

# The Use of Artificial Intelligence in Combating Tax Evasion: Challenges, Opportunities, and Ethical Implications from a Legal Perspective

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## **Abstract**

*Tax evasion is a persistent challenge for governments worldwide, leading to significant revenue losses and undermining public trust in fiscal systems. The integration of artificial intelligence (AI) into tax compliance and enforcement mechanisms presents a transformative opportunity to enhance detection and prevention capabilities. AI-driven tools, such as machine learning algorithms and predictive analytics, can identify fraudulent patterns, automate audits, and improve regulatory oversight<sup>2</sup>. However, the adoption of AI in taxation also raises significant legal and ethical concerns, including data privacy, algorithmic bias, and due process rights<sup>3</sup>. From a legal standpoint, ensuring transparency and accountability in AI-based tax enforcement is crucial to maintaining fairness and preventing potential abuses. This paper explores the challenges, opportunities, and ethical dilemmas associated with AI-driven tax enforcement, analyzing regulatory frameworks and proposing legal safeguards for responsible AI implementation.*

**Keywords:** artificial intelligence, tax evasion, legal implications, ethical challenges, regulatory frameworks.

**JEL Classification:** K22, K24, K34

**DOI:** <https://doi.org/10.62768/ADJURIS/2025/3/10>

## **Please cite this article as:**

Ștefănoaia, Mihai, „The Use of Artificial Intelligence in Combating Tax Evasion: Challenges, Opportunities, and Ethical Implications from a Legal Perspective”, in Devetzis, Dimitrios, Dana Volosevici & Leonidas Sotiropoulos (eds.), *Digital Lawscapes: Artificial Intelligence, Cybersecurity and the New European Order*, ADJURIS – International Academic Publisher, Bucharest, Paris, Calgary, 2025, p. 178-189.

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<sup>2</sup> Benjamin Alarie, *AI and the Future of Tax Avoidance* (December 4, 2023). Tax Notes Federal, December 4, 2023, p. 1809, Available at SSRN: <https://ssrn.com/abstract=4667814>.

<sup>3</sup> Nuryani Nuryani, Achmad Benny Mutiara, I Made Wiryana, Detty Purnamasari, Souza Nurafrianto Windiartono Putra, (2024). „Artificial Intelligence Model for Detecting Tax Evasion Involving Complex Network Schemes”. *Aptisi Transactions on Technopreneurship (ATT)*, 6(3), 339–356. <https://doi.org/10.34306/att.v6i3.436>.

## 1. Introduction

The rapid technological evolution has fundamentally transformed how tax administrations collect, process, and analyze taxpayer data, leading to a significant transition from traditional tax audit methods — primarily based on manual declarations and spot checks — to integrated digital systems and advanced predictive analytics. The massive digitalization of economies, the rise of e-commerce, the globalization of financial flows, and the diversification of income sources have created unprecedented challenges for tax authorities. In this context, artificial intelligence (AI)-based tools have emerged as innovative solutions capable of managing vast volumes of data from heterogeneous sources and uncovering complex patterns of tax evasion that remain inaccessible through conventional means<sup>4</sup>.

AI is not merely a tool for automating repetitive tax processes but serves as a strategic partner in strengthening tax oversight capabilities. Through machine learning algorithms and predictive analytics, AI can identify tax evasion behaviors by correlating declared data with information obtained from external sources such as commercial registers, banking transactions, online platforms, and social networks<sup>5</sup>. For instance, by employing clustering techniques, AI systems can group taxpayers with similar behaviors and quickly detect deviations from typical profiles. This approach not only enhances the efficiency of tax audits but also enables proactive tax evasion prevention by signaling risks at an early stage.

Moreover, AI-driven systems contribute to increased voluntary compliance, as taxpayers become aware of the authorities' ability to detect irregularities swiftly, reducing the temptation to evade tax obligations<sup>6</sup>. The implementation of tax nudging systems — based on AI-driven personalized messaging — has proven to have positive effects on compliance by tailoring communication to each taxpayer's behavioral profile<sup>7</sup>.

