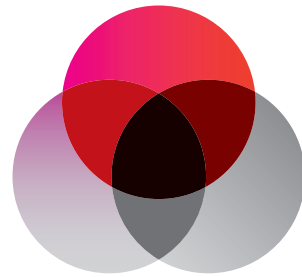




**Research
Program**



Designing
the tax system
for a cashless,
platform-based
and technology-
driven society

CPT Project





ACTL

Designing the tax system for a cashless, platform-based and technology-driven society

Research Program

1.	Introduction	4
2.	Objective	5
3.	Main topics	6
3.1.	Cashless payment methods and their implications on tax systems	7
3.1.1.	Taxation of crypto-assets and virtual currencies	7
3.1.2.	Cashless payments and the shadow economy	7
3.1.3.	Cashless payments, pre-filled tax returns and enhanced taxpayers' services	8
3.1.4.	Reporting obligations imposed on payment service providers (PSPs)	8
3.2.	Online platforms and their impact on tax systems	9
3.2.1.	Platforms' tax avoidance	9
3.2.2.	Users and value creation	10
3.2.3.	New types of (digital) taxes on platforms	10
3.2.4.	The taxation of platform users	10
3.2.5.	The role of platforms in the tax system: Reporting, due-diligence and collection obligations	11
3.3.	Technology: The impact of AI and automated decision-making (ADM) in taxation	12
3.3.1.	Use of AI for improving tax administration	12
3.3.2.	Use of AI for fighting tax fraud	12
3.3.3.	Using AI and ADM systems for applying anti tax avoidance rules	13
3.3.4.	Using technologies to achieve tax transparency	13
3.4.	Technology: A blockchain-based tax system?	14
3.5.	Big data governance: Ensuring an effective protection of taxpayers' rights	15
4.	Research and education	16

1. Introduction

Most societies around the globe are evolving towards a model that, among other, will be heavily based on **cashless payment methods** (e.g. credit/debit cards, contactless technologies, digital wallets, online banking, mobile payment apps, virtual currencies, etc.), **online platforms** (e.g. search engine, social media, marketplaces, ride-sharing, short-term rental, etc.) and **digital technologies** (e.g. artificial intelligence and blockchain). This transition towards a more cashless, platform-based and technology-powered society has been accelerated by COVID-19 crisis.

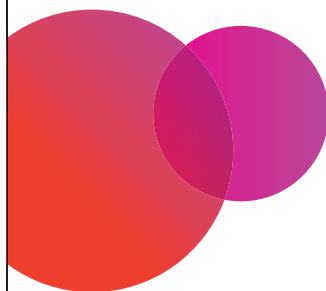
Pursuant to historical evidence, every time there has been a major technological change or global crisis the tax system has evolved accordingly (“for each revolution or crisis a new tax system”).

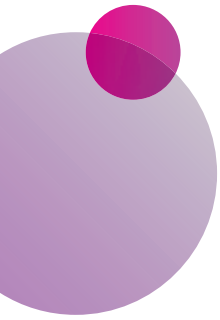
Therefore, everything indicates that the evolution towards a cashless, platform-based and technology-driven society will also have a significant impact on the design and structure of XXI century's tax regime. Indeed, this impact is already becoming apparent in certain areas of the current system creating an urgent need to design a tax system that is easy to comply with and difficult to circumvent.

2. Objective

A CTL's research project 'Designing the tax system for a cashless, platform-based and technology-driven society' (CPT project) aims to **provide a thorough analysis of how the tax system should be designed and structured** for a society primarily based on **Cashless Payment Methods, Online Platforms** and **Digital Technologies**, such as artificial intelligence (AI) and blockchain.

The CPT project aims at helping stakeholders, policy makers and the society at large to make informed decisions when addressing issues under the current tax system and/or introducing structural reforms.

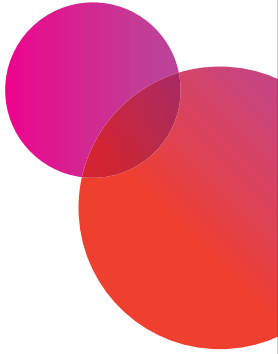




3. Main topics

The main topics covered by this ACTL project are:

- Cashless payments methods (e.g. digital wallets, virtual currencies, etc.) and their implications on tax systems.
- Online platforms (i.e. search engine, social media, marketplaces, ride-sharing, short-term rental, etc.) and their implications on tax systems.
- Technology: The impact of AI and automated decision-making (ADM) in taxation
- Technology: A blockchain-based tax system?
- Big data governance: Ensuring an effective protection of taxpayers' rights



