Taxation in the Digital Era

Economic, Legal, and Policy Challenges

Edited by
Åsa Hansson · Joakim Wernberg

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Preface

This book is the result of a long-standing collaboration among tax scholars from various disciplines, all focusing on taxation and digitalization and recognizing the importance of addressing the societal challenges that digitalization poses on the tax system from several disciplines and by working closely together. The authors of this anthology take an academic approach to taxation and are deeply engaged in cross-disciplinary dialogue.

There is an urgent need to produce and provide evidence-based knowledge to guide tax policy design in a time of technological advancements and fiscal and economic challenges. This need is further amplified by the increasing digitalization of economies, which demands data-driven tax policies to address complex issues such as dematerialized transactions, cross-border taxation, harmful tax competition, and compliance automation.

Lund University provided a welcoming environment for our meetings and supported our work through the Pufendorf Institute for Advanced Studies (IAS) in 2023. Additionally, the Bank of Sweden Tercentenary Foundation (Riksbankens Jubileumsfond) generously funded a workshop in April 2024, bringing together over 20 international scholars in Lund. During this workshop, we examined the emergence of new tax bases due to digitalization, explored power shifts and anomalies arising from the

OECD's BEPS project, and analyzed the broader impact of digital transformation on the tax ecosystem and Tax Administration 3.0, which has necessitated significant reforms.

Since autumn 2024, some of us have been part of a larger research initiative, the DIGITAX Theme at the Pufendorf Institute for Advanced Studies, which has further strengthened our collaboration. We are very grateful to the Pufendorf Institute for providing us with an inspiring home in a beautiful historic building in Lund, where we met every Monday. Looking ahead, we aim to establish a cross-disciplinary Tax Research Center at Lund University, LUTAX, to deepen our work in this field.

With this book, we seek to answer fundamental questions about how welfare states can address the challenges posed by technological transformation. One guiding theme, "Tax Me If You Can," serves as a thought-provoking lens for exploring the issues discussed in the following chapters.

Lund, Sweden
March 2025

Åsa Hansson
The DIGITAX Group

Joakim Wernberg

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Cécile Brokelind is a Professor of Business Law at the Lund University School of Economics and Management, chairwoman of the European Association of Tax Law professors (EATLP), and founder of the Group for Research for European and International Tax Law (GREIT). Her research revolves around EU tax law, international tax law, Swedish tax law, and their mutual influence on each other. She recently published articles on the power to tax in cross-disciplinary studies. Together with Åsa Hansson, both have published interdisciplinary studies in taxation such as on the COVID's subsidies, tax competition, and tax expenditures.

Åsa Hansson is an Associate Professor in Economics at the Departments of Economics and of Technology and Society at Lund University, and at Ratio. She has extensive experience in tax research as well as actual tax design. She has been a member of several large public tax investigations and a member of the Swedish Fiscal Council. She has published a book on the impacts of digitalization on the Swedish tax system (2023) and has been involved in a large tax reform project that resulted in a book on how to design a tax system for Sweden in a global world (Hansson 2022). Åsa is currently a member of the scientific board at Growth Analysis, and on the editorial board of Nordic Tax Journal and Ekonomisk Debatt.

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Amanda Sonnerfeldt is a Senior Lecturer in Business Administration. Her research is focused on transnational standard setting and the regulation of corporate reporting, auditing, and taxation from both historical and contemporary perspectives. Her work is published in European Accounting Review, Accounting and Business Research, and Accounting Forum. She currently heads the multidisciplinary research group at EHL on: *Towards sustainable tax practice - Public accountability, transparency and tax risks in Nordic companies*. In the course of her research, she has developed an extensive network with academics, international organizations, and practitioners. She is currently a board member of the Swedish

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Joakim Wernberg is the Research Director of Digitalization and Tech Policy at the Swedish Entrepreneurship Forum and an Assistant Professor in Technology and Society at Lund University. He holds a Ph.D. in Economic Geography from Lund University. Wernberg's research is centered on the interaction between technological and economic change.

CHAPTER 1

Introduction: Is the Current Tax System Fit for a Digitalized Economy?

Åsa Hansson and Joakim Wernberg

Digitalization, including recent and rapid advances in the field of artificial intelligence (AI), constitutes a technological shift on a scale comparable to the introduction of the steam engine or electricity. Digitalization constitutes the introduction of a new general purpose technology—the same fundamental components are applicable for a wide variety of purposes across industries in the entire economy (Bresnahan & Lipsey et al., 2005; Trajtenberg, 1995). Because of its magnitude, this technological

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shift has been compared to a new industrial revolution (Schwab, 2017). Digital technologies affect social interactions and how economic activities are conducted throughout society. The shift has altered the way we organize work, interact socially (e.g., on social media and dating apps), shop (e.g., online or in physical stores), how businesses and supply- and value chains are organized, as well as how public administrations work (e.g., Shirky, 2009; Brynjolfsson & McAfee, 2014; Evans & Schmalensee, 2016; McAfee & Brynjolfsson, 2017). But what are the implications for other parts of the economy? What are the consequences for the tax ecosystem? Does digitalization challenge current tax systems and the way to generate and collect tax revenue and finance public welfare? How well do the current rules, principles of taxation, and the way tax agencies work fit within a digital and global economy?

Tax revenue is the foundation for financing public welfare and government activities, an essential cornerstone in all societies. Taxation goes back far in history, but what and how to tax have changed over time (Tax Foundation, 2022) and depend on what is feasible to tax and administer. Historically, property and number of windows have been the base for taxation. It is not written in stone that the principles and ways we tax today must remain the same. However, to be able to tax, some essential questions need to be resolved.

The first question concerns the right to tax, that is, determining the jurisdiction that has taxation rights. Taxation is a national capacity or prerogative, where each country has the right to decide over its taxation, within the limits of its control over activities carried out on its own territory. However, for transactions and interactions across national borders, there is a need for international agreements but these international agreements rest on unanimity.

Today, there are basically two main principles to determine who has the right to tax income. The *source* principle assigns the right to tax to the jurisdiction where the income is generated. This principle has commonly been applied to corporate income. The residence principle (or destination principle for consumption) gives taxation rights to the jurisdiction where the taxpayer resides, often applied to individual income and consumption. A nexus, a connection to a geographical location, needs to be defined and determined to establish taxation rights. For corporate income taxation, the nexus has traditionally been a permanent establishment, e.g., a factory or a shop. For individual taxation, the nexus is the place of residence. Exceptions to these principles exist, for instance, the United States applies

citizen-based taxation and taxes its citizens on their world-wide income regardless of the place of residence or where income is generated. Bilateral treaties frequently clarify which jurisdiction has taxation rights in specific situations, for example between countries with substantial cross-border employment.

The second question concerns what to tax, that is the tax base. Today, in most countries, the primary tax bases are income or value-added generated from production factors, whether it is personal or corporate income, or value of consumption. However, the tax base does not always need to be income. Historically, tax bases that are easier to measure and assess, like number of windows in a house or the length of a building, have been used. Sometimes turnover or revenue can also serve as a tax base instead of income.

The third question concerns the amount of tax to pay. This depends on the tax laws of specific jurisdictions. These laws define the rates, exemptions, and deductions applicable to various taxpayers and tax bases. They often vary by source of income. For example, in many countries labor and capital incomes are taxed differently and various forms of consumption are levied with different tax rates. This differentiation requires that income can be assigned to either capital or labor income, and that different types of consumption can be clearly defined.

The fourth and final question concerns how to ensure tax compliance. Tax authorities ensure compliance through monitoring and audits, and disputes or issues are resolved through legal processes, often involving courts. Tax compliance does not only depend on legal enforcement but also cultural norms that impact voluntary compliance.

The answers to these principal questions make up the structure of the tax ecosystem. The way these questions are addressed, and the structure of the tax system reflects the structure of the economy, particularly its limitations. Historically, property was a primary source of tax revenue as it was easier to measure and monitor than income. As economies grow more advanced, income became the primary source of tax revenue. Economic exchange has, to varying degrees, been restricted by geographical distances, incurring transport costs on goods, and largely limiting the sales of services to local markets. In principle, it has been easy to observe production and exchanges as well as associate them not only with economic actors but also with a specific nexus and thus to administrative units like municipalities or national territories. Digitalization coupled with globalization has changed and traversed many of these limitations.

Transport costs have fallen dramatically (Glaeser & Kohlhase, 2004). Information and communications technologies first improved the scope of trade in goods and then enabled the coordination and sales of knowledge-intensive services across long distances and national borders (Baldwin, 2016). As seen during the COVID-19 pandemic, everyday work in many industries and professions can to a growing degree be separated from the physical workplace and conducted remotely, at home or somewhere else. This has given rise to an increasing number of digital nomads and an acceptance of longer commutes. As taxes may differ between jurisdictions tax strategic location may become possible not only for multinational enterprises but also for taxpayers.

With internet access, individual consumers and small businesses can access international markets in ways that used to be exclusive to large multinational firms. With the potential enabled by technological advances, economic forces pull toward market expansion and enlargement. Consequently, economic exchanges become less localized in geographical space, while the pattern of exchanges becomes more intricate.