However, the rapid expansion of AI use in the tax sphere raises multiple legal and ethical concerns that require appropriate and up-to-date regulation. From a legal perspective, the massive processing of taxpayer data raises questions about compliance with the principles of legality, proportionality, and the right to defense. For example, to what extent is the use of opaque and difficult-

<sup>4</sup> OECD. (2025). *Tax Administration Digitalisation and Digital Transformation Initiatives*, <https://doi.org/10.1787/c076d776-en>.

<sup>5</sup> European Commission (2022). *Artificial Intelligence Act: Proposal for a Regulation laying down harmonised rules on artificial intelligence*. COM/2021/206 final, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52021PC0206>.

<sup>6</sup> OECD (2021). *Tax Administration 3.0: The Digital Transformation of Tax Administration*. Paris: OECD Publishing, [https://www.oecd.org/en/publications/tax-administration-3-0-the-digital-transformation-of-tax-administration\\_ca274cc5-en.html](https://www.oecd.org/en/publications/tax-administration-3-0-the-digital-transformation-of-tax-administration_ca274cc5-en.html).

<sup>7</sup> James Alm & Benno Torgler (2011). „Do Ethics Matter? Tax Compliance and Morality”. *Journal of Business Ethics*, 101, 635–651, <https://doi.org/10.1007/s10551-011-0761-9>.

to-explain algorithms compatible with the obligation to justify administrative tax decisions, as required by national and European legislation<sup>8</sup>? At the same time, AI may amplify the risks of indirect discrimination if algorithms are trained on historical datasets that reflect systemic biases or unequal treatment applied to certain categories of taxpayers.

From an ethical perspective, the balance between tax collection efficiency and the protection of fundamental rights — especially privacy and the presumption of innocence — becomes a critical issue. Intensive tax profiling, which effectively turns every taxpayer into a permanent suspect, contradicts the principles of a democratic rule-of-law state and risks undermining public trust in tax administrations<sup>9</sup>. Thus, AI integration into tax processes should not only be a technological modernization effort but also an opportunity to enhance transparency, accountability, and respect for taxpayer rights.

Therefore, it is essential that this technological revolution is accompanied by a corresponding adaptation of the legal framework, establishing clear limits for AI use in tax administration, algorithmic audit mechanisms, and effective safeguards for fundamental rights protection. Without such an integrated approach, the risk that AI becomes an abusive control tool — at the expense of tax fairness and social justice — remains high<sup>10</sup>.

The research questions are as follows:

1) What are the main legal challenges associated with the use of artificial intelligence in detecting and preventing tax evasion at national and international levels?

2) To what extent do artificial intelligence-based technologies improve the efficiency of tax authorities in combating tax evasion, and what are their implications for taxpayers' rights?

3) What ethical and data protection considerations should be taken into account in regulating the use of artificial intelligence for combating tax evasion?

4) How can the use of artificial intelligence in combating tax evasion be balanced with the principles of the rule of law and tax justice?

## 2. Opportunities Offered by AI in Combating Tax Evasion

The application of artificial intelligence in the tax domain creates multiple opportunities, including:

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<sup>8</sup> Christopher Barth Kuner, Daniel Cooper, 2017. *Data Protection Law and International Dispute Resolution*. Leiden/Boston: Brill - Nijhoff, 2017. 174 p. (Recueil des Cours: Collected Courses of the Hague Academy of International Law, Vol. 382), p. 78.

<sup>9</sup> ECHR, case of S. and Marper v. the United Kingdom, 2008.

<sup>10</sup> Jeffrey Owens, Ivan Lazarov and Nathalia Oliveira Costa, (2021), *Exploring the opportunities and challenges of new technologies for EU tax administration and policy*. European Parliament, [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/695458/IPOL\\_STU\(2021\)695458\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/695458/IPOL_STU(2021)695458_EN.pdf).

