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Fiscal Transformations Due to AI and Robotization: Where Do Recent Changes in Tax Administrations, Procedures and Legal Systems Lead Us?

Maria Amparo Grau Ruiz

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**FISCAL TRANSFORMATIONS DUE TO AI
AND ROBOTIZATION: WHERE DO
RECENT CHANGES IN TAX
ADMINISTRATIONS, PROCEDURES
AND LEGAL SYSTEMS LEAD US?**

Maria Amparo Grau Ruiz



FISCAL TRANSFORMATIONS DUE TO AI AND ROBOTIZATION: WHERE DO RECENT CHANGES IN TAX ADMINISTRATIONS, PROCEDURES AND LEGAL SYSTEMS LEAD US?

*María Amparo Grau Ruiz*¹

ABSTRACT—Tax administrations are currently experiencing transformations worldwide. This phenomenon has an impact on traditional tax rules. Increased technological capabilities open the door to review procedural and substantial regulation. The reinforcement of reporting and transparency requirements, and the connectivity between information systems in the public and private sector, will probably have a decisive influence on the evolution of tax law. Chatbots capture relevant data about the legal persons subject to different types of tax obligations. This information may be used to prepare more detailed administrative guidance, or even design future normative reforms. To efficiently protect justice and the rule of law in taxation, a human-centered approach can deliver benefits, while minimizing risks. However, the multi-faceted nature of humans must be considered in order to sustain true digital rights. Some general charters are being developed, and their contents should be embedded in technology. Computation and tax experts should pay attention to the work of different oversight institutions.

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INTRODUCTION

Tax Administration 3.0 is already being implemented.² Many tax administrations around the world are currently undergoing changes in their structure and the way they carry out their functions. These changes are not exclusively due to a spontaneous desire to innovate, although traditionally in this dynamic field there is a tendency to do so. Adapting to the times of an increasingly digitized economy, the administration is forced to implement them for several reasons. The first is the pressure to mobilize its domestic resources to raise the funds needed for the particularly intense economic recovery following the crisis caused by the recent coronavirus pandemic. Second, to counteract the aging and shrinking of administrative staffs,³ critical in many advanced countries, due to insufficient replacement rates and budgetary constraints. Thirdly, due to the fact that the latest

² OECD, TAX ADMINISTRATION 3.0: THE DIGITAL TRANSFORMATION OF TAX ADMINISTRATION (OECD, Paris 2020), <https://www.oecd.org/tax/forum-on-tax-administration/publications-and-products/tax-administration-3-0-the-digital-transformation-of-tax-administration.pdf> [<https://perma.cc/4RTY-5BCU>].

³ "Between FY 2010 and FY 2020, the IRS lost more than 33,000 full-time personnel, which included nearly 13,400 key enforcement personnel." IRS, *Financial Report: Management's Discussion and Analysis, Fiscal Year 2021*, <https://www.irs.gov/pub/irs-pdf/p5456.pdf> [<https://perma.cc/AB6T-3HPF>].

available technologies are also used by those who plan the payment of taxes corresponding to their (often digitalized) economic activities.

According to the Organisation for Economic Cooperation and Development's (OECD) recent report, *Tax Administration 2021*, more than nine out of ten business taxpayers were filing their returns electronically in 2019. Approximately 50% of the administrations covered in its report used digital assistants such as "chatbots." More than 80% of tax administrations were using analytics tools and techniques to improve risk management and help design-in compliance. Finally, close to 75% of tax administrations used cutting-edge techniques to exploit data.⁴

The principles of effectiveness and efficiency are repeatedly used as an argument for undertaking all these processes of change; unfortunately, they are sometimes undertaken at the expense of postponing other basic principles in the achievement of tax justice. For this reason, it is necessary to take a closer look at the practical effects of these changes. It is important to highlight both the potential of Artificial Intelligence (AI) and robotization, as well as some of the more complicated impacts of their use.

First, it is helpful to understand how the handicaps in the tax administration's transformation processes have been detected by different competent institutions to date, and how they have been addressed. The correction of these initial failures will undoubtedly improve the inevitable widespread use of the technology for a growing diversity of tasks in the future.

To assess the risks and opportunities in tax digitalization, let us take stock of some notable attempts to use technology to improve tax management and fraud control in other countries. The outstanding developments in the use of AI in tax administration have resulted in the development of a fallacy; namely that AI can, on its own, solve the problem of tax non-compliance, and that tax administration can somehow compensate for the limitations of tax policy and legislation.⁵ While AI can bring significant advantages, it cannot de facto compensate for a deficient

⁴ OECD, *Tax Administrations Continue to Accelerate Their Digital Transformation*, (September 15, 2021), <https://www.oecd.org/tax/forum-on-tax-administration/news/tax-administrations-continue-to-accelerate-their-digital-transformation.htm> [<https://perma.cc/4LDZ-DP6F>]. "The [ninth] edition of [this report] *Tax Administration 2021* sets out key performance indicators for 59 tax administrations from the OECD and other advanced and emerging economies which together collect EUR 12.3 trillion of revenue annually." *Id.*; see also OECD, *Tax Administration 2021: Comparative Information on OECD and Other Advanced and Emerging Economies* (OECD 2021), <https://www.oecd.org/tax/forum-on-tax-administration/publications-and-products/tax-administration-23077727.htm> [<https://perma.cc/FP2Z-7MNE>].

⁵ Rita de la Feria & Anculien Schoeman, *Addressing VAT Fraud in Developing Countries: The Tax Policy-Administration Symbiosis*, 47/11 *INTERTAX* 950, 950–67 (2019).

tax law. The so-called “simplicity” approach, whereby complex law is presented as though it is simple, without actually engaging in simplification of the underlying law,⁶ should be avoided.

Many public administrations, in their modernization processes, have embarked on the path towards the detection and control of data-driven fraud. These efforts involve searching for patterns in huge amounts of information, through increasingly powerful departments. As a result of these new working methods, in addition to the well-known problem of the leakage of sensitive data—leaks to which the tax world has been no stranger, new controversies are now arising.⁷

The combination of AI, big data, and automated or robotized administrative procedures—even with virtual assistants, can entail risks for taxpayers. The first stumbling blocks in the incipient digital tax transition are indeed beginning to emerge. The Netherlands, with one of the most dynamic tax administrations in Europe, experienced a serious setback when trying to verify the correct enjoyment of tax benefits through the use of new technologies.⁸ A selection rule in the income tax module contained the criterion of nationality, without there being an explicit legal basis for it. In May 2020, the Secretary of State for Revenue and Customs informed the House of Representatives that the Chancellor of the Exchequer announced the cessation of its use on May 15, 2020.⁹ The judgment that was handed

⁶ Tina Ehrke-Rabel, *Big Data in Tax Collection and Enforcement*, in *TAX AND THE DIGITAL ECONOMY*, (Werner Haslechner et al. eds., 2019), 283, 283–334.

⁷ The Role of the Tax and Customs Administration Act: “Messing and Pipe,” Research into ethnic profiling Tax and Customs Administration UWV: Hostage by the tax authorities. ICT error Tax and Customs Administration costs Cabinet 445 million.

⁸ “According to NJCM et al. the application of SyRI constitutes a dragnet, untargeted approach in which personal data are collected for investigation purposes. It argues that SyRI is a digital tracking system with which citizens are categorised in risk profiles and in the context of which the State uses ‘deep learning’ and data mining. According to NJCM et al., SyRI is a proactive system with a large-scale, unstructured and random automated linking of files of large groups of citizens and secret processing of personal data. NJCM et al. also argues that the application of SyRI falls under what is referred to in literature, legal literature and in practice as ‘big data.’” *See* in the matter of *Nederlands Juristen Comite Voor de Mensenrechten [NJCM] et al. v. State of the Netherlands*, The Hague District Court Case No. C/09/550982 / HA ZA 18-388 (February 5, 2020), Paragraph 6.45, <https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:RBDHA:2020:1878> [<https://perma.cc/GE8L-XT3U>].

In support of their position, the NJCM and others rely on the “Independent advisory opinion on the effects of digitization on constitutional relations,” submitted to the Cabinet by the Advisory Division of the Council of State. *See id.* at Paragraph 6.46.

⁹ Second nationality was no longer used in the core risk models and the selection rules no longer provided this data as of January 31, 2015. However, the selection could still be made by means of queries. The personal data authority is investigating whether the tax and customs administration may have unlawfully processed personal data revealing race or ethnicity from 2014 to date. Before a provisional assessment is finally adjusted, a check is always carried out by a professional (human intervention). In May a “warning” will be sent to them that the selection based on the rule in question cannot be processed. *Selection By Nationality Discontinued in Case of Provisional Assessment of IB*,

down in this case generated significant debate, the likes of which attracted the attention of the UN Special Rapporteur on extreme poverty and human rights.¹⁰

A critical look was given the role information and communication technologies played in the tax and customs administration in the Netherlands. The technology made possible abuses that have financially destroyed recipients of tax benefits for childcare, including an arguably racist component in the administrative action by focusing the procedures on certain immigrant groups that have been denounced. This incident was made possible by the combination of technology, through the application of filters to detect taxpayers who had a second nationality, and insufficient regulatory coverage.¹¹

Today, profiling from data analysis is a technique commonly used by companies. It is used on a large scale and is often more effective than random sampling. However, in management practice, the way in which a risk profile is developed and applied can make a difference when certain characteristics (e.g., age, gender, religion) are unduly taken into account, which can lead to unjustified discrimination. Careful supervision by the personal data protection authority is important.¹²

VIDITAX, (May 12, 2020), <https://www.futd.nl/fiscaal-nieuws/14417/selectie-naar-nationaliteit-bij-voorlopige-aanslag-ib-stopgezet/> [<https://perma.cc/D3XE-CXJF>].

¹⁰ As Philip Alston, UN *Special Rapporteur*, points out, “The SyRI system, as well as the use of other digital technologies in the Netherlands and many other countries that are transforming welfare states into ‘digital welfare states’, pose significant potential threats to human rights, in particular for the poorest in society. These systems should therefore be scrutinized accordingly, not just by courts, but by governments, legislators and the whole of society.” Brief as *Amicus Curiae*, NJCM c.s. v. De Staat der Nederlanden (SyRI), District Court of The Hague Case No. C/09/550982/HA ZA 18/388 (September 26, 2019) Paragraph 38, <https://www.ohchr.org/Documents/Issues/Poverty/Amicusfinalversionsigned.pdf> [<https://perma.cc/ZNK2-DJQU>]; see also Response of the Government of the Netherlands, NJCM c.s. v. De Staat der Nederlanden (SyRI), District Court of The Hague Case No. C/09/550982/HA ZA 18/388 (October 29, 2019), https://www.ohchr.org/Documents/Issues/Poverty/20191029_Reply%20NL%20Govt_SyRI.pdf [<https://perma.cc/59GZ-VQCT>].

¹¹ Beyond the ethnic profiling of a single—apparently incompetent—investigating officer, or an unfortunate coincidence in an arbitrary group. René Veldwijk, *Data, ICT en de Wantoestanden Bij de Belastingdienst [Data, ICT and the Abuses of the Tax and Customs Administration]*, COMPUTABLE (July 12, 2020), <https://www.computable.nl/artikel/opinie/overheid/6957932/1509029/data-ict-en-de-wantoestanden-bij-de-belastingdienst.html> [<https://perma.cc/5WKG-SPUQ>].

¹² Corruption in the public services sector sometimes reveals prejudices. Mieke Bean, *Over Nut en Nadeel van Profileren voor de Belastingdienst - Mag de Overheid Gebruik Maken van Risicoprofielen op Basis van Data-analyse? [On the Usefulness and Disadvantages of Profiling for Tax Authorities - Can the Government Use Risk Profiles Based on Data Analysis?]*, TROUW LETTER EN GEEST, (May 30, 2020), https://ris.utwente.nl/ws/files/206452459/Boon_Trouw_May_25_2020.pdf [<https://perma.cc/22CK-UUWD>].

The investigation by the Dutch personal data authority shows that the Benefits Department of the Tax Administration should not have processed the dual nationality of the childcare benefit claimants. These data processing operations were unlawful, discriminatory and violated the applicable data protection legislation. By January 2014, the data should have been deleted, as after that date it was no longer relevant in the assessment and granting of the benefit in question. However, the data was kept and used. Furthermore, it was used to combat organized fraud, despite not being necessary. Similarly, the system unnecessarily used nationality as an automatic indicator for certain risky transactions. In short, an unjustified distinction was made on the basis of nationality, which was discriminatory and prohibited.

