

Tax and (digital) inequalities

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TAX AND (DIGITAL) INEQUALITIES

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in R de la Feria (ed), *Taxation and Inequalities* (Amsterdam: IBFD, 2025, forthcoming)

1. Introduction

Tax law and fiscal policies are central to understanding the deepest values of a society:¹ the way a state distributes wealth, mobilizes resources, and enforces the law against different groups of citizens convey its key social values and priorities. Ultimately, this distribution will determine or seriously impact the levels of (in)equality within a country.² Inequality can be as much—if not more—the result of economic laws and policies than of economic forces.³ There are both general and academic perceptions that inequality can have negative economic and societal consequences, including a decrease in general trust, an increase in crime rates, and deteriorating individual health.⁴ It is also widely recognized that there is a link between tax policies and legal measures and inequality.⁵ The economic literature has discussed models of optimal taxation to address inequality, even considering it, under certain circumstances, as an externality.⁶

Over the last decades, tax policies have promised to respond to rising levels of inequality, seeking to close the gap that social policies failed to address.⁷ Examples of tax policies designed to reduce inequalities are higher taxes on capital gains and dividends and targeted tax credits that support, for example, low-income families. Also, progressive taxes have been thought to help

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¹ P. Alston and N. R. Reisch, 'Introduction: Fiscal Policy as Human Rights Policy' in P. Alston and N. R. Reisch (eds), *Tax, Inequality, and Human Rights* (Oxford University Press, 2019) 1-2. B. Binder and A. Haupt. "The fundamental role of tax systems in the relationship between workfare and inequality in the lower half of the income distribution" (2022) 80 *Research in Social Stratification and Mobility* 100712.

² On the low level of personal income tax in middle and low-income countries, see M. Ardanaz & C. Scartascini, 'Inequality and Personal Income Taxation: The Origins and Effects of Legislative Malapportionment' (2023) *Comparative Political Studies*, 46 (12), 1636-1663. <https://doi.org/10.1177/0010414013484118> (arguing that the details of political institutions are key to understand why personal income tax remains low in many developing and unequal countries. In particular, the article shows how legislative malapportionment may prevent the use of personal income taxes as a major revenue source by skewing the distribution of political power across groups).

³ J. E Stiglitz, 'The Origins of Inequality, and Policies to Contain It' (2015) 68(2) *National Tax Journal* 425.

⁴ M. Lobeck and M. Nyborg Støstad, 'The consequences of inequality: Beliefs and redistributive preferences.' (2023). CESifo Working Paper No. 10710, Available at SSRN: <https://ssrn.com/abstract=4610991> or <http://dx.doi.org/10.2139/ssrn.4610991>

⁵ C. Delmotte, 'Beyond the Wealth Tax' (2024) 76 *Alabama Law Review* (forthcoming) <https://ssrn.com/abstract=4777002> accessed 21 October 2024.

⁶ See M. Nyborg Støstad and F. Cowell, 'Inequality as an externality: Consequences for tax design' (2024) 235 *Journal of Public Economics* 105139.

⁷ J. Limberg, "Taxation and inequality." in L. Hakelberg and L. Seelkopf (eds), *Handbook on the Politics of Taxation*. (Edward Elgar Publishing, 2021) 178.

reduce inequality as they burden high earners more. However, it has become slightly more challenging to identify tax policies that create or exacerbate inequalities in the digital context.⁸ These inequalities can be directly associated with how digital technology is employed by tax authorities, how its use alters the meaning of legal procedures as well as the interactions between citizens and tax authorities. Alternatively, such inequalities may result from the transformation of the global economy through digitalization which changed the way businesses offer services, compete with each other, how individuals work and whether they are permanently established in one place or work as ‘digital nomads.’ These transformations have increased the challenges of imposing taxes on digital services and exacerbated the phenomenon of tax base erosion, whereby profits are shifted to jurisdictions with lower taxes.

Inequality is an elusive concept which is commonly associated with economic terms such as an imperfect distribution of income. In common parlance, inequality is defined as the fact that some people have much more than others and, when it comes to tax, the general perception is that tax policies fail to tax the handful of individuals that own the most wealth.⁹ Wealth concentration is indeed one of the key sources of inequalities worldwide. Economic inequality is typically measured through Gini coefficients that show the percentage of income to be redistributed at national level in order to achieve a perfectly equal income distribution.¹⁰ Beyond the national level, inequality can also be considered at global level, comparing different countries. Inequality is thus presented as an economic reality for which economic laws and policies should be devised. However, tax policies affect not only economic inequality but also gender, race, health, environmental, and political inequalities.¹¹ While inequality is layered and intersectional, resulting often from the overlap of multiple differences, economic inequality remains key because it gives rise to many other inequalities.¹² Furthermore, inequalities are not always evident as direct or indirect discrimination of taxpayers or economic disparities between individuals. Instead, they can also manifest as asymmetries, that is, different forms of inequality of information, power, access, and procedural position. These asymmetries, which are often overlooked due to their apparent invisibility and unmeasurable character, affect profoundly the ability of individuals to exercise their

⁸ See J.E. Stiglitz, ‘The origins of inequality, and policies to contain it’ (2015) 68(2) *National tax journal* 425.

⁹ For example, relocation of high earners for the purposes of tax avoidance and its effect on inequality has been discussed in the literature, see D. Agrawal and D. Foremny, ‘Relocation of the Rich: Migration in Response to Top Tax Rate Changes from Spanish Reforms’ (2019) 101 (2) *Review of Economics and Statistics* 214.

¹⁰ J. Limberg, ‘Taxation and inequality.’ in L. Hakelberg and L. Seelkopf (eds), *Handbook on the Politics of Taxation*. (Edward Elgar Publishing, 2021) 179.

¹¹ On race inequality and tax policy, see Dorothy A. Brown, *The whiteness of wealth: How the tax system impoverishes Black Americans--and how we can fix it*. Crown, 2022.

