

# Explainability as a Constitutional Limit on Algorithmic Tax Power: A Comparative Analysis

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## Abstract

The wide application of algorithmic systems in tax administration has reshaped the exercise of tax power and posed unprecedented challenges to traditional constitutional constraints on taxation. Classical constitutional principles, including legality, equality and due process, were formulated for human decision-makers and prove structurally insufficient to address the opacity, probabilistic logic and systemic biases of algorithmic tax decisions. This article argues that explainability should be established as a new structural constitutional limit on algorithmic tax power, rather than merely a transparency tool or ethical guideline. It distinguishes explainability from transparency, accountability and interpretability, and clarifies its core function as a substitute for human intentionality, which guarantees taxpayers' right to contestation and judicial review. Based on a comparative analysis of the regulatory frameworks in the European Union, the United States, China and Brazil, this study examines respective governance models and existing deficits. It finds that all jurisdictions lack specialized tax laws targeting algorithmic decision-making. To safeguard taxpayers' fundamental rights, explainability must be combined with contestability, auditability and effective human oversight. This research offers a new theoretical framework for adapting constitutional tax law to the era of artificial intelligence.

## Keywords

Algorithmic Tax Power, Explainability, Constitutional Limits, Comparative Tax Law, Tax Administration

## 1. Introduction: Algorithmic Tax Power

### 1.1. The Emergence of Algorithmic Tax Power

The increasing use of algorithmic systems in tax administration has transformed

how Tax Power is exercised. Risk scoring models, automated audit selection, predictive profiling, and data-driven enforcement tools increasingly determine who is monitored, audited, and sanctioned and how administrative fiscal power is exercised. In this context, explainability has emerged as a central concern in debates on algorithmic decision-making, often framed as a requirement of transparency, accountability, or ethical artificial intelligence.

The classical catalogue of constitutional limits on the power to tax—legal certainty, ability to pay, equality, proportionality, non-confiscation, and due process—emerged within a legal framework presupposing human decision-makers. These limits were designed to constrain acts attributable to identifiable agents, grounded in deliberative reasoning, and expressed through discursive justification. In this model, constitutional review focuses primarily on the normative content of taxation: what is taxed, who is taxed, and to what extent.

The increasing use of algorithmic systems in tax administration challenges these assumptions. Risk scoring, automated selection for audits, inferential profiling, and data-driven enforcement mechanisms introduce a form of tax power that is no longer exercised solely through explicit normative acts, but through computational architectures capable of shaping fiscal outcomes probabilistically and opaquely. The constitutional difficulty does not lie in the mere use of technology, but in the displacement of decision-making authority from human deliberation to algorithmic inference.

However, in tax law, the relevance of explainability extends beyond informational transparency. When algorithmic systems shape legally binding fiscal outcomes, the absence of intelligible reasons undermines contestability, due process, and constitutional control. Explainability thus becomes directly connected to the legitimacy of tax power itself, rather than a peripheral feature of administrative efficiency.

This article addresses the following research question: shall classical constitutional limits on the power to tax adequately constrain algorithmic decision-making, or does algorithmic tax power require additional structural constitutional limits?

The central claim advanced is that explainability should be understood as a structural constitutional limit on algorithmic tax power. While traditional constitutional principles—such as legality, equality, due process, and non-confiscation—remain normatively valid, they were designed to constrain human decision-makers operating through intentional and discursive reasoning. A new constitutional risk emerges from decision-making structures. Beyond the classical focus of constitutional scrutiny from the substantive content of taxation, questions now arise concerning the structural design of fiscal governance itself.

An explainable model is one where we can understand how a model produced its output.

At least two classical constitutional principles are seriously challenged: legality and the principle of full legal binding of tax administration. The principle of le-

gality requires that the essential elements of tax obligations be established by Parliament. This requirement is challenged when tax administration applies intelligent fiscal systems capable of evolutionary learning, autonomous content generation, and adaptive decision-making through virtual agents. In this case, parliamentary authorization risks becoming formally preserved but substantively weakened, as legislative control struggles to extend to tax systems whose operational logic evolves beyond *ex ante* normative determination. Opacity, in this setting, becomes not merely a technical feature, but a constitutional liability and a direct risk to taxpayers' rights.

Another principle under threat is the principle of full legal binding of tax administration, which requires that tax collection activities be strictly constrained by pre-established legal norms. This constraint is undermined when tax authorities deploy intelligent tax systems capable of continuous learning and adaptive evolution, as such systems may progressively reshape enforcement practices in ways that exceed or escape the legal content originally authorized by law.

It is not unrealistic to think of an automated rule-making system. Automated rulemaking will be a possible challenging scenario. It is possible for machine-learning algorithms to build a larger automatic rulemaking system where normative choices and tradeoffs have been specified in advance (Coglianese & Lehr, 2019). This system can be applied to taxation. We can imagine that to classification of goods and services and their tariffs in international trade. Or it can advance novel forms of tax fraud by using new offshore companies. Brazil is already using a system for customs based on situations where there is a risk of evasion (Coutinho et al., 2018).

What will be the tasks of human operators in this model? We can highlight some, such as: structuring the design and architecture of the system, determining the input data, performing system testing and validation, as well as tuning the criteria, parameters, and other relevant elements of the intelligent system.

This article advances the claim that algorithmic tax power requires a complementary set of constitutional constraints aimed at the structure of decision-making itself, rather than at the substantive content of taxation alone. While classical constitutional limits remain normatively valid, they are structurally insufficient to address the specific risks generated by probabilistic, opaque, and non-intentional algorithmic decisions.

The transition from human to algorithmic tax power does not eliminate traditional constitutional principles; rather, it exposes their functional limits. Classical limits operate predominantly *ex post*, assessing whether a tax norm or administrative act breaches substantive boundaries. Algorithmic systems, by contrast, generate constitutional risk *ex ante*, at the level of model design, data selection, proxy construction, and inferential logic.

This structural shift requires reconceptualizing constitutional limits not merely as normative prohibitions, but as principles that structure algorithmic governance itself.