The storage and use of data, on a large scale and, for long periods of time is certainly worrying and precautions must be taken to stay in compliance with data protection rules.¹³ In 2020, the second nationality criteria was removed from the risk models and selection rules. Further, the first nationality was only included if there was a legal basis for it and it was necessary to fulfil the assigned duties.¹⁴

It is foreseeable that decision-oriented administrative work based on data processing will continue to take hold and become the norm in many countries. In Spain, similar approaches are expressly included at the state level in the general guidelines of the State Agency of Tax Administration (*Agencia Estatal de Administración Tributaria, AEAT*) for the Annual Tax and Customs Control Plan published in 2020: “With the support of new technologies, we are gradually proceeding to an improvement of information analysis systems that allow the execution of data contrast

¹³ At the end of 2019, the Dutch data protection authority was asked to investigate in 2020 how risk models, screening rules, data analyses and queries were created in the Tax and Customs Administration (including surcharges), to determine which safeguards apply and how they are tested, involving the Privacy Officer of the Tax and Customs Administration and the Data Protection Officer of the Ministry of Finance. *Werkwijze Belastingdienst in Strijd Met de Wet en Discriminerend [The Tax and Customs Administration’s Working Method is Contrary to the Law and Discriminatory]*, AUTORITEIT PERSOONSGEGEVENS.NL (July 17, 2020), <https://autoriteitpersoonsgegevens.nl/nl/nieuws/werkwijze-belastingdienst-strijd-met-de-wet-en-discriminerend> [<https://perma.cc/A83H-Y9SZ>].

¹⁴ This may include specific wage cases. A “risk model” estimates the likelihood of a correction of, for example, returns, based on a set of variables that best explain historical return corrections. The “screening rules” that are part of a screening module are determined on the basis of the knowledge and experience of Tax and Customs staff. This may include professional knowledge, knowledge of legislation and regulations, or experience from previous years. These selection rules are used to check certain parts of the tax return, for example, whether a specific item of deduction exceeds a certain standard amount. “Queries” are a collection of data from multiple data sources. Where there is no explicit legal basis, the nationality of personal data has been removed from all queries in use or old queries. *Letter from the Secretary of State for Finance, Levies and Customs* (April 28, 2020), FEATURES 2020-82842 www.rijksoverheid.nl [<https://perma.cc/4DX3-XUMP>].

processes, using big data technology, which facilitate the early detection of serious fraudulent conduct, such as the alleged amounts not paid and the presence of underground economy, in which VAT has a special relevance.”¹⁵ Similarly, they are being implemented in the regional framework. For example, in the general criteria of the Tax Control Plan of the Tax Agency of Catalonia for 2020: “Strengthening the tax data governance model (big data) in order to improve effectiveness and efficiency in the fight against fraud. This measure includes improving the exploitation of technology for the management of external data, the detection and delimitation of patterns of tax fraud through the use of data analytics tools, the design of specific treatments carried out to combat fraud and the reinforcement in the detection and selection of risks of tax non-compliance.”¹⁶

It should be stressed that a tax administration official who makes decisions based on data and programs executed by a computer is not the same as an algorithm that makes decisions to be executed by an official. It is essential to constantly monitor the technological development in this field, in order to notice at what point the procedure pivots from tax experts, well versed in the rules of regulatory interpretation, to programmers, presumably without adequate legal knowledge, who make use of AI—unless there are professionals who have both skills. In any case, the technology will have to be regulated according to parameters that adhere to the current law. And this issue is far more complex than it seems at first glance, as highlighted by the notorious innovation efforts in the OECD and the

¹⁵ Resolution of January 21, 2020, of the Directorate General of the AEAT, approving the general guidelines of the Annual Tax and Customs Control Plan (BOE of January 28, 2020).

¹⁶ Specifically, among the actions to prevent tax fraud. Resolution VEH/522/2020, of February 7, of the Autonomous Community of Catalonia, publicizing the general criteria of the Tax Control Plan of the Tax Agency of Catalonia for 2020 (DOGC of March 2, 2020). Also, in the Regional Treasury of the Basque Country: “b) Within the technological developments aimed at preventing fraudulent conduct, the Big Data projects underway are framed: [] Taxpayer relations project. In 2018, a pilot project was carried out in which a Big Data infrastructure was implemented to exploit the data on relations between taxpayers existing in the Treasury’s databases. This year 2019 the pilot is being continued by incorporating improvements and turning it into an operating application: [] Preparation of the definitive Big Data infrastructure, based on that of the pilot. [] Automation and improvement of the data loading processes. [] Improvement in the quality of the data incorporated. Cleaning of inconsistencies and duplicities. [] New data visualization and exploitation system. [] Risk analysis project based on SII information. This is a pilot project that allows a first analytical approach to the data that has been collected since the implementation of the Immediate Information Supply system (IIS, in Spanish known as SII). The project will use the same Big Data infrastructure defined for the relationship project. The objective is to analyze the SII data, both among themselves and in relation to VAT self-assessments and other tax data of interest. A set of analysis cases have been defined, each of which will generate reports alerting of fraud risk situations.” Provincial Order 135/2019, of March 4, of the Historical Territory of Guipúzcoa, regarding the Tax Verification Plan for 2019, which includes as an annex the Inspection Plan for the 2019 financial year, as well as the general criteria that inform it (BOG of March 11, 2019).

experimental proposal in France to translate the rules into programming codes, especially in tax matters.¹⁷

Obviously, the patterns detected by software from data sets can be useful and deserve to be used by the public administration. But there should be transparency: citizens deserve the explanations permitted by the safeguarding of the guarantees of confidentiality. At the very least, government employees should be able to communicate them, and supervisors should be able to verify them. For a good relationship between government and citizens, it is essential to be able to control the origin and quality of the data on which administrative decisions are based, without obscurity or complexity serving as an excuse behind which those tempted to commit possible arbitrariness or corruption can hide. Otherwise, the tax administration will provide programs with errors, use biased data and, in the worst case, rely on employees who are experts in information and communication technologies and who will inevitably make mistakes.¹⁸

¹⁷ "In 2019, the French National Research Institute for Computer Science (Inria) has initiated an initiative focused on developing a new coding language for rules as code: Catala." It "is designed to achieve semantic equivalence with the law itself (its fundamental source of truth). Catala is unique because of its use of a style called literate programming, which sees each line of a legislative style text annotated with a snippet of code. This is of obvious benefit because it allows non-technical experts, such as policy makers and lawyers, to understand the representation of the code in relation to the legislation or rules. This allows Catala programmes to be easily verified and validated. Catala also comprises a compiler, which is a mechanism that allows for code to be translated into a range of programming languages, which improves interoperability." See *The Catala Language*, CATALA-LANG.ORG, <https://catala-lang.org> [<https://perma.cc/C7YV-UFY6>].

In late 2019, work began at the OECD's Observatory on Public Sector Innovation (OPSI) on an Innovation Handbook focused on the concept of Rules as Code, designed "for human and machine consumption" in the digital age to make government truly transparent and effective. See *Cracking the Code: Rulemaking for Humans and Machines*, <https://oecd-opsi.org/seeking-your-feedback-on-draft-rules-as-code-primer/> [<https://perma.cc/6VQQ-CYLZ>].

¹⁸ Of course, the issues need to be addressed sooner rather than later, as the collection and use of data is going to gain exponentially in importance. There are more and more sources of information available. For example, on mobility: cameras on roads, parking lots, flights, etc.; or on consumption: energy, or telephone. In Spain, the Directorate General of the State Tax Administration Agency has data from the interested party, from other Public Administrations, from other individuals other than the interested party, from private entities, from public registers and from sources accessible to the public. It carries out processing associated with the management of the state tax and customs system, and others whose purpose and detailed information is described in each of the processing activities carried out by the AEAT. See 5. *Registro de las Actividades de Tratamiento [5. Record of Treatment Activities]*, AGENCIATRIBUTARIA.ES/AEAT, https://www.agenciatributaria.es/AEAT.internet/Inicio/Ayuda/Modelos_Procedimientos_y_Servicios/Ayuda_P_FZ08_Tratamiento_de_datos_personales/Informacion_general/_Ayuda_Informacion_al_interesado_sobre_proteccion_de_datos/5_Registro_de_las_actividades_de_tratamiento/5_Registro_de_las_actividades_de_tratamiento.html [<https://perma.cc/BWL6-3EKP>].

Long gone are the days when decisions were made solely on the basis of the information provided by the taxpayer and even the information that platforms can provide is taken into account. "The characteristics of the digital platform economy greatly complicate the traceability and detection of taxable events by tax administrations. The problem is particularly compounded when these transactions

The previously mentioned movement towards better monitoring of technology use by tax administrations has been boosted by the judgment of a Dutch court in The Hague on February 5, 2020.¹⁹ It declared the use of an algorithmic system of risk indication (System Risk Indication or SyRI) to predict the likelihood of state benefit claimants defrauding both their social security contributions and tax payments contrary to the right to respect for private life defined in Article 8.2 of the European Convention for the Protection of Human Rights and Fundamental Freedoms (ECHR).²⁰ The Court held that a balance must be struck between the advantages associated with the use of new technologies and the interference that may be caused to this right.

As stated in paragraph 6.7 of the judgment, the SyRI legislation does not meet the requirement that interference with the exercise of such a right in a democratic society be necessary, proportionate and subsidiary. In the Court's view, it fails to strike a fair balance between the social interest it serves and the infringement of the right. The ruling takes into account the

are carried out through digital platform operators established in another jurisdiction. The failure of sellers to report income from the provision of services or the sale of goods through digital platforms leads to a shortfall in tax revenue for Member States. It also gives an advantage to those sellers compared to those who do not operate on digital platforms" (at 2). "In the interests of efficiency, Member States are encouraged to enable digital reporting and ensure interoperability of systems as well as at data level between digital platforms and tax administrations as far as possible" (at 9). "This Directive respects the fundamental rights and observes the principles recognized in particular by the Charter of Fundamental Rights of the European Union. In particular, the set of data elements to be transmitted to tax administrations are defined in such a way as to collect the minimum data necessary to detect breaches due to under-reporting or non-reporting in accordance with the obligations set out in the GDPR" (at 10). European Commission (Directorate-General for Taxation and Customs Union), *Proposal for a Council Directive Amending Directive 2011/16/EU on Administrative Cooperation in the Field of Taxation, COM/2020/314 final, 2020/0148 (CNS)*, (July 15, 2020), <https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=CELEX:52020PC0314&qid=1599770668228> [<https://perma.cc/5R8M-T75V>]. It is worth mentioning that the Administrative Chamber of the Supreme Court in Judgment 1106/2020 of 23 July 2020, Rec. no. 80/2018, decided on the annulment of the obligation to report on the transfer of use of dwellings for tourism purposes. According to the CJEU of December 19, 2019, C-390/18 in the *Airbnb Ireland* case, it follows that a rule such as Art. 54b REGAT should have been notified under Directive 1535/2015 and that its lack of notification leads to its invalidity.

¹⁹ ECLI:NL:RBDHA:2020:1878. For the English version see: The Hague District Court, Commerce Team, Case No.: C/09/550982 (cause list No.: HA ZA 18-388) Judgment of February 5, 2020, Nederlands Juristen Comité Voor De Mensenrechten, Stichting Platform Platform, Stichting PlatformHA ZA 18-388) Judgment of February 5, 2020, Nederlands Juristen Comité Voor De Mensenrechten, Stichting Platform Bescherming Burgerrechten, Stichting Privacy First, Stichting Koepel Van Dbc-Vrije Praktijken, Landelijke Cliëntenraad [Claimant Sub 6 And 7] and Federatie Nederlandse Vakbeweging *versus* the State of The Netherlands <https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:RBDHA:2020:1878> [<https://perma.cc/BN7K-U5KB>].

²⁰ European Court of Human Rights, *European Convention on Human Rights*, https://www.echr.coe.int/documents/convention_eng.pdf [<https://perma.cc/3GGH-87ZL>].

fundamental principles on data protection in European Union law, namely the principles of transparency, purpose limitation and data minimization),²¹ as it considers that the minimum level of protection of the right to respect for private life—including the protection of personal data—under the ECHR is no less extensive than the data protection afforded by the Charter of Fundamental Rights and the GDPR (paragraph 6.41).

Furthermore, because the legislation concerning the implementation of SyRI is not sufficiently transparent and verifiable, it states that Section 65 of the SUWI Act and Chapter 5a of the SUWI Decree have no binding effect,²² as they are contrary to Article 8(2) of the ECHR. Ultimately, the legislation must provide a sufficiently effective framework for weighing up the interests at stake in a transparent and verifiable manner. All persons must be able to have a reasonable expectation that their privacy is sufficiently respected (paragraph 6.6 of the judgment mentioned above).

