to Black-box models, which implemented a post-hoc explanation model. Therefore, policymakers should aim for understandability, intended as the ability of a model to convey its functionality to a human user without requiring an explanation of its internal structure or the algorithms used for data processing, rather than the ultimate transparency, which could compromise the effectiveness of the AI system[51], as stated: "The goal is not to disclose the procedures of the

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[46] Constitutional Court of the Slovak Republic, PL. ÚS 25/2019-117.

[47] "Dôsledkom uplatnenia technologického pokroku vo verejnej správe nemôže byť neosobný štát, ktorého rozhodnutia sú nevysvetliteľné, nepreskúmateľné a zároveň za nich nie je nik zodpovedný". §127 ibid.

[48] Federal Court of Australia, 23 Dec. 2020, Prygodicz v. Commonwealth, Order N° VID1252/2019.

[49] Ibid, §3.

[50] see recital (14).

[51] N. Braun Binder, *Artificial Intelligence and Taxation: Risk Management in Fully Automated Taxation Procedures*, in Regulating Artificial Intelligence (T. Wischmeyer & T. Rademacher eds., Springer International Publishing 2020), available at https://doi.org/10.1007/978-3-030-32361-5_13; a different opinion Kuźniacki B (2023) (Non)Natural Born Killers of Xai in Tax Law: Trade Secrecy, Tax Secrecy and How to Kill the Killers. Kluwer International Tax Blog.

machines, but to make the machines themselves provide explanations that are informative for the user"[52]. On the model side, instead, comprehensibility pertains to the capability of a learning algorithm to convey its acquired knowledge in a manner that is understandable to humans. Comprehensibility is closely linked to understandability as it depends on the audience's ability to grasp the information presented in the model. In essence, understandability involves two aspects: the model's clarity and the audience's comprehension. The definition of Explainable Artificial Intelligence should consider the intended audience, incorporating their cognitive abilities and objectives when using the model, along with the clarity and understandability of the model itself; hence, "given an audience, an explainable Artificial Intelligence is one that produces details or reasons to make its functioning clear or easy to understand" [18]. A legal framework should consider not only what we have just underlined, but also, according to Leslie[53], develop guidelines based on the following principles for XAI:

1.Look first to context, potential impact, and domain-specific needs when determining the interpretability requirements of your project.

2. Draw on standard interpretable techniques when possible.

3. When considering the use of 'black box 'AI systems, you should: i) Thoroughly weigh up impacts and risks; ii) Consider the options available for supplemental interpretability tools that will ensure a level of semantic explanation which is both domain-appropriate and consistent with the design and implementation of safe, fair, and ethical AI; iii) formulate an interpretability action plan, so that you and your team can put adequate forethought into how explanations of the outcomes of your system's decisions, behaviours, or problem-solving tasks can be optimally provided to users, decision subjects, and other affected parties.

4. Think about interpretability in terms of the capacities of human understanding.

To Carry out such measures and implement such principles giving them a legal ground, an idea could be to develop a code of conduct according to art. 95 AIA. Indeed, the summary of the article 95 states: "These codes will promote voluntary adherence to certain standards, taking into account technical solutions and industry best practices […] These codes can be created by AI providers, deployers, or their representative organizations, and should consider the interests and needs of small businesses and startups". Recently[54], it has been published, within Guidelines for the implementation of AI in public sector ("Linee guida per l'adozione di Intelligenza Artificiale nella pubblica amministrazione") a Code of Conduct model; the article 6 of this model states that: "The public entity makes known and explainable, even in non-technical language, the list of Artificial Intelligence solutions available to the entity or currently being acquired by it, providing details on the methods and areas of use as well as the associated functionalities"[55]. We uphold that XAI methods must be introduced. An alternative could be inserting in DPIA according to article 35 GDPR, but in this case, we should consider that

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https://kluwertaxblog.com/2023/09/12/nonnatural-born-killers-of-xai-in-tax-law-trade-secrecy-tax-secrecy-and-how-to-kill-the-killers/

[52] E. Esposito. 2021. "*Transparency Versus Explanation: The Role of Ambiguity* in *Legal AI*", Journal of Cross-Disciplinary Research in Computational Law 1 (2). https://journalcrcl.org/crcl/article/view/10.

[53] D. Leslie, (2019). Understanding artificial intelligence ethics and safety: A guide for the responsible design and implementation of AI systems in the public sector. The Alan Turing Institute. https://doi.org/10.5281/zenodo.3240529

[54] Determinazione AGID del 17 Febbraio 2025, n. 17.

[55] ["L'Ente rende conoscibili e spiegabili, anche con un linguaggio non tecnico, l'elenco delle soluzioni di Intelligenza Artificiale nella disponibilità dell'Ente o in corso di acquisizione da parte del medesimo, dando atto delle modalità e degli ambiti di impiego nonché delle funzionalità connesse"].