3.1. Cashless payment methods and their implications on tax systems

In this block, the issue under analysis is how cashless payment methods (i.e. credit/debit cards, contactless technologies, digital wallets, online banking, mobile payment apps, virtual currencies, etc.) are impacting existing tax systems, what challenges and opportunities they raise in the field of taxation and how tax regimes could be designed in order to improve tax compliance and exploit the benefits of electronic payments. The topics explored include:

3.1.1. Taxation of crypto-assets and virtual currencies

Crypto-assets, and virtual currencies in particular, are in rapid development. However, their regulatory frameworks are still at an early stage of development and policymakers have just started considering their potential tax implications. This research line focuses on the taxation of crypto-assets and virtual currencies from both a direct and indirect taxation perspective. This includes analysing the tax treatment of various types of virtual currencies (i.e. not only Bitcoin) across the different stages of their lifecycle (i.e. from creation to disposal). This line of research also examines a number of emerging issues related to the taxation of virtual currencies, such as the tax implications of hard forks, stable coins, central bank digital currencies (CBDCs), decentralised finance (DeFi) and the evolution of the consensus mechanisms used to maintain blockchain networks.

3.1.2. Cashless payments and the shadow economy

This line of research explores countries practices and suggest approaches to reduce the shadow economy by replacing cash with electronic payments methods. These include enforcement or obligation mechanisms (e.g. obligations to make an electronic payment of wages, salaries and social security benefits, introduction of thresholds for cash payments, obligations to possess and use cash registers, operate POS terminals, etc.), whereas others focus on providing incentives to consumers and merchants (e.g. providing consumers with receipt lotteries or merchants with tax relief for accepting cashless payments).

3.1.3. Cashless payments, pre-filled tax returns and enhanced taxpayers' services

This line of research focuses on initiatives to provide “pre-filled” tax returns and improve taxpayers’ services. By analyzing the design and specific features of measures that introduce pre-filled tax returns (e.g. scope, possibility of making amendments, exposure to future audits, etc.), it assesses whether these initiatives can benefit from the spread of cashless payment methods and hence improve efficiency and effectiveness in tax compliance.

3.1.4. Reporting obligations imposed on payment service providers (PSPs)

This research line analyzes the reporting obligations increasingly imposed on payment service providers (PSPs) across the globe. The objective is to identify common features of reporting systems in order to reduce costs and improve effectiveness. It also provides an historical overview of the discussions at the time when similar obligations were imposed on banks and employers in order to understand what can be learned from this experience and how that can be adapted to the evolving landscape.




3.2. Online platforms and their impact on tax systems

Online platforms (e.g. search engine, social media, marketplaces, ride-sharing, short-term rental, etc.) raise both challenges and opportunities in the field of taxation. This block analyzes how online platforms are affecting the operation of existing tax systems, how countries across the globe are dealing with this phenomenon and how should prospective tax regimes be design in order to exploit the benefits and overcome the challenges posed by a platform-based society. Some of the specific topics explored are:

3.2.1. Platforms' tax avoidance

Over the last few years, countries around the world have made great efforts to tackle base erosion and profit shifting (BEPS) practices conducted by multinational enterprises (MNEs) in general and, more specifically, by those operating within the realm of the digitalized economy. They have done so in a variety of ways, ranging from multilateral projects reforming entire tax systems (e.g. OECD's BEPS Action Plan), to unilateral measures targeting what are often referred to as "digital companies". Although great advances have been made in this area, there is still much work to be done to effectively prevent platforms' tax avoidance.

This research line explores the remaining gaps and mismatches in the international tax rules that could still be exploited by platform businesses to artificially shift profits to low or no tax jurisdictions and avoid paying their fair share of taxes. This includes analysing what specific features of platform businesses models could facilitate BEPS practices (e.g. low or non-reliance on physical assets, development of more valuable patents, software, and other intellectual property, etc.), as well as which are the implications of a wide range of multilateral and unilateral measures that have been proposed and/or implemented to address platforms' tax avoidance (e.g. the OECD's Two Pillars proposal, the EU Commission's proposal for a "Fair Taxation of the Digital Economy", the UN recently approved article 12B on "Automated Digital Services" and other measures targeting large MNEs rather than the digital economy *per se*).