¹² J. Limberg, ‘Taxation and inequality’ in L. Hakelberg and L. Seelkopf (eds), *Handbook on the Politics of Taxation*. (Edward Elgar Publishing, 2021) 179.

rights and overcome economic disparity. Digital technology has the potential of addressing many of these asymmetries, for example, by making information and education more accessible and creating new business opportunities that were once restricted to an economic elite. However, in the context of inclusion and inequality, digital technology is a double-edged sword which may empower some individuals while disempowering others.

This report makes a contribution to the debate on tax and inequalities, drawing on not only tax literature but also scholarship on administrative law, digital government, digital disconnects, datafication of the public administration, and the automation of administrative decision-making (including tax decisions).¹³ This report approaches the topic of tax and inequalities from a power asymmetry perspective (taxpayer vis-à-vis tax authority) and focuses on the digital context. The report is built around a number of concepts, including power, (in)equity, complexity, dependency, vulnerability, and digital divides.¹⁴ It discusses tax and inequalities adopting an administrative law lens, that is, the field that regulates the asymmetric interactions between citizens and public bodies (including tax authorities). The focus is on personal income tax and some of the benefits distributed by tax authorities such as childcare benefits. This report also pays special attention to the role of digitalization and automation of tax systems, examining how these technologies address traditional inequities while potentially creating new ones.

The introduction to this report begins by reviewing both grey and academic literature, which broadly addresses the central challenges related to tax and inequalities. Subsequently, the report delves into specific inequalities emerging from the ongoing digitalization and automation of tax procedures. The core focus of this study is the intersection between taxation and the inequalities exacerbated by digital technology. As digitalization and automation reshape the interactions between citizens and the government, this connection will be discussed through the important case of the Dutch Childcare Benefits Scandal.

2. Tax and Inequalities: General Debate

¹³ See L. Scarcella, 'Tax compliance and privacy rights in profiling and automated decision making' (2019) 8(4) *Internet Policy Review*; E. Helsper, *The Digital Disconnect: The Social Causes and Consequences of Digital Inequalities* (MIT Press, 2021); M. Ragnedda, 'Theorizing Inequalities,' in *Enhancing Digital Equity: Connecting the Digital Underclass* (2020) 11-37. S. Ranchordás, 'Connected but still excluded? Digital exclusion beyond internet access,' in *The Cambridge Handbook of Life Sciences, Information Technology and Human Rights* (Cambridge University Press, 2022) 244-258; J. Gabrys, 'Data citizens – How to reinvent rights,' in B. Didier, E. Isin, and E. Ruppert (eds), *Data Politics: Worlds, Subjects, Rights* (London: Routledge, 2019) 248-266. See also H. Broomfield, L. Reutter, *In search of the citizen in the datafication of public administration*, *Big Data & Society* 9(1) (2022), <https://doi.org/10.1177/20539517221089302>.

There are many general perceptions about taxes, including that higher tax levels are politically unpopular in most countries but, at the same time, high earners ‘do not pay’ enough taxes, and this is one of the key issues of tax inequalities.¹⁵ It may be so, particularly for the super-rich. However, the OECD has underlined that:

‘In some countries top income recipients are now quantitatively very important for government tax revenues. In the United States the top percentile group of taxpayers paid 40% and the top 5% paid 60% of federal income tax in 2005 (IRS data reported in Mudry and Bryan, 2009). Similar distributions occur in other countries, although to a less marked degree. For instance, in the United Kingdom the top 1% of taxpayers paid some 24% of personal income tax in 2006-07 (HMRC Statistics).’¹⁶

This statement does not imply that high earners should not be further taxed. Indeed, extant tax policy reports have identified multiple measures that are skewed towards high-income taxpayers and which should be rethought.¹⁷ Examples are the inexistence of additional tax rates for the super-rich and highly regressive mortgage interest deduction which tend to favor high-income taxpayers.¹⁸ In some cases, inequalities can be the result of blindness regarding the living standards of low-income families. The carbon tax, for example, has been singled out as an illustration of a measure that, though successful at combatting climate change, disproportionately impacts low-income householders, thus exacerbating economic inequalities.¹⁹ The push towards sustainable energy may have a detrimental impact on energy poverty and broader economic inequality. For example, the *gilet jaune* (yellow vest) movement which started in 2018 in France, was sparked by an increase in fuel taxes as part of ongoing and new environmental policies. While the *gilet jaune* protests evolved beyond the issue of fuel taxes to encompass more recent discussions on pension reforms and other social policies on regulatory injustice, it illustrated how a tax increase could disproportionately affect a significant group of low-income individuals.²⁰ This occurs because low-income households spend a greater share of their income on carbon-intensive goods, do not have

¹⁵ S. Berens and M. Gelepithis, 'Welfare State Structure, Inequality, and Public Attitudes towards Progressive Taxation' (2019) 17(4) *Socio-Economic Review* 823 <https://doi.org/10.1093/ser/mwx063>; S. Berens and M. Gelepithis, 'What Do People Want? Explaining Voter Tax Preferences' in Edward Elgar (ed), *Handbook on the Politics of Taxation* (Edward Elgar Publishing 2021) 374-387.

¹⁶ OECD, *Divided We Stand and Why Inequality Keeps Rising. An overview of growing income inequalities in OECD countries: main findings* (OECD 2011) 361.

¹⁷ See also the following study by J. Rauh and R. Shyu, 'Behavioral responses to state income taxation of high earners: evidence from California' (2024) 16(1) *American Economic Journal: Economic Policy* 34-86.

¹⁸ N. Buffie, '5 Little-Known Facts about Taxes and Inequality in America,' CAP20, August 30, 2022, available at <https://www.americanprogress.org/article/5-little-known-facts-about-taxes-and-inequality-in-america/> (last accessed on 24 June 2024).

¹⁹ A. Fremstad and M. Paul. 'The impact of a carbon tax on inequality' (2019) 163 *Ecological Economics* 88-97.