The Court stated that the right of every individual to be reasonably able to monitor his or her personal data and to be informed about the processing of his or her data is part of the right to the protection of personal data. Although the start of a SyRI project is published in the Official Gazette, a risk report can be kept in the register for two years without the data subject knowing about it (paragraph 6.60). It adds that the risk model currently used and the risk indicators that constitute the risk model are “secret.” This also applies to the data used in a particular SyRI project.²³

²¹ NJCM and others added in their argument references to Articles 7 and 8 of the Charter of Fundamental Rights of the European Union and/or Article 17 of the International Covenant on Civil and Political Rights and/or Article 6 and/or Article 13 of the ECHR; and/or Articles 5, 6, 13, 14, 22 and/or 28 of the GDPR. According to Article 22 of the GDPR: “every data subject shall have the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her.” However, the Court does not clarify the content of the right to *opt out*.

²² *Wet Structuur Uitvoeringsorganisatie Werk En Inkomen (SUWI)* Act on the structure of the administrative organization of work and income. It aimed at comprehensive government action in preventing and combating tax and social security fraud and non-compliance with labor laws. The bodies participating in a collaborative alliance were obliged to provide each other with the necessary information, being joint controllers within the meaning of Article 26 of the GDPR (Article 64, paragraph 3 of the SUWI Act). According to the explanatory memorandum of the SUWI Decree, the indicators, and the risk model to be applied had to be clearly identified and without this specification the linking of data records could lead to a “fishing expedition” and even arbitrariness. According to the Minister, this method did justice to the principle of “select before collecting.” According to the SUWI Decree, an indicator is any information that makes plausible the presence of a particular circumstance. Risk model means a model consisting of predetermined indicators that indicates whether there is an increased risk of illicit use of government funds and schemes.

²³ “The risk model, the indicators and the data that have been concretely processed are not public nor are they known to the data subjects. The SyRI legislation does not provide for an obligation to inform the persons that their data have been processed in SyRI. Nor is there a legal obligation to inform the data subjects individually, as appropriate, that a risk report has been submitted. The court

Although one of the purposes of these projects was to contribute to the improvement of living conditions in neighborhoods, the lack of transparency of the algorithm and its biased use in neighborhoods where persons belonging to minorities live may perpetuate discrimination based on historical data sets and amplify social prejudices.²⁴ Notably, it should be recalled that the right to respect for privacy in the context of data processing refers to the right to equal treatment in equal cases and the right to protection against discrimination, stereotyping and stigmatization (paragraph 6.24).

In the same way that the accounts of companies and public bodies are audited, so should algorithms be audited for bias. For its part, the Secretary of State indicated that it cannot share the risk models and selection rules due to the confidential nature of the information. Instead, it offered parliamentarians a technical briefing on the operation and development process of the risk models and screening modules.²⁵

It makes sense to use digital options for linking files and analyzing data with the help of algorithms. Further, the possibilities for authorities to exchange data to fulfil their duty to prevent and combat fraud, especially when this results in greater economic welfare by verifying the accuracy and integrity of the data for which citizens receive certain benefits, seems to be a clearly positive use. However, it cannot be forgotten that in addition to preventing and combatting fraud, adequate legal protection of privacy contributes to citizens' trust in government. Without sufficient protection of the right to respect for privacy, citizens are unlikely to be willing to provide data. It is therefore worth noting the steps that are being taken to ensure the responsible use of technology.²⁶

furthermore assumes that a risk report has a significant effect on the private life of the person to whom the report pertains." (paragraph 6.65).

²⁴ Transparency is among the ethical principles published by the European Commission in April 2019, as well as among the ten core principles on artificial intelligence for use by federal agencies in the U.S.

²⁵ Parliamentary Papers II 2019/20, 31066, No. 538.

²⁶ The *Algorithm Charter for Aotearoa New Zealand* has been signed by 25 public bodies, demonstrating the global commitment of the government and public sector to a topic so relevant to the security and trust of citizens: the protection of their data. This Charter will be reviewed periodically, without slowing down technological advances, allowing to evaluate its good incorporation, adaptation and use—without bias or opacity. *Nueva Zelanda, un Ejemplo de Transparencia y Responsabilidad en el Uso de los Datos por Parte del Sector Público [New Zealand, an Example of Transparency and Accountability in the Use of Data by the Public Sector]*, (August 6, 2020), <https://www.thetechlawgist.com/2020/08/06/nueva-zelanda-un-ejemplo-de-transparencia-y-responsabilidad-en-el-uso-de-los-datos-por-parte-del-sector-publico/> [<https://perma.cc/NG38-VCM4>].

I. CURRENT CHANGES IN TAX ADMINISTRATIONS AFFECT RULES

Any organizational and methodological change of those in charge of applying the tax system ends up, sooner or later, having effects on its normative configuration. Often, when some dysfunction is discovered in the tax rules, it is due to such changes, which have been dragged along by inertia from the past.

With the new possibilities offered by the phenomenon of disruptive technological change, in the middle of the 4.0 revolution, it is worth rethinking when some typical traditional problems could be solved. For example, what is possibly through instant communication and ex ante coordination between different administrative authorities and with the stakeholders themselves?

In scrutinizing the matter, it must be kept in mind that both the application *and* the creation of the law are matters of concern. This is transcendental. It is not only the way of acting that is transformed (e.g., faster, en masse, or more accurate because it is customized according to data collected from different sources), but how the transformations touch those who act and the legal framework that allows them to act as well.

The seriousness of this issue lies in the asymmetry of positions. If citizens' rights are not promoted at the same pace in the ongoing digitization process, the use of the taxation power in the new terms may turn them back into tax vassals. This may break the trust of those who are being taxed. Ultimately, it gets at the heart of the social pact. It is therefore urgently important to review the protection of the values of the rule of law in the unusual world of digital taxation.

A. New Technological Capabilities Lead to Review Procedural and Substantial Regulation (Administrative Guidance and Normative Reforms)

The process of intelligent automation usually begins subtly and gains momentum over time, keeping pace with technological advances. The introduction of automation mechanisms usually starts with minor procedural issues and gradually gains weight until it seriously affects rights and obligations. In part, this happens because the technologies feed themselves with the captured data. This data capture can happen, for example, through programs used to help individuals file income tax returns. Another example would be when a chatbot answers many taxpayers' questions and simultaneously collects relevant information about obscure points in tax practice that need to be further clarified by the administration. Tax authorities can then analyze the collected data and prepare more detailed guides explaining the interpretation of the rule.

However, care must be taken to ensure that the automated administrative response does not diverge from the wording of the legislation in force. When it is not just a question of pure administrative management, for example, when decision capacity or other intelligent processes are added, the risk for taxpayers is even greater. Administrators may not even be aware of an automated divergent treatment resulting in a discrimination.

Hence, the establishment of oversight and a good control system is vitally important. Oversight scope must cover both substantive content and technological form. Safeguards must be implemented that are capable of preventing the worst-case scenario, where those who have exclusive access to the data and have in-depth knowledge of the handling of Information, Technology and Communication (ITC) tools may be tempted, for the sake of convenience, to change the rule in force in an attempt to legitimize their way of conduct (insofar as it may entail additional limitations to the sphere of guarantees of the taxpayers). Any exception to the basic tax principles must be sufficiently justified in order to avoid an unbalanced development of tax law.

B. How to Efficiently Protect Justice and the Rule of Law in Taxation?

The relationship between the Treasury and taxpayers has been forged over many centuries: from the initial subjugation of individuals to the slow, costly recognition of their rights and the submission of public financial activity to the law. It is not in vain that the collection of taxes has been a fuse of great social changes in several historical revolutions. Take, as perhaps the pinnacle example, taxation spurring America's fight for independence.

From the well-known slogan "no taxation without representation," which inspires Anglo-Saxon and continental tax systems, insofar as it guarantees that the parliamentary representatives of the population give their consent to taxation, there are those who advocate a leap to "no taxation without automation." Can automation in itself be a guarantee for taxpayers? In this paper's view, while a clever saying, "automation" cannot be substituted for "representation" in this way. The two credos may complement each other – provided that the scope of the latter is well specified. The contents to be automated and the way to do so are by no means trivial.

Today, digitalization is affecting the exercise of administrative powers vis-à-vis taxpayers and, not only that, but also the traditionally accepted forms of allocating tax power between States at the international level. These are particularly sensitive issues and there are more than just

economic interests at stake. Ultimately, the way in which the use of technologies in this field is regulated will have a positive or negative impact on them and on the law as such.

II. TRUE DIGITAL TAXPAYERS' RIGHTS

A. *The Update of Traditional Human Rights with General Charters: a Human Centered Approach*

Faced with the strong currents that drive continuous technological innovation and its progressive incorporation into different areas of people's daily lives, many countries, fully aware of the challenge that this may pose for the consolidation of their own existence, have been concerned with ensuring the validity of human rights, at least in their territory.

Thus, several initiatives have recently arisen in some countries to update the rights traditionally accepted in the digital environment, or to add some new variant derived from them. Typically one of two paths is followed: either every digital aspect is covered separately; or a small digital part is included in each specific code or regulatory standard.

Even if protection is optimized differently in each area, the multifaceted nature of human beings has to be taken into account. The same person can be an employee, taxpayer, client, consumer, and more. Moreover, at different stages of their life, a person may deserve more intense legal protection, for example, during e.g., periods of childhood, old age, or disability. There is therefore no uniform approach to protection in the face of digital technologies, although some minimum defaults can potentially be set.

A remarkable formula, which often attracts the attention of many citizens, is the so-called Charter of Digital Rights. The Charter approved in Spain is of a general nature and makes no express reference to taxation, but it does contain certain provisions that will undoubtedly have an impact in this area.²⁷

A public consultation was made on the proposal for a Charter of digital rights of citizens in accordance with one of the fundamental commitments of the Digital Plan Spain 2025²⁸. Given its descriptive,

²⁷ The Charter was adopted on July 14, 2021 by the Government. It is structured in five main sections: freedom rights, equality rights, rights of participation and shaping of the public space, rights in the work and business environment and, finally, digital rights in specific environments. It lists twenty-five rights. See Gobierno de España, *Carta Derechos Digitales*, https://www.lamoncloa.gob.es/presidente/actividades/Documents/2021/140721-Carta_Derechos_Digitales_RedEs.pdf [<https://perma.cc/PEW3-RYJF>].

²⁸ Secretaría de Estado de Digitalización e Inteligencia Artificial, Gobierno de España, Ministerio de Asuntos Económicos y Transformación Digital, *Consulta Publica Para la Elaboración de una Carta*

prospective and prescriptive objective, an express statement on such rights in the area of taxation could have been made, especially as there is an increasing dependence on digital environments, devices and services to relate, communicate and carry out activities.

It is important to ensure that rights enjoyed offline are also respected online. For this reason, it is useful to compare this Charter with another long-awaited measure in the European Union that will directly affect taxpayers. Among the tax initiatives that are part of the Action Plan for fair and simple taxation to support the recovery, planned for some time between 2020 and 2023, there is another Charter, that of taxpayers' rights, specifically, Action A17.

As part of this action, a Communication from the European Commission to the Parliament and the Council taking stock of existing taxpayers' rights under European Union law and a Commission Recommendation addressed to the Member States to facilitate the application of taxpayers' rights and simplify tax obligations are expected in 2021.²⁹ In connection with the latter objective, the use of digital technologies will have to be considered.

As explained in the introduction to the Spanish proposal for a Charter of Digital Rights: "digital or digital-based technologies raise the need to ensure that the regulatory framework guarantees the protection of people's individual and collective rights." For this reason, the Charter aims to specify the most relevant rights in the digital environment and spaces, or to describe rights that are instrumental or auxiliary to the former, in the knowledge that this process must naturally be dynamic. It also makes clear its intention to serve as a frame of reference for the action of the public

de Derechos Digitales [Public Consultation for the Development of a Digital Bill of Rights], https://www.mineco.gob.es/stfls/mineco/ministerio/participacion_publica/consulta/ficheros/CartaDerechosDigitales.pdf [<https://perma.cc/KDL5-29WW>]. Proposed Charter of Digital Rights, drawn up by the Group of Experts set up by the Secretary of State for Digitalization and Artificial Intelligence (SEDIA) of the Ministry of Economic Affairs and Digital Transformation. It clarifies that "digital environment" refers to the set of systems, devices, devices, platforms and infrastructures that open up spaces for relationships, communication, interrelation, trade, negotiation, entertainment and creation that allow natural or legal persons bilaterally or multilaterally to establish relationships similar to those existing in the traditional physical world. "Digital space" refers to digital places that open up digital environments in which communication, interrelation, trade, commerce, negotiation, entertainment, and creation are possible in a manner mirroring the traditional physical world. "Digital citizenship" refers to the status of rights and obligations of the individual, irrespective of his or her legal status as a national.