Consumption has increasingly moved to online shopping. While consumption, in theory, should be taxed according to the destination principle and taxed where the consumption takes place it has become increasingly hard to implement that principle in practice. We do not only shop globally, but also some consumption is hybrid questioning where the consumption actually takes place and should be taxed. For instance, where should participants in an online yoga class or a hybrid conference be taxed? Participants may be from all over the world; some are physically present while others participate online. Is the value of the event, the tax base, the same regardless of whether you participate remotely or are physically present, or is the value lower and, hence, the tax? These are questions that need to be addressed and taxing consumption in a digital world is becoming increasingly complex and administratively costly. Add to this that many digital services are free of charge to large consumer groups and thus not subject to consumption taxation, and consequently no tax revenue from consumption.

Digitalization also raises the question of what should be taxed and how to measure value-added. The technological change has involved a dramatic shift from tangible assets, such as machines and buildings, to intangible assets, such as information, data, patents, trademarks, and know-how (Haskel & Westlake, 2017). Immaterial assets are highly mobile and harder to evaluate, making them harder to tax. In addition,

with new and increasingly advanced technologies, the balance between capital (technologies) and labor in production shifts, possibly reducing the labor share (Karabarbounis & Neiman, 2014). Capital is often taxed at lower rates and generates less tax revenue than labor taxation (Hourani et al., 2023). It also becomes increasingly difficult to separate value creation stemming from labor or capital and, hence, tax accordingly.

Digitalization coupled with globalization furthermore opens up opportunities for tax planning activities. It is well known that multinational enterprises can avoid taxation by using other countries' tax regimes strategically. This has led to international cooperation and coordination, where organizations such as the EU, the G20, the OECD, and even the UN have attempted to combat tax avoidance and tax competition. The Inclusive Framework, stemming from the OECD, has resulted in the Two Pillars (OECD, 2015). However, it is not only MNEs that have the opportunity to use other jurisdictions' tax rules in order to reduce taxation. As taxpayers become more mobile this opportunity also arises for individuals (Owl Bloom, 2020; Labs, 2023). It is far from all individuals that have the chance to work from home or from anywhere which means that the opportunities of digitalization are unevenly spread over the income distribution. This also raises distributional concerns that need to be addressed by public policies. At the same time, tax competition over taxpayers may limit the capacity of governments to redistribute (Dagan, 2024).

The changes brought on by digitalization are in theory associated with increased efficiency, better conditions for competition, and improved matching between supply and demand, all of which contribute to increased welfare and economic gains. At the same time, digitalization has shifted the inherent geographical limitations of the economy, making it harder to rely on geographical limits for the purpose of taxation. It is no longer evident that the economic activities within a specific geographic place correspond to pre-existing tax bases that are sufficient to finance the supply of public welfare services in that same geographic place. For example, a small number of large tech companies are taxed on their profit in jurisdictions where they have a physical presence (typically the United States). At the same time, they create value in other countries without physical presence and are, hence, untaxed in those jurisdictions. In a similar manner, well-educated and high-income individuals are increasingly able to strategically locate in low-tax suburbs or rural municipalities

while working in and benefiting from the central business district of a large city that doesn't have taxation rights.

Needless to say, these structural changes in society are already impacting everyday life for many and will continue to do so. Digitalization lowers transaction costs, shifts the role of geographic space and distance, expands markets, and opens new opportunities for firms and individuals. All this contributes to increased welfare and economic growth but may also challenge the way we finance public welfare and other government activities. How do we determine where and what to tax, how to assign tax bases to different production factors, the amount of tax due, and making sure taxpayers pay their due (and fair) amount? In short, digitalization coupled with globalization challenges many aspects of the tax ecosystem. What should a tax system fit for the digitalized economy look like?

There are different ways to address these broad categories of questions. One way is to reinforce existing tax bases and, when needed, use legislative initiatives to capture a share of the value created within differently defined nexuses, adding digital or revenue presence to the definition of a nexus, that is deemed fair and proportional to the contribution of a specific country or place. While it may seem straightforward to simply disregard where value is created and let each nation have its fair share of the total value created, it quickly becomes complicated involving political dimensions and power struggles between nations. This makes progress within this path unlikely. How is the "fair" share determined? Is that based on geographical size, population, human capital intensity, place in the value chain, or something else?

Another way forward is to reconsider both the choice of tax bases and the balance between different tax bases. A shift from more to less mobile tax bases may seem like a natural way forward. It might not be that geography has become less relevant for value creation or taxation, but that its role has shifted so that it has become important in other ways than before. For example, determining nexus for property and even corporate ownership is easier than determining nexus for corporate profit. Are new tax bases the solution? Is it possible to tax AIs, robots, links, clicks, and data?

Yet other answers may be found in the technological progress itself. New technology enables structural change and productivity gains not only within the economy but also within public administration, allowing for better welfare services and improved tax collection with the same or even

less tax revenue to finance it. This raises questions about how digitalization is used to reshape tax collection and the inner workings of tax authorities. While it may be attractive to use technology to monitor every single economic transaction and optimize tax collection, it also raises concerns about how software infrastructure corresponds to and interprets legislative texts, about privacy, and potential misconduct in public administration.

The solution to what makes a tax system fit for a digitalized economy and society is not straightforward. Even if solutions are found implementing them is not without problems as there will be winners and losers. Changing current tax systems is complex and hard as taxation is path-dependent and involves political and cultural dimensions as well.

The aim of this anthology is to take a multidisciplinary approach to investigate how digitalization impacts and may impact the ability to collect tax revenue and finance government expenditures. Is the current tax ecosystem coherent with a global and digital world? And if not, what can be done? Is international cooperation the way forward or do we need to think differently about taxation and nexus? We address these questions from several different aspects and disciplines including economic geography, economics, law, business administration, and anthropology.

As the questions are complex, competencies from several disciplines are necessary to give them a fair chance of being answered. At the same time, the multidisciplinary approach means that concepts and definitions may vary across chapters as these may differ across disciplines. A central theme to this anthology is to disentangle and present each disciplinary perspective in its own right, but also in a way that is accessible to scholars from other disciplines. For this reason, some concepts will vary in their definition between chapters, but such variation is consistently emphasized by the author.

Sweden has at times been used as a case country. There are several reasons for that. Sweden is in many respects highly digitalized (EU, 2024), exposing the economy to structural changes imposed by digitalization. Moreover, Sweden has a developed welfare state and a structure of the tax system that may make Sweden extra vulnerable to digitalization and increased labor mobility. Swedish has, in an international comparison, a large public sector and welfare state, with high taxes on labor income, large differences in how labor and capital are taxed, and a highly decentralized welfare system with large differences in taxation depending on

where you live (Hansson, 2022). This implies that the effects of digitalization may be detected relatively early in Sweden enabling other countries to learn from the Swedish case.

The volume consists of nine chapters, including this introduction. In Chapter 2, Joakim Wernberg, whose research is focused on digitalization and the interaction between technological and economic change, describes how digitalization drives structural change within the economic geography with respect to four different factors: (1) reach and scalability, (2) materiality and intangible assets, (3) new business models and market structures, and (4) growing economic complexity. Wernberg focuses on how these changes affect the scope and expected results of regulation—in a wide sense, including tax rules. He argues that there is a point at which the cost of maintaining and enforcing pre-existing regulation in an environment with changing economic conditions becomes too high. But the link between physical geography and economic activity is not severed, just transformed and there is a need for corresponding changes to tax rules.

In Chapter 3, Åsa Hansson, whose research focuses on behavioral effects of taxation and tax design, discusses a wide range of potential consequences of digitalization on a nation's ability to collect tax revenue. The Swedish tax system is used as a case study. Hansson explores the implications of how digitalization weakens and changes the relationship between physical presence and economic activity, how this shift is exacerbated by new digital platform business models, a rise in intangible assets, as well as remote work and labor mobility. All of this contributes to challenging how value or income is tied to a specific place and taxed there. Hansson concludes by discussing how the tax system could be reformed to respond to these structural shifts in the economy, as well as by discussing international initiatives to address these issues.

In Chapter 4, we turn to the legal aspects of digitalization and how the immense number of new regulations recently promulgated at several fiscal levels have impacted the Swedish tax law arena. Teresa Simon-Almendal, whose research, inter alia, focuses on procedural tax law and the rule of law, brings to light the question of *who* shapes the tax system as it responds to globalization and digitalization. How do the ongoing developments regarding tax policies from the OECD, the EU, and the UN correspond to predictability, proportionality, transparency, and, ultimately, legitimacy of the tax system? Simon-Almendal argues that the increasing complexity, lack of transparency, and increasing number of regulations have resulted in a power shift away from the legislative

power to public administrations and courts, challenging the principle of separation of power and ultimately the democratic aspects of taxation.

The international cooperation responses to digitalization and globalization are addressed in Chapter 5. Cécile Brokelind, whose research deals with EU and international tax law, presents and evaluates the most important developments in the field of international tax law, presents and evaluates the most important developments in the field of international tax law, that try to address the challenges posed by digitalization in a global economy. In particular, the chapter focuses on the challenges of taxing multinational enterprises (MNEs) in the digital economy and reform initiatives by the OECD through the so-called Pillars One and Two. The point of departure is the outdated tax framework, which struggles to capture revenue from digital business models where value creation is increasingly intangible and often not tied to a specific geographic location. The two Pillars aim to address profit shifting and tax avoidance by distributing tax bases in a "fair" manner, Pillar One (a digital service tax), and combating tax competition, Pillar Two (the global minimum corporate tax). While Pillar Two has made significant progress, with the EU adopting it in 2022, Pillar One is still in its negotiation phase. These reforms raise concerns about their legal, economic, and political implications, which are discussed in the chapter.