²⁰ R. Wilkinson and K. Pickett, 'The Struggle for Equality and Sustainability' in R. Costanza, I. Kubiszewski and S. Bringezu (eds), *Sustainable Wellbeing Futures* (Edward Elgar Publishing 2020) 179-187.

the financial ability to make the required investments to adapt to more sustainable technologies (e.g., electric vehicles), and also rely on carbon-intensive industries for employment.²¹ While sustainability and technology are not the focus of this report, they illustrate well the importance of considering the multiple ambivalences in the introduction of tax policies with a disparate impact.

This section provides a brief overview of the core issues debated on tax and inequalities: global tax inequalities, gender, race, and skill or literacy inequalities.

2.1. Global Tax Inequalities

Globally, significant tax policies or measures with negative impacts on equality have been identified. Firstly, in low and middle-income countries, and over the past four decades, most OECD economies have faced rising inequality, challenging budget conditions, and a decline in the share of income tax.²² This has puzzled many experts who have sought to understand why tax policies had not been used to reduce inequality. Several studies have been conducted on this matter. For instance, Aizenman and Jinjara (2012) analyzed data from 50 countries between 2007 and 2011, discovering that tax revenues as a percentage of GDP decrease as inequality rises.²³ Adam et al. (2015) found that higher inequality leads to lower labor taxes and higher capital taxes in a sample of 75 countries for the year 2004.²⁴

Secondly, tax havens in low-income countries are additional examples that contribute significantly to global inequalities, favoring high-income earners in high-income countries. According to Oxfam, the Mauritius Leaks scandal revealed how multinational corporations have been evading taxes by exploiting poor countries across Africa:

‘Developing countries lose an estimated \$100bn a year in tax revenue as a result of tax dodging by multinational corporations, and even more as a result of the harmful tax competition between countries..... a double taxation treaty signed with Mauritius in 2002 has cost Senegal more than \$250m in tax revenue. Senegal could potentially leave the double taxation treaty

²¹ J. K. Boyce, ‘Carbon pricing: effectiveness and equity’ (2018) 150 *Ecological Economics* 52-61.

²² M. Rabiul Islam, J. B. Madsen and H. Doucouliagos, ‘Does inequality constrain the power to tax? Evidence from the OECD’ (2018) 52 *European journal of political economy* 1-17.

²³ J. Aizenman and Y. Jinjara. *Income inequality, tax base and sovereign spreads*. No. w18176. (National Bureau of Economic Research 2012).

²⁴ A. Adam, P. Kammas and A. Lapatinas, ‘Income inequality and the tax structure: Evidence from developed and developing countries’ (2015) 43 (1) *Journal of Comparative Economics* 138-154.

signed with Mauritius – one of many lopsided tax treaties that cheat poor African countries out of billions of dollars in tax revenue every year...²⁵

These and other tax policies and measures are regularly viewed as political choices that give rise to inequalities around the globe.²⁶

2.2. Gender

The discriminatory effect of tax policies has also been discussed in case law throughout the world, considering different grounds of discrimination, including sex (*see also the report on tax and gender in this volume*); unequal treatment based on marital or family status (for example, tax benefits given to married couples but not cohabiting couples); sexual orientation (e.g., not applying tax benefits to cohabiting same-sex couples); and citizenship.²⁷ Gender-based economic discrimination has been discussed for years in academic and policy debates on tax and inequality.²⁸ While this report does not focus on gender and tax (*see the report on this subject in this volume*), there are several gender-based discriminatory practices (e.g., higher VAT on menstrual products than on other essential products) that can have a significant impact on the unequal position of taxpayers identifying as female.²⁹ Any taxes levied on these products have an important impact, particularly considering that the majority of individuals living below the poverty line worldwide are women.³⁰

The “pink tax” is an overarching concept that extends beyond tax law, including many different manifestations of gender inequality: ‘the gender wage gap, gender-based pricing differences in

²⁵ Oxfam, *Endless Corporate Tax Scandals?*, Oxfam (2019), available at <https://oxfamlibrary.openrepository.com/bitstream/handle/10546/620848/mb-endless-corporate-tax-scandals-mauritius-290719-en.pdf>

²⁶ K. Mehta, et al. (eds.), *Tax Justice and Global Inequality: Practical Solutions to Protect Developing Country Revenues* (Bloomsbury Academic & Professional, 2020).

²⁷ M. O’Brien, ‘Substantive Impact of the Canadian Charter of Rights and Freedoms on Income Taxation’ in M. P. Maduro, P. Pistone et al. (eds), *Human Rights and Taxation in Europe and the World* (Amsterdam: IBFD, 2011) 303, 307-313.

²⁸ B. J. Crawford, ‘Pink Tax and Other Tropes’ (2023) 34 *Yale Journal of Law & Feminism* 88. For an economic analysis, see K. Doorley and C. Keane, ‘Tax-benefit systems and the gender gap in income,’ (2023) *The Journal of Economic Inequality* 1-25.

²⁹ A. Calderón-Villarreal, ‘Taxing Women’s Bodies: The State of Menstrual Product Taxes in the Americas’ (2024) 29 *The Lancet Regional Health – Americas* 100637.

³⁰ F. Burchi and D. Malerba, ‘Are women poorer? A cross-country analysis of gender differentials in multidimensional poverty’ in U.R. Wagle, Udaya (ed), *Research Handbook on Poverty and Inequality*. (Edward Elgar Publishing, 2023) 103-117.

consumer goods or services, disproportionate expenses incurred by a large portion of the population for safe travel or to maintain stereotypically “feminine” appearances, and unequal time burdens experienced by those responsible for households or caregiving.³¹ Furthermore, there has been a broad discussion on reproductive health and tax that should not be ignored in this context. Taxes affect patterns of marriage, childbearing, work, savings, education, and property ownership. Additionally, as women are disproportionately represented among the poor and more dependent on welfare benefits, they are most affected by cuts to public spending. Such policies result in a direct loss of essential services they rely on and an increase in unpaid care work they must perform to compensate for inadequate social support.³² Explicit biases in personal income tax codes that treated women and men differently and, for example, allocated most of the income to men or did not allow female spouses to file taxes separately, are increasingly rare in the last years.³³ However, implicit biases to the disadvantage of women have remained. For example, there is still a wage gap in the vast majority of countries, including in high-income countries.