3.2.2. Users and value creation

This research line assess the possible spectrum of user contributions to platform businesses and attempts to answer two key questions: (i) whether users' activities generate value for enterprises, and (ii) how to determine that value for tax purposes. To answer those questions and ascertain whether companies themselves attribute value to users, this research line looks at different types of user contributions and analyzes financial statements (and other publicly available sources of information) of large platform businesses. It also looks at valuation techniques used by equity analysts and venture capitalists, as well as innovative research in the area of measuring the impact of the digitalized economy on GDP.

3.2.3. New types of (digital) taxes on platforms

This line of research analyzes new types of (digital) taxes imposed on platform businesses worldwide, which include the so-called Digital Service Taxes (DSTs) modelled on the basis of that proposed by the EU Commission, as well as taxes on data and online advertising, diverted profit taxes, equalization levies, etc. By exploring what the implications of these new taxes are on existing tax systems, how they impact platform businesses operations and how they interact with countries' legal frameworks (e.g. tax treaties), this research line aims at defining whether these new (digital) taxes have a future.

3.2.4. The taxation of platform users

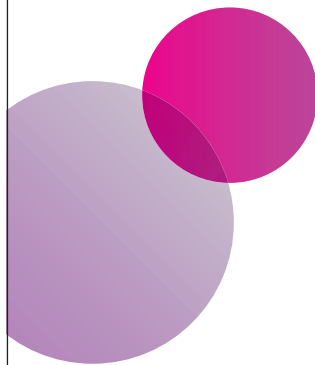
There are individuals around the world who earn a substantial amount of income from social media platforms. This is true for movie-stars and sport champions, but also for a number of individuals that make their assets, personal habits or knowledge available for others through platforms. This part of the research aims to identify the main categories of individual beneficiaries from the platform economy, categorize the income they derive, analyze the tax issues arising in this area, and propose possible ways to address them under the existing tax systems.

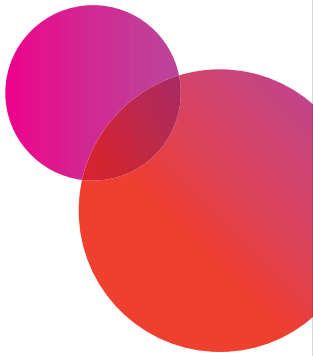


3.2.5. The role of platforms in the tax system: Reporting, due-diligence and collection obligations

This research line aims to define which should be the role of platforms in the tax system and, more specifically, how platforms can help tackling misreporting of income and transactions by their users, support and ease tax compliance as well as facilitate collection.

To achieve its aim, this line of research analyzes whether, how, and under which conditions, governments could impose tax obligations and/or delegate public functions to private platforms. This includes the review of countries' rules requiring both local and foreign platforms to: (i) report certain tax information of their users to the tax authorities; (ii) conduct certain due diligence procedures on their users and/or their transactions, (iii) collect and remit the tax due in lieu of their users, (iv) block users that do not comply with certain tax obligations, etc. Initiatives of these kind are springing up at the national level and multilaterally at the level of the EU and OECD.





3.3. Technology: The impact of AI and automated decision-making (ADM) in taxation

In this block the issues under analysis refer to the challenges and opportunities raised by AI and automated decision-making systems (ADM) in the field of taxation. Specifically, this block explores how governments around the globe are using AI and ADM systems for taxation and how tax policy and tax administration should be re-designed in order to benefit from the use of these technologies. This implies defining how AI governance principles (i.e. human agency and oversight, transparency, non-discrimination, etc.) apply in taxation and how general AI legal frameworks should be embedded with tax systems design and implementation. Some of the topics explored herein are:

3.3.1. Use of AI for improving tax administration

This line of research analyzes how countries are harnessing the power of big data, AI and advanced analytics to improve tax administration. This includes exploring how AI is used to deliver better-targeted services (based on a deeper understanding of taxpayers' needs and circumstances), communicate differently across groups of taxpayers for maximum impact, explain tax issues in simple language (tax chat-bots), etc. This research line also assess the implications of automated decision making (ADM) systems used by governments in tax administration. The aim of this part of the research is to identify specific opportunities and threats created by these practices and make proposals to address them.

3.3.2. Use of AI for fighting tax fraud

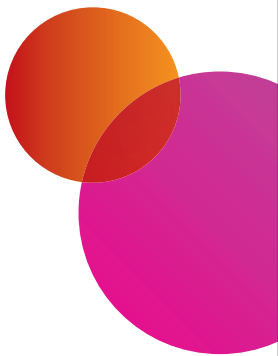
This research line analyzes how governments are using predictive analytics to identify taxpayers that are most likely to be non-compliant and make better targeted audits. It also analyzes how countries use AI and, especially automated decision making (ADM) systems, to prevent and detect tax fraud. The aim of this research line is to determine how these practices should be regulated in order to ensure their alignment with trustworthy AI principles and the respect of taxpayers' fundamental rights.