Chapter 6 turns to taxation of consumption and whether taxation of consumption is the way forward in a global and digital world. Mariya Senyk, who is a legal scholar doing research in the field of value-added tax law, discusses the challenges digitalization presents to the current EU VAT system. She divides these challenges into two main categories: those arising from changes in the economy and those related to the legislative responses to these changes. The first category of challenges includes an increase in transactions volume in cross-border setting, the enhancing role of digital intermediaries in the supply of goods and services, and the emergence of transactions that do not easily fit within the scope of the existing EU VAT framework. The second category involves challenges like the overcomplexity of rules, lack of legal certainty, overregulation, concerns related to human rights, and the misalignment between legislative measures and the challenges they seek to address.

In Chapters 7 and 8, we address how digitalization impacts the tax compliance process for both firms and tax authorities. In Chapter 7 Amanda Sonnerfeldt, whose research focuses on transnational standard setting and the regulation of corporate reporting, auditing, and taxation,

describes how digitalization has revolutionized the tax landscape, fundamentally altering the operations of tax departments within companies, tax authorities, and among tax professionals. The pronounced shift toward real-time reporting, e-invoicing, and an increased reliance on digital data coupled with investments in data analytics, robotic process automation, cloud-based platforms, and, more recently, artificial intelligence have major implications on systems of expertise and legitimacy in taxation. Sonnerfeldt relies on extant literature, and reports from organizations such as the OECD and trade journals, to review current developments in tax technology and presents a discussion on how digitalization is shifting the nature of expertise embodied in three domains: commodities, organizations, and tax professionals and their implications on legitimacy. The chapter also explores the evolving competencies required by tax professionals to maintain and enhance trust and legitimacy within the tax system.

Chapter 8 investigates the implications new technologies have on audits and tax compliance. Lotta Björklund Larsen uses The Swedish Tax Administration's work with compliance strategies as a case study to evaluate the implications of increased reliance on technology in taxation and thus also in audit controls. While this may have many benefits, there are also potential problems. Björklund Larsen provides an overview of compliance strategies during the history of taxation and how these have impacted tax compliance in Sweden. The current strategy is said to be information-oriented rather than issue-oriented and takes a holistic approach to quality-assessed tax data. There are implications not just for how audits are conducted but it also means another type of compliance strategy; what Björklund Larsen proposes as *chaperoning*. The ultimate question is whether the willingness to pay tax—comply—will be affected.

Each chapter contributes to a multidisciplinary academic discussion about how digitalization affects different aspects of the tax system, sketches important issues that need to be resolved, and contributes to ongoing public policy discussions on these issues. In the ninth and final chapter, we collect and condense these different contributions into a coherent agenda for further research and policy work to shape today's tax systems for tomorrow's digitalized economy and society.

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CHAPTER 2

From Near and Afar: How Digitalization Is Shaping the Economic Geography and Conditioning Regulation

Joakim Wernberg

The Relationship Between Technology, Economy, and Regulation

New technological advances are integrated into the economy and society all the time. There is a near constant flow of changes, from new apps and phone models to electric cars with semi-autonomous driving or new software for stock-market trading. Everyday products are increasingly subject to recurring software updates, reaffirming change as a constant.[1]

The new generation of incoming university students this year were born after the dot-com boom. To most of them, digitalization or a digital

[1] Kelly (2017).

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shift in the economy does not present itself as a revolution, but something more like an ever-present background noise. From their point of view, it might be tempting to think about technology-driven change as something that occurs incrementally within the bounds of existing institutional and regulatory frameworks. The technology we use may change, but everything else stays more or less the same. Yet, change accumulates over time and some new technologies certainly affect society more than others. Peer-to-peer (P2P) file-sharing, the smartphone, or the introduction of services like Uber and Airbnb that significantly disrupt established industries all contributed to making the social and economic effects of new technological advances visible to us. In those moments, the complex interplay between technology, economics, and regulation comes to the fore.

"You can see the computer age everywhere but in the productivity statistics".[2] With those words, economist Robert Solow introduced into popular debate the notion of a productivity paradox. Firms had invested in the new computer technology, but on an aggregated scale those investments did not seem to translate into measurable productivity gains. Did this mean that the computer age had reached its end? Far from it, but in order to improve their productivity, firms had to figure out how to best make use of the new computers. While technological investments were necessary, they were not sufficient on their own. Productivity increases manifested at scale with complementary organizational investments and innovations.[3]

Since no one knew beforehand what the most competitive way to use computers in any given industry would be, firms had to use their resources to experiment with the new technologies. While many such experiments failed, some were successful and could later be imitated by others. This uncertainty and the need for organizational adaptations to leverage new technologies help to explain why productivity gains from computers lagged the technological investments and did not start to present themselves until the later half of the 1990's.[4] It also helps to explain why technological shifts like this are unevenly spread across industries and

[2] Solow (1987).

[3] Brynjolfsson and Hitt (2003).

[4] Brynjolfsson and Hitt (1998).

firms. Today, it is obvious that computers, along with the internet, have had a significant impact on both the economy and our society at large.

The new computer technology acted as a catalyst for changes in the organization of work within individual firms, as well as the formation of firms, relations between firms, and thus the wider structure of the economy. In addition, the diffusion of computers in society also enabled the supply of and demand for novel products and services, for example, computer games which has grown to a multi-billion-dollar industry. Consequently, as technological advances trigger shifts in economic or social behavior, these shifts in turn challenge the status quo of institutional and regulatory frameworks.

Laws, regulations, and policies are designed with respect to the social and economic activities they are set up to regulate. This means that legislative and regulatory efforts are implicitly dependent on the state of technologies that are dominant when they are formulated and enacted. With new technological advances that enable significant changes in the nature and composition of the activities being regulated, the intended function of existing regulation may be distorted. Thus, regulatory intentions and rationales can be said to have a half-life with respect to technological progress.[5] While such gradual shifts in regulatory scope and unintended consequences risk going unnoticed, new technologies are often met with calls for additional regulation. There appears to be an implicit sense among both proponents and critics that new technologies are essentially unregulated.

In 1996, John Perry Barlow, founder of the Electronic Frontier Foundation (EFF), stood before the audience of government- and business leaders at the World Economic Forum's annual gathering in Davos. Internet connectivity was spreading across the world, investments in dot-com startups were growing rapidly, and Barlow had been invited to talk about the future of the internet. His address, titled *A Declaration of Independence for Cyberspace*, starts with the following passage[6]:

> Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather.

[5] Foldvary and Klein (2017).

[6] Barlow (1996).

What Barlow describes is nothing short of a revolution, a clean break with existing markets, regulations, and institutions to shape something entirely new. Whether or not he actually believed that the internet, or cyberspace, was an unregulated new frontier, his address reflected something within the current zeitgeist. For example, legal scholars at this time debated how to separate "online" regulation from "offline" regulatory frameworks or how to balance the treatment of national borders against "network borders".[7] Reading Barlow's declaration today, it is evident that he got most of his predicted (or desired) outcomes wrong as the internet and digital markets are increasingly both commercialized and regulated.[8] Furthermore, we no longer talk about being online or offline, since the two have effectively merged. Yet, Barlow manages to point out the critical factors behind the structural change leading up to today's state of digitalization. It is not just about technological capabilities, but also about economic change and regulatory response. The arguments he puts forward to describe the internet's promise are in fact the very same reasons why both commercial and political actors have come to take a rapidly growing interest in its future development.

When a new communications technology like the internet is adopted by more people, the incentives to use that technology for commercial purposes grow. Businesses then experiment to find ways to leverage the new technology in a competitive way. A growing supply of commercial offerings attracts more users and with a growing user base and commercial value incentives also grow for malicious users to exploit the technology. As the new technology grows in economic and/or political importance a regulatory pressure in turn builds up from, for example, incumbent businesses seeking to protect their market share against disruptive innovations, citizens calling for bans on perceived harms or practices they do not sympathize with, or politicians keen to reaffirm their mandate.[9]

Such calls for new regulation can be aimed at the technology itself or at specific harms that result from the use of the technology. The

[7] Kahin and Nesson (1997).

[8] Generally speaking, new technology is not *unregulated* just because it hasn't been explicitly regulated. There may, however, be grey areas where the application of existing law is unclear or where new phenomena fall out of scope. Se for example Elert et al. (2017) for a discussion about technology-driven entrepreneurial ventures and regulation using p2p filesharing and The Pirate Bay as a case study.