2.3. Race

In the United States, there has been a recent discussion on the ability of federal income tax to either reduce or further exacerbate racial inequities.³⁴ For example, tax on investments is lower than on wages, even though this measure disproportionately benefits White taxpayers. Examples of historical racist policies are residential segregation, banking segregation, discriminatory lending practices, and laws prohibiting Asian immigrants from purchasing land or limiting access to homeownership for families of color.³⁵ Existing tax breaks that benefit home ownership fail thus to acknowledge this historical element and compensate for it, thus continuing to benefit White homeowners. As Dorothy Brown explains:

³¹ B. J. Crawford, ‘Pink Tax and Other Tropes’ 34 *Yale Journal of Law & Feminism* 88, 89 (2023). See also Y. Lind and Å. Gunnarsson, “Gender Equality, Taxation, and the COVID-19 Recovery: A Study of Sweden and Denmark” (2021) *Tax Notes International* 101(5), 581-590

³² E. McCaffery, ‘Where’s the Sex in Fiscal Sociology?: Taxation and Gender in Comparative Perspective’, in *The New Fiscal Sociology*, at 216

³³ C. and G. Mascagni, *Towards Gender Equality in Tax and Fiscal Systems: Moving Beyond the Implicit-Explicit Bias Framework* (Brookings, 2024) <https://www.brookings.edu/wp-content/uploads/2024/03/Towards-Gender-Equality-in-Tax-and-Fiscal-Systems.pdf>; OECD (2022), *Tax Policy and Gender Equality: A Stocktake of Country Approaches*, OECD Publishing, Paris, <https://doi.org/10.1787/b8177aea-en>.

³⁴ R. Akee, M. Jones & S. Porter, ‘Race Matters: Income Shares, Income Inequality, and Income Mobility for All U.S. Races.’ *Demography* 56, 999–1021 (2019)

³⁵ C. Huang, Chye-Ching and R. Taylor, *How the federal tax code can better advance racial equity* (Center on Budget and Policy Priorities, 2020).

*'because of racism, Black taxpayers are likely to incur higher tax bills than their White peers. This is simply because Whites and Blacks are differentially eligible for tax breaks and differentially situated to exploit loopholes created by a majority White Congress that enacts tax legislation with the experiences of White taxpayers in mind.'*³⁶

Furthermore, racial discrimination is also visible in the context of tax auditing, particularly nowadays, with the use of algorithms. As tax authorities are employing data-driven algorithms to allocate enforcement resources, there is widespread concern about their potential to disproportionately impact vulnerable groups. A recent study conducted by Elzayn et al. examined the differences in Internal Revenue Service (IRS) audit rates between Black and non-Black taxpayers. While neither the researchers nor the IRS had direct information on taxpayer race, they employed a novel partial identification strategy to estimate these differences. Their findings revealed that, despite race-blind audit selection, Black taxpayers were audited at rates 2.9 to 4.7 times higher than those of non-Black taxpayers.³⁷ Bearer-Friend has conducted extensive research on income tax and race, evidencing the need for more transparency regarding indirect forms of discrimination.³⁸

The connection between race and tax may be more evident in US literature and less discussed in European scholarship. However, institutional racism within tax authorities in terms of policy enforcement also exists outside the United States. The present report delves into this aspect below in the context of the so-called Dutch childcare benefits scandal, in which thousands of families, primarily ethnic minorities, were wrongly accused of having committed fraud with received childcare benefits. The Dutch government admitted to the existence of institutional racism inside Dutch tax authorities in this case.³⁹

2.4. Procedural Asymmetries and Tax Literacies

³⁶ D. A. Brown, 'Race and Tax Law', in D. Carbado, E. Houh, and Khiara M. Bridges (eds), *The Oxford Handbook of Race and Law in the United States* (Oxford University Press, 2022), <https://doi.org/10.1093/oxfordhb/9780190947385.013.8>

³⁷ H. Elzayn et al. *Measuring and mitigating racial disparities in tax audits*. Stanford Institute for Economic Policy Research (SIEPR), 2023. <https://siepr.stanford.edu/publications/working-paper/measuring-and-mitigating-racial-disparities-tax-audits>

³⁸ See J. Bearer-Friend, 'Should the IRS Know Your Race? The Challenge of Colorblind Tax Data (August 14, 2018). 73 *Tax Law Review* 1 (2019) (discussing the IRS policies on colorblind tax data and the need for more transparency on racial inequality); J. Bearer-Friend, 'Colorblind tax enforcement' (2022) 97 *New York University Law Review* 1.

³⁹ D. A. Brown, 'Race and Tax Law' in D. Carbado, E. Houh, and K. M. Bridges (eds), *The Oxford Handbook of Race and Law in the United States* (Oxford University Press, 2022), <https://doi.org/10.1093/oxfordhb/9780190947385.013.8>

Lastly, in many jurisdictions, taxpayers continue to find themselves in relatively weak procedural positions compared to tax authorities.⁴⁰ In most (if not all) countries, a decision issued by a tax authority is an administrative decision that, in many—if not all—Western countries can be appealed to (administrative) courts following procedural rules that mix general administrative rules with specific tax rules. In the case of tax fraud, criminal procedure may also be relevant. It is essential to assert the procedural rights of citizens, assess the effectiveness of remedies, and the rights and obligations of individuals, particularly in the context of administrative claims. Contrary to situations where criminal law frameworks are applicable, in administrative law, the procedural position of citizens may be, at times, more unclear (for example, when it comes to the administrative law limits of evidence gathering).

In addition, navigating complex bureaucracy to exercise one's rights is far from simple. Instead, it requires different types of literacy which go beyond the ability of reading, writing, and interpreting average texts. Tax literacy requires the financial literacy, the ability to understand tax rules and policies (particularly when help is not available), administrative literacy or the ability to understand how to engage with government, and finally, digital literacy as many countries have fully or partially digitalized and automated tax procedures.⁴¹ In addition, when individuals have limited access to stable internet or only have mobile access, they may experience difficulties filing complex forms, thus feeling excluded. This is problematic in jurisdictions with 'digital-by-default' systems such as Denmark or the Netherlands.