**Automatic detection of fraud patterns.** The use of artificial intelligence in combating tax evasion provides significant opportunities by automating analytical processes, increasing the accuracy of investigations, and reducing the time required to detect and prevent tax fraud. Beyond the automatic detection of fraud patterns, AI contributes to optimizing transaction monitoring, improving tax compliance, and enhancing the efficiency of control bodies.

**Predictive analytics for tax evasion prevention.** AI can be used to develop predictive models that anticipate evasion behaviors based on historical data and taxpayer characteristics. Machine learning algorithms can estimate the probability that a company or an individual will commit tax fraud and help authorities allocate control resources more efficiently<sup>11</sup>. This approach enables proactive tax evasion prevention, thereby reducing financial losses to the state.

**Real-Time transaction monitoring.** AI-based technologies allow real-time monitoring of financial transactions and the detection of suspicious activities<sup>12</sup>. By integrating data from multiple sources, such as tax declarations, bank transfers, and card payments, intelligent systems can automatically flag atypical or structured transactions designed to avoid taxation. For example, AI can detect the intentional fragmentation of payments to evade tax obligations or identify transactions between high-risk entities<sup>13</sup>.

**Automation of tax audits and inspections.** The use of AI in tax audit processes can significantly reduce the time needed to analyze documents and identify discrepancies. Natural language processing (NLP) systems can quickly examine large volumes of financial documents, extracting essential information for tax verifications<sup>14</sup>. Additionally, algorithms can prioritize cases with the highest risk of tax evasion, allowing tax inspectors to focus on the most relevant files<sup>15</sup>.

**Enhancing tax compliance through virtual assistants.** AI-powered virtual assistants can guide taxpayers in the compliance process, reducing errors and ambiguities in tax filings. These assistants can provide personalized recommendations, explanations of tax legislation, and early warnings in case of possible inconsistencies in tax declarations. Such intelligent support contributes to reducing unintentional evasion and improving tax transparency.

<sup>11</sup> OECD (2021). *Tax Administration 3.0: The Digital Transformation of Tax Administration*.

<sup>12</sup> Chirag Vinalbhai Shah, *Real-Time Transaction Monitoring: Combining AI, Big Data, and Biometric Authentication for Secure Payments*, June 2021, *Global Networks* 5(6): 38-47, DOI: 10.70179/GRDJEV09I100013.

<sup>13</sup> IMF Annual Report, 2023, <https://www.imf.org/external/pubs/ft/ar/2023/english/>, accessed on 25.03.2025.

<sup>14</sup> Friedrich Schneider, Andreas Buehn. "Shadow Economy: Estimation Methods, Problems, Results and Open questions" *Open Economics*, vol. 1, no. 1, 2018, pp. 1-29. <https://doi.org/10.1515/openec-2017-0001>

<sup>15</sup> European Commission. (2022). Proposal for a Council Directive amending Directive 2006/112/EC as regards VAT rules for the digital age, Brussels, 8.12.2022 COM(2022) 701 final, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022PC0701>.

**Integration of blockchain with ai for increased transparency.** The combination of AI and blockchain technology can significantly improve the traceability of financial transactions and prevent the manipulation of accounting data<sup>16</sup>. Blockchain provides an immutable ledger of transactions, while AI can analyze this data to detect anomalies and potential tax avoidance strategies. This synergy enables the creation of a more transparent and secure tax system.

**Combating fraud in e-commerce and the digital economy.** AI can be used to monitor online commercial activities and detect businesses that do not properly report their revenues<sup>17</sup>. By analyzing payment flows and online reviews, algorithms can identify merchants engaged in undeclared economic activities, thereby contributing to reducing tax evasion in the digital economy.

These opportunities highlight the potential of artificial intelligence to transform tax administration and significantly reduce losses caused by tax evasion. However, implementing such solutions requires appropriate regulation and close collaboration between tax authorities, financial institutions, and the private sector.