[9] E.g., Elert el al. (2017), Allan (2022).

former restricts the means by which new behaviors have emerged and could possibly be used to signal greater dedication and determination from legislators, but lacks the accuracy of the latter when it comes to determining where to draw the line between legal and desirable applications of the technology, potentially undesirable but legal behaviors and illegal conduct. For example, regulating artificial intelligence (AI) as a technology demonstrates determination on behalf of the legislator, but immediately begs the question of how to define AI as opposed to other types of software, or how to consolidate the regulation of actions performed with the use of AI with existing regulation for the corresponding actions performed without AI.[10] This type of approach also contributes to the pacing problem between innovation and regulatory interventions.[11] Such technology-specific regulation tackles the visible novel effects of new technologies, but not the wider shifting scope and outcomes of existing regulations caused by technology-driven structural change.

Technological progress both depends on and potentially challenges existing regulatory frameworks. On the supply-side of the economy, technological advances translate into productivity gains through an experimental process of firm-level complementary investments and innovations, which in turn percolates up to economy-wide structural change with shifts in for example firm formation, supply chains, and market structure. This, together, with shifts in behavior and preferences on the demand-side of the economy, leads to changes in the conditions for, as well as the realization of, economic and social activities. Established legislation implicitly depends upon the set of conditions that existed prior to the structural change (when the legislation was formulated and enacted) to regulate the market. Consequently, the application of such regulation on the market with changed conditions may result in unintended and potentially undesirable consequences.

Thus, there is a nonlinear relationship between technological advances, structural economic change, and regulatory interventions. Technological advances shift conditions for economic and social activities which leads to structural change as actors shift their behavior to fit with their preferences

[10] Remember how legal scholars in the 1990s attempted to distinguish between but also consolidate between the regulation of online and offline actions (see part 1).

[11] Marchant (2011), Palubinskas and Minniti (2018).

and the new conditions. This may generate calls for new regulation, but even without specific legislative action taken the outcome of pre-existing regulations will shift with technological advances that, over time, cause sufficient changes to conditions in the market.

For much of the constant flow of incremental technological advances we are surrounded by, these issues are largely invisible and at best marginal concerns, but some technologies have bigger impact or accumulate considerable impact over time.[12] This is certainly proving to be true for the effects of digitalization which, despite being hard to pinpoint in a constant flow of small changes and updates, amounts to a shift on par with the introduction of the steam engine or electricity.

Framing Digitalization

This part provides a formal definition of what is meant by digitalization, based on its common technological characteristics. Digitalization has been an ongoing phenomenon for a long time and consequently there are many different competing definitions. What's important in choosing a definition to work with is to find one that encompasses and can be applied coherently across the subject matter being analyzed. For our purpose of describing technology-driven structural change in the economy and society, terminology from economics fits that bill.

In economics, digitalization is described as the introduction of a new *general purpose technology* (GPT).[13] The same technological infrastructure and components are applied for a wide variety of different purposes across industries throughout the economy. While digitalization was initially thought of as an industry-specific phenomenon related to IT-companies, it has become abundantly evident that digital technologies are catalyzing an economy-wide shift. While legislators, policymakers, and business leaders may still use terms like "digital market", they would be hard-pressed to come up with an example of a non-digital market today.

While digitalization can be said to include a large and growing number of technologies and applications—ranging from computers, the internet of things, the sharing economy and the gig economy to artificial intelligence, quantum computing, and 3D-printers—they all have

[12] Rosenberg (1982).

[13] Bresnahan and Trajtenberg (1995), Lispey et al. (2005).

four common technological denominators that are crucial to the shift we are seeing in the economy: computational capacity, decentralized network infrastructure, data, and software.

Computational Capacity

Computational capacity, or simply compute, is a measure of the amount of computational work that can be performed per unit time. Historically, it has mostly been used to refer to the computational capacity of individual processor microchips. In 1965, one of the founders of Intel, Gordin Moore, coined what has become known as Moore's law. It's not so much a law as a prediction about the doubling of the number of transistors on a single computer chip every 24 months, resulting in an exponential growth in computing capacity. Some research suggests that Moore's law may work more as an instruction than a prediction, having semiconductor firms employing ever-more staff to keep up the predicted pace.[14] At any rate, with increasing capacity and falling prices per unit of compute, average computing capacity per device or user has gone up significantly year by year.

With the recent interest in artificial intelligence and in particular foundation models, or Large Language Models (LLMs), there is a commercial race going on among large tech companies to build increasingly large computing clusters used to train and sustain models and applications like ChaptGPT, Gemini, Claude, or Llama. In this context, the term compute has increasingly been used to describe not the capacity of individual microchips but the total amount of computational capacity used to train or operate these models.

Apart from improving the hardware or investing in more hardware, computational resources could also be used more efficiently through improved algorithms and software.

Decentralized Network Infrastructure

Internet has not only connected computers to each other (which provides significant value in its own right), but also introduced a network infrastructure which grows at the edges—bottom-up rather than top-down. At

[14] Bloom et al. (2015).

the core of the internet as we know lies the internet protocol (IP), which is a standard for communication on the network. Because the Internet Protocol was designed to be minimal in its restrictions of communication, the internet has developed an hour-glass-shaped architecture that contributes to its potential for innovation.[15]

In the narrow middle is the protocol layer, with minimal variation in different types of communications standards. Below the protocol layer are the physical layers, containing everything from all the devices that are connected to the network to the physical network of copper and fiber. Because each layer is independent of the others, it is possible for new devices and new types of devices to be connected to the network, as long as they use the same protocols for communication. Above the protocol layers are the software-based application layers, ranging from the World Wide Web (WWW) to social networks, search engines, and content published online. Any new application or digital service can reach anyone connected to the network, as long as they use the same protocols for communication. Taken together, this allows for a network that grows in both size and content at the edges. Internet is often described as a network of networks.

Because of the internet's open-ended architecture, new digital innovations, especially digital services, can leverage the internet's infrastructure as a substitute for physical communications and distribution networks. Anyone with a smartphone or computer is already a potential user. For example, streaming music or movies doesn't require a system for distributing and selling CDs or DVDs, and digital healthcare does not require physical waiting rooms. It has also become much easier for entrepreneurs to enter the market, or for users to contribute with their own content and thus blur the line between producer and consumer (Benkler, 2006).

Data

Our society is often described as an information society, but if we look to the digital shift and the technologies—information and communications technologies or ICTs—it relies on, data rather than information is centerstage. Data is the vehicle for communication on digital networks, but it

[15] Zittrain (2009).

is also a resource for innovation and development of new (data-driven) services. It is gathered, for example, from activities on the network, from sensors in the physical world, from individual inputs, synthetically generated or collected from books, movies, recordings, and other types of media. But data is not synonymous with information.

A set of data can be thought of as a collection of instances of a specific measure or format. Before data can be collected, you must choose the measure by which it is collected and the format it is stored in. Thus, one real-world phenomenon could theoretically be represented by a wide variety of different data sets capturing different aspects of it. Data can then be structured into information that says something about the relation between instances in the data set and by extension about what the data measured.[16] However, the same data can be structured to produce very different sets of information.

Data has increasingly been described as "the new oil" of the information economy.[17] Such statements tend to draw upon two observations: the world's most successful companies are increasingly tech companies "running on data", and data as a resource can be copied flawlessly and re-used which implies that it could (and should) be shared to even the playing field in the market.[18] However, both of these observations are flawed. First, data has no raw natural state comparable to crude oil. Its value is determined by its structure rather than its quantity—both the choice of measure and patterns found in data sets. Second, the need for structure makes it much harder to treat data like a non-rival good that can be shared and re-used without being consumed or generating negative externalities.

When Google outcompeted the then dominant search engine Altavista, it didn't do so by collecting more data, but by collecting and structuring data in a different way. The disruptive breakthrough in Google's initial algorithm, PageRank, was that it didn't attempt to match search queries only with the content of the webpage but with the number of incoming and outgoing hyperlinks to and from each website. If a website had many

[16] See for example the DIKW pyramid: https://en.wikipedia.org/wiki/DIKW_pyramid.

[17] See for example https://www.forbes.com/councils/forbestechcouncil/2019/11/15/data-is-the-new-oil-and-thats-a-good-thing/.

[18] See for example the EU's Regulation on harmonised rules on fair access to and use of data (the Data Act): https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202302854&qid=1730382835720.

incoming links, it was considered more important, and its outgoing links carried more weight for the priority of the pages it linked to. What made PageRank work was that it relied on data measured and structured to capture different aspects of the World Wide Web. The choice of measures and the structuring of data are essentially indistinguishable from the intellectual property and trade secrets behind Google's initial success. If competitors had known about the measures and formats Google used to collect data, they could much easier have inferred the nature of their search algorithm.

Because it is more expensive to organize large data sets and identify, verify, and utilize relevant structures or patterns in them—as evidenced by the ongoing multi-million-dollar race to build computing clusters to train new AI models on—the value of data does not simply scale with its volume. Bringing existing but diverse sets of data together is associated with considerable work to make them compatible, and there are numerous examples of individual firms using different definitions of terms like "customer" when collecting data in different parts of the business. It is very valuable to have access to comparable data on a larger scale, for instance covering cities in several countries, but because of the work associated with making data from different sources comparable, some aspects of the value of certain data sets and patterns will be more or less inherently local and small-scale in nature. Most importantly, the value of data cannot be inferred from volume alone.