XAI involves the stage when the system itself has to be evaluated. Consequently, XAI techniques are relevant in a primary phase, before the beginning of the tax proceedings and not at the time when rights have already been compromised. Of course, the potential code's incapability (to prevent lack of transparency) could certainly support the potential claim of the taxpayer, but XAI cannot be the reason for the appeal itself, as, conversely, it is the technique that, on the side of financial administration, prevents potential recourses based on lack of transparency.

Setting aside regulatory frameworks, the judiciary can have a pivotal role, as seen in other countries' case law[56]. Especially, it can be paramount in balancing individual rights and technology development. This is not possible in other countries such as China where the judiciary is under the supervision and influence of the legislature, which holds the ultimate legal authority[57]. Nonetheless, it is still imperative to establish a structure in which transparency, or understability, is not merely a theoretical idea, but rather a substantial requirement for the integration of AI that prioritizes individual rights, whether directly or indirectly vouched.

3.2.-The main purpose of this study was primarily one: reconnaissance. It was important to try to identify the main works on the subject, the regulatory sources, and the judicial precedents from which to draw general principles to navigate this analysis, which, due to its intermediate position between already interdisciplinary branches such as tax law and the law of new technologies, is doubly interdisciplinary and requires the intervention of many experts from various sectors to be optimized and developed. In conclusion, it is worth mentioning that the efficiency of financial administration is certainly important in the pursuit of reducing the tax gap, but the rights of individual taxpayers are also important and need to be protected, balancing public interests and individual rights and freedom approaching case by case to the proper solution: a generalisation on the content of the single provision could undermine the systematic meaning of the regulations. Thus, a teleological interpretation, in this phase where technology development runs faster and faster, must be preferred over a literal interpretation itself. The GDPR and AIA, while still improvable, ultimately provide decent protection in terms of regulations, and individual or centralised remedies are more than satisfactory; so, we can ultimately answer: the matter is not a thing writ in water. However, we hold that it is necessary to implement eXplainable AI techniques through codes of conduct to ensure 'effective adherence of form to substance', as a reference to the effectiveness of protection, in order to prevent an 'irrationalism' in which taxpayers, much like defendants in ordeals, are subject to a decision that no one can completely understand and that seems to come from a more developed and aware world.

Abstract.- Il documento analizza il rapporto tra Intelligenza Artificiale e Diritto Tributario nell'ambito del diritto dell'Unione Europea e dell'ordinamento italiano, con particolare riferimento alla necessità trasparenza nei procedimenti di accertamento e riscossione in cui vengono utilizzati

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[56] Constitutional Court of the Slovak Republic,PL. ÚS 25/2019-117; Federal Court of Australia, 23 Dec. 2020, Prygodicz v. Commonwealth, Order N° VID1252/2019; Rb. Den Haag Hague 5 februari 2020, Case C-09-550982-HA ZA 18-388, ECLI:NL: RBDHA:2020: .

[57] "In reality, the weakness in China's privacy legislation is due less to its 'non-legally binding 'status and more to the many loopholes in it, the weakness of China's judicial system, and the influential power of the government, which is often the last authority, not held accountable through democratic mechanisms. In particular, significant and problematic exemptions are present for the collection and use of data, including when related to security, health, or the vague and flexibly interpretable 'significant public interests". H. Roberts, J. Cowls, J. Morley, et al. The Chinese approach to artificial intelligence: an analysis of policy, ethics, and regulation. AI & Soc 36, 59–77 (2021). https://doi.org/10.1007/s00146-020-00992-2.

sistemi di IA. Si affrontano le potenziali applicazioni dell'eXAI al fine di migliorare la fiducia dei contribuenti nei confronti delle autorità fiscali e la responsabilità degli agenti nei processi decisionali, fornendo inoltre una motivazione sostanziale che fondi in modo ragionevole e intelligibile l'accertamento fiscale. I procedimenti di accertamento potrebbero sembrare una materia nella quale gli interessi individuali hanno una minore rilevanza in ragione del pubblico interesse all'ottenimento del gettito. Tuttavia, GDPR e AI Act contengono un numero relativamente importante di disposizioni che sembrerebbero potersi applicare anche ai contribuenti. In conclusione, si delineano i possibili rimedi che garantirebbero la protezione dei i diritti del contribuente e raccomandazioni per sviluppare un quadro normativo minimo per una implementazione dell'eXAI nei procedimenti tributari.

This paper explores the intersection of Artificial Intelligence and tax law in the framework of the European Union Law and the Italian legal order, emphasizing the need for transparency in AI applications used for tax assessment, and compliance. It discusses the potential benefits of XAI in enhancing trust and accountability in tax-related decision-making processes, providing a substantial legal rationale in tax audits. Taxations could seem a matter where individual interests are overcome by public interests. Nonetheless, GDPR and AI Act contain a relatively important number of provisions that can apply also to the taxation field. Furthermore, this paper identifies issues in legal standards that could protect taxpayers 'rights and outlines recommendations for moving towards a minimum legal framework for XAI in tax law.