Algorithmic governance does not violate constitutional principles primarily only by taxing excessively or unequally, but by deciding in ways that undermine intelligibility, contestability, and imputability. Obviously, algorithmic errors can lead to excessive or unequal taxation by the system. These design errors must be technically avoided. However, the constitutional question thus shifts from how much tax power is exercised to how that power is technically produced.

## 1.2. Algorithmic Tax Power in Comparative Tax Law

Methodologically, the article adopts a comparative constitutional analysis, combining doctrinal reconstruction with functional comparison. The study examines how different legal systems conceptualize and regulate algorithmic decision-making in taxation and adjacent administrative contexts.

The analysis focuses on four jurisdictions: Brazil, the European Union, the United States, and China. Brazil provides the doctrinal background of classical constitutional limits on taxation; the European Union represents a rights-based and risk-oriented regulatory model; the United States exemplifies an administrative accountability and procedural governance approach; and China illustrates a model of managed opacity grounded in fairness and systemic governance. This comparative framework allows for identifying convergences and divergences in how explainability is articulated as a constraint on algorithmic power.

The references to Argentina, Colombia, and Mexico were intentionally preserved as illustrative cases of early algorithmic tax deployment in Latin America. Their function is not to expand the comparative framework, but to empirically reinforce the article's core thesis regarding the emergence of algorithmic tax power prior to the development of adequate constitutional safeguards.

The article is structured as follows. It reconstructs the classical constitutional limits on the power to tax and identifies their implicit reliance on human intentionality and discursive justification. Then explains why these limits are structurally insufficient when applied to algorithmic decision-making. After it develops explainability as a structural constitutional limit, linking it to contestability, accountability, and equality. Finally, it offers a comparative analysis of the European Union, the United States, China, and Brazil. The conclusion synthesizes the findings and outlines a broader framework of structural constitutional limits for algorithmic tax power<sup>1</sup>.

This article contributes to the literature by reconceptualizing explainability not as a transparency-enhancing tool or ethical guideline, but as a structural constitutional limit on algorithmic tax power, demonstrating—through comparative analysis—that classical content-based constraints are normatively necessary yet functionally insufficient to preserve due process, equality, and accountability in algorithmic taxation.

<sup>1</sup> *Methodological Note:* This paper adopts a hybrid methodological approach that integrates constitutional theory, legal-computational theory, and comparative legal analysis, with particular emphasis on normative risk and institutional design. The comparative inquiry is functional and structural in nature, rather than formal or doctrinally exhaustive.

## 2. Classical Limits on the Power to Tax in an Age of Algorithm Taxation

The importance of AI for the improvement and efficiency of the public sector is undeniable. The gains resulting from the digitization of documents, electronic processes, massive database formation, task automation, and platformization of administration are creating a new landscape for the 21st century. The OECD reports that AI could automate 84% of repetitive public service transactions in the United Kingdom. The numbers are impressive, with gains for more efficient and reliable public service delivery.

### 2.1. Classical Constitutional Limits under Digital Government

Digital Government is not only a reality, but a national goal. Brazil adopted Statute n. 14.129/2021, which establishes the rules for a Digital Government, setting out the concepts, principles, objectives, and legal instruments for the digital transformation of public administration. This law aims to combine administrative efficiency with improved public services for citizens. This standard, directed at the Federal Government, guides initiatives at the state and municipal levels.

The OECD has conducted in-depth research on AI in 11 core functions of government across 200 use cases and listed the importance of the ongoing transformation in several countries (OECD, 2025). The topic is so relevant that the OECD has an initiative focused directly on Digital Government and Data Unit<sup>2</sup>, as well as the Observatory of Public Sector Innovation (OPSI)<sup>3</sup>.

The OECD has listed six dimensions for digital government: i) public administration must be *digital by design*; ii) the public sector must be *data-driven*; iii) government as a *platform*; iv) it must be *open by default*; v) *user-driven*; and vi) government must be *proactive* (OECD, 2020).

Similarly, Latin America and the Caribbean (LAC) has sought ways to achieve a significant transformation of the public sector (OECD/CAF, 2022). The same has occurred in tax administration. Efforts have been made with several advantages. One example is the Prometea program in Argentina, a system that acts as a virtual assistant that predicts case solutions, used by the Deputy Attorney General for Administrative and Tax Litigation of the Public Prosecutor's Office of the City of Buenos Aires (OECD/CAF, 2022).

In Colombia, Kboot is cited, which tracks potential tax evaders on Instagram. The system identifies individuals selling merchandise on Instagram who were not registered with the treasury department (OECD/CAF, 2022). Another notable example is the AI system to detect fraudulent taxpayer operations in Mexico. It has been reported that during a six-month pilot, 1200 fraudulent companies were detected, and 3500 fraudulent transactions were identified (OECD/CAF, 2022).

Despite all these efforts, some risks cannot be overlooked, especially in the tax area. The OECD cites the Prometea case in Argentina, where its implementation

<sup>2</sup>See <https://oe.cd/digitalgov>

<sup>3</sup>See <https://oecd-opsi.org>

raised doubts over the explainability of its decisions, the existence of biases, and the repercussions for due process (OECD/CAF, 2022).

Theoretically, algorithms and the use of AI should be neutral by design (Pollicino & Gregorio, 2021). We would only be using new technological forms to perform tedious, repetitive, and low-complexity activities more efficiently. However, considering that the programming of these algorithms is the result of human activity, the risks of manipulation, bias, and opportunistic behavior are real. Some authors do not treat these risks as exceptions or isolated phenomena, but as a possible new form of social organization, called a surveillance society (Zuboff, 2019).

Constitutions have been designed to limit public powers and protect individuals against any abuse from the state (Pollicino & Gregorio, 2021), and the same applies to taxation. Constitutional limits determine the power to tax and its limits, as well as the protection of taxpayers. The constitutional limits traditionally imposed on the power to tax form one of the most stable cores of modern constitutional tax law. Principles such as legality, equality, due process, and non-confiscation are designed to constrain fiscal authority by safeguarding individual rights, ensuring predictability, and preventing arbitrary or excessive taxation. These limits operate as normative boundaries that shape both legislative design and administrative enforcement, reflecting a long-standing concern with the legitimacy of fiscal power in constitutional states governed by the rule of law.