Local data, collected from a firm's own operations, sales, or supply chains, is also an important source for experimentation and development of new services. With the ability to collect data in real-time, firms are able to conduct large amounts of small-scale experiments to fine-tune their operations in different ways. Large tech companies like Google, Meta, or Amazon were quick to integrate this type of experimentation in their business model.[19] When data is used to conduct experiments or offer data-driven services along supply chains, there is a need for contractual relationships enabling data sharing locally, something that is often neglected in policy discussions—ranging from data protection to mandatory data sharing—that tend to treat data in a binary manner as either private or public). There may even be instances where involved parties require a neutral third-party data repository in order to be able to share

[19] Varian (2010), Luca and Bazerman (2021).

mutually beneficial data without exposing themselves to risks, e.g., leaking trade secrets.[20]

Software

Software is what makes computers a general purpose technology, i.e., that a computer can be programmed and repurposed by changing or adding to its software. For example, the operating system in a smartphone, the app store, and the app downloaded to turn the device into a video game console are all different types of software. Not to mention search engines, social networks, streaming services, and the entire World Wide Web (WWW). With increasingly real-time updates, what in the age of low connectivity and bandwidth used to be software-based products (sold in actual paper boxes from the shelf in a store) have more or less fully turned into software-based services. The ability to improve and update software, especially when it can be done at low cost in real-time, furthermore provides an important means for improving the efficiency of current compute resources, as an alternative to updating hardware.

With the ongoing digitalization, as computers are used for a wider variety of purposes, software is becoming an increasingly integral part of the economy. For example, modern airplanes depend on software to be able to fly and cars rely on software to be able to run, not regarding advances in autonomous transport. Software development is shifting from being an industry-specific activity to becoming an economy-wide phenomenon, from software-based services in the IT industry to embedded software in the manufacturing industry, software for marketing and sales in retail, and software for handling logistics and internal processes. While many businesses still buy their software-solutions "off the shelf", software development is increasingly becoming comparable to R&D.[21] Empirical research shows that an increasing share of innovations, even those that do not include novel software themselves, are themselves software-dependent and firm-level software development correlates strongly with innovation as well as innovations ales.[22] Other studies

[20] For examples from Swedish firms, see Wernberg (2022a, 2024).

[21] Andersson et al. (2023).

[22] Branstetter et al. (2019), Andersson et al. (2021).

suggest that firm-level software development correlates positively with export activities.[23]

Different types of software jointly make up an invisible but crucial infrastructure complementary to the more tangible hardware, fiber, and copper wires. With this, those designing and developing software increasingly need to understand the domain in which their software is being used. The trade-offs and design decisions they make are amassing economic and societal impact.[24] This is set to become an even more prominent issue with the ongoing advances in artificial intelligence (AI) and generative AI services, which are distributed as software-based and data-driven services.

Looking Beyond Individual Technology Trends

Digitalization entails the introduction of a new general purpose technology which comes with extremely low thresholds for recombining, imitating, and copying innovations and successful solutions.[25] Consequently, there has been a combinatorial explosion of new technologies, or technological applications, based on the building blocks of digitalization: compute, networks, data, and software. Strictly speaking, most of these technologies are not mutually exclusive, and as they grow in numbers it is becoming increasingly hard to follow the development, to adopt business strategies based on them, or to decide on regulatory interventions.

It is quickly becoming impossible to address the digital shift one technological application at a time. This is not, contrary to recurring popular belief, because technological advances have put the entire economy into an open-ended acceleration, but because there is a growing variation of related technologies that are affecting the economy simultaneously.[26] If technological progress literally accelerated the whole economy, we would experience observable and significant productivity increases across the board, and that has not been the case. Productivity gains are more unevenly spread and do not cover the entire economy. This suggests that the ongoing change is of a more complex nature.

[23] Andersson et al. (2024).

[24] Ensmenger (2012), Thompson (2020).

[25] Varian (2003), The Economist (2014), Wernberg (2018a, b).

[26] Wernberg (2018a, b).

Digitalization is as much, if not more, about structural change as it is about new technologies. In addition to the input of new technologies or hyped applications, legislators and business leaders would be well-advised to also look at the expected outcome of economic change, i.e., changes in economic and social behaviors. These changes are much slower than the introduction of new technological applications and they accumulate the aggregated response to all technologies, instead of focusing on one or a few at a time.

The next part of the chapter covers five significant structural shifts in economic behavior resulting from digitalization as described here. These structural changes affect the economic geography of value-creation, trade, and consumption. These shifts all have an impact on the scope and conditions for regulation in general, and tax rules in particular.

Digitalization and Structural Change in the Economic Geography

This part describes five categories of structural changes shaping the digitalized economy. Each contributes a perspective on how the role of geography shifts with digitalization.

Reach and Scale of Economic Activity

From an economics point of view, the internet contributes to lowering transaction costs—the monetary costs but also other related resources and efforts required to complete a transaction—which leads to market enlargement. Put differently, a bigger pool of supply and demand can be matched at any given moment. Internet has grown at both its extensive margin by adding new connections, and at its intensive margin by deepening the intensity by which each connection uses the network. This has consequences not only for the geographical span across which supply and demand can be matched but also for the type of actors that can participate in transactions and the type of transactions that are made possible.

Participation in foreign or international markets used to be reserved for large firms with the resources to internationalize their business by opening an office or setting up stores in a new country. Reaching customers in a new market required considerable efforts and physical presence. In the wake of digitalization, this correlation between size and internationalization cannot be taken for granted.

Small and medium-sized firms can, in theory, put up a web shop or website to accept orders from customers in another country. In practice, they may also be subject to additional regulation that applies in the country where the customer is located, but in the case of the European Union, it is an explicitly stated goal to harmonize such regulatory differences in order to promote a single digital market. This development enables so-called micro-multinationals, small businesses whose business models are geared toward an international market from the start.[27]

Many internet services have for the last two decades started as global by default, although this may be changing as different countries increasingly impose differing regulations for such services. With a bigger market, it also becomes feasible to find a critical mass of customers for products and services that would not have been likely to thrive or even survive on their domestic geographic market. This, together with the ability to communicate with customers, is what makes possible a high variation and personalization of products often referred to as the long tail.[28] This is not to say that all firms instantly become more international with digitalization or that all new entrants are micro-multinationals, but the thresholds have shifted significantly so that international markets are no longer exclusive to large businesses; it is possible to find international niche markets for small suppliers, individual customers or small firms can buy from foreign suppliers, and conversely small businesses face increasing competition from foreign firms online whether or not they themselves are using digital channels.

With falling thresholds to participating in international markets, smaller firms are to a rising degree becoming subject to regulatory frameworks, and their associated compliance costs, that were primarily designed for large multi-national businesses because these were predominantly the type of firms that internationalized their business in this way.[29] Furthermore, as more SMEs participate in cross-border trade, the total number of transactions, especially smaller transactions, grows. Together, these

[27] Mettler and Williams (2011), Braunerhjelm and Halldin (2022).

[28] Anderson (2007).

[29] Some regulatory frameworks exclude smaller firms, but as their presence in international markets grows and they are no longer a marginal exception this may not be a sustainable solution. Having different sets of regulations for firms based on their size (however size is quantified) may for example generate perverse incentives to avoid compliance costs.

changes contribute to an increased pressure on and potential shift in the intended scope and application of existing regulation for international trade. This may even contribute to unintended de facto trade barriers.[30]

Digital communication tools have also increased market reach on a local scale. It has become possible to match supply and demand that used to be too temporary and too localized to sustain formal economic transactions. This is the basis for what has become known as the sharing economy which started with people utilizing and sometimes monetizing the excess capacity of their property by lending or renting it to others.[31] With this, incentives also increase for people to invest in property that can be monetized within the sharing economy. For instance, someone who previously could not afford a summer house may be able to afford it by renting it out when she is not using it herself. Similarly, the gig economy allows for more fine-grained matching of supply of and demand of work on a task-by-task basis, expanding the market for freelancing from knowledge-intensive to labor-intensive work. All of this enables a wide variety of small-scale transactions that would previously either not have been possible or would not have been worthwhile because of the associated transaction costs. Consequently, work and transactions that used to lie outside of the formal economy are now not only included but also conducted on a larger scale through apps, platforms, and transactions between strangers. This implies increased economic efficiency—better use of existing resources—in the market. At the same time, it stresses existing regulatory frameworks which are mostly designed for a smaller volume of larger transactions.

With digitalization, it has become possible and increasingly efficient to coordinate even complex knowledge-intensive work across large distances and national borders.[32] These technologies do not only affect the organization of global supply- and value chains, but also the organization and distribution of workers. Following the COVID-19 pandemic, remote work has become more commonplace in many countries, industries, and organizations. The technologies necessary to work remotely are not new, but the organizational shift brought on by pandemic-related restrictions appears to have catalyzed their use permanently if not indefinitely. Remote

[30] González and Sorescu (2019).

[31] Sundararajan (2017), Bergh et al. (2021).

[32] Baldwin (2016).

work, together with flexible work hours, contributes to weakening the link between working together and being in the same physical place at the same time. Apart from organizational issues, this also poses a regulatory challenge. When does remote working (from home or somewhere else) fall within the scope of regulation related to working conditions and working environment and what does that entail for employer or employee?