A number of Western countries such as Denmark and the Netherlands have become or are on their way to becoming 'digital by default' as the majority of their services function through online forms.. In practice, this may mean, for example, that tax calculation is automated, forms are filed online, engagement with government in principle does not take place physically, and tax fraud prediction relies on algorithmic predictions. In addition, assistance to taxpayers is also partly done using technology (e.g., voice-recognition systems, chatbots, and mobile applications). Digital-by-default countries have modernized tax systems, but this has been done primarily for efficiency

⁴⁰ In the Netherlands, the probability of having a decision of a tax authority overturned by a court is of 45%, depending on the court. For an analysis of tax payers' procedural position, see, for example, M.W.C. Feteris, 'Rechtsbescherming door de belastingrechter anno 2016', *WFR* 2017/29; V.S. Huygen van Dyck-Jagersma & R.F.M. Gerritsen, 'Rechtsbescherming bij invordering nog niet goed geregeld', *TFB* 2021/37. For an international analysis, see G. Kofler, M. P. Maduro, P. Pistone (Eds), *Human Rights and Taxation in Europe and the World* (Amsterdam: IBFD, 2011).

⁴¹ A. Deursen, J. van Dijk and W. Ebberts, 'Why e-government usage lags behind: explaining the gap between potential and actual usage of electronic public services in the Netherlands', in M. Wimmer, A., Scholl, J., Å. Grönlund, K. Andersen, (eds.), *Lecture Notes in Computer Science* (2006) vol 4084, Berlin: Springer, 269–80. On the concept of administrative literacy, see M. Döring, 'How-to bureaucracy: A concept of citizens' administrative literacy' *Administration & Society* 53.8 (2021): 1155-1177; N. Safarov, 'Administrative Literacy in the Digital Welfare State: Migrants Navigating Access to Public Services in Finland' (2023) *Social Policy and Society*, pp. 1–14. doi:10.1017/S1474746422000719.

saving purposes. In the digitalization process, millions of citizens have been excluded, namely senior citizens. Online or telephone-only assistance limits accessibility for senior citizens who are not able or willing to uptake technology. Regarding senior citizens, it could be argued that this is a temporary problem that will be solved with the next generation of citizens that had contact with technology throughout their lives.⁴² However, technology is constantly evolving. Therefore, it is important to guarantee that each generation of citizens will be able to exercise their rights using the instruments they grew up with (pen and paper for some, online forms for others).

Also, while in Western countries, there is the notion and narrative that everyone is connected and there is no first-degree digital divide, that is, lack of connection to the Internet, many low-income citizens only have Internet access on their mobile phones. This may be insufficient to fill in long and complex tax forms. In 2023, a report of the House of Lords found that 1.7 million households had no mobile or broadband internet at home. Furthermore,

‘up to a million people have cut back or cancelled internet packages in the past year as cost of living challenges bite. Around 2.4 million people are unable to complete a single basic task to get online, such as opening an internet browser. Over 5 million employed adults cannot complete essential digital work tasks. Basic digital skills are set to become the UK’s largest skills gap by 2030.’⁴³

In other words, taxpayers must be able to engage with digital tax forms independently or purchase paid versions of software (*e.g.*, TurboTax in the United States) that facilitate online filing.⁴⁴ This has been particularly true when the automation of tax systems has been developed by private companies. The outsourcing of the automation of tax systems can be problematic due to the conflict of rationalities between the private profit-making goal and the public interest, data-gathering practices that may encroach upon fundamental rights, namely the right to privacy, and uncertainties regarding the processing of taxpayers’ data and their potential profiling.⁴⁵

Tax complexity and bureaucracy are, therefore, sources of inequalities in themselves. While an average- to high-earning individual in such a position may also be able to afford a tax advisor,

42 S. Yates, J. Kirby, & E. Lockley, ‘Digital Media Use: Differences and Inequalities in Relation to Class and Age’ (2015) 20(4) *Sociological Research Online* 1–21. doi:10.5153/sro.3751

⁴³ [Digital exclusion \(parliament.uk\)](https://www.parliament.uk/digital-exclusion)

⁴⁴ TurboTax has a free version but users quickly understand that the paid version is much more user-friendly and is required for a smooth experience filing taxes. See S. Ranchordas and L. Scarcella, ‘Automated Government for Vulnerable Citizens: Intermediating Rights’ (2021) *William & Mary Bill of Rights Journal* 373.

⁴⁵ L. Scarcella, ‘Tax compliance and privacy rights in profiling and automated decision making’ (2019) 8(4) *Internet Policy Review* 1, DOI: 10.14763/2019.4.1422

many individuals will not, and may not have the required literacies to exercise their rights before tax authorities. As Lawrence Zelenak explains, ideally the goal should be:

a set of income tax rules under which anyone armed with basic arithmetical skills and a calculator, and with no exotic items of income, deduction, or credit, could easily prepare his or her own tax return with pencil and paper. This should be the goal not because taxpayers will or should return to pencil-and-paper return preparation, but because adhering to this standard ensures tax system transparency, which is crucial for both the political legitimacy of the tax system and for tax planning. – self-imposed constraint rules will also ensure equality as it places all taxpayers on an equal playing field.⁴⁶

The asymmetric position described above has been exacerbated by the reduction or disappearance of tax authority service counters, the emphasis on 'do-it-yourself' and 'digital-by-default' tax interactions, and the limited availability of equally suitable offline alternatives such as responsive phone assistance. As a result, citizens have become increasingly powerless in relation to tax authorities, requiring multiple types of literacy to navigate the tax system effectively. Meanwhile, tax authorities have strengthened their position by leveraging digital technology to collect larger volumes of data on citizens, use predictive analytics, and employ algorithms.⁴⁷

3. Digitalization, Automation, and Inequalities

The fundamental challenge in tax administration has traditionally been acquiring reliable information about taxpayers and their activities.⁴⁸ Data fuels tax collection and tax monitoring.⁴⁹ It is essential throughout the tax process, particularly when it comes to combatting tax fraud. Before the advent of social media and digital technologies, tax authorities struggled with obtaining information due to the predominance of cash transactions with no 'paper trail', tax shelters shrouded in secrecy, and the offshore accounts (still problematic nowadays). Presumptive taxation (or income presumption) has been used to calculate income based on outward signs of wealth and lifestyle, when there is lack of data on individuals, when taxpayers do not have regular wages and may thus more easily evade taxes or fail to report it accurately due to wage fluctuations.⁵⁰

⁴⁶ L. Zelenak, Complex Tax Legislation in the TurboTax Era. *Columbia Journal of Tax Law*, 1(1), 91–119. (2010).