At a doctrinal level, these principles share a common orientation: they regulate the content and effects of taxation. They determine what may be taxed, under which legal conditions, and within which substantive limits. Their function is primarily corrective and protective, intervening once a tax norm or administrative act has been adopted or applied. This *ex post* orientation presupposes a decision-making process capable of being reconstructed through legal reasoning and assessed against constitutional standards.

Less explicitly acknowledged, however, is the fact that these classical limits rely on a specific model of decision-making. They presuppose that tax power is exercised by human agents capable of intention, deliberation, and discursive justification. This implicit assumption becomes visible when constitutional review focuses on legislative intent, administrative motivation, or the proportionality of concrete tax measures. The effectiveness of classical limits, therefore, depends not only on their normative content, but also on the human architecture of decision-making within which they were conceived.

The principle of legality requires that taxation be grounded in law, ensuring democratic authorization and legal certainty. Equality mandates that similarly situated taxpayers be treated alike, prohibiting unjustified distinctions. Due process guarantees procedural fairness, enabling taxpayers to understand, contest, and challenge fiscal decisions. Non-confiscation limits the intensity of taxation, preventing the state from undermining property rights through excessive fiscal burdens.

Together, these principles form a coherent framework aimed at constraining discretionary power and safeguarding individual autonomy. Their operation is largely norm-centered: they assess whether a tax norm or administrative act conforms to constitutional requirements. Even when applied to administrative enforcement, these principles presuppose identifiable acts, explicit criteria, and traceable chains of reasoning that can be reviewed and corrected by courts.

Despite their apparent neutrality, classical constitutional limits implicitly rely on human intentionality and discursive justification. Motivation of administrative acts, proportionality analysis, and judicial balancing all presuppose that decisions are the result of deliberative reasoning capable of being articulated in normative terms. The constitutional demand for reasons assumes that decisions can be explained through narratives linking facts, norms, and purposes.

These assumptions remain largely unproblematic as long as tax power is exercised through human judgment. However, they become fragile when decision-making is delegated to algorithmic systems that operate through statistical inference, correlations, and automated pattern recognition. In such contexts, the constitutional vocabulary of intention, justification, and proportionality encounters structural limits that cannot be resolved through mere doctrinal extension.

The decision-making processes were once the exclusive remit of human beings, but now are also an artificial domain. AI systems can learn from vast amounts of data, make predictions, evaluations, and hypotheses that go beyond the mere application of pre-existing rules or programs (Simoncini & Longo, 2021). They actually make autonomous decisions. These decisions may impact taxpayers' rights.

Frank Pasquale defends the thesis that legal automation threatens due process rights, and we need proper countermeasures, such as explainability and algorithmic accountability (Pasquale, 2015). His second thesis is that courts should not accept legal automation because it could be a hazard for vulnerable and marginalized persons. We will analyze both theses in this article.

## **2.2. Why Classical Constitutional Limits Are Structurally Insufficient?**

The growing reliance on algorithmic systems in tax administration (Pollicino & Gregorio, 2021; Alm et al., 2020; Di Puglia Pugliese et al., 2021; Butler, 2020; Lismont et al., 2018; Antón, 2021) exposes a fundamental mismatch between classical constitutional limits and contemporary modes of decision-making. While traditional principles remain normatively binding, they are structurally insufficient to address the specific risks generated by algorithmic tax power. The insufficiency does not stem from doctrinal gaps, but from the transformation of the decision-making architecture itself.

Algorithmic systems do not merely assist human decisions; they actively shape outcomes by defining risk profiles, prioritizing enforcement targets, and generating probabilistic assessments (Catanzariti, 2021). As a result, constitutional harm may arise independently of any individual tax assessment, emerging instead from

the design and operation of the system as a whole. Classical limits, oriented toward discrete acts and substantive outcomes, struggle to capture these systemic effects. One of the risks of algorithmic decision-making is that no human actor is to take responsibility for the decision (Yeung, 2019). At first glance, algorithmic decision-making may appear analogous to the classical bureaucratic model, in which decisions are rendered impersonally, based on predefined and foreseeable rules, and independently of individual human considerations. From this perspective, algorithmic administration could be understood as a further stage in the technological rationalization of bureaucracy.

One distinction that could be mentioned is that algorithmic administration is characterized by opacity and automation (Zarsky, 2016). The Council of State in Italy has ruled that the use of algorithmic administrative decision-making must be subject to the principle of good performance of administration pursuant to Article 97 of the Italian Constitution, as well as to the principle of transparency (Pollicino & Gregorio, 2021; Consiglio, 2019).

Classical constitutional limits are primarily content-oriented. They evaluate whether a tax norm or enforcement action exceeds substantive boundaries, such as disproportionality or unequal treatment. This evaluative model is inherently ex post, presupposing that the relevant harm becomes visible only after a concrete decision has been taken.

In algorithmic contexts, however, the most significant risks arise before any individual decision is finalized. Biases embedded in training data, proxy variables, and model design may systematically disadvantage certain groups or taxpayers long before a specific assessment is issued. Ex post review of individual outcomes is therefore insufficient to detect or correct structural distortions produced at the systemic level.

One of the solutions found to mitigate the damage caused by the massive use of Automated Decision Systems (ADS) is the requirement for impact analysis. Canada uses Algorithmic Impact Assessment Tools (AIA) to reduce the risks associated with automated reasoning systems in the decision-making process (Pollicino & Gregorio, 2021; Government of Canada, 2019).

The Canadian model imposes levels of explainability and, at the higher levels, levels III and IV, imposes human intervention during the decision-making process, as well as requiring that human decisions prevail over machine decisions.