3.3.3. Using AI and ADM systems for applying anti tax avoidance rules

This line of research explores whether AI and ADM systems could be used by tax administrations to solve the lack of efficiency and legal certainty that generally exists when applying anti-avoidance rules, especially those of general scope. This includes analyzing whether AI and ADM systems could be used to apply the numerous new anti-avoidance rules resulting from the OECD/G20 BEPS initiative (e.g. the Principal Purpose Test), its derivatives (e.g. the EU Anti-Tax Avoidance Directive) and the different domestic anti-tax avoidance measures (e.g. economic reality). This research line also explores to what extent the various opportunities provided by AI in terms of efficiency and effectiveness, could justify the re-definition of existing anti-avoidance rules in order to make them more suitable to the requirements of an AI-based system.

3.3.4. Using technologies to achieve tax transparency

This line of research analyses how technologies could be used to increase transparency on Multinational Enterprises (MNEs) corporate tax affairs, while minimizing their compliance costs and the risk of commercially sensitive information becoming publicly available. This includes exploring how AI, cloud-based systems and distributed ledger technologies could be used by governments to combat tax avoidance, improve existing tax transparency regulations (e.g. AEOI, CbCR, CRS, FATCA, DAC, etc.) and facilitate tax authorities' oversight activities (e.g. by enabling a type of audit process, in which tax authorities effectively "plug in" to a company's raw data sources with their own technology). This research line also analyzes how MNE's could embrace new technologies to both improve their systems/processes and collect, process and report their tax data in a more effective and efficient way.



3.4. Technology: A blockchain-based tax system?

Apart from AI, there are many other technologies such as blockchain, cloud computing, the internet of things, etc. that raise significant challenges and opportunities for the design and operation of tax systems. This research block analyzes how these other technologies could be used to improve the tax system. This includes exploring whether it is actually possible to implement a blockchain-based VAT system (alone or coupled with a VAT cryptocurrency) to prevent and detect VAT fraud in the short or medium term, as well as whether this technology could be used to solve more specific problems such as easing taxpayers' compliance regarding transfer pricing documentation, integrating data registries among tax administrations and other public agencies, etc.

The objective of this research block is to identify opportunities provided by new technologies - other than AI - to improve the operation of tax systems and to define the policies, principles and legal requirements that these tools should meet when applied by tax administrations and policymakers (e.g. effectiveness, competence, transparency, privacy, non-discrimination, accountability, accuracy, fairness, etc.).

3.5. Big data governance: Ensuring an effective protection of taxpayers' rights

Technological developments have facilitated the gathering and processing of citizens' data. This has led to a substantial increase in the volume of sensitive information accessible and/or processed by businesses and tax authorities. However, the creation of this huge pool of data may raise concerns in terms of security, data protection and fundamental rights.

This research block analyzes the challenges and opportunities raised by the cashless, platform-based and technology-driven society in relation to big data governance, privacy and data protection. It explores what specific policies, principles, practices and standards should guide the design of tax regimes in order to ease big data administration and guarantee a better protection of taxpayers' rights.

This includes analyzing: (i) how do governments gather, store, process and use data arising from third-party reporting (e.g. platforms, PSP, employers, etc.), e-invoicing, online cash registers and other sources (e.g. automatic exchange of tax information) as well as; (ii) current data protection rules applicable in different countries around the globe, especially those in the EU, the US and China. This analysis pays special attention to the legislation that explicitly address automated decision making (ADM) systems (e.g. the EU's General Data Protection Regulation) and aims to identify the boundaries of what can and cannot be done by tax administrations, also with reference to case law in this area.

4. Research and education

The CPT project aims to conduct high quality research in a multi-disciplinary and collaborative manner. This research is reflected in:

- The publication of **papers, dissertations** and **books** on the latest and expected developments regarding cashless payments, platforms and digital technologies and their impact on the tax system.
- The organization of **webinars, seminars, workshops** and **conferences** with experts and stakeholders from business, governments, NGOs and academia to discuss the aforementioned developments and their interaction with existing and prospective tax systems.
- The provision of **education** and **training opportunities** to undergraduate and graduate students, professionals, government officials, policymakers, etc. on the topics covered by the project.

For more information about this research project, including its agenda, publications and people involved, please see www.actl.uva.nl under CPT project.