Zooming out one step, employees who are now able to work remotely to a higher degree than before the pandemic, can also factor in this in their choice of where to live and work. Longer commutes may be sufferable if they are not daily. That way, people could potentially move further from their work or take a new job further from their home. This implies an increased efficiency in the economy as distances do not limit the supply of and demand for work to the same degree. However, it also risks stressing regulatory frameworks built on the assumption of locality—that people live and work within the same administrative unit. For example, Sweden has 290 municipalities divided by administrative borders. Local labor markets, defined by commuting patterns, have outgrown these administrative borders so that most functional local labor markets include multiple municipalities. Municipal income tax is collected from people based on where they live, not on where they make money by creating value. In a similar manner, people are eligible to vote in municipal elections based on where they live, but not where their place of work is (where many spend a lot of their waking time). It is possible to argue that this amounts to a skewed distribution of tax revenue (Sweden already has a specific regulation for redistribution of municipal tax revenues) or a democratic deficit with respect to people´s ability to vote regarding the place where they make their living.

On an even larger scale, there is in theory nothing preventing remote work, together with the automation of services, across national borders.[33] Again, such developments imply an increased efficiency in the organization and allocation of work, this time across national economies, but it may come with growing difficulty to enforce (and perhaps also to motivate) regulation based on locality or territorial grounds. This is already evident for people who commute across the Öresund bridge between Scania in Sweden and the Copenhagen region in Denmark. There is a

[33] Baldwin (2019, 2022).

special agreement between the two countries as to how these commuters should be taxed, and that might work for a geographically bounded issue between two countries, but what happens if there is an increasing volume of remote or small-scale gig work even between countries that do not share a border?

Regulation is most often based on territorial sovereignty. The introduction of cross-border digital networks lower thresholds to internationalization of economic activities, makes national borders more permeable to economic transactions, ties economies closer together, and promotes economic efficiency, but also puts into question whose sovereignty is in play at what part of an economic transaction.[34] This is equally true for benign transactions and illegal activities which also leverage digital technologies to their benefits, for example on the so-called dark web.[35] Economic forces tend toward market expansion and integration, while political forces increasingly push toward reaffirming national borders and, to some degree, splintering the digital networks as we know them.[36]

Materiality and Value

With digitalization comes a shift in attention toward intangible assets. Businesses used to be valued largely based on their physical assets, but these are increasingly dwarfed by the value of software, algorithms, customer databases, or other types of structured data in many companies.[37] This does not, however, mean that the digital economy lacks materiality. It is just different, sometimes very different.

With increasing bandwidth at a sinking cost, at some point it became both possible and profitable to offer computational resources as an internet-based service. This was the start of the market for cloud services and the growing Software-as-a-Service (SaaS) industry. Customers get access to compute, digital storage, or software applications on demand at a variable cost instead of investing in and maintaining their own digital physical capital. Thus firms, especially smaller businesses, can leverage technical capacity beyond what they would have been able to afford

[34] Reidenberg (1999).

[35] https://en.wikipedia.org/wiki/Dark_web.

[36] Allan (2022), Wernberg (2022b), Wernberg and Deiaco (2022).

[37] Haskel and Westlake (2017).

on their own, and they can easily scale their use up or down based on their needs. Computing resources are used more efficiently in this way, new services like data analytics or AI-based applications are easily made available, and the human capital needed to maintain and operate the underlying technology is largely outsourced to the service providers.[38] This shift contributed to an explosive growth in digital startups during the 2010's, because new entrants could test out their ideas on a small-scale and easily scale up their server capacity or production without having to use venture capital to buy physical capital.[39]

However, with the increased use of cloud services and all its benefits comes a very tangible structural shift in industrial organization. This is not like other inputs, it is more like outsourcing the tools and machines used in day-to-day production activities. Consequently, firms report being increasingly dependent on cloud services and digital platforms services, not only in support functions but also in their core business functions.[40] The benefits by far appear to outweigh the drawbacks, but as a consequence individual firms are becoming less autonomous while economies are becoming increasingly complex due to a rising share of software-based and data-driven mutual dependencies both within and between countries. The material footprint of digital technologies has shifted from local servers and become concentrated to specialized cloud service providers, SaaS businesses, and digital platforms. Consequently, the creation of value is also distributed along these dependencies. It has become harder to attribute value added to a specific physical location or a single firm.

Digitalization has a physical geographical footprint, which is for example illustrated by the many large server parks and compute clusters owned and operated by large tech companies. However, its physical geography does not map one-to-one to its economic geography. Business needs in one country translate into the on demand use of cloud services or AI applications, which cause the use of compute resources and energy consumption in another country. The main difference is that economic activities associated with an individual transaction have become significantly less localized in nature and their distribution does not decrease linearly with physical distance.

[38] Varian (2018).

[39] The Economist (2014).

[40] Wernberg (2024).

The shift in materiality also affects trade in what used to be purely physical goods. With advances in additive manufacturing and 3D-printers, an increasing variety of physical goods can be sent as digital blueprints and printed locally instead of being manufactured and shipped to customers. Thus, physical goods can essentially be traded between countries without crossing a border. Or, more to the point, the logistics of the raw materials needed for printing, which may or may not be shipped across borders, is separated from the specification and of the product to be printed, which is transferred separately as an intangible asset. 3D-printing does not necessarily substitute traditional trade, at least not in the short-term future. One study from the OECD even suggests that increased adoption of 3D-printing technologies correlates positively with imports and exports of potentially printable goods.[41] However, even if printing remains complementary to traditional shipping of physical goods, it begs the question of how to adapt existing regulations aimed at distinguishing between different product categories at the border.

Furthermore, the digitalized economy also challenges the relation between materiality and time. If a yoga instructor offers an in-person class at a local gym, the value-creation is bound in time and space to that gym and the duration of the class. But that yoga class could also be live-streamed or pre-recorded. In the former, the value-creation is still restricted to that particular gym and the duration of the class, but in the latter the materiality of the value-creation becomes harder to pinpoint. Is it relevant where the instructor was physically located when he recorded the class? Or has the value-creation become footloose?

The increasingly digitalized economy challenges the relationship between physical presence and value-creation (or consumption) an, by extension the relationship between materiality and value-creation over time. It has become harder to pinpoint the precise moment and place of value-creation in the increasingly digitalized economy. In addition to this, the growth of cryptocurrencies like Bitcoin provides a parallel system for economic exchange which is beyond the scope of traditional currencies tied to nation states.

[41] Andrenelli and González (2021).

The Rise of Digital Multi-sided Platform Economies

In the wake of digitalization's effects on reach, scale, and materiality, new business models have emerged and in many cases become extremely successful. In 2011, Former Netscape founder and venture capitalist Marc Andreessen wrote an opinion-piece in the Wall Street Journal titled "Why software is eating the world"[42]:

> More and more major businesses and industries are being run on software and delivered as online services—from movies to agriculture to national defense. Many of the winners are Silicon Valley-style entrepreneurial technology companies that are invading and overturning established industry structures. Over the next 10 years, I expect many more industries to be disrupted by software, with new world-beating Silicon Valley companies doing the disruption in more cases than not.
> Why is this happening now?
> Six decades into the computer revolution, four decades since the invention of the microprocessor, and two decades into the rise of the modern Internet, all of the technology required to transform industries through software finally works and can be widely delivered at global scale.

Andreessen has largely been proven right. Today, the world's biggest and most successful firms are tech companies or, more to the point, tech companies whose business model is based on software. Apart from improving existing business models, for example with these of data-driven experiments, software is also used to realize the benefits of large digital markets.

With increased market size and reach due to connectivity, the supply-side of the market increases dramatically. This in turn makes it harder for customers to find the best fit for what they are looking for. In other words, their transaction costs go up. If these transaction costs become sufficiently large and it is hard to match supply and demand in a satisfying way, there is room for intermediary services that bring down transaction costs by curating the supply-side to fit with specific demands. Matchmaking is the core business model of multi-sided platforms. Search engines, social (media) networks, and e-commerce platforms are, or at least started out as, matchmakers. The same is true for sharing- and gig

[42] Andreessen (2011).

economy platforms like Uber, Foordora, or Airbnb.[43] While they may be providing services of their own on top of their platforms, their businesses were originally built on the ability to provide users with a higher quality of matching results at a lower effort on their behalf in one way or another.[44] Multi-sided platform economies like these are not unique or new to digital markets, but until the early 2000's they were treated as a marginal phenomenon, more exception than rule.[45] Shopping malls, video game consoles, and credit cards are all essentially multi-sided platform businesses. There are, however, a number of important features that set multi-sided platforms apart from more traditional business models aimed at selling products or services.

First, most of these platform services are free to individual users because their cost is being subsidized by someone else. For example, people, on average, value being matched with advertisers much less than advertisers value being matched with potential customers. Consequently, advertisers on one side of the platform pay to advertise, while users access the search engine or social network for free and are matched with search results or friends. Platforms use data from users to match them with adverts, which have led some critics to claim that users pay with their data. This is a faulty argument, because a specific individual's data does not hold a realizable value comparable to the cost of running the platform, or the cost carried by advertisers. The value of user data lies in its structure, and the ability to make inferences about one user not only based on her behavior but also the behavior of other individuals with similar interests or behaviors. By extension, the platform would not be able to offer a competitive channel for advertising without access to user data, but that data, especially divided into single-person data sets, does not hold a value corresponding to what the advertisers are buying.