In Italy, similar models were applied, described as “Data Protection Impact Assessment” (“DPIA”) conducted by the Italian Tax Authority (ITA) to determine the compliance of the system based on artificial intelligence, Ve.R.A., to predict cases of tax evasion (Rizzo & Hassan, 2024).

Algorithmic tax power introduces a constitutional risk. The selection of data sources, the weighting of variables, and the choice of inferential techniques determine patterns of enforcement that may never be fully visible through isolated cases. These risks are probabilistic rather than deterministic and may manifest as cumulative effects rather than discrete violations. In the Chinese context, for ex-

ample, the regulation of automated decision-making explicitly links legitimacy to requirements of transparency, fairness, and non-discrimination, including constraints on “*unreasonable differential treatment*” produced by automated processing, *Provisions on the Management of Algorithmic Recommendations in Internet Information Services*<sup>4</sup>.

Because classical constitutional limits are not designed to address probabilistic harm or systemic bias, their application becomes reactive and fragmentary. The constitutional problem shifts from just correcting unlawful outcomes to governing lawful but structurally problematic decision-making processes. This shift may be understood as an “*algorithmic turn*” in constitutional risk.

Algorithm decision-making processes have an essential characteristic. They are artificial language systems that attempt to mimic human natural language based on patterns (Reichman & Sartor, 2021). But their modeling has at least two major differences. The first is the current lack of intentionality. Human language is permeated by first-person discourse, by human action in the world, with its values, emotions, and understandings of the facts of reality. The machine does not know reality as such; it knows a mathematical structure that mimics the world.

There are also no emotions or values involved. Obviously, the notions of solidarity, empathy, and sympathy are unknown to the machine. It knows only mathematical architectures of cooperation and vectors of actions, but not the deeper meaning of individuality or social harmony.

Algorithmic systems exercise power by structuring possibilities, probabilities, and priorities—a dynamic extensively examined in Game Theory. The idea of commands, imperatives, and desires appear faintly as decisions made by the machine.

Thus, the opacity and automaticity of algorithm decision-making (ADM) processes fail to understand the core of human experience. Artificial decisions only touch the surface of human activity, based on logical or inferential rationality, but do not understand the nuances of human uniqueness. Current algorithmic decision-making processes are incapable of apprehending the forms of human intentionality that sustain social harmony and underpin the dignity of the individual person.

Given that algorithms cannot understand the totality of human experience, there is a risk of loss of human dignity in AMDs (Olsen et al., 2021). Added to these risks are the possibilities of inferential errors, systematic deficiencies, massive production of false profiling, and self-reinforcing feedback loops. In their cumulative effect, such systems may operate as structural instruments of widespread fundamental taxpayer’s rights violations.

<sup>4</sup>“Article 21: Where the providers of algorithmic recommendation services market goods or provide services to consumers, they shall protect the consumers’ rights to fair transactions and must *not use algorithms to unreasonably differentiate* terms of transaction prices or other transaction conditions, or carry out other unlawful conduct, based on consumers’ preferences, transaction habits, or other traits”. Available at [http://www.cac.gov.cn/2022-01/04/c\\_1642894606364259.htm](http://www.cac.gov.cn/2022-01/04/c_1642894606364259.htm) (last accessed 02 January 2025).

### 3. Explainability as a Constitutional Limit: Between Tax Efficiency and Taxpayers' Fundamental Rights

The right to an explanation of administrative decision-making exists across all main jurisdictions in Europe. Despite national differences, this right exists in Europe and (EU Law), as well as in the legislation of Germany, France, Italy, Spain, Portugal, and the UK. In general, it determines that administrative decisions must clarify their reasons (Olsen et al., 2021).

Explainability must be conceptually distinguished from transparency. While transparency refers to access to information about the functioning of an algorithmic system—such as source code disclosure, documentation, or model architecture—explainability concerns the normative capacity of a decision-making system to render its outputs intelligible, contestable, and justifiable within a legal framework. In constitutional terms, transparency is a procedural condition; explainability, by contrast, is a structural requirement of legitimacy.

| CONCEPT          | DEFINITION                                                                                                         | MAIN FOCUS                                      | EXAMPLE IN ALGORITHMIC SYSTEMS                                                               | CONSTITUTIONAL/LEGAL ROLE                                                                                 |
|------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Accountability   | <i>Responsibility for decisions and results.</i>                                                                   | <i>Institutional Responsibility</i>             | <i>Internal audits, supervision by regulatory bodies</i>                                     | <i>Ensures that there are those responsible for decisions and effects, even in automated systems.</i>     |
| Transparency     | <i>Access to information about how the system works (e.g., code, documentation, architecture).</i>                 | <i>Procedure and technical visibility</i>       | <i>Disclosure of source code or algorithm documentation</i>                                  | <i>Procedural condition; facilitates oversight, but does not guarantee understanding or challenge.</i>    |
| Explainability   | <i>Ability to make decisions intelligible, justifiable, and contestable within a regulatory framework.</i>         | <i>Normative structure; legal justification</i> | <i>Explanation of the reasons that led to an automated tax decision</i>                      | <i>Structural constitutional limit; precondition for challenge, defense, and judicial review.</i>         |
| Interpretability | <i>Degree to which one can understand how the model arrives at a given result; clarity of internal mechanisms.</i> | <i>Technical understanding of the model</i>     | <i>Simple models (e.g., decision trees) are more interpretable than deep neural networks</i> | <i>Facilitates technical auditing and review, but does not necessarily guarantee legal justification.</i> |

In administrative and other contexts, transparency alone does not suffice to meet constitutional demands. Access to technical documentation does not guarantee that affected individuals can understand why a specific decision was reached, nor does it ensure that such decisions can be meaningfully reviewed or challenged. Explainability thus operates as a bridge between algorithmic outputs and constitutional norms such as legality, due process, equality, and non-arbitrariness.

Crucially, explainability shifts the constitutional inquiry from how the system works to how the decision can be normatively justified. It requires that algorithmic decisions be translated into reasons that can be articulated in legal language and evaluated against constitutional standards.