### **3. Legal and Technical Challenges in Applying Artificial Intelligence in the Tax Domain**

The implementation of artificial intelligence in combating tax evasion and tax administration raises numerous challenges from both legal and technical perspectives. These difficulties stem from the need to balance the efficiency of automated processes with the protection of taxpayers' fundamental rights and ensuring the fairness of administrative decisions.

**Protection of personal data and confidentiality.** The processing of tax data using artificial intelligence must comply with the European legal framework on data protection, particularly Regulation (EU) 2016/679 (GDPR), which imposes strict restrictions on the collection, storage, and use of personal information<sup>18</sup>. The use of AI in analyzing tax data involves accessing massive databases, which can be correlated with external sources such as banks, social media, or commercial registries. This integration raises the risk of excessive surveillance and may lead to violations of the right to privacy, guaranteed by Article 8 of the Treaty on the Functioning of the European Union (TFEU). Furthermore, there is a risk that automated systems could retain data for longer periods than necessary or use it in ways incompatible with the original purpose of collection, which could result in legal sanctions for tax authorities.

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<sup>16</sup> OECD (2021). *Tax Administration 3.0: The Digital Transformation of Tax Administration*.

<sup>17</sup> IMF Annual Report, 2023, <https://www.imf.org/external/pubs/ft/ar/2023/english/>, accessed on 25.03.2025.

<sup>18</sup> European Data Protection Board. *Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models*, [https://www.edpb.europa.eu/our-work-tools/our-documents/opinion-board-art-64/opinion-282024-certain-data-protection-aspects\\_en](https://www.edpb.europa.eu/our-work-tools/our-documents/opinion-board-art-64/opinion-282024-certain-data-protection-aspects_en).

**Transparency and explainability of algorithms.** A fundamental principle of administrative law is the justification of administrative acts, meaning that tax decisions must be clear and accessible to taxpayers<sup>19</sup>. When an AI algorithm is used to identify tax evasion risks or automatically generate tax assessments, taxpayers must have the ability to understand the logic behind the algorithm and contest any potential errors. However, many advanced machine learning models, especially those based on neural networks, function as “black boxes,” making it difficult to explain their outcomes in a comprehensible manner for end users<sup>20</sup>. A lack of transparency may lead to legal challenges of tax decisions, arguing that the principle of legality and the right to a fair trial (Charter of Fundamental Rights of the EU, Article 47) have been violated. In this context, there is an urgent need to develop algorithmic audit mechanisms and establish standards for the explainability of models used in the tax domain.

**Algorithmic discrimination and impact on tax equity.** AI systems rely on historical data to learn patterns and make predictions; however, this data may contain errors, distortions, or systemic biases<sup>21</sup>. The uncontrolled application of algorithmic models in tax risk assessment could lead to discrimination against certain categories of taxpayers. For example, if historical data shows a higher rate of tax fraud in specific economic sectors or geographic regions, AI could automatically label SMEs in these areas as having a higher risk of evasion, leading to disproportionate tax audits. This situation contradicts the principle of equality before the law, enshrined in Article 20 of the Charter of Fundamental Rights of the EU. Additionally, AI algorithms could exacerbate existing inequalities in the tax system by favoring large taxpayers, who have the resources to legally optimize their tax obligations, while increasing the pressure on smaller taxpayers who do not have the same capacity for compliance<sup>22</sup>.

**Legal liability for automated decisions.** Another problematic aspect is determining legal liability when an AI algorithm makes an erroneous decision that affects a taxpayer. Currently, tax legislation does not provide a clear framework for assigning responsibility in such situations: who is responsible for an incorrect tax assessment generated by an automated system — the tax authority, the software developer, or the operator managing the algorithm? In the absence of specific regulations, taxpayers may face difficulties in challenging AI-based decisions, which could undermine their access to justice and protection of their

<sup>19</sup> Christopher Barth Kuner, Daniel Cooper, *op. cit.*, 2017, p. 76.

<sup>20</sup> Sandra Wachter, Brent Mittelstadt, Luciano Floridi, 2017. „Why a Right to Explanation of Automated Decision-Making Does Not Exist in the General Data Protection Regulation”, *International Data Privacy Law*, Volume 7, Issue 2: 76–99, <https://doi.org/10.1093/idpl/ixp005>.