²⁹ Annex to the Communication from the Commission to the European Parliament and the Council An Action Plan For Fair And Simple Taxation Supporting The Recovery Strategy, COM (2020) 312 final, Brussels, July 15, 2020.

authorities in relation to these technologies, “taking advantage of and developing all their potential and opportunities and avoiding their risks.”³⁰

Addressing the proposed Charter, the Spanish General Council of Law Bar Associations stressed that “it is necessary, from the legal point of view, to know and use the legal tools [impact assessments, and analysis of legal and technical risks] that are already within our reach to be able to regulate with all the legal and security safeguards this new environment that surrounds us.”³¹

Of course, the commitment to a humanist digitalization, which puts people at the center, is consistent with the anthropocentric vision of AI advocated within the framework of the European Union.³² The rights of a

³⁰ The use of artificial intelligence may affect the values on which the EU is founded and lead to the infringement of fundamental rights. According to the Council of Europe’s research work, a large number of fundamental rights could be affected by the use of AI. See COUNCIL OF EUROPE COMMITTEE OF EXPERTS ON INTERNET INTERMEDIARIES (MSI-NET), ALGORITHMS AND HUMAN RIGHTS: STUDY ON THE HUMAN RIGHTS DIMENSIONS OF AUTOMATED DATA PROCESSING TECHNIQUES AND POSSIBLE REGULATORY IMPLICATIONS (Council of Europe Study DGI (2017)12), <https://rm.coe.int/algorithms-and-human-rights-en-rev/16807956b5> [<https://perma.cc/J5VH-3KFX>]. These risks may result from flaws in the overall design of AI systems (especially with regard to human supervision) or from the use of data that may be biased without prior correction (e.g. a system is trained using only or mainly data relating to men, and this results in worse outcomes in relation to women). White Paper on Artificial Intelligence: A European approach for excellence and trust, COM (2020) 65 FINAL, Brussels, February 19, 2020, 13 (hereafter *White Paper*). Some of the risks in the area of taxation were highlighted in a previous editorial. M.A. Grau Ruiz, *Riesgos y oportunidades en la creciente digitalización fiscal*, 130 REVISTA TÉCNICA TRIBUTARIA, 7-15 (2020). M.A. Grau Ruiz, *Los derechos digitales de los obligados tributarios*, 131 REVISTA TÉCNICA TRIBUTARIA, 7-16 (2020).

³¹ From an institutional perspective, “we understand that this digital advance cannot be separated from the necessary legal regulation that ensures that the fundamental rights and public freedoms protected in our Constitution are safeguarded in the digital environment . . . It is of vital importance that the legislator weighs up the legal and ethical consequences of the regulation of the so-called digital rights,” without hindering innovation[.]” See Abogacía española Consejo General, *Consulta Pública Para la Elaboración de una Carta de Derechos Digitales*, <https://www.abogacia.es/wp-content/uploads/2020/07/OBSERVACIONES-CGAE-CONSULTA-PUBLICA-CARTA-DE-DERECHOS-DIGITALES.pdf> [<https://perma.cc/MM4B-QYGS>].

³² The Commission strongly supports an anthropocentric approach based on the Communication Building trust and confidence in human-centered artificial intelligence COM (2019) 168, recalled in COM (2020) 65 FINAL. For its part, the European Parliament adopted in October 2020 three resolutions. The first legislative resolution by Iban García del Blanco (S&D, ES) calls on the Commission to establish a comprehensive and future-proof European legal framework of ethical principles for the development, deployment and use of AI, robotics, and related technologies—including software, algorithms and data—in the Union. A special committee on artificial intelligence in the digital age was set up in June 2020 to analyze the future impact of AI, investigate the challenge of AI deployment, analyze the approach of third countries and present to the responsible standing committees of the Parliament an assessment defining common EU objectives in this area. See European Parliament, *AI Rules: What the European Parliament Wants*, (October 21, 2020), <https://www.europarl.europa.eu/news/en/headlines/society/20201015STO89417/ai-rules-what-the-european-parliament-wants> [<https://perma.cc/SKC5-X8QY>]; see also European Parliament, *European Parliament Resolution of 20 October 2020 with Recommendations to the Commission on a Framework of Ethical Aspects of Artificial Intelligence, Robotics, and Related Technologies*, (2020/2012(INL)),

person can be considered in parallel with the different types of legal-economic relations in which they are involved. Thus, for example, the ILO places the worker at the center of technologies; and, in turn, large digital companies reinterpret this orientation towards the person, understanding him or her basically as a client or user. It arguably follows that the digital tax evolution could and should be similarly centered around the taxpayer.

The Resolution of the European Parliament of October 20, 2020, with Recommendations to the European Commission on a framework for ethical aspects of AI, robotics, and related technologies may have an impact on taxation beyond what is listed in its annex. The annex is devoted, in an exhaustive and cumulative manner, to high-risk sectors (it only mentions separately Public Sector and Finance) and high-risk uses or purposes that entail a risk of violation of fundamental rights and security standards (expressly comprising “allocation of public funds,” “trading, brokerage, taxation, etc.” and “public sector decisions that have a significant and direct impact on the rights and obligations of natural or legal persons”). To the extent that the extra-fiscal tool, with regulatory taxes, is gaining strength in today’s legal systems, the collateral effect of the regulation of other risks can be anticipated. This is mainly due to the convergence of the Public Treasury’s actions for the achievement of certain constitutional purposes, such as, the “control of emissions,” which could end up affecting the application of environmental taxes or fiscal benefits.

The recommendations literally state: “Artificial intelligence, robotics and related technologies should also be developed, deployed and used to support social inclusion, democracy, plurality, solidarity, equity, equality and cooperation, and their potential in this context should be maximized and explored through research and innovation projects. The Union and its Member States should therefore mobilize their financial, administrative and communication resources in order to support and invest in such projects” (paragraph 31). The ordinary legislative procedure is still ongoing³³.

https://www.europarl.europa.eu/doceo/document/TA-9-2020-0275_EN.html [<https://perma.cc/V53Z-JG9A>].

³³ This Resolution has been considered by the European Commission in the formulation of its Proposal for a Regulation of the European Parliament and of the Council laying down harmonized rules in the field of artificial intelligence (Artificial Intelligence Act) and amending certain legislative acts of the Union. It has already been transmitted to the Council of the European Union. See European Commission Directorate-General for Communication Networks, Content and Technologies, *Proposal of Regulation of the European Parliament and of the Council which Establishes Harmonized Standards on Artificial Intelligence (Artificial Intelligence Law) and Modifies Certain Legislative Acts of the Union*, COM/2021/206 final, (April 21, 2021), <https://eur-lex.europa.eu/legal-content/ES/TXT/HTML/?uri=CELEX:52021PC0206> [<https://perma.cc/YB2Y-FKJH>]. Secretary General of the Commission, *Note of Transmission, Interinstitutional File: 2021/0106 (COD), Document ST 8115/21 INIT of Dispatch, COM/2021/206 Final to the Delegations* (April 23, 2021),

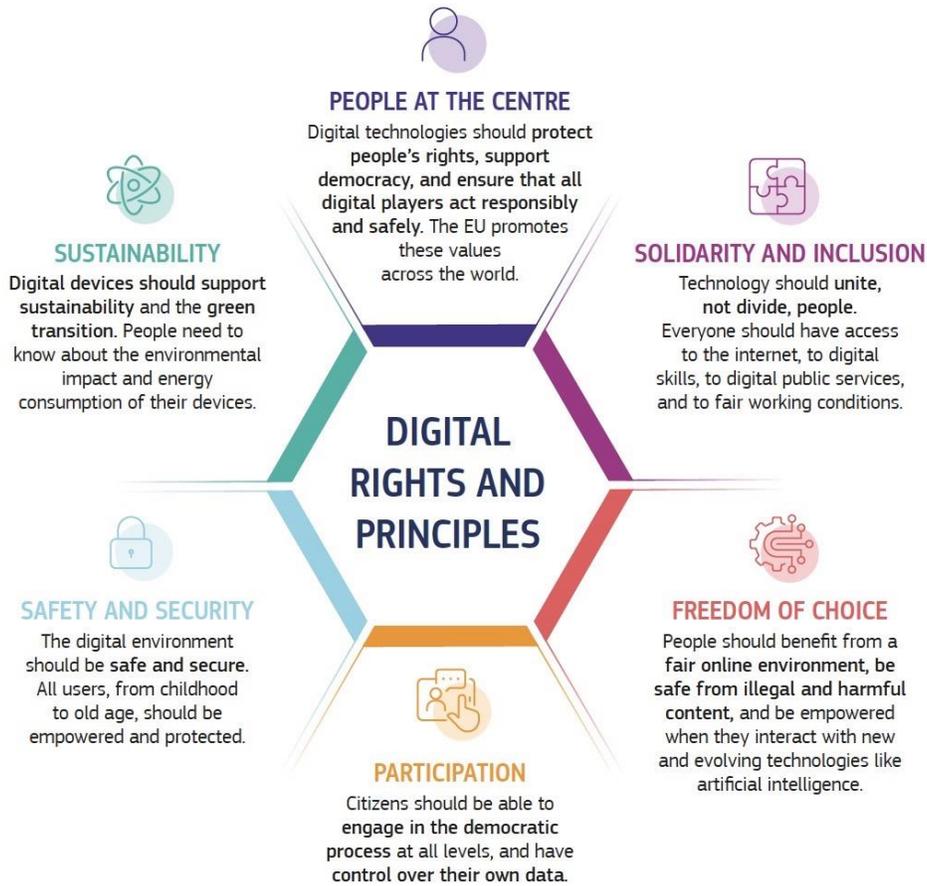
In line with the policy direction of the current President of the European Commission, a clear regulatory framework for Europe would generate consumer and business confidence in AI, and thus accelerate its uptake. This pragmatic vision does not forget that such a framework must ensure optimal social, environmental, and economic outcomes, as well as compliance with European Union law, principles and values. This is particularly relevant in sectors where citizens' rights are most directly affected, such as, the case of AI applications used by law enforcement and the judiciary.³⁴ In this line of reasoning, it can be argued that another area where all citizens' rights are affected daily is, undoubtedly, the administration of taxes.

In addition, the European Commission has recently proposed to the European Parliament and Council to sign up to a declaration of rights and principles with the EU general approach to the digital transformation³⁵.

<https://data.consilium.europa.eu/doc/document/ST-8115-2021-INIT/ES/pdf> [<https://perma.cc/AFG8-L84R>]. The opinion of some Committees of the European Parliament is pending.

³⁴ White Paper, at 12.

³⁵ "The draft declaration covers key rights and principles for the digital transformation, such as placing people and their rights at its centre, supporting solidarity and inclusion, ensuring the freedom of choice online, fostering participation in the digital public space, increasing safety, security and empowerment of individuals, and promoting the sustainability of the digital future." *Press Release: Commission Puts Forward Declaration on Digital Rights and Principles for Everyone in the EU*, EUROPEAN COMMISSION (January 26, 2022), https://ec.europa.eu/commission/presscorner/detail/en/IP_22_452 [<https://perma.cc/R4QY-9EW9>]. Figure taken from [Digital_Principles_factsheet_4P3aiMZHkJ8bvOuYA1j8Zv5f7QE_82683.pdf](https://ec.europa.eu/commission/presscorner/detail/en/IP_22_452).



The new charter in Spain contains citizens' digital rights in their relations with public administrations (in paragraph XVIII):

1. The right to equality of persons extends to access to public services and in digital relations with public administrations. To this end, active public policies shall be promoted to guarantee access to public services, systems and procedures to all subjects and assistance in such procedures.
2. The principle of transparency and reuse of public administration data shall guide the actions of the digital administration, in accordance with sectoral regulations. In particular, the right of access to public information shall be guaranteed, active publicity and accountability shall be promoted, and the portability of data and the interoperability of forms, systems and applications shall be ensured, under the terms provided for in the legal system in force.
3. The universality, neutrality and non-discrimination, particularly on the basis of gender, of the technologies used by the Public Administrations shall be promoted, and the availability between Administrations of applications whose intellectual property rights they hold shall be encouraged, except in cases of special protection by law.

Public Administrations shall promote that the provision of services by digital means complies with the principles of this Charter.

4. Alternatives shall be offered in the physical world that guarantee the rights of those who do not want to or cannot use digital resources and are not obliged to do so, under the same conditions of equality.

5. The public authority that is the author of an activity in the digital environment shall identify the bodies responsible for that activity.

6. The rights of citizens in relation to artificial intelligence recognized in this Charter shall be promoted within the framework of administrative action, recognizing in any case the rights to:

(a) That decisions and activities in the digital environment respect the principles of good governance and the right to a good digital administration, as well as the ethical principles guiding the design and uses of artificial intelligence.

b) Transparency about the use of artificial intelligence tools and about their operation and scope in each specific procedure and, in particular, about the data used, their margin of error, their scope of application and their decisive or non-decisive nature.