⁴⁷ A. Collosa, 'Big Data in Tax Administrations', *Kluwer International Tax Blog* (16 July, 2021) available at <https://kluwertaxblog.com/2021/07/16/big-data-in-tax-administrations/> (last accessed on June 24, 2024)

⁴⁸ J. Alm, 'Tax evasion, technology, and inequality' (2021) 22 *Economics of Governance* 321–343, <https://doi.org/10.1007/s10101-021-00247-w>

⁴⁹ See J. Deng and J. Yang, 'Application of Big Data Technology in Tax Collection and Management and Tax Business Environment' in *Proceedings of the 6th International Conference on Big Data Research* (2022).

⁵⁰ On presumptions in tax, see, for example, E. Cauble, 'Presumptions of Tax Motivation' (1919) 105 *Iowa Law Review* 1995.

Digitalization enhances the generation of information by making it more abundant, timely, and precise. It also improves data processing through more powerful and predictive statistical methods. In principle, it has the potential to support better-designed systems and policies based on this enriched information and its analysis. Nowadays, tax authorities can employ data mining techniques on administrative data to identify specific individual characteristics—derived from tax returns and third-party information—that are more likely to be associated with tax code violations. Digital technology also enhances compliance for individuals with traditional wages by facilitating transactions that leave a digital trail. With the digitalization of tax procedures, the rise of digital government, and the automation of fiscal decision-making and enforcement, these tasks have become easier. Digital technology in government transactions is ambivalent. On the one hand, digitalization and automation have significantly assisted tax authorities by optimizing procedures, reducing costs, accelerating the timing of tax reporting and filing obligations, thus enabling the rapid processing of complex bulk decisions such as tax returns. Digital technology has been used to address longstanding issues such as the shortage of human resources for detecting fraud and the difficulty of obtaining accurate information on citizens' incomes. Over the past decades, tax authorities have relied on digital technology primarily to acquire and utilize data, modernize and optimize systems, improve decision-making and collaborate nationally and internationally in order to solve global compliance concerns.⁵¹

On the other hand, the digital transformation of the public sector and tax systems has fundamentally changed the interaction between tax authorities and taxpayers, allowing for a new set of inequalities to emerge.⁵² Firstly, online pre-filled tax forms and automated tax systems have only partially fulfilled their promise to simplify tax filing. The United States Internal Revenue Service (IRS) has estimated that the average taxpayer 'spends \$210 and 11 hours to file their 2019 Form 1040. This adds up to 1.7 billion hours and \$33 billion in tax preparation fees, software costs, and filing fees. This burden is not distributed in proportion to income. On average, for tax year 2010, a taxpayer earning between \$10,000 and \$15,000 spent about 10.3 hours and \$114 to file their return, while one earning between \$100,000 and \$200,000 spent about 14.5 hours and \$328.'⁵³ In other words, tax filing represents a particularly heavy burden on lower-income taxpayers. Despite the existence of software, the simplification of tax filing requires a closer analysis of how

⁵¹ H. Strauss, T. Fawcett & D. Schutte, 'An Evaluation of the Digital Response of Tax Authorities to Optimise Tax Administration within the Digitalised Economy' (2020) 18 eJTR 382, 385-387.

⁵² B. Ljubanovic & I. Alpeza, 'Tax Procedures in Digital Decade - Situation Assessment and Perspectives' (2023) 7 ECLIC 175; J.A. Soled & K. Delaney Thomas, 'Automation and the Income Tax', 10(1) *Columbia Journal of Tax Law* 1 (2018).

⁵³ L. Goodman, K. Lim, B. Sacerdote, and A. Whitten, 'Automatic Tax Filing: Simulating a Pre-Populated Form 1040' (2023), NBER Working Paper, https://www.nber.org/system/files/working_papers/w30008/w30008.pdf

to design better pre-populated forms. Secondly, the software essential for online tax filing is available in both free and paid versions, with the paid options generally providing more user-friendly features. For instance, paid versions of popular tax software like TurboTax and H&R Block offer enhanced support, step-by-step guidance, and access to tax professionals.⁵⁴

Thirdly, the use of algorithms in tax enforcement is also problematic for other reasons: it allows tax authorities to target underrepresented groups in the context of fraud investigations. In other words, the digital transformation of tax authorities and their policies has become a source of novel inequalities, affecting primarily low-income and senior taxpayers who are not able to navigate online tax systems without assistance and do not have the financial means to contract out their tax filing. The Dutch childcare benefits scandal (*toeslaggenaffaire*) illustrates well the double-edged character of employing digital technology in tax.

3.1. The Dutch Childcare Benefits scandal

Over the last decades, tax authorities in the Netherlands have been responsible for one of the most serious episodes of discrimination in modern Dutch history: the Childcare Benefits Scandal. Tax authorities, drawing on algorithmic systems and databases containing ‘black lists’ wrongly accused more than 20,000 families of committing fraud regarding perceived childcare benefits.⁵⁵

The Dutch childcare benefit scandal was featured in international media, alerting other countries to the downsides of employing AI systems in welfare fraud policies, evidencing the risks of using flawed automated systems to combat fraud.⁵⁶ The scandal had a broader significance at many levels, serving as an illustration of the unequal relationship between citizens and tax authorities in the context of the automation of welfare benefits.⁵⁷

⁵⁴ See my previous work, S. Ranchordás, & L. Scarcella, ‘Automated Government for Vulnerable Citizens: Intermediating Rights’ 30(2) *William & Mary Bill of Rights Journal* 373 (2022).