Second, because these platforms leverage the reach of digital interconnectivity, they either operate on a global scale, or if their business model is local it easily scales by spreading for instance between cities. This means that, at least in theory, digital platforms have been able to connect supply with demand in places where the company itself has no presence. With

[43] Evans and Schmalensee (2016), Wernberg (2019).

[44] Evans (2003).

[45] Rochet and Tirole (2003).

rising debates on regulating digital markets and the tech sector, incentives to have national representation have gone up, but there is no strong correlation between tech companies' physical footprint in a country and their revenues based on matchmaking that includes one or more actors in that country. Furthermore, because these platform services are highly scalable, the correlation between firm size and market size or revenue is also considerably weaker, making it possible for a relatively small firm in terms of employees to have a large economic impact on markets where they have little or no presence at all.[46] Much like other multi-national enterprises, these firms also have an incentive to shift their profits internationally to pay less taxes.

Third, competition is different between multi-sided platforms compared to traditional businesses. If the number of hardware stores in a small town goes from one to two, we should expect from economic theory that either prices of nails will drop or their quality will increase as stores compete for customers. Consequently, competition generates a consumer surplus. For platforms on the other hand, a doubling from one to two platforms for, say, dating, would either increase transaction costs because users have to be on both platforms, or lead to lower matching quality if users are divided between the two platforms into two smaller markets for finding a date. This is more likely to decrease consumer surplus. This helps to explain why multi-sided platform markets tend toward very skewed market distributions with a few really big actors taking a dominant or near dominant position in the market. Their market share does not, however, automatically mean that these platforms hold a monopoly position in their market.[47] In order to evaluate that, market dynamics have to be taken into account. Compared to other types of multi-sided platform markets, like video game consoles or shopping malls based on physical devices or brick-and-mortar stores, digital platforms exhibit a high degree of market dynamics. For example, the time it takes for new digital platforms to gain 10 million users has gone down significantly over the years, and OpenAI's ChatGPT is recorded to have the fastest growing user-base ever.

Taken together, these characteristics of digital multi-sided platforms.

[46] e.g. Eeckhout (2022).

[47] Varian (2021), Knee (2021).

In summary, digital multi-sided platform economies have grown to become some of the world's biggest and most successful companies to date, but at the same time it has gotten increasingly harder to pinpoint their value-creation or steps of it to specific geographic locations. This is not just because value-creation is hard to measure in large multi-national businesses with the ability to shift profits within their organization, but because the physical geographic footprint of these large tech companies and their economic impact simply do not coincide in the same way as it has for more traditional businesses historically.

AI and the Automation of Analytical Work

With modern computers, automation was no longer restricted to manual labor but could also be applied to analytical tasks.[48] With the advances in artificial intelligence (AI), and particular machine learning and foundation models (or large language models) and generative AI, it is evident that the technology can increasingly be used to automate routine analytical tasks, to complement human analytical work and to conduct analytical work that would not have been feasible to conduct with human labor.[49] This is nothing short of extraordinary, but what does it mean for the organization of work?

To begin with, there is no compelling evidence to suggest that robots will take over all jobs from people. There are in fact several reasons to believe that this will not be the case. First, while AI is often evaluated based on its ability to perform tasks, like playing board games or writing poems, in a manner comparable to humans, the work performed by machines is physically different from the work performed by a human completing the same task. There is no economic rationale for trying to automate the work of a gardener in its entirety because that set of tasks is put together to fit a human. Man and machine have comparative advantages, making them complementary to each other even when they on average perform on par with each other. Second, there is not a finite amount of work, and the supply of potential work relies heavily on the demand-side of the economy which is determined solely by human consumers. There are already ample examples of consumption based

[48] Autor et al. (2003).

[49] Wernberg (2019), Morris et al. (2023).

on human labor that could have been automated a long time ago, for instance, coffee making and baristas. Thus, people are essential both for investing and demanding new types of work. Having said that, digitalization and AI are likely to catalyze a major shift in the organization or work throughout the economy. It is not so much a matter of counting the number of jobs that are automated away or invented, as it is about understanding how most if not all jobs will be changed to some degree.

A potential consequence of increased AI-adoption is that some firms' production shifts from relying on labor (people) to relying increasingly on capital (machines). If they do so without generating productivity gains, it might lead to suboptimal outcomes based on premature automation that displaces labor without increasing productivity.[50] If there are regulations or differences in taxation that incentivize firms to disproportionately favor capital over labor in their production, this might lead to unintentional and undesirable short-term consequences when firms decide when and how to invest in AI.

An empirical regularity often attributed to computers, digitalization, and now AI is so-called job polarization (Autor, 2014). The share of jobs in the middle of the income distribution has been shrinking, while low- and high-wage jobs have been increasing their shares. A plausible explanation is that computers and AI have a disproportionately larger effect on jobs typically found in the middle of the income distribution, i.e., white-collar office work. Further investigations suggest that the hollowing out of the middle is largely explained by white-collar workers increasing their salaries (supposedly by improving their productivity.[51] While there is nothing to suggest that the polarization would be permanent—it appears more likely that a "new" middle will emerge over time—regulation or differentiated taxation based on income levels could potentially both help and hamper social mobility along a polarized income distribution.

An increasing amount of analytical work being conducted by different types of AI begs the question of where AI actually works. Much of the recent advances with large language models like ChatGPT, Claude, or Gemini are provided as software-based and data-driven services to an international market. The models are initially trained in a large computing cluster and the on demand AI service then relies on a separate cluster

[50] Acemoglu and Restrepo (2018).

[51] Adermon and Gustavsson (2015).

to generate output to users' prompts. There are also other types of AI services that can be run locally (provided sufficient computational capacity). There are also numerous examples of short data value chains between firms delivering AI-based services to complement, for example, manufacturing equipment and the firms using that equipment. Data is sent back to the provider of the machinery continuously, but is it then processed locally or does the provider use cloud services for computing resources? How operations performed by AI are physically distributed across the economy, and across countries, will likely vary between applications, but a common denominator is that it is going to be hard to pinpoint different steps of value-creation geographically.

Increasing Economic Complexity

All four of the trends in structural change described thus far contribute to the same end, increased complexity through a growing share of mutual interdependencies within and between economies. Markets for most things are expanding not only beyond the local or regional community, but also beyond national borders. Firms and individuals rely on multi-sided digital platforms to leverage the full potential of digital markets and interconnectivity while keeping their transaction costs down. Individual firms rely on software-based cloud services instead of investing in their own physical capital, making them less autonomous and more dependent on others to be able to run their day-to-day production. Work is being re-organized, with some tasks being automated by AI and some work being conducted with people using AI-based tools. AI also makes it possible to centralize certain capabilities and thus perform remote automated work across geographical distances.

All of these trends potentially contribute to increased economic efficiency, better use of resources, and hopefully long-term productivity gains. At the same time, each trend also adds to structural dependencies outside of the individual firm's organization or the country's borders. Economic activities have not lost their materiality and physical presence, but these have shifted and been redistributed across the growing network of interdependencies. It is not a question of just dematerialization, but perhaps a form of rematerialization. For example, the aggregated use of AI-tools such as ChatGPT, search engines like Google, and social network services like Facebook all generate considerable energy consumption, which is physically located in specialized computing clusters and

server parkers that are oftentimes located in another country than the users.

These trends should not be thought of as revolutionary in nature. The change they bring about is continuous and conditioned on existing institutional and regulatory frameworks. Mostly, existing regulations have been applicable to these trends, sometimes with small adjustments and sometimes with tangible trade-offs. There are, however, extreme cases, like illegal activities on the dark web or questionable uses of cryptocurrencies which hint at the extent to which the use of new technologies can challenge current regulatory frameworks. If each of the trends described above is extrapolated over time, their joint effects will be increasingly hard to dismiss. They make up a sum of small changes that accumulate over time to potentially create the need for larger regulatory reforms.

A Coarse-Grained Approach to Regulation

This part summarizes the chapter, first with respect to digitalization and regulation in general, and then with a discussion about digitalization and tax regulation in particular.

Coarse-graining Regulation

This chapter has provided an overview of how technological progress in general and digitalization in particular, trigger structural change in the economy and society which in turn affects the applicability, enforcement, and outcome of pre-existing regulation.

Digitalization poses a challenge to existing and future regulation in at least five ways described in the previous section. First, digital connectivity across borders allows for market expansion and easier access to international markets for smaller firms and individual consumers. With this, not only the number of transactions but also the variation of products or services has increased significantly. Because of this, it is becoming harder to regulate the supply-side of the market and monitor a growing volume of small-scale transactions. Furthermore, regulation that was implicitly designed for larger multi-national firms may increasingly become applicable to smaller firms unless they are exempt in which case the question is how they should instead be regulated.

Second, the materiality of value and value-creation is shifting. Intangible assets grow in importance, but the use of tangible assets also

changes. With cloud services and software as a service, firms and individuals can leverage compute, data storage, and resources that are located far from them instead of having to invest in their own physical capital or personal equipment. Energy consumption generated by these services or the use of AI-tools like Large Language Models is not physically tied to the user, but to large server parks and compute clusters. With 3D-printing, physical goods can be sold in one country and printed in another within crossing any border in physical form. And what's more, tools for remote work are increasingly making it possible to separate work from a single workplace and distribute it geographically both within and between countries. This doesn't just affect individual workers or workplaces, but also contributes to firms being increasingly footloose in the international economy.