The Chinese legislative strategy provides for an individual's right to explana-

tion. This strategy provides for an ex-post decision-specific right to explanation as a form of individual autonomy, safeguards individuals' rights to due process, and mitigates algorithmic harm (Lin & Wu, 2022).

Classical administrative law relies on the duty to give reasons (motivation) as a safeguard against arbitrariness and as a condition for judicial review. This duty presupposes a human decision-maker capable of articulating intentional reasons that connect facts, norms, and conclusions. Algorithmic decision-making disrupts this structure.

In probabilistic and data-driven systems, outputs often result from correlations, inferences, and statistical optimization rather than from deductive reasoning grounded in explicit legal norms. As a consequence, traditional administrative motivation risks becoming merely formal or post hoc, detached from the actual decision-making process. Explanations generated ex post may describe how a result was produced without justifying why it should be considered legally correct.

To illustrate these meaningful differences:

| Classical (Human) Limit                     | Structural (Algorithmic) Limit                 |
|---------------------------------------------|------------------------------------------------|
| <i>Motivation for Administrative Action</i> | <i>Explainability</i>                          |
| <i>Adversarial Process</i>                  | <i>Algorithmic Contestability</i>              |
| <i>Equality (Isonomy)</i>                   | <i>Non-Discrimination by Design</i>            |
| <i>Non-Confiscation</i>                     | <i>Prohibition of Algorithmic Confiscation</i> |
| <i>Judicial Review</i>                      | <i>Independent Technical Audit</i>             |
| <i>Agent Responsibility</i>                 | <i>Meaningful Human Oversight</i>              |

Explainability addresses this gap by imposing limits on the acceptable forms of administrative reasoning when decisions are automated. It requires that algorithmic systems be designed so that their outputs can be reconstructed as normatively meaningful reasons, rather than as opaque statistical outcomes retroactively rationalized by the administration.

#### 4. Explainability: A Structural Framework for Algorithmic Tax Power

The risks of uncontrolled implementation of predictive algorithms to detect fraud in welfare assistance caused the early resignation of the Dutch Prime Minister. In this case, following the unlawful request for retroactive reimbursement of child-care allowances to 30,000 families, for 30,000 euros each (sc. “*toeslagenaffaire*”) (Hadwick & Lan, 2021).

The immense amount of tax data collected by tax administrations will enable the creation of a vast tax scoring system. The ability to monitor taxpayers will be immense, as will the potential risks to taxpayers' rights. Several problems can be pointed out: risks related to industrial and commercial secrets; risks regarding the disclosure of commercial models (Lin & Wu, 2022). But no less important are the risks of knowing taxpayers' individual preferences in non-tax fields, such as polit-

ical or personal preferences. In this field, the right to explanation comes to the aid of the principle of privacy.

Examples of AI systems applied by the Tax Administration have shown that a lack of transparency, care for taxpayers' fundamental rights, and explainability have led to failed experiences in Australia and the Netherlands. On the other hand, in those countries where complex or contested cases remain under human review, preserving due processes, with transparency, balance between taxpayer rights and public interest, they have been successful, especially in Estonia and the UK (Diamantopoulou, 2025). The importance of this care in building an ethical, secure, and well-formulated AI systems is proven.

The exercise of the power to tax has never been just a technical problem, but also and above all an institutional decision. And all power is based on legitimacy and on the rules of its limitation. It should be noted that an algorithmic governance system will only have legitimacy if it is supported by clear rules of transparency, explainability, contestation, and accountability (Stiefenhofer et al., 2025).

Technically, there are no obstacles to seeking the explainability of intelligent systems, which can be accessed by computational techniques, as well as in the case of property checking, trade secrets, and classified information, the right to an explanation requires caution and proportionality in accessing the source code in order to allow for the extraction of properties of the algorithm. Only for justified reasons and after weighing its effects should such access be authorized (Brkan & Bonnet, 2020).

The right to an explanation can have varying effects on the public interest, as the system can be opportunistically accessed by illicit interests, such as companies specializing in tax crimes, which seek to find flaws in the system. The balance between transparency and the protection of the public interest is something to be measured, obviously preserving the presumption of good faith on the part of the taxpayer. It may be that, as a preventive measure, tax authorities could be disincentivized from providing taxpayers with information about the design of the risk-scoring process, in order to protect the integrity of the system and prevent opportunistic access.

A solution can be glimpsed in the Schufa Case, where the duty to provide explanations does not require disclosing the specific variables that determine an individual risk score. In this case, Art. 15(h) GDPR requires the data processor to provide "significant information" on the general logic of the system that performs and automates individual decisions, but not necessarily all specific details.<sup>5</sup>

There is a risk that transparent and explainable systems will be considered consistent and less subject to challenge, which may be false. Just because the system is transparent and explainable does not mean it is immune to challenge. Nor does

<sup>5</sup>Case C-634/21|SCHUFA Holding [2023] ECJ. On the SCHUFA ruling, see University of Luxembourg, *Between Humans and Machines: Judicial Interpretation of the Automated Decision-Making Practices in the EU* by Sümeyye Elif Biber, (Rp No. 19, 2023), available at accessed 21 August 2024. Alessandra Silveira, "Automated individual decision-making and profiling [on case C-634/21-SCHUFA (Scoring)]" [2024] 8 UNIO-EU LJ 74 (last accessed 26 December 2025).

it mean that it is consistent and not wrong. It is also not appropriate to say that if the system is transparent, interpretable, and explainable, it will be morally correct (Vredenburg, 2024). These characteristics only allow for a formal understanding of the structure, impacts, and design of a system, but do not guarantee its moral value. This must be decided *ex ante* and in an institutional and social manner.

In Italy, it was noted that tax officers remained very confident in the outcome of algorithmic profiling. Italian tax officers might prefer to follow the hints provided by the algorithms, rather than performing an autonomous evaluation on the outcome of tax scoring. On the other hand, Italian tax officers would have to expend considerable effort to dismiss the indications of tax fraud indicated by V.e.r.a. (Rizzo & Hassan, 2024).