The law may regulate the conditions of transparency and access to the source code, especially with a view to verifying that it does not produce discriminatory results.

c) To obtain an understandable motivation in natural language of the decisions taken in the digital environment, with justification of the relevant legal norms, technology used, as well as the criteria for their application to the case. The interested party shall have the right to have the administrative decision motivated or explained when it departs from the criteria proposed by an automated or intelligent system.

d) That the adoption of discretionary decisions be reserved to individuals, unless the adoption of automated decisions with adequate guarantees is provided for by law.

7. A digital rights impact assessment shall be required in the design of algorithms in the case of automated or semi-automated decision-making.

Occasionally, other rights referred to in this generic Charter of Digital Rights may also find indirect reflection in tax matters, such as the right not to be traced and profiled.

In the tax field, after the digitization of procedures comes the digitization of the rights of taxpayers. That is, to specify the rights adequately so that they can be exercised with equal or greater efficiency in the digital world, projecting the current law and its possible improvements on the technological reality. Another benefit of digitization is that, in its

systematic approach, it also promotes legal certainty. Authoritative voices have argued both of these lines.³⁶

To ensure fair taxation practices, the Commission recommends simplifying tax obligations and respecting taxpayers' rights. One of the ways to do this is to identify good administrative practices and improve the coordination of national rules.³⁷ In seeking to optimize taxpayers' relations with tax administrations, it makes sense to promote the use of digital technologies in a coordinated manner at the European Union level, without forgetting the fundamental role of tax advisors.

The European Tax Confederation, knowing that “cooperative compliance programs, tax transparency, and tax compliance in general are greatly facilitated by automation and digitization of processes,” has understood “that the European Commission intends to investigate digital tools and solutions, in particular to improve the data analysis capabilities of tax administrations and to move from information exchange to a model where tax data can be shared in real time.” However, there are “weaknesses in digital resources in some jurisdictions, which hamper the ability of citizens and taxpayers to access services and meet their reporting and other obligations.” The “investment in information technology would benefit businesses and tax authorities by improving the efficiency and quality of data, communication and remote access to services.”³⁸

The model Taxpayers' Charter published by the European Tax Confederation some years ago already contained examples of what a good tax system should include in terms of obligations vis-à-vis the State.³⁹ In

³⁶ At the CFE Tax Advisors Professional Affairs Conference on November 30, 2020, the topic of “taxpayers' rights and legal certainty in the digital era” was discussed, analyzing developments at European and global level in the protection of taxpayers' rights and the implications that new technologies have on taxpayers.

³⁷ European Commission, *EU Taxpayers' Rights — Simplified Procedures for Better Tax Compliance (Recommendation)*, https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12627-EU-taxpayers'-rights-simplified-procedures-for-better-tax-compliance-Recommendation-_en [<https://perma.cc/Z3Y4-96BQ>].

³⁸ Some cooperative compliance programs (such as that of the United States) are contingent on real-time reporting of accounting and tax transactions, and this is only possible when both tax authorities and taxpayers invest in IT solutions. See *European Tax Professionals Call for Better Tax Governance: Joint Statement of Accountancy Europe and CFE Tax Advisers Europe*, ACCOUNTANCY EUROPE.EU, (July 10, 2020), <https://www.accountancyeurope.eu/tax/european-tax-professionals-call-for-better-tax-governance/> [<https://perma.cc/4T9C-JVC9>].

³⁹ CFE Professional Affairs Committee: Opinion Statement PAC 4/2020 on the European Commission initiative/ roadmap for Communication and Recommendation to Improve the Situation of Taxpayers in the Single Market of 31 October 2020. Sent to the European institutions on 26 November 2020. Michael Cadesky, Ian Hayes & David Russell, *Towards Greater Fairness in Taxation: A Model Taxpayer Charter* (CFE & IBFD 2016), <https://taxadviserseurope.org/blog/portfolio-items/the-model-taxpayer-charter/> [<https://perma.cc/J8XA-R8P9>]; CFE SURVEY: PROJECT TAXPAYER RIGHTS AND CHARTERS, CFE TAX ADVISERS EUROPE (2019), <https://taxadviserseurope.org/blog/cfe-tax-advisers->

2016 this Confederation supported the Commission's Guidelines for a Model for a European Taxpayers' Code by recognizing that this type of code or charter can improve the efficiency and effectiveness of the tax system, leaving the choice on the regulatory approach to be adopted to the States.

At present, in view of the preparation of the future recommendation to improve the situation of taxpayers in the single market, the roadmap justifies the Commission's action on the following grounds:

Lack of awareness and sub-optimal use of existing taxpayers' rights can have a negative impact on economic and business behaviour. By affecting taxpayers with cross-border activities or interests, this may hamper the proper functioning and full potential of the single market. Increased awareness of taxpayers' rights can contribute to smoothing the relationship between taxpayers and tax administrations, which is particularly important in the context of recovery. It can also, as a natural consequence, improve tax compliance.⁴⁰

In short, in the context of recovery in the single market, it is in the tax administrations' own interest not only to be aware of, but also to make use of taxpayers' rights, so as not to slow down economic activity. Although there are certain mercantilist overtones in the approach, for the good of the taxpayers, the reminder is to be welcomed. A better use of technological advances can lead to a simpler, more efficient and easier collection of taxes, includes in cross-border situations, while achieving social justice. Still, the deployment of these technologies, their financing, and the necessary coordination to avoid excessive compliance costs will have to be closely monitored.

In terms of transparency, accountability, and the desirability of avoiding conflict in these times, it is worth mentioning a study on the desirable behavior in the Canadian Revenue Agency (CRA). It highlights the idea that, beyond the significant investment in technological improvements aimed at improving the efficiency of CRA inspections, governments should resist the impulse to fund the COVID-19 measures and the loss of tax revenues during this crisis by asking the CRA to simply raise more revenue through aggressive use of tax enforcement procedures. While

europe-and-gtap-leading-the-work-on-taxpayer-charters-and-rights/ [https://perma.cc/V7PP-TTKG]; Piergiorgio Valente, *A European Taxpayers' Code*, 45 *INTERTAX*, 12, 807–815 (Kluwer 2017).

⁴⁰ European Commission: Roadmap – Title of the initiative: “Recommendation to Improve the Situation of Taxpayers in the Single Market,” Ref. Ares(2020)6140272 – 30 October 2020. As guardian of the Treaties, “the Commission is best placed to recommend how to improve the rights of taxpayers under EU law in the Single Market.” It relies on Article 17 of the Treaty on European Union and Article 292 TFEU.

inspection findings may be subject to challenge, it is not appropriate to frequently rely on appeals and courts to ensure that tax rules are applied fairly⁴¹.

Thus, to be trustworthy, in substance and in form, the tax administration essentially needs to improve the taxpayer's legal status by carefully considering the risks and opportunities that digital media and decision making based on technologies of this nature pose for both parties. Trust is central, as recognized in the European Union White Paper on Artificial Intelligence, and the impact of AI systems should always be considered not only from an individual perspective, but also from the perspective of society as a whole⁴². To build an ecosystem of trust, the regulatory framework must ensure compliance with European Union rules, especially the rules on the protection of fundamental rights and consumer rights. This is particularly applicable to AI systems operating in the European Union and posing a high risk and for taxpayers' rights (expanding risk analysis and technology beyond its use in the fight against tax fraud).

The Commission contends that a given AI application should be classified as high risk depending on what is at stake and whether both the sector and the intended use pose significant risks, in particular from the perspective of the protection of safety, consumer rights, and fundamental rights. A high risk exists when both of the following criteria are met: 1) The application is used in a sector in which, due to the characteristics or activities normally carried out, it is foreseeable that there will be significant risks. For example, health, transport, energy, and certain areas of the public sector such as social security and employment services. The list should be reviewed periodically in the light of relevant developments in practice; and 2) The application is used in such a way that significant risks may arise. The assessment of the level of risk of a given use may be based on the

⁴¹ Kenneth J. Klassen & Nick Pantaleo, *Assessing the Canada Revenue Agency: Evidence on Tax Auditors' Incentives and Assessments*, C.D. HOWE INSTITUTE TRUSTED POLICY INTELLIGENCE E-BRIEF, (September 3, 2020), https://www.cdhowe.org/sites/default/files/attachments/research_papers/mixed/e-brief_306.pdf [<https://perma.cc/97PQ-43CF>]

⁴² It is explicitly recognized that the use of artificial intelligence systems can play an important role in achieving the Sustainable Development Goals and in supporting democratic processes and social rights. White Paper, at 3. Reciprocally, the SDGs are specifically linked to digitalization in the area of sustainability progress reports. Thus, in the six priority transformations of the SDGs within the EU, point 6 on digital transformation is included: Building a state-of-the-art digital infrastructure, strengthening innovation and protecting citizens' rights to their data and European democracy. This will require substantial investments in technological innovation and digital infrastructure. SDSN & IEEP *The 2020 Europe Sustainable Development Report: Meeting the Sustainable Development Goals in the face of the COVID-19 pandemic*, Sustainable Development Solutions Network and Institute for European Environmental Policy, Paris and Brussels, vii (2020).

impact on the affected parties whether that be an individual or a company. There may also be exceptional cases where the use of AI applications for certain purposes is inherently of high risk. For example, an inherently high risk use might be used in recruitment procedures and in situations impacting on workers' rights.⁴³

As the entire tax environment or space, around a taxpayer, and by extension, other taxpayers, is being gradually digitized at an accelerated pace, it is necessary to update the counterweights for a balanced development of tax law. The ECOFIN Council Conclusions of November 27, 2020, which covered fair and effective taxation in times of recovery, tax challenges linked to digitization, and good governance in the tax area in the European Union and beyond shows a trend.⁴⁴ In VAT there is support for further extending e-invoicing; exploring the use of new technologies to improve the efficiency of reporting and data control; moving to automated data sharing through interoperable electronic systems and facilitating harmonization and standardization of data in relation to cross-border transactions. In Section VI of these Conclusions, on Tax Administration and Tax Compliance, ECOFIN supports both the planned Commission initiative on taxpayers' rights and the need to develop standardized data processing patterns or mechanisms for revenue collection purposes.

In this context, the public participation of sectorial associative entities, representative of collective interests, would be required for the good order of things in the processes of digital transformation that affect the taxpayers. The design of the mechanisms of *ex ante* and *ex post* monitoring of the development of digital technologies in tax matters should be done in a collaborative and constructive spirit. When it comes to arrange administrative accountability for technological transformations, why should some sort of participation in the control of compliance with taxpayers' rights not be allowed?

⁴³ White Paper, at 17.

⁴⁴ "TAKES NOTE of the planned Commission initiative on taxpayers' rights, AGREES that the form of a communication is an appropriate first step in raising awareness in this area and CALLS for further analysis in this respect, in order to facilitate any future discussion on this issue; 42. RECOGNISES the need for further work to improve the efficiency of tax compliance monitoring in the EU and, in view of the rapid development of technology, to develop 348rganize348zed data processing patterns or mechanisms for the purposes of revenue collection and the identification of risks of tax fraud, so that the usefulness and benefits of retaining and processing data collected by tax authorities can be maximized." Furthermore, in relation to VAT, it calls on the Commission to ensure that all its possible proposals are fully assessed in terms of their economic, administrative and social costs and benefits for taxpayers and tax authorities, including their impact on IT capacities and fundamental rights, such as the protection of personal data (point 16); Council of the European Union, *Outcome of Proceedings (OR. En) 13350/20 FISC 226 ECOFIN 1097*, (November 27, 2020), <https://www.consilium.europa.eu/media/46939/st13350-en20.pdf> [<https://perma.cc/X4RD-WL4V>].

B. Is There Room in Tax Matters to Protect Rights Through Experts' Codes of Conduct and/or Embedding Them in Technology?

All intellectual and normative efforts to update and disseminate these rights may prove useless if they are not effectively translated into the applicable technological tools. To this end, a fluid dialogue between computer science experts and jurists is essential.

Because the way in which technologies are technically configured from the outset can lead to problems of profound legal significance, it is important that these problems be prevented from the start. To this end, technologists often rely on voluntary commitments made through individual, professional, or corporate codes of conduct. To the best of their abilities, technologists try to meet the needs expressed by those who commission the program. Consistency with the applicable legal framework sometimes seems to be taken for granted. Making legal judgment would go beyond the technologists' competence.

If a technologist's principal aim is management simplification, for example, an ostensibly successful design could turn out to be legally deficient. When filing tax returns, for example, some technological restrictions in the taxpayers' exercise of options, provided for in the regulations, have been observed and denounced by the Spanish Tax Advisors Association.

As previously mentioned, if a system is fed with data not correctly purged in accordance with successive legislative changes and establishes improper relationships in the decision-making process, serious damage may be caused to certain categories of taxpayers, as occurred in the Dutch case.

In summary, the challenge of a rapid accommodation of technological tools in tax law is a pressing issue. The issue is perhaps the most notable in the area of tax law and any lag in the adaptation of technology to the regulations in force can have dire consequences for the credibility of the administrative action and the legislator.