⁵⁵ In the Netherlands, tax authorities are responsible for calculating childcare benefits for all parents who register their children in kindergarten. The benefit amount is determined based on the parents' income and the number of hours they work or study. Parents are generally not eligible to receive these benefits for days they are not officially working or studying, and they must promptly report any changes in their income. In this highly digitalized country, these reports are typically submitted online with minimal assistance, making the system complex to navigate. Parents receive the benefit at the beginning of each month, which they are expected to use to pay the kindergarten of their choice.

⁵⁶ D. Hadwick & S. Lan, ‘Lessons to be learned from the Dutch childcare allowance scandal: A comparative review of algorithmic governance by tax administrations in the Netherlands, France and Germany’ (2021) 13(4) *World Tax Journal* 1.

⁵⁷ Explaining how this scandal came into being and the phenomenon of ‘institutional implosion’, see M. Fenger and R. Simonse, ‘The implosion of the Dutch surveillance welfare state’ (2024) 58(2) *Social Policy & Administration* 264, <https://doi.org/10.1111/spol.12998>

First, the scandal affected a large number of individuals (more than 20,000 families), particularly women (in particular, single mothers) and ethnic minorities. Second, lasting over a decade, it destroyed the lives of many taxpayers and their children who, in some cases, were institutionalized as their parents were found unfit to take care of them. The reasons for this lack of fitness were often connected to the stress and poverty which resulted from the wrongful fraud accusations.

Third, thousands of citizens were placed in weak and unequal procedural positions before the government and administrative courts.⁵⁸ While tax authorities had amassed significant amounts of data against them, the taxpayers had limited means to defend themselves. The right to equal arms was clearly at stake. Furthermore, there was a widespread feeling among the victims which was broadly reported by the media, that ‘no one believed their version of the events’. For many, it was unconceivable that tax authorities would purposefully target certain individuals. The high trust that individuals tended to have on the Dutch government and their actions undermined their ability to question the actions and approach of the tax authorities. However, media reported that these authorities had a policy that was heavily biased against certain citizens who were categorized as potential fraudsters.

In most cases, the victims of this scandal—pertaining to a ‘suspect’ group—were flagged because they had made mistakes reporting their income or their eligibility for childcare assistance. In the Netherlands, eligibility for childcare benefits depends on how many hours per week the parents work or study. This can be, at times, difficult to calculate, particularly for individuals with unstable jobs. Small mistakes (sometimes only amounting to fifty euros in benefits) were thus common. However, this misreporting to the tax authorities had, at times, disproportionate consequences (for instance, the decision to pay back thousands of euros received in the previous years with accrued interest). This was particularly true for those who fitted in certain categories that signaled ‘higher probability’ of fraud (for example, belonging to an ethnic minority).

While the Dutch state was not officially prosecuted for discrimination, this scandal has prompted several reforms in the judiciary and led to a legislative proposal to amend the General Administrative Law Act (*Algemene wet bestuursrecht, Awb*). A new statute (*Wet waarborg functie Awb*) was proposed—though not yet enacted at the time of writing—with the aim of improving the procedural position of the citizen vis-à-vis all public authorities. Among several ‘citizen-friendly’ measures, this bill also offers more lenient deadlines and opportunities to correct mistakes, thus

⁵⁸ R. Peeters and A. C. Widlak, ‘Administrative Exclusion in the Infrastructure-Level Bureaucracy: The Case of the Dutch Daycare Benefit Scandal’ (2023) 83(4) *Public Administration Review* 863, <https://doi.org/10.1111/puar.13615>

attempting to reduce the power asymmetries between citizens and the government. The Dutch childcare benefits scandal illustrates particularly well the implications of the power asymmetries between tax authorities and citizens, and how government can use digital technology to exacerbate this problem. It also illustrates other political, cultural, and policy shifts that have transformed the interactions between citizens and tax authorities (as well as other public authorities):

- i) *welfare populism* or the narrative that some individuals (often, ethnic minorities) are ‘taking advantage of the system’ and fraud policies should be ‘tougher’ so that the ‘hard-working citizen’ in need of temporary relief will be favored by social welfare policies and economic inequality will thus be reduced.⁵⁹
- ii) *selective enforcement* (or, in the words of Rita de La Feria, ‘low-hanging fruit’ enforcement), which targets individuals that find themselves unable to defend themselves due to socioeconomic limitations but who, at the same time, due to their socioeconomic status, are more likely to be found mistakes that resemble fraud.⁶⁰ Technological solutions represent the perfect blend of lower administrative costs and human resources, enabling tax administrations to center their tax enforcement activity towards tackling the “low-hanging fruit” vis-à-vis improving their performance statistics.

4. Discussion: Tax, Inequalities, and Power asymmetries

Despite the benefits of employing digital technology in the context of tax filing and auditing, AI systems are also likely to contribute to rising inequalities as those who are more targeted by digital tax enforcement are also more likely to be low-income citizens or part of underrepresented groups.⁶¹ This section recaps some of the aspects discussed above.

Wealth inequalities are the starting point of any discussion on tax and inequalities. While middle-income wages are taxed according to established rules, there is a longstanding debate on how to tax higher incomes, namely those that engage in capital flight, tax avoidance and evasion through different strategies. Wealth taxes have been discussed in this context to ensure that heavier taxes were imposed on capital and equity, thus ensuring a better redistributing of wealth from the

⁵⁹ G Vonk, *Welfare State Dystopia as a Challenge for the Right to Social Security* (Maastricht University, 2024) <https://doi.org/10.26481/spe.20240925gv> accessed 22 October 2024.

⁶⁰ R. de la Feria, 'Tax Fraud and Selective Law Enforcement' (2020) 47(2) *Journal of Law and Society* 240-270.