The right to ADM explainability must guarantee taxpayers' rights not only on the normative, factual, and legal basis of normative incidence, but also on the inferential, logical, and computational elements that underpin the automated processing of the taxpayer's data in the decision-making process. It must also be proven that the ADM was carried out with respect for privacy and equality, with appropriate and proportional use of their data.

Administrative legality historically presupposes intentional agency: decisions are attributable to a public authority that acts with purpose, discretion, and responsibility. Algorithms lack intentionality, moral agency, and practical reason. Explainability functions, therefore, as a surrogate for human intentionality.

Consider an algorithmic tax risk-scoring system used to prioritize taxpayers for audit. Instead of applying predefined legal thresholds, the system assigns probabilistic risk scores based on correlations among variables such as transaction patterns, sectoral benchmarks, and behavioral proxies. In a non-explainable system, the resulting audit decision cannot be reconstructed as an act of legal reasoning: neither the taxpayer nor the reviewing authority can identify which legally relevant criteria justified the selection.

An explainable system, by contrast, requires that the decision pathway be translatable into normatively meaningful reasons. The system must be able to indicate which legally relevant factors—such as discrepancies between declared revenue and sectoral averages, abnormal input-output ratios, or inconsistencies across reporting periods—contributed to the risk classification, and how they were weighted. Explainability thus enables the reconstruction of a justificatory narrative analogous to that expected from a human decision-maker, allowing responsibility, contestability, and judicial review to be preserved even in the absence of human intentionality at the moment of decision.

This surrogate role does not anthropomorphize algorithms. Instead, it imposes design and governance constraints that simulate the justificatory role traditionally played by human decision-makers. Explainability requires that the system's logic be aligned with legally relevant categories, that decision pathways be traceable to normative criteria, and that outputs be framed as reasons rather than predictions.

In this sense, explainability is not a technical feature but a constitutional de-

mand aimed at preserving the intentional structure of public authority in an environment increasingly mediated by automated systems.

Due process in administrative and tax law is traditionally structured around adversarial proceedings, where individuals can challenge factual findings, legal interpretations, and discretionary judgments. Algorithmic decisions challenge this model by relocating decision-making upstream, often before any formal proceeding begins.

Explainability reconfigures due process by enabling algorithmic contestability. Contestability requires that affected individuals can understand the basis of a decision, identify potential errors or biases, and meaningfully challenge both the input data and the inferential logic applied. Without explainability, procedural rights risk becoming illusory, as individuals are deprived of the epistemic conditions necessary for effective defense.

Algorithmic contestability thus transforms explainability into a precondition for accountability, ensuring that automated decisions remain embedded within a legal culture of reason-giving and challenge.

Algorithmic systems frequently operate on probabilistic thresholds and inferential risk assessments. Such decisions do not assert factual certainty but rather allocate probabilities. Traditional due process doctrines, however, are ill-equipped to address decisions grounded in statistical inference rather than factual determination.

Explainability mitigates this tension by requiring that probabilistic decisions be accompanied by explanations that clarify their normative implications. This includes transparency regarding confidence levels, error margins, and the legal relevance of probabilistic classifications. Due process, in this context, demands not certainty, but intelligibility and proportionality.

The Slovak Constitutional Court, in its judgment of December 17, 2021, in the eKasa case, ruled on the need for explainability of AI systems in light of constitutional principles. Thus, public administration cannot rely on decisions that are “inexplicable, unexplained, and at the same time no one is responsible for them”. The Slovak Constitutional Court also emphasized that the lack of effective supervision over AI systems fails to ensure the proportional application of the technology. Thus, AI systems used by tax administrations must be ex-ante (pre-implementation) and ex-post (post-implementation) effectively supervised, including access to inputs or assessment criteria, access to the logic of the decision or individual assessment, and whether the automated assessment uses patterns, models, or other databases that lead to a particular decision. In a very strong decision, it ruled that the effective supervision of AI systems is impossible without their explainability (Calvaresi et al., 2021).

According to this decision: “127. *The consequence of applying technological progress in public administration cannot be an impersonal State whose decisions are inexplicable, uncontrollable, and, at the same time, for which no one is responsible.*” On the other hand, it reinforces the legislative basis for restrictions on fundamental

rights by stating that the legislator is the only one who can, through specific legal provisions in general or special rules, ensure that the criteria, models, or interconnected databases used in the context of automated assessment are up-to-date, reliable, and non-discriminatory. Thus, in addition to general guarantees in the protection and processing of personal data, special guarantees must be provided to protect: (i) transparency, (ii) individual protection, and (iii) collective supervision.<sup>6</sup>

The administration must fulfill this duty by taking these safeguards into account in the specific contracting and implementation of automated systems whose operation will impact individuals and their fundamental rights and freedoms.

Even more relevant is the progressive existence of agentic AI as a force multiplier for taxpayer enforcement and compliance. This situation can lead to over-enforcement of specific groups, thereby undermining their capacity for effective defense and procedural fairness (Siva, 2024).

There is a proposal that the algorithm review mechanism should be improved in different dimensions: pre-filing, process supervision, and suggestions after the events. Algorithm models should be reviewed *ex ante* by a special agency, even before their filing. Not only their design and functions shall be analyzed, but also their impact.

China established a Development Plan for a New Generation of Artificial Intelligence in July 2017, which states that artificial intelligence is a disruptive technology and must build a protective legal framework and a code of ethics to align research and development personnel with moral protection against its negative impacts (Zhu, 2021).

Algorithmic systems may produce discriminatory outcomes even in the absence of explicit discriminatory intent. Proxy variables—such as geographic location, consumption patterns, or transactional behavior—can replicate or amplify existing social inequalities. Traditional anti-discrimination law, focused on intent or explicit classification, struggles to capture these dynamics.

Explainability not only plays a critical role in exposing proxy-based bias by enabling scrutiny of how input variables contribute to outcomes, but also has a positive meaning. Explainability AI can enable enhanced transparency that can support trust between corporations and regulators. Transparency and Explainability AI can enable cooperative compliance between corporate taxpayers and tax authorities (Razzak & Khan, 2023).