In such circumstances, the attempt include safeguards for the protection of rights in the robots, algorithms, and data management makes a lot of sense. The implementation of appropriate limits will always be a complex challenge. We are at an incipient stage and a deeper exploration, beyond the scope of this paper, is required. In the meantime, more attention should be paid to the institutions that are currently monitoring the tax automation processes in every country.

III. COMPLIANCE BY DESIGN AND ASYMMETRICAL TRANSPARENCY

The tax gap in the application of a tax system can be explained as the amount of taxes that are not fully paid voluntarily and timely. Nowadays most tax administrations are focused on reducing this gap.

Several decades ago, tax administrations, being aware of the advantages of voluntary compliance in terms of using scarce human resources to collect debts, changed the ancestral strategy towards taxpayers—then seen as adversaries—for the modern client approach. The aim was to shift administrative tasks to taxpayers and provide them with generalized assistance for timely compliance. In this way, human resources were freed up from earlier intervention in the assessment and could be used for possible subsequent intervention in the inspection phase for a deeper control.

This was followed by the improved relationship with the tax administration, a term that was criticized for connotations of inequality in the cases in which it was allowed. Consequently, it came to be known as the cooperative relationship. Essentially, greater clarity in administrative treatment is given if one is transparent a priori with the tax authorities. At first, this possibility was enjoyed only by large taxpayers, but later it was opened to small taxpayers through tax professional associations. Then followed the implementation of validated compliance schemes and the appearance of certified taxpayers, to whom certain management advantages were attributed.

In line with previous developments, the idea of compliance by design is now being relaunched by international organizations, such as the OECD Forum of Tax Administrations.⁴⁵ The underlying idea is that the more the taxpayer discloses himself to the administration (towards full disclosure), the better he will be served by the tax administrators. Technological change allows administrations to know the data, build trajectories, assess risks, and provide the appropriate tax treatment. It seems that all this will be progressively done with minimal human intervention from both sides, shifting the burden of compliance to automated systems. In principle,

⁴⁵ "Revenue bodies can exploit developments in technology and the ways in which modern SMEs organize themselves to incorporate tax compliance into the systems businesses use to manage their financial affairs." OECD, *Tax Compliance by Design: Achieving Improved SME Tax Compliance by Adopting a System Perspective*, (OECD, Paris 2014), <https://www.oecd.org/ctp/administration/tax-compliance-by-design-9789264223219-en.htm> [<https://perma.cc/88VA-AVJ2>]; OECD, *International Compliance Assurance Programme – Handbook for Tax Administrations and MNE Groups*, (OECD, Paris 2021) <https://www.oecd.org/tax/forum-on-tax-administration/publications-and-products/international-compliance-assurance-programme-handbook-for-tax-administrations-and-mne-groups.pdf> [<https://perma.cc/27ZJ-XTJ7>].

automation facilitating real time management helps both taxpayers and tax administrations. Of course, in actuality, there are positives and negatives.

The interaction between humans and machines is becoming more complex, and intermediate technological links are emerging between the administration and taxpayers. As each party uses its own technological tools, both sides become further linked together. Sometimes the taxpayer's systems directly dump the data to the Treasury's cloud server. Can an improved mutual control be realized through connectivity of their corresponding datasets? If it is possible, how the protocols are managed, with uni- or bi-directional access permissions, is a crucial consideration. A main problem for proper functioning is the lack of reciprocity in transparency. For greater security and reliability, blockchain technology is being tested in some countries.

IV. INSTITUTIONAL OVERSIGHT IN THE AUTOMATION PROCESSES CARRIED OUT BY THE INTERNAL REVENUE SERVICE

In the U.S., different oversight institutions have made continuous assessments of the efforts made by the Internal Revenue Service (IRS) when adopting new technologies to better perform its functions and provide a better service to taxpayers. The reports have covered which steps have been successful, which steps have been unsuccessful, the reasons for differing success, and have made proposals to overcome the issues. Thus, the reports prepared by the Treasury Inspector General for Tax Administration (TIGTA) and the United States Government Accountability Office (GAO) are of great interest. It is significant that the latter institution has also experienced a profound transformation, which allows it to better deal with new technologies. To a certain extent, it is reasonable to think that their role and joint performance have led to diminish the need for eventual judicial intervention (the current U.S. case law on taxation and AI and robotics is extremely limited) by reducing incidental conflicts.

A. Treasury Inspector General for Tax Administration

This section follows, in reverse chronological order, the reports published by TIGTA and summarizes its work on several critical issues related to the use of technology by the IRS.

1. The IRS's Top Management and Performance Challenges in 2022

TIGTA evaluates IRS programs, operations, and management functions to identify the most vulnerable areas in the Nation's tax system every year. With a view to promote the economy, efficiency, and effectiveness of the IRS's administration of the tax laws, TIGTA has

recently identified for the Fiscal Year 2022, the IRS's top management and performance challenges.⁴⁶ Some notable challenges include: Enhancing Security of Taxpayer Data and Protection of IRS Resources; Modernizing IRS Operations; Improving Customer Service and the Taxpayer Experience; and Protecting Taxpayer Rights.

TIGTA recognizes that the protection of taxpayers' data – sensitive, financial, and personal data—is a top priority. This is especially true as the IRS tries to leverage technology to be responsive to taxpayer needs while minimizing the risks from cyberattacks and insider threats.⁴⁷ It is worth noting that the IRS systems withstand approximately 1.4 billion cyberattacks annually⁴⁸. Further, the current process of digitization of many of the previously paper processes likely generates opportune targets for malicious actors.

To assist in the fight against the filing of fraudulent tax returns and protect taxpayers from identity theft tax refund fraud, the IRS has formed the Security Summit with representatives from the State Departments of Revenue, the Chief Executive Officers of leading tax preparation firms, software developers, and payroll and tax financial product processors. Even though the IRS has already decided to leverage the Security Summit to disclose return information related to refund fraud schemes to State tax agencies and industry partners,⁴⁹ TIGTA has reported that additional actions are needed to improve the effectiveness of security over the sharing and storing of the data.⁵⁰

⁴⁶ In order of priority: “1. Administration of Tax Law Changes and Pandemic Relief Benefits; 2. Enhancing Security of Taxpayer Data and Protection of IRS Resources; 3. Improving Tax Reporting and Payment Compliance to Reduce the Tax Gap; 4. Modernizing IRS Operations; 5. Improving Customer Service and the Taxpayer Experience; 6. Addressing Emerging Threats to Tax Administration; 7. Reducing Fraudulent Claims and Improper Payments; 8. Increasing International Tax Compliance; 9. Protecting Taxpayer Rights; and 10. Human Capital.” J. Russell George (INSPECTOR GENERAL FOR TAX ADMINISTRATION), Management and Performance Challenges Facing the Internal Revenue Service for Fiscal Year 2022 (MEMORANDUM FOR SECRETARY YELLEN), October 14, 2021.

⁴⁷ In this report TIGTA recalls: “Each new system created, while potentially improving the experience of the taxpayer, also enables new ways to subvert, misuse, manipulate, and disrupt the IRS's ability to administer the Federal tax system. Numerous Government agencies also rely on tax information to administer public benefits, which sets the stage for downstream effects on other Government benefit programs when IRS systems are successfully exploited.”

⁴⁸ Many are sophisticated in nature or represent advanced, persistent threats. Written testimony of Charles Rettig, Commissioner, Internal Revenue Service, On the IRS Budget and Current Operations, Senate Appropriations Committee, Subcommittee on Financial Services and General Government (May 15, 2019).

⁴⁹ On July 1, 2019, Congress enacted the Taxpayer First Act (Pub. L. No. 116-25, 133 Stat. 981) (2019).

⁵⁰ TIGTA, *Taxpayer First Act: Data Security in the Identity Theft Tax Refund Fraud Information Sharing and Analysis Center*, Report No. 2021-25-025, (May 28, 2021).

To deliver on its mission, the IRS relies on computerized systems, and modernizing them to support its operations is a persistent challenge.⁵¹ Without effective security controls, computer systems are vulnerable, both to human errors and actions committed with malicious intent. Protecting critical assets and infrastructure helps reduce the risk of internal and external attacks. To achieve that goal, the IRS's diverse and widely deployed server infrastructure benefitted from a consolidation and server virtualization project. Recently, the IRS has been performing security scans of the virtual host infrastructure platform.⁵² However, TIGTA has found that the IRS inventory system does not accurately reflect all the virtual host infrastructure platform servers.

The Taxpayer First Act included provisions for the IRS to develop a comprehensive "customer service strategy to better serve taxpayers." In response, the taxpayer experience strategy was designed to improve a

<https://www.treasury.gov/tigta/auditreports/2021reports/202125025fr.pdf> [https://perma.cc/3M96-VGKY].

⁵¹ Legacy systems and outdated programming languages pose significant risks. The IRS requested \$305 million for the modernization effort in its FY 2022 budget request. TIGTA, *Annual Assessment of the Internal Revenue Service's Information Technology Program for Fiscal Year 2020*, Report No. 2021-20-001 (October 2020), <https://www.treasury.gov/tigta/auditreports/2021reports/202120001fr.pdf> [https://perma.cc/2SX9-Q3X4]. A personal search of the word "algorithm" at the TIGTA website delivers as result that this tool is reported in some documents, often in combination with encryption, for various purposes. For example, for security policies, see TIGTA, *150.5 Security Policies* (July 1, 2009), www.treasury.gov/tigta/foia/efoia-imds/chapter500-info-tech/500-150/chapter500-150-2.doc; over computers used in telecommuting encryption uses an algorithm and one or more encryption keys, see U.S. Dep't. of Treasury, *Security Over Computers Used in Telecommuting Needs to Be Strengthened*, Reference No. 2003-20-118, (July 2003), m.treasury.gov/tigta/foia/dc_auditreports/200320118fr.pdf [https://perma.cc/7PKY-5DS2]; encrypted data are produced by a mathematical process applied to a record using a hash algorithm and public key cryptography, see TIGTA, *While the Financial Institution Registration System Deployed on Time, Improved Controls Are Needed*, Reference No. 2014-20-094 (September 30, 2014), www.treasury.gov/tigta/auditreports/2014reports/201420094fr.html [https://perma.cc/R9BX-Y9ZS]; the discriminant function, i.e., the algorithm the IRS uses to choose some examinations, see TIGTA, *Hearing Before the Committee on Finance Subcommittee on Taxation and IRS Oversight, U.S. Senate, Testimony of the Honorable J. Russell George*, (May 11, 2021), www.treasury.gov/tigta/congress/congress_05112021.pdf [https://perma.cc/Y5V2-WWSJ]; cryptographic algorithm in relation with the Customer Account Data Engine 2 www.treasury.gov/tigta/auditreports/2012reports/201220122fr.html [https://perma.cc/MTH3-YNGT]; the Secure Hash Algorithm is one of a number of cryptographic hash functions published by the National Institute of Standards and Technology www.treasury.gov/tigta/auditreports/2012reports/201220115fr.html.

⁵² TIGTA explains that virtualization is the simulation of the software and hardware upon which other software runs. This simulated environment is called a virtual machine. "Server virtualization is now an established standard for enterprise information technology infrastructure in data centers and cloud services as it provides better utilization of hardware resources, reduces physical space required, and reduces power consumption and administrative overhead." TIGTA, *Improvements Are Needed for the Virtual Host Infrastructure Platform*, Report No. 2021-20-024 (June 2021), <https://www.treasury.gov/tigta/auditreports/2021reports/202120024fr.pdf> [https://perma.cc/2JF7-PUM7].

taxpayer's experience with the IRS through "expanded digital services," increased multilingual services, and an increased presence in hard-to-reach, historically underserved communities.⁵³

2. *Digital Accountability and Transparency Act Reporting Compliance*

The Digital Accountability and Transparency Act requires federal agencies to disclose direct expenditures and link federal contract, loan, and grant spending information to Federal agency programs. Its effective implementation provides consistent and reliable governmentwide federal agency spending data. This information is available to taxpayers at USAspending.gov.

TIGTA has recommended that the Chief Financial Officer and the Chief Procurement Officer jointly continue with efforts to implement "the automated quality review program" and use the results of the quality reviews to guide training focused on high error elements.⁵⁴

IRS Federal Information Security Modernization Act Evaluation

The Federal Information Security Modernization Act of 2014 (FISMA) requires that the Offices of Inspectors General perform an annual independent evaluation of each Federal agency's information security programs and practices.⁵⁵ TIGTA discovered that, due to program components that were not at an acceptable maturity level, the IRS's Cybersecurity Program was not fully effective. It rated three Cybersecurity Framework function areas (PROTECT, RESPOND and RECOVER) as "effective" and two function areas (IDENTIFY and DETECT) as "not

⁵³ Written testimony of Charles Rettig, Commissioner, Internal Revenue Service, The IRS's Fiscal Year 2022 Budget, Senate Finance Committee (June 8, 2021).