⁶¹ S. Gupta, M. Keen, A. Shah & G. Verdier (Eds.) *Digital Revolutions in Public Finance* (International Monetary Fund, 2017) Retrieved Feb 26, 2024, from <https://www.elibrary.imf.org/display/book/9781484315224/9781484315224.xml>

richest individuals to society as a whole. A number of countries (e.g., France, Norway, Spain) have adopted wealth taxes as an instrument to levy taxes for those who own assets above a certain threshold. The effectiveness of wealth taxes to address inequalities and ensure redistributive outcomes is debated and capital flight has often been an outcome of the imposition of these taxes.

However, digital technology and datafication processes are playing a significant part in perpetuating historical inequalities. This is particularly true regarding citizens that have more interactions with government and thus depend more on the state, are those who hand over more data on them to tax authorities. Khiara Bridges has discussed in *The Poverty of Privacy Rights*, the privacy divide between those who depend on state assistance and must thus give up a great deal of private and intimate information and those who do not.⁶² However, it is worth underlining that the management of an effective tax system depends on the ability to obtain reliable data on citizens' income and expenses. With the growing digitalization and automation of tax systems, tax authorities are able to gather vast amount of data on citizens using different methods. Citizens, however, may have limited ways to protect their personal data and safeguard their procedural position in such cases. It could be argued that vast data collections—including on gender—are far from new since they were already assembled by church officials and colonial authorities to consolidate knowledge and power over individuals' lives.⁶³ While in the digital state, tax authorities have significantly enhanced their power to gather evidence on eligibility for benefits, tax enforcement, and generally on citizens' lives, taxpayers remain almost powerless and unable to defend themselves against selective tax enforcement.

In theory, administrative law primarily provides instruments and methods to regulate power imbalances and address the inequality between citizens and public authorities. In Dutch Administrative Law, this is referred to as the principle for the compensation of inequality. This principle embedded in the Dutch administrative legal system does so through different legislative dispositions designed to help citizens, by rationalizing and simplifying reality, limiting the powers of the executive through procedure and imaginaries of objectivity. Reflecting upon the “modern” meaning of the principle for the compensation of inequality, Ben Schueler argued for several measures that could ensure this principle retains its meaning in the digital age and in light of the inequalities discussed in this report: the adoption of understandable administrative procedures so that everyone can understand, from the beginning of the proceedings, the possible course of

⁶² See K. M. Bridges, *The poverty of privacy rights* (Stanford University Press, 2017).

⁶³ C. D'Ignazio and L. F. Klein, *Data Feminism* (MIT Press, 2020) 12

events, their own role in the proceedings, and what options or outcomes are possible;⁶⁴ a system for compensating for inequality which determines when this is needed and for whom (e.g., a small, defunded public authority, standing before a wealthy corporate citizen with professional legal representation may also require assistance, additional explanations).⁶⁵ In addition, Schueler pled for shorter procedures and more informality, that is, no judicial procedure at all in some cases. While Dutch administrative law has given the task to compensate for inequality primarily to administrative judges, the public administration (including tax authorities such as the Dutch Childcare Benefits Scandal) could be, at times, be much better suited to understand the position of the citizen, and its own position, and close the gap between them.⁶⁶

Furthermore, administrative law is designed for a citizen that is thought to be 'average' in terms of income, education, health, digital skills, and social status. Power asymmetries are also assessed accordingly. However, this approach is insufficient for all those who are 'not average' at some point in life. What is more, it has not been updated to match the challenges encountered by citizens when engaging online with tax authorities. In tax law, it is possible that specialized scholars look at taxpayers from a slightly different perspective or using different terminology. However, this perception of 'an average citizen' is still valid when it comes to the state's expectations from citizens in terms of ability to file tax forms, navigate tax bureaucracy, and acquire tax and administrative literacy. In the digital state, engagement with online forms often becomes an additional layer of bureaucracy that requires new skills, limited assistance, and more targeted and powerful data-driven tax enforcement.

5. Conclusion

This report has examined the major inequalities that arise in taxation within the digital age, from an administrative law perspective, seeking to shed light on the broader issue of the imbalance of power between tax authorities and taxpayers.

Since this report is part of a collection where many of these topics are already touched upon in thematic and national country reports, gender and specific national dispositions on anti-discrimination were only briefly mentioned. The key message of this report is that, with

⁶⁴ B. Schueler, Rede van de voorzitter: ongelijkheidscompensatie nieuwe stijl, Vereniging voor bestuursrecht, 21 maart 2013, available at https://verenigingbestuursrecht.nl/2013/11/rede-van-de-voorzitter-ongelijkheidscompensatie-nieuwe-stijl/#_ftn4

⁶⁵ S. Ranchordas, 'Empathy in the digital administrative state' (2022) 71 *Duke Law Journal* 1341.

⁶⁶ B. Schueler, Rede van de voorzitter: ongelijkheidscompensatie nieuwe stijl, Vereniging voor bestuursrecht, 21 maart 2013, available at https://verenigingbestuursrecht.nl/2013/11/rede-van-de-voorzitter-ongelijkheidscompensatie-nieuwe-stijl/#_ftn4

digitalization and automation, the number of power asymmetries between tax authorities and citizens are growing. The traditional debate on tax and inequality has focused primarily on different inequalities among taxpayers (those who own more and do not pay enough taxes versus those who own less and are more burdened). This report adds a new perspective on inequality before tax authorities: digitalization and automation are deepening power asymmetries between taxpayers and tax authorities because they gather more data on taxpayers; give additional informational power to tax authorities in the context of tax enforcement; outsource to the citizen all obligations regarding filing taxes, becoming able to navigate complex tax authority, and obtaining different types of literacy (administrative, tax, financial...). This happens in a context with disappearing assistance to taxpayers and increasingly asymmetric procedural positions. The Dutch childcare benefit scandal illustrates this type of inequality well.

In principle, a more efficient tax system supported by digital technologies could in theory result in distributional gains that could benefit society as a whole. However, this should not come at the expenses of groups of citizens who are already affected by other sources of inequality. The debate on tax and inequalities can thus, in the future, continue to be enriched by this perspective on power asymmetries and how to compensate for the inequality of positions between taxpayers and tax authorities.