Beyond *ex post* remedies, explainability supports a shift toward non-discrimination by design. Constitutional equality principles require that algorithmic systems be structured to prevent unjustified disparate impacts from the outset. Explainability enables this preventive function by allowing regulators, courts, and auditors to assess whether system design choices embed unjustifiable biases.

In this sense, explainability becomes a structural safeguard of equality, operating at the level of system architecture rather than merely at the level of individual decisions.

<sup>6</sup>See <https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2021/492/20211217>

## 5. Explainability and the Future of Constitutional Limits on Tax Power

The European Union approaches algorithmic governance through a rights-based framework. The GDPR establishes limitations on automated decision-making that produces legal or similarly significant effects, emphasizing safeguards such as human intervention, the right to contest decisions, and meaningful information about the logic involved.

Explainability, within this framework, is tied to the protection of fundamental rights rather than to administrative efficiency. It functions as a structural condition for lawful automation, ensuring that algorithmic systems do not undermine human dignity, autonomy, and procedural fairness.

The AI Act complements the GDPR by introducing a risk-based regulatory model. High-risk systems, including those used in tax enforcement and public administration, are subject to robust governance requirements, including documentation, human oversight, and accountability mechanisms.

Explainability emerges as a cross-cutting requirement that connects risk classification to constitutional legitimacy. Systems that cannot be adequately explained are, by definition, unsuitable for risk-sensitive public decision-making.

In the EU context, tax automation is constitutionally legitimate only insofar as it respects fundamental rights. Explainability operates as a condition for reconciling administrative efficiency with legal accountability, preventing the transformation of tax enforcement into an opaque regime of automated power.

In the United States, algorithmic governance is primarily addressed through administrative law doctrines rather than fundamental rights. Tax authorities increasingly rely on algorithmic tools for audit selection, risk scoring, and enforcement prioritization.

Due process concerns arise not from the mere use of algorithms, but from their impact on procedural fairness and accountability. Explainability is framed as a condition for rational decision-making and non-arbitrary enforcement.

Rather than mandating transparency to affected individuals, U.S. governance emphasizes auditability and institutional oversight. Explainability supports this model by enabling internal audits, general reviews, and congressional oversight, even when public disclosure is limited.

Judicial review of algorithmic decisions remains limited due to judicial restraint doctrines and technical complexity. Explainability thus shifts accountability toward technical audits and administrative controls that are raising concerns about the sufficiency of judicial safeguards in high-sensitive tax decisions.

China's regulatory framework recognizes individual rights in automated decision-making, including rights to explanation and contestation<sup>7</sup>. However, these rights operate within a system that prioritizes centralized governance and state objectives.

<sup>7</sup>Personal Information Protection Law (PIPL) of the People's Republic of China, Art. 24.

Extensive data integration enables highly effective tax enforcement but also concentrates algorithmic power. Explainability functions primarily as an internal governance tool rather than as a mechanism of public accountability. The Chinese model operates a form of explainability without full transparency, raising constitutional tensions between efficiency, fairness, and individual rights<sup>8</sup>.

Explainability, while indispensable, is not sufficient to fully constrain algorithmic tax power. As automated systems increasingly shape enforcement priorities, audit selection, and risk classification, constitutional legitimacy requires a broader set of structural safeguards. These safeguards operate not at the level of individual decisions alone, but at the level of system design, institutional allocation of responsibility, and normative limits on permissible outcomes.

Algorithmic contestability extends traditional notions of legal challenge to the algorithmic domain. It requires not only the formal possibility of appeal, but the substantive capacity to question the data, assumptions, proxies, and inferential logic embedded in algorithmic systems. Contestability thus presupposes explainability but goes further by demanding procedural channels and institutional competencies capable of engaging with algorithmic reasoning.

In tax administration, contestability must encompass both individual outcomes and systemic practices, allowing taxpayers to challenge patterns of enforcement that reveal structural bias or disproportionate targeting.

Auditability complements judicial review by providing *ex ante* and ongoing oversight, shifting constitutional control upstream to the design and deployment phases of algorithmic systems.

A constitutional prohibition of algorithmic confiscation requires that automated tax systems be assessed not only for formal legality, but for their aggregate distributive effects. This safeguard preserves the principle of non-confiscation in an environment where harm may emerge from systemic interaction rather than discrete acts.

Human oversight must be meaningful rather than symbolic. This entails clearly defined responsibilities, the capacity to intervene in algorithmic processes, and accountability for outcomes. Human oversight functions as the final anchor of public authority, ensuring that algorithmic systems remain instruments of governance rather than autonomous sources of power.

In the United States, procedural safeguards under the Administrative Procedure Act and the Internal Revenue Code apply to tax decisions regardless of whether they are produced manually or through algorithmic systems. In the European Union, the Charter of Fundamental Rights, together with data protection and artificial intelligence regulations, establishes obligations that extend to public authorities, including tax administrations. In China, administrative law and data governance statutes expressly address automated decision-making by state authorities, which encompasses fiscal enforcement activities<sup>9</sup>.

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<sup>8</sup>Personal Information Protection Law (PIPL) of the People's Republic of China, Art. 24.

<sup>9</sup>Personal Information Protection Law (PIPL) of the People's Republic of China, Art. 24.

Brazil lacks any legal framework specifically addressing automated or algorithmic decision-making in public administration. The Brazilian LGPD applies solely as a general data protection statute governing the processing of personal data, without regulating the use of algorithms or artificial intelligence in tax assessment, audit, or enforcement.

Despite the absence of tax-specific legislation addressing algorithmic decision-making, Brazilian constitutional doctrine and case law already provide interpretive tools capable of constraining automated tax enforcement. Principles such as due process (art. 5, LIV), adversarial proceedings (art. 5, LV), proportionality, and the constitutional duty to motivate administrative acts have been consistently applied by Brazilian courts to require intelligibility, justification, and procedural fairness in tax administration.