⁵⁴ TIGTA also recommended that "the Chief Financial Officer; the Taxpayer Advocate; and the Commissioner, Wage and Investment Division, jointly 1) develop a standardized template for documenting quality assurance reviews and use the results of these reviews to guide training focused on high error elements and 2) implement procedures requiring source documentation be provided to support the detailed grantee obligation information and the reconciliation of detailed grantee obligation information." TIGTA, *Fiscal Year 2020 Digital Accountability and Transparency Act Reporting Compliance*, Report No. 2022-10-003 (October 2021), <https://www.treasury.gov/tigta/auditreports/2022reports/202210003fr.pdf> [<https://perma.cc/9H6P-PD74>].

⁵⁵ "In Fiscal Year 2020, the IRS received and processed more than 240 million Federal tax returns and supplemental documents. As the custodian of taxpayer information, the IRS is responsible for implementing appropriate security controls to protect the confidentiality of this sensitive information against unauthorized access or loss." TIGTA, *Fiscal Year 2021 IRS Federal Information Security Modernization Act Evaluation*, Report No. 2021-20-072 (September 28, 2021), <https://www.treasury.gov/tigta/auditreports/2021reports/202120072fr.pdf> [<https://perma.cc/BBN5-9K2B>].

effective.”⁵⁶ TIGTA has alerted that “until the IRS takes steps to improve its security program deficiencies and fully implement all security program components in compliance with FISMA requirements, taxpayer data could be vulnerable to inappropriate and undetected use, modification, or disclosure.”

3. *Improper Payment Rates for Refundable Tax Credits*

TIGTA identified that the IRS had modified its procedures to address eligibility for the Additional Child Tax Credit when a tax return claiming the Earned Income Tax Credit is selected for review. The Automated Questionable Credit Program identifies and processes the questionable returns.⁵⁷

4. *IRS’s use of Robotic Process Automation and Intelligent Automation Technologies*

In 2020, TIGTA conducted an audit to evaluate the efficacy and efficiency of IRS’s use of Robotic Process Automation and Intelligent Automation technologies.⁵⁸ Some weaknesses were found in this agency’s performance.

⁵⁶ “For Fiscal Year 2021, the Inspector General FISMA reporting was aligned with the National Institute of Standards and Technology’s Framework for Improving Critical Infrastructure Cybersecurity and measured the maturity levels for five function areas: IDENTIFY (organizational understanding to manage cybersecurity risk to assets and capabilities), PROTECT (appropriate safeguards to ensure delivery of critical services), DETECT (appropriate activities to identify the occurrence of a cybersecurity event), RESPOND (appropriate activities to take action regarding a detected cybersecurity event), and RECOVER (appropriate activities to restore capabilities or services that are impaired due to a cybersecurity event).” As an example of the first area, “TIGTA found that the IRS could improve on maintaining a comprehensive and accurate inventory of its information systems; tracking and reporting on an up-to-date inventory of hardware and software assets; ensuring its information systems consistently maintain baseline configuration in compliance with IRS policy; and implementing flaw remediation and patching on a consistent and timely basis.” TIGTA, *Fiscal Year 2021 IRS Federal Information Security Modernization Act Evaluation*, Report No. 2021-20-072 (September 28, 2021), <https://www.treasury.gov/tigta/auditreports/2021reports/202120072fr.pdf> [<https://perma.cc/QEF6-3NGK>].

⁵⁷ “The Office of Management and Budget defines an improper payment as any payment that should not have been made, was made in an incorrect amount, or was made to an ineligible recipient. In Fiscal Year 2020, the Office of Management and Budget determined that the Earned Income Tax Credit, Additional Child Tax Credit, and American Opportunity Tax Credit are high-priority programs that are susceptible to significant improper payments. The IRS attributes these refundable tax credit overclaims to their statutory design and the complexity taxpayers face when self-certifying eligibility for the refundable tax credits and not to internal control weaknesses, financial management deficiencies, or reporting failures.” TIGTA, *Improper Payment Rates for Refundable Tax Credits Remain High*, Report No. 2021-40-036 (May 2021), <https://www.treasury.gov/tigta/auditreports/2021reports/202140036fr.pdf>.

⁵⁸ TIGTA, *Process Automation Benefits Are Not Being Maximized, and Development Processes Need Improvement*, Report No. 2020-20-060 (September 2020), <https://www.treasury.gov/tigta/auditreports/2020reports/202020060fr.pdf> [<https://perma.cc/9TCD-63KR>].

The number of processing hours actually saved was considerably less than the expected number if the IRS had maximized the Contractor Responsibility Determination Robot's use. The Robotic Process Automation Program lacked an effective governance structure and an adequate development methodology for automated projects to ensure that business requirements were captured, privacy and security requirements were addressed, designs fully satisfied business requirements, solutions were properly tested and deployed in a controlled manner, and operations were closely monitored.⁵⁹

5. *Effective Use of Information in the Algorithm for the Assignment of Productive Audits*

In 2017, TIGTA undertook an audit to determine whether the IRS was using information in an effective manner for the assignment of productive audits. It alerted that the IRS was underutilizing certain data to identify tax returns for audit.⁶⁰ The IRS established the Payment Card Program in calendar year 2012 and developed the Payment Mix Methodology algorithm to compare merchant card third party reporting (Form 1099-K) to tax return data based on the assumption that similar businesses would have a comparable blend of cash and payment card purchases. According to TIGTA, the pilot was effective for certain types of tax returns, and the IRS appeared to have missed opportunities to audit tax returns with large discrepancies between payments reported on Forms 1099 K and income reported on taxpayers' tax returns.

B. *United States Government Accountability Office*

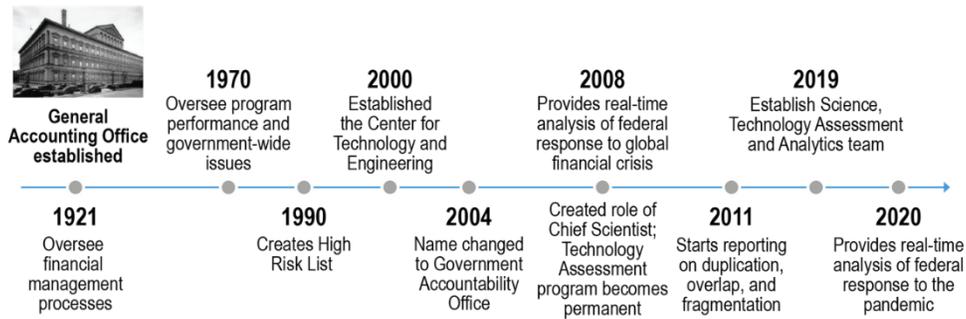
GAO performs "a range of oversight-, insight-, and foresight-related work to support the Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal

⁵⁹ This Robot collects data from "external websites to determine if a vendor has the financial resources and capabilities to perform the proposed work and is eligible to receive an award." In its first year of deployment, the robot was used to complete contractor determinations on 1,096 of the 2,774 new IRS-administered contracts. The remainder were processed manually. Thomson Reuters Tax and Accounting, *TIGTA says IRS is not maximizing process automation benefits*, October 16, 2020 RIA FEDERAL TAX UPDATE FTWA (2020).

⁶⁰ "TIGTA recommended that the IRS 1) consider implementing compliance projects to test the use of Form 1099-K data to identify certain types of tax returns for audit and 2) identify and address the reasons tax returns with large discrepancies between income reported on tax returns and the amounts reported on Forms 1099-K were not selected for audit or other treatment." See TIGTA, *The Internal Revenue Service Is Underutilizing Form 1099-K Data to Identify Tax Returns for Audit*, Report No. 2017-30-083 (September 2017), <https://www.treasury.gov/tigta/auditreports/2017reports/201730083fr.pdf> [https://perma.cc/MA92-ZXAA].

government for the benefit of the American people.”⁶¹ Its annual reports on the nation’s fiscal health look at the federal government’s financial statements; the debt; federal, state, and local fiscal projections; and budget trends.⁶² GAO also conducts financial and other management audits to determine whether public funds are spent efficiently, effectively, and in accordance with applicable laws. For example, the audit of the financial statements for the Internal Revenue Service.

Timeline of Key Events in GAO’s Evolution, 1921-2021



Source: GAO. | GAO-22-900369

Since the 1990s, GAO has reviewed science and technology issues for Congress. In 1997 it designated cybersecurity as a government-wide high-risk area. GAO’s technology assessments analyze the latest developments, draw attention to implications of technological change, and make core concepts accessible to policymakers⁶³.

In 2021 GAO issued an AI Accountability Framework that identifies key accountability practices — centered around the principles of governance, data, performance, and monitoring—to help federal agencies and others use artificial intelligence responsibly.⁶⁴ Third-party assessments

⁶¹ U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-22-900369, A CENTURY OF STRATEGIC EVOLUTION TO MEET CONGRESSIONAL NEEDS. STATEMENT OF GENE L. DODARO, COMPTROLLER GENERAL OF THE UNITED STATES, TESTIMONY BEFORE THE SELECT COMMITTEE ON THE MODERNIZATION OF CONGRESS, U.S. HOUSE OF REPRESENTATIVES (October 21, 2021), <https://www.gao.gov/assets/gao-22-900369.pdf> [<https://perma.cc/C6P9-QSJT>].

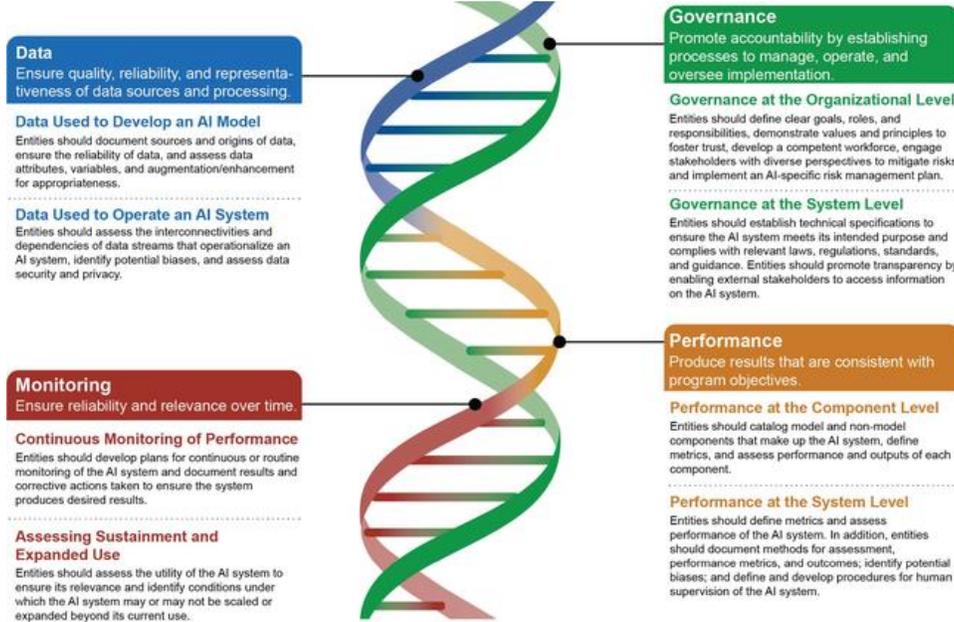
⁶² U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-21-275SP, THE NATION’S FISCAL HEALTH: AFTER PANDEMIC RECOVERY, FOCUS NEEDED ON ACHIEVING LONG-TERM FISCAL SUSTAINABILITY (2021). <https://www.gao.gov/assets/gao-21-275sp.pdf> [<https://perma.cc/LC49-J5TL>].

⁶³ For instance: U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-22-104422, Quantum Computing and Communications: Status and Prospects (2021), <https://www.gao.gov/assets/gao-22-104422.pdf> ; and U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-18-142SP, TECHNOLOGY ASSESSMENT: ARTIFICIAL INTELLIGENCE: EMERGING OPPORTUNITIES, CHALLENGES, AND IMPLICATIONS (2018). <https://www.gao.gov/assets/gao-18-142sp.pdf> [<https://perma.cc/NQM8-Q32R>]. There is also an ongoing technology assessment on blockchain.

⁶⁴ *For each principle, the framework describes key practices for federal agencies and other entities that are considering, selecting, and implementing AI systems. Each practice includes a set of questions

and audits are important to achieving responsible, equitable, traceable, reliable, and governable AI systems. They “pose unique challenges to such oversight because their inputs and operations are not always visible.” GAO’s objective was to identify key practices.