<sup>21</sup> Ninareh Mehrabi, Fred Morstatter, Nripsuta Saxena, Kristina Lerman, and Aram Galstyan. 2021. „A Survey on Bias and Fairness in Machine Learning”. *ACM Computing Surveys* 54, 6, Article 115 (July 2022), 35 pages. <https://doi.org/10.1145/3457607>.

<sup>22</sup> Solon Barocas, Moritz Hardt and Arvind Narayanan (2019). *Fairness and Machine Learning: Limitations and Opportunities*. MIT Press, p. 50 et seq.

rights<sup>23</sup>.

**Cybersecurity and the risk of attacks on ai-based systems.** The use of artificial intelligence in tax administration involves the integration of advanced data analytics systems; however, this exposes the tax infrastructure to significant cybersecurity risks. AI algorithms may be vulnerable to adversarial attacks, where malicious actors manipulate input data to induce errors in the system's predictions<sup>24</sup>. For example, a taxpayer could attempt to alter the structure of their transactions to avoid detection by anti-fraud algorithms. Additionally, the use of AI requires storing large volumes of tax data, which increases the risk of cyberattacks and the leakage of confidential information.

**Harmonization of tax legislation with technological advancements.** Tax legislation is generally rigid and tailored to traditional tax collection mechanisms, which can pose an obstacle to the integration of emerging technologies. The rapid pace of technological progress makes it difficult to update the regulatory framework in a way that ensures both the efficiency of tax administration and the protection of taxpayers' rights. For example, many countries lack clear regulations regarding the use of AI in tax decision-making processes, which can create legal uncertainties and hinder the widespread adoption of these technologies.

In conclusion, the implementation of artificial intelligence in combating tax evasion offers considerable benefits but also raises multiple legal and technical challenges that require a balanced approach. Developing appropriate regulatory frameworks is essential to ensure transparency, equity, and the protection of taxpayers' rights without compromising the efficiency of tax administration.

#### 4. Ethical and Legal Implications of Using Artificial Intelligence in the Tax Field

The use of artificial intelligence (AI) in tax monitoring and administration generates multiple ethical and legal implications that need to be addressed in order to ensure the protection of taxpayers' rights and the legality of the use of these technologies. From the issue of legal liability for erroneous decisions to the risk of excessive profiling, the use of AI must be accompanied by clear regulatory and oversight mechanisms to prevent abuses and ensure a balance between administrative efficiency and the protection of fundamental rights.

**Legal liability for algorithmic errors.** A major challenge in the use of AI in the tax field is determining liability when algorithms generate incorrect decisions or harm taxpayers. Errors can result from several factors, including

<sup>23</sup> OECD (2021). *Tax Administration 3.0: The Digital Transformation of Tax Administration*.

<sup>24</sup> Nicolas Papernot, Patrick McDaniel, Ian Goodfellow, Somesh Jha, Z. Berkay Celik, Ananthram Swami (2017). *Practical Black-Box Attacks Against Machine Learning*. Proceedings of the 2017 ACM Asia Conference on Computer and Communications Security, Abu Dhabi, UAE, 1(1), 45-57, <https://doi.org/10.48550/arXiv.1602.02697>.

faulty training data, imperfect algorithmic models, or misinterpretation of results. The key question is who should be held accountable: the tax authority using the technology, the software developer, or the technology oversight authority?

Currently, the legal framework in most EU member states does not provide clear regulations on liability in such cases<sup>25</sup>. According to the general principle of administrative liability, tax authorities should assume responsibility for the use of AI, including for errors made. However, this principle does not cover situations where errors stem from the technical limitations of algorithms or from decisions made autonomously by advanced machine learning systems. Additionally, the lack of a clear algorithm audit framework complicates identifying the causes of erroneous decisions, which may hinder taxpayers' ability to challenge them.