In addition, although the Brazilian General Data Protection Law (LGPD) is not tax-specific, its provisions on automated decision-making, transparency, and accountability have begun to influence administrative and judicial interpretations concerning data-driven public decision-making. These principles may operate as indirect constitutional safeguards against opaque algorithmic practices in taxation, even if they remain insufficient to address the structural risks inherent in algorithmic tax power. This reinforces the argument that explainability must be understood as a constitutional requirement emerging from existing principles, rather than as a purely legislative innovation.

All the jurisdictions, United States, the European Union, China, and Brazil, are using general norms of data protection and algorithm regulation, but until now, there is no tax-specific legal norms regulating algorithms as an autonomous legal category.

There are none tax law norms that contain provisions expressly addressing algorithmic decision-making, automated profiling, or principles such as explainability, transparency, accountability or on opacity forbidden.

Algorithmic systems used in tax administration operate within legal frameworks that are trying to adjust their systems to general rules, but maybe that is not really technologically neutral and method-agnostic. The question that imposes is if it will be better to have a federative system to guaranty tax payer's rights align with the general rules of data protection and algorithm regulation, rather than within a distinct body of algorithm-specific tax regulation?

Data protection regimes apply to the processing of personal data by tax authorities in Brazil, the European Union, the United States, and China, however, none of these jurisdictions has incorporated algorithmic decision-making into the core legal regime governing taxation, including assessment, audit, and tax enforcement.

The rise of algorithmic tax power does not necessitate doctrinal rupture. Instead, it demands constitutional mutation: a reinterpretation of established principles in light of new technological realities. Explainability and its complementary safeguards represent an adaptive response that preserves constitutional continuity while addressing unprecedented forms of administrative power.

## 6. Conclusion

This article has argued that explainability must be understood not merely as a technical feature or individual right, but as a structural constitutional limit on algorithmic tax power. By distinguishing explainability from transparency, situating it as a surrogate for human intentionality, and integrating it into a broader framework of structural safeguards, the analysis demonstrates how constitutional law can adapt to automated governance without relinquishing its normative foundations.

Classical constitutional limits on the power to tax—legality, equality, due process, and non-confiscation—remain normatively valid and indispensable. However, they presuppose a model of public authority grounded in *human intentionality, discursive justification, and identifiable agency*. Algorithmic systems disrupt these presuppositions by reallocating decision-making power to inferential processes that lack intention, moral agency, and practical reason. In this context, constitutional review oriented exclusively toward discrete acts and substantive outcomes becomes structurally insufficient.

Explainability addresses this structural deficit. It functions as a *surrogate for human intentionality*, preserving the justificatory structure of public authority in environments increasingly mediated by automated decision-making. By requiring that algorithmic outputs be rendered intelligible, contestable, and normatively justifiable, explainability restores the epistemic conditions necessary for due process, equality, and accountability. It enables constitutional control not only after decisions are made, but at the level where constitutional risk first emerges: system design, data selection, proxy construction, and inferential logic.

The comparative analysis demonstrates that, despite significant institutional and normative differences, the European Union<sup>10</sup>, the United States<sup>11</sup>, China<sup>12</sup> and Brazil<sup>13</sup> converge on the recognition that algorithmic governance in taxation cannot be constitutionally legitimate without structural constraints. Whether articulated through rights-based regulation, administrative accountability, or managed opacity, explainability emerges across jurisdictions as a necessary—though

<sup>10</sup>See Charter of Fundamental Rights of the European Union, arts. 41, 47, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:12012P/TXT>; Regulation (EU) 2016/679, <https://eur-lex.europa.eu/eli/reg/2016/679/oj>; Regulation (EU) 2024/1689, <https://eur-lex.europa.eu/eli/reg/2024/1689/oj>

<sup>11</sup>See Administrative Procedure Act, 5 U.S.C. §§ 551–559, 706, <https://www.law.cornell.edu/uscode/text/5>; Internal Revenue Code, 26 U.S.C. §§ 7602, 7605, 7803, 6103, <https://www.law.cornell.edu/uscode/text/26>.

<sup>12</sup>See Personal Information Protection Law of the People's Republic of China, Art. 24, <https://digichina.stanford.edu/work/translation-personal-information-protection-law-of-the-peoples-republic-of-china-effective-nov-1-2021/>; Tax Collection and Administration Law, [http://www.chinatax.gov.cn/eng/c101280/c101282/201908/t20190823\\_3100373.html](http://www.chinatax.gov.cn/eng/c101280/c101282/201908/t20190823_3100373.html); Administrative Reconsideration Law, <https://www.chinalawtranslate.com/en/administrative-reconsideration-law/>; Administrative Litigation Law, <https://www.chinalawtranslate.com/en/administrative-litigation-law/>

<sup>13</sup>See Lei No. 13.709, de 14 de agosto de 2018 (LGPD), arts. 1-4, [https://www.planalto.gov.br/ccivil\\_03/\\_ato2015-2018/2018/lei/l13709.htm](https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2018/lei/l13709.htm); Decreto No. 10.046, de 9 de outubro de 2019, [https://www.planalto.gov.br/ccivil\\_03/\\_ato2019-2022/2019/decreto/D10046.htm](https://www.planalto.gov.br/ccivil_03/_ato2019-2022/2019/decreto/D10046.htm).

not sufficient—condition for lawful automation in high-stakes public decision-making.

The future of constitutional limits on tax power will depend on the capacity of legal systems to regulate not only decisions, but decision-making architectures. Explainability—combined with contestability, auditability, proportionality, and human responsibility—offers a viable path toward legitimate algorithmic governance in taxation.

Whether tax systems require a specific body of algorithmic tax law remains an open question; however, the absence of structural constitutional safeguards already constitutes a normative deficit.

Explainability operates as a structural constitutional limit on algorithmic tax power, not by expanding transparency duties or data protection rights, but by preserving the conditions of human intentionality, responsibility, and contestability within tax decision-making architectures.

## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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