Artificial Intelligence (AI) Accountability Framework



GAO’s Information Technology and Cybersecurity (ITC) team provides critical analysis of today’s cybersecurity challenges, which are high-profile and widespread cyberattacks on federal agencies and national infrastructure. Its work has contributed to legislation, including the aforementioned FISMA. This team’s Center for Enhanced Cybersecurity is “responsible for performing technical cybersecurity reviews, including vulnerability assessments and system configuration reviews of complex networks.”

The Innovation Lab at the Science, Technology Assessment, and Analytics team seeks “to enhance GAO’s ability to tackle accountability challenges through data science and emerging technologies.”⁶⁵ The Lab is

for entities, auditors, and third-party assessors to consider, as well as procedures for auditors and third-party assessors.” See U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-21-519SP, ARTIFICIAL INTELLIGENCE: AN ACCOUNTABILITY FRAMEWORK FOR FEDERAL AGENCIES AND OTHER ENTITIES (2021), <https://www.gao.gov/assets/720/716110.pdf> [<https://perma.cc/BUK3-T3MW>].

⁶⁵ In 2019, GAO created the Science, Technology Assessment, and Analytics (STAA) team. It has carried recent work on federal agencies’ use of facial recognition technology. STAA has also produced testimonies on the federal STEM workforce and the security of federal investments in research and

doing work to address fraud and improper payments, such as payments that should not have been made or were made in the wrong amount. In fiscal year 2020, agencies reported total improper payment estimates of approximately \$206 billion. Since 2003, cumulative estimates total almost \$1.7 trillion. This Lab is working “to enhance GAO’s ability to conduct network analyses to detect fraud while also developing tools to help other federal agencies adopt GAO’s fraud risk management framework. In addition, the lab is leading GAO’s work with principal agencies of the Joint Financial Management Improvement Program to explore how identity verifications across public sector benefit programs can be scaled up to curb improper payments.”

A comprehensive search run in the GAO database shows clearly how technology and taxation are being increasingly intertwined to better address some classical or new topics affecting tax compliance and enforcement.⁶⁶

6. *Virtual Currencies*

The IRS’s virtual currency compliance campaign has identified more than 10,000 taxpayers who may not have properly reported virtual currency transactions on tax returns. GAO affirms that this campaign likely has not identified all taxpayers with underreported virtual currency income.⁶⁷ Indeed, it is difficult for the IRS to find out when taxable transactions involving virtual currency are occurring. According to tax officials, examining tax returns is more resource intensive in these cases.

Note that the IRS often uses automated processes to match tax returns against information returns submitted by third parties. This computer matching program allows IRS to identify discrepancies and propose automatic changes to taxpayers. When the discrepancy exceeds a threshold, an automated underreporter reviewer will ask the taxpayer for an explanation or payment.

7. *Refundable Tax Credits*

Refundable tax credits (RTC) are policy tools available to encourage certain behaviors. The IRS uses audits and automated filters to detect errors

development. Its Innovation Lab, made up of data scientists and technologists, works with GAO mission teams and external stakeholders to examine the latest technological advances in oversight.

⁶⁶ See *Recommendations Database*, GAO.GOV, <https://www.gao.gov/reports-testimonies/recommendations-database?processed=1&keyword=automated&topic=all&agency=Internal%20Revenue%20Service#-skipLinkTargetForMainSearchResults> [https://perma.cc/72NB-5F9W].

⁶⁷ U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-20-188, VIRTUAL CURRENCIES. ADDITIONAL INFORMATION REPORTING AND CLARIFIED GUIDANCE COULD IMPROVE TAX COMPLIANCE, REPORT TO THE RANKING MEMBER, COMMITTEE ON WAYS AND MEANS, HOUSE OF REPRESENTATIVES 23 (2020), <https://www.gao.gov/assets/gao-20-188.pdf> [https://perma.cc/82M7-FY57].

before a refund is sent, and it uses education campaigns and other methods to address RTC noncompliance. In 2016 GAO recommended that “1) IRS develop a comprehensive compliance strategy that includes all RTCs, 2) use available data to identify potential sources of noncompliance, 3) ensure reliability of collections data and use them to inform allocation decisions, and 4) assess usefulness of third-party data to detect AOTC noncompliance.” The IRS raised concerns about costs. Although GAO admitted costs could be of concern, it stressed that “use of these data could better inform resource allocation decisions and improve the overall efficiency of enforcement efforts.”⁶⁸

8. *Employment-Related Identity Fraud*

Additional checks should be incorporated into automated checks of employment-related identity fraud for populations at risk, such as children, elderly, deceased persons, and individuals associated with multiple wage records.⁶⁹ As of February 2021, the IRS does not consider some of these characteristics, such as individuals with multiple wage records. Doing so would require the development of new codes or the modifications of existing ones.

The Commissioner of Internal Revenue should modify Automated Underreporter (AUR) to include wage discrepancy checks for victims of employment-related identity fraud once the IRS has updated AUR’s legacy programming code. The IRS has said that the agency does not know when or if it will be able to update AUR’s legacy programming code to include wage discrepancy checks for these taxpayers.

9. *Financial Reporting*

GAO pointed out in 2016 that the IRS Commissioner should direct the appropriate IRS officials to determine the reason, or reasons, why staff did not always comply with the IRS’s established policies and procedures related to initiating, monitoring, and reviewing the monitoring of manual refunds and based on this determination, establish a process to better enforce compliance with these requirements.⁷⁰

⁶⁸ U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-16-475, REFUNDABLE TAX CREDITS. COMPREHENSIVE COMPLIANCE STRATEGY AND EXPANDED USE OF DATA COULD STRENGTHEN IRS’S EFFORTS TO ADDRESS NONCOMPLIANCE 18 (2016), <https://www.gao.gov/assets/gao-16-475.pdf> [<https://perma.cc/65LE-EY43>].

⁶⁹ Recommendations 2 and 4. See U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-20-492, EMPLOYMENT-RELATED IDENTITY FRAUD: IMPROVED COLLABORATION AND OTHER ACTIONS WOULD HELP IRS AND SSA ADDRESS RISKS (2020), <https://www.gao.gov/assets/710/706939.pdf> [<https://perma.cc/YQM8-69H2>].

⁷⁰ See U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-16-457R, MANAGEMENT REPORT: IMPROVEMENTS ARE NEEDED TO ENHANCE THE INTERNAL REVENUE SERVICE’S INTERNAL CONTROL

In fiscal year 2019, IRS officials stated that its Wage and Investment organization determined that a fully automated process to perform monitoring of manual refunds is the optimal solution to address, at an enterprise level, deficiencies associated with reliance on employees to monitor refunds in process, and to take appropriate action when potential duplicate or erroneous refund conditions are encountered. GAO recommended that the Commissioner of Internal Revenue establish and implement manual refund procedures to direct (1) initiators to document the justification for bypassing the Integrated Automated Technologies tool warning related to potential duplicate tax refunds on taxpayers' accounts and (2) managers to monitor whether such warnings were bypassed and review the justifications for reasonableness prior to approving manual refund forms.⁷¹ The IRS agreed with this recommendation.

10. Collection Case Selection

To ensure that Field Collection program case selection processes support the IRS's and the Collection program's mission, including applying tax laws with integrity and fairness to all, the Commissioner of Internal Revenue should develop, document, and implement procedures to periodically monitor and assess the design and operational effectiveness of both automated and manual control procedures. The IRS outlined planned actions and provided additional documentation in July 2021, but it did not clearly address these procedures.⁷²

11. Federal Contracting

The IRS may collect assets or payments, including federal contract payments to collect unpaid taxes. The IRS will usually notify the taxpayer in writing of the amount of the unpaid tax and the right of the taxpayer to request a hearing within a 30-day period before the levy occurs. If the taxpayer is a federal contractor, it is given the opportunity for the hearing to be held within a reasonable period after the levy. The IRS can levy federal contractor payments through the Federal Payment Levy Program

OVER FINANCIAL REPORTING (2016), <https://www.gao.gov/assets/680/677372.pdf> [<https://perma.cc/DY9K-RNY6>].

⁷¹ Recommendation 20-02. See U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-20-480R, MANAGEMENT REPORT: IMPROVEMENTS ARE NEEDED TO ENHANCE THE INTERNAL REVENUE SERVICE'S INTERNAL CONTROL OVER FINANCIAL REPORTING (2020), <https://www.gao.gov/assets/710/707397.pdf> [<https://perma.cc/83AJ-9L8J>].

⁷² U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-16-787, TAX DEBT COLLECTION: IRS NEEDS TO DEFINE FIELD PROGRAM OBJECTIVES AND ASSESS RISKS IN CASE SELECTION (2016), <https://www.gao.gov/assets/680/679768.pdf> [<https://perma.cc/62N9-LGTX>]. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-15-647, IRS CASE SELECTION: COLLECTION PROCESS IS LARGELY AUTOMATED, BUT LACKS ADEQUATE INTERNAL CONTROLS (2015), <https://www.gao.gov/assets/680/672128.pdf> [<https://perma.cc/HT4B-EUBX>].

(FPLP) “an automated program that can collect overdue taxes through a continuous levy on certain federal payments processed by Treasury’s Bureau of the Fiscal Service [through the Offset Program].” The IRS can also levy agency payments to federal contractors using traditional nonautomated methods. Then, the levy must be manually prepared and issued by an IRS revenue officer directly contacting the federal agency responsible for the payment to relinquish funds to satisfy a contractor’s tax debt.

Of the over 2,700 executive-branch contractors GAO found to have likely qualifying federal tax debt as of December 2016, the IRS had identified over 2,000 for levy through its automated FPLP. The FPLP could not levy all contractors because not all payments were processed by the system the FPLP used. The data the IRS received from agencies did not allow it to readily identify payments made using other systems. With this information, the IRS might be able to improve its levy capacity and enhance tax collections.

More recently GAO has found that the “Commissioner of the IRS should evaluate options to obtain comprehensive contract payment data above the existing Federal Procurement Data System–Next Generation (FPDS-NG) reporting threshold of \$10,000, including assessing the costs and benefits of changing the current threshold for contracts that agencies are required to report to the IRS through Form 8596 information returns to be consistent with the existing reporting threshold for FPDS-NG, determine whether regulatory revisions are necessary, and change the reporting threshold, if appropriate. IRS stated that it is reviewing the potential benefits and costs that would result from implementing this recommendation.”⁷³

C. A Court Decision on Automatic Tax Reporting

The primary dispute between the parties pertained to the meaning of “automatic tax reporting.”⁷⁴

Defendants contended that statements made during the Board of Patent Appeals and Interferences hearing mandated that this term be construed to mean that the “electronic tax return” be prepared without manual intervention from the user apart from “limited manual input prior to initiating the automated process.”

⁷³ Recommendation 12. See U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-19-243, FEDERAL CONTRACTING: OPPORTUNITIES TO IMPROVE COMPLIANCE WITH REGULATIONS AND ENHANCE TAX COLLECTIONS (2019), <https://www.gao.gov/assets/700/699049.pdf> [<https://perma.cc/GB7M-9LY3>].

⁷⁴ See *Simplification LLC v. Block Fin. Corp.*, 593 F.Supp.2d 700 (D. Del. 2009) (on Automatic Tax Reporting).

Plaintiff, on the other hand, contended that the term should be construed to mean “that each recited step in the claimed method may be performed without manual intervention once initiated but not that the entire claimed method (or the entire tax return) must be completed from start to finish entirely without stopping or manual intervention.”

The Court agreed with Defendants that the claims were limited to a tax preparation system that, outside of manual intervention during the initialization process, was “fully automated.” Accordingly, the Court concluded that “automatic tax reporting” meant “preparing a tax return on a computer without manual intervention from the user.”

CONCLUSION

Increasingly intensive and extensive automation is transforming tax administrations. This is reflected in the way they deal with taxpayers. It is also causing changes in the way they organize themselves internally and relate to other institutions.

It is not rational to adopt a techno-pessimistic or techno-optimistic vision beforehand. It is essential to monitor the effects of these technologies on taxpayers, the tax law and society. To that end, supervisory bodies have a decisive role to play. However, they are also obliged to undergo transformation processes of their own that enable them to perform their tasks efficiently.

As highlighted by GAO, issues such as clarification of the concept of “automatic” and the margin for human intervention, the choice between manual or automated action, interoperability of systems, reporting obligations, effective communication, regular monitoring of the effectiveness of procedures, checks in cases of risk of fraud, the use of filters to detect errors, and the cost of collecting useful data necessary for the proper exercise of the functions all need to be considered.

TIGTA also highlights as priorities: Enhancing Security of Taxpayer Data and Protection of IRS Resources; Modernizing IRS Operations; Improving Customer Service and the Taxpayer Experience; Protecting Taxpayer Rights; Cybersecurity; reporting, and use of information in algorithms; Maximizing benefits and enabling good governance; debt collection and offsetting; and granting tax benefits.

Keeping track of all the current and proposed changes and their impact will ensure that progress made through technological means leads to greater tax justice.