One possible solution would be the adoption of a specific legal mechanism for algorithmic liability, similar to that used in the field of artificial intelligence applied to autonomous vehicles. This could include the obligation for tax authorities to demonstrate that AI decisions are correct and in compliance with current legislation, as well as the right of taxpayers to request human review of automated decisions<sup>26</sup>.

**Proportionality of ai use in relation to taxpayers' rights.** A fundamental principle of European law is the principle of proportionality, which mandates that any administrative measure must be necessary, appropriate, and not excessively infringe upon the fundamental rights of the individuals concerned<sup>27</sup>. In the tax context, the use of AI must be justified by a clear necessity and should not exceed what is strictly necessary to achieve the intended purpose.

The European Court of Human Rights has repeatedly emphasized the importance of balancing tax security with respect for privacy. For example, in the case of *S. and Marper v. the United Kingdom* (2008), the ECtHR ruled that the long-term retention of personal data without clear justification constitutes a violation of Article 8 of the European Convention on Human Rights, which protects privacy. This ruling can be interpreted as a relevant precedent for the use of AI in tax monitoring, suggesting that authorities cannot retain and analyze taxpayer data without clear and proportional justification.

In this regard, excessive use of AI in tax analysis could lead to unjustified intrusions into taxpayers' private lives. For example, the use of algorithms to analyze spending history, banking transactions, or even data from social media could violate the necessity and data minimization principles imposed by the GDPR. Therefore, it is essential that the implementation of AI in the tax field be accompanied by control and oversight mechanisms to ensure the proportionality

<sup>25</sup> Jeffrey Owens, Ivan Lazarov and Nathalia Oliveira Costa, *op. cit.* (2021), p. 70.

<sup>26</sup> Wachter, S., Mittelstadt, B., & Floridi, L., *op. cit.* (2017), p. 77.

<sup>27</sup> Oleksandr Kutovyi, Sergii Burma (2025). „Artificial Intelligence in the Case-Law of the European Court of Human Rights”. *Ehrlich's Journal*, (12), 34–44. <https://doi.org/10.32782/ehrlchsjournal-2025-12.05>.



of the measures applied.

**Preventing “Excessive profiling”.** AI-based tax profiling involves analyzing large volumes of data to identify behavior patterns and estimate the likelihood that a taxpayer is engaged in fraudulent activities. While this technology can be useful in detecting fraud, it raises serious concerns regarding the presumption of innocence and the risk of discriminatory treatment.

According to Article 48 of the Charter of Fundamental Rights of the EU, everyone is presumed innocent until proven guilty. Using AI to create detailed tax profiles, correlated with behavioral analysis and predictive models, could lead to treating taxpayers as suspects before an actual violation of the law is proven<sup>28</sup>. For example, if an algorithm identifies a taxpayer as having a high risk of tax evasion based on factors such as the type of economic activity or geographic location, this could lead to more frequent tax inspections without the individual having committed fraud.

Another risk is posed by potential algorithmic errors that may affect specific groups of taxpayers. For instance, if historical data suggests that certain industries have a higher degree of tax evasion, algorithms may automatically label small businesses in those sectors as higher-risk, even without concrete evidence. This could lead to discriminatory application of tax measures and a violation of the principle of equality before the law.

To prevent these risks, legislation should impose clear limits on the use of AI in tax profiling. For example, algorithms should be periodically audited to identify potential biases, and taxpayers should have the right to contest decisions based on predictive models. Additionally, the use of AI for fully automated tax decisions, without human intervention, should be prohibited to ensure the respect of the right to a defense.

## 5. Conclusions

The use of artificial intelligence in tax monitoring and combating tax evasion offers significant advantages, but also involves major legal and ethical risks. The issue of liability for algorithmic errors, the need to comply with the proportionality principle, and the risk of excessive profiling are just a few of the challenges that need to be addressed to ensure fair and legally compliant implementation. A clear and transparent regulatory framework for the use of AI in the tax field is essential to prevent abuses and protect taxpayers' rights.

In the present paper, I have addressed the formulated research questions.

1. *What are the main legal challenges associated with the use of artificial intelligence in detecting and preventing tax evasion at national and international*

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<sup>28</sup> Alessia Fidelangeli, Federico Galli (2021), „Artificial Intelligence and Tax Law: Perspectives and Challenges”, *Rivista Interdisciplinare Sul Diritto Delle Amministrazioni Pubbliche*, Fascicolo 4: 24-58. DOI: 10.13130/2723-9195/2021-4-27.

*levels?* is covered in Section III, Legal and technical challenges in applying artificial intelligence in the tax domain, where aspects such as data protection, algorithm transparency, algorithmic discrimination, legal liability, and cybersecurity are discussed.

2. *To what extent do artificial intelligence-based technologies improve the efficiency of tax authorities in combating tax evasion, and what are their implications for taxpayers' rights?* is examined in Section II. Opportunities offered by AI in combating tax evasion, where the benefits of AI, including automated fraud detection, predictive analytics, real-time monitoring, and the automation of tax inspections, are analyzed. Additionally, the implications for taxpayers' rights are discussed in Section III.

3. *What ethical and data protection considerations should be taken into account in regulating the use of artificial intelligence for combating tax evasion?* is analyzed in Section IV. Ethical and legal implications of using artificial intelligence in the tax field, where issues such as legal liability for algorithmic errors, the principle of proportionality, and the risk of excessive profiling are addressed.

4. *How can the use of artificial intelligence in combating tax evasion be balanced with the principles of the rule of law and tax justice?* is discussed in Sections III and IV, where the necessity of decision-making transparency, the prevention of algorithmic discrimination, and the protection of fundamental taxpayer rights are examined.

The implementation of artificial intelligence in combating tax evasion presents significant opportunities but also raises complex legal and ethical challenges. AI enhances the efficiency of tax authorities by automating fraud detection, improving predictive analytics, and enabling real-time transaction monitoring. However, its application must be carefully regulated to avoid infringements on fundamental rights.

One of the primary legal challenges concerns data protection and privacy, as AI systems require access to large tax-related datasets that may include sensitive personal information. Ensuring compliance with GDPR and other data protection laws is crucial to prevent excessive surveillance and unauthorized data use. Moreover, algorithmic transparency remains a major concern, as many AI systems operate as "black boxes," making it difficult for taxpayers to challenge tax assessments based on automated decisions. To align AI applications with the rule of law, tax authorities must implement clear accountability mechanisms and provide taxpayers with the right to human review of AI-driven tax decisions.

Ethically, profiling and algorithmic bias pose risks of discrimination and unequal tax enforcement. AI systems trained on historical tax data may inadvertently reinforce biases against certain economic sectors or demographic groups, leading to unfair tax audits and assessments. Therefore, regulatory frameworks must establish safeguards against discriminatory outcomes and mandate regular audits of AI models.

From a legal standpoint, establishing liability for AI-generated tax decisions is essential. Current tax regulations do not clearly define whether responsibility lies with tax authorities, software developers, or third-party AI providers. Without clear accountability, taxpayers may face difficulties contesting erroneous decisions, undermining their access to justice.

Furthermore, the integration of AI with blockchain technology offers a potential solution to improve financial transparency and tax compliance. Blockchain provides an immutable ledger of transactions, while AI can detect anomalies and flag potential tax avoidance schemes. However, this integration requires international legal harmonization to ensure cross-border enforcement and data-sharing regulations.

In conclusion, while AI has the potential to revolutionize tax administration by increasing efficiency and reducing fraud, its deployment must be balanced with legal safeguards to uphold transparency, fairness, and taxpayer rights. A robust regulatory framework is needed to ensure that AI-driven tax enforcement adheres to the principles of proportionality, non-discrimination, and legal accountability. Additionally, continuous collaboration between tax authorities, policymakers, and AI developers is necessary to refine legal standards and address emerging challenges in AI-powered tax compliance.

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