Third, in the wake of digitalization, multi-sided digital platform businesses have become some of the world's largest and most profitable companies. Multi-sided platforms are not a new business model, but it has gained considerable traction with the demand for matchmaking in increasingly large markets with near-instant connectivity. From being marginal phenomenon, multi-sided platforms have become central to the digitalized economy as we know it, but they differ in several significant respects from more traditional business models. Notably, size, market dynamics, and competition are not directly comparable to economic theory based on more traditional business models. Furthermore, the value-creation on multi-sided platforms is distributed between the parties being matched together and the platform itself, and the latter doesn't depend on being physically present to contribute to value-creation in a specific location.

Fourth, with advancements in data-driven analysis and AI machines are increasingly able to perform analytical tasks, some of which would have been impossible or infeasible to perform with human workers alone. These developments facilitate a wider reorganization of work throughout the economy. This changes the division of labor between man and machine, but perhaps more importantly, it changes what work can be done, how it can be done, and where these capabilities are located in the economic geography. With AI, certain types of tasks could be centralized and performed by an AI-model located in another country and delivering output as a cloud-based service.

Fifth, all of the above trends contribute to a rising number of mutual interdependencies within the economy, within as well as between different countries. These interdependencies amount to a growing economic

complexity where developments in one industry, city, or country will increasingly influence and may even create cascading effects across the entire economy, or between national economies. Firms are becoming less autonomous, while industries and entire economies are becoming increasingly characterized by their interconnectivity or entanglement. Comparable activities have been uprooted and redistributed across a larger number of actors and places in value chains that are subject to a greater rate of change. Consequently, the scope for highly localized regulation is shifting. It is getting harder to capture and isolate value-creation geographically since actors can more easily move themselves or their activities into or out of a specific place, and said activities are increasingly distributed across value chains which tend to stretch across borders.

In summary, digitalization is improving economic efficiency at the price of increased social and economic complexity as well as, by extension, the level of regulatory precision that can be enforced with a given set of resources and tools at disposal. Put differently, it is increasingly becoming harder and/or more costly to enforce certain types of regulation that distinguishes between different industries, product categories, or technologies being used. Just as firms and individuals have to consider transaction costs in market-based exchanges, we can think about the resources and efforts required for regulators to enforce a certain set of rules as a transaction cost. This cost for maintaining regulation that differentiates between different types of economic activities that are increasingly entangled appears to be rising with digitalization.

This poses a significant trade-off for regulators. On the one hand it is possible to maintain or even increase differentiations in regulation at a higher transaction cost to regulators in terms of enforcement, and to market actors in terms of compliance costs. For example, regulation that has so far been applied to larger multi-national firms with the resources to handle the associated compliance costs could also come to be applied to smaller firms and a larger volume of small-scale transactions as these become more globalized. Alternatively, the regulatory framework could be adapted to differentiate further between transactions based on buyer, seller, or specific subsets of goods and services. This trade-off is reminiscent of how legal scholars debated in the late 1990's about the possibility

of differentiating between online and offline regulation.[52] If it is even possible, it is likely to come at a substantial cost in terms of enforcement.

It should be noted that digital technologies could also be used to improve the efficiency of enforcement to some degree. Thus, it would at least in theory be possible to apply a cost–benefit analysis to individual cases of regulation to determine either economically or politically whether upholding and enforcing a certain set of rules is worthwhile. If the cost of enforcement remains the same—for regulators as well as for those subject to the regulation—because of increased efficiency then the rule can be enforced under the same conditions as before, but if the overall transaction cost goes up, maintaining that regulation needs to be politically motivated.

Furthermore, it is not given that digital tools applied to complex regulatory frameworks will safeguard aspects such as transparency or predictability. If increased complexity in the economy is met with increased legal complexity, compliance costs are set to increase while transparency and predictability with regard to the long-term rules of the market are equally likely to decline as the legal system becomes "over-complicated".[53] This would be detrimental to long-term predictability and trust in the rules of the market that are necessary to promote investments, innovation, and economic growth which in turn drive future gains in prosperity.

Against this background, there is a case to be made for a more coarse-grained regulatory approach with respect to the level of differentiation (granularity)—responding to the increased economic and technological complexity with legal simplification rather than a corresponding increase in regulatory complexity. Such an approach would favor harmonization both within and between national markets over the ability to differentiate the regulation of, for instance, different product types, services or industries. What this coarse-grained approach loses in level of detail and differentiation, it could gain in transparency and predictability, as well as reduced transaction costs, because the same set of rules apply to a greater number of actors and activities.

In this spirit, coarse-grained regulation should attempt to be technology-neutral, i.e., not to differentiate between the technological

[52] Reidenberg (1999).

[53] Arbesman (2017).

means utilized to conduct a specific action. The regulator loses the ability to promote of demote specific technologies, but the regulatory framework is more easily adaptable to new innovations and business models if a greater variation of the same activity is allowed within the scope of the regulation. Furthermore, coarse-graining regulation in this way may also serve as a tool for counteracting the risk of legal loop-holes or inconsistencies which may generate unintended, perverse incentives and rent-seeking behavior.

Coarse-graining, as described here, is not intended to entail less regulation per se, but less differentiation in regulation. New technologies affect pre-existing regulation, but frequently also give rise to new types of harm that call for new regulatory interventions. The issue is not whether to regulate or not, but *how* to regulate the use of new (and old) technologies.

Bringing the idea of coarse-graining regulation from theory to practice, however, turns out to be quite a tall order. Coarse-graining promotes the economic forces of market expansion, which is increasingly in conflict with and needs to be balanced against political forces pulling toward national sovereignty and control. From a political point of view, the trade-off between differentiation and consolidation also puts the shorter-term gains of appealing to certain stakeholder interests or popular opinion through differentiation of regulation against the longer-term gains of overall economic gains and growth. This trade-off is oftentimes more complicated than it might first appear, not least because to elected politicians, the value of future gains is steeply discounted in comparison to gains that are realized before the next election. Policymakers who only promise future gains stand a chance of not being re-elected. Thus, there might be strong, and sometimes arguably disproportionate, incentives to address concerns related to shorter-term gains. Also, there may be fully legitimate concerns for legislators in one country to introduce a differentiation in a certain set of rules based on real concerns within their economy. Yet, if each country acts on such legitimate concerns it quickly becomes a race to the bottom with increasing differentiation leading to fragmentation rather than harmonization.

Coarse-Graining Tax Rules?

Tax rules, just as any other form of regulation, are susceptible to technological shifts channeled through structural change. If technological

advances alter the conditions for economic transactions and social behaviors sufficiently, existing tax rules will shift in scope and outcome because the reality they are applied to differs from the one they were designed for.

Taxation has come to rely heavily on the relation between economic value-creation and geographical presence, but the conditions for this relationship are shifting (see Hansson's chapter in this volume). Markets that used to be local are expanding beyond national borders, what used to be products and physical capital can now be turned into digital services, and interactions that used to require geographical co-location have now been complemented by digital alternatives. Digitalization is increasingly shifting the material and physical footprint of economic activity, distributing it across expanding digital markets and a growing web of complex interdependencies. This does not challenge taxation as such, but it shifts the cost of enforcing certain types of taxes and may therefore challenge the way tax rules and tax systems are designed.

I will end this chapter with two well-documented examples from the taxation literature that serve to illustrate how coarse-graining and transaction costs can be employed to the debate on tax rules and the design of tax systems for a digitalized economy.

First, corporate income tax has become the subject of much concern and international tax cooperation because firms, especially larger multinational enterprises, are increasingly able to shift their profits and engage in tax planning to minimize their taxes across jurisdictions. The principled way to approach this issue has been to try to re-capture the tax base, or an estimation of what it would look like if it was still the same, in the way that the OECD is doing with its project Base Erosion and Profit Shifting (BEPS) aimed at making it harder for multi-national companies to shift profits between countries (see Brokelind's chapter in this volume). The project even suggests that the authority to tax a specific company might be re-allocated between participating countries according to some form of fairness argument. It may prove difficult to defend such approaches based on pre-existing principle arguments since it is becoming increasingly hard to define unambiguously where value is created and by whom. Regardless, this approach is arguably associated with significant increases in transaction costs, both for enforcing and complying with these international tax rules. With increased regulatory complexity, the risk of unintended consequences also grows.

Given that corporate income tax constitutes a comparatively small share of tax revenues in most countries, this raises the question of at what cost

it is worth pursuing this tax base. An alternative, and coarse-graining approach would be to completely drop corporate income tax. Instead, it might prove simpler to tax, for example, the owners of businesses. At some point, the cost of capturing a certain tax bases exceeds the benefits of doing so, and it is important to try to articulate where that line goes.

The second example concerns the system for value-added tax (VAT) (see Senyk's chapter in this volume). Tax scholars and economy scholars alike will broadly agree that a uniform (coarse-grained) level of VAT within, but also between countries would not only make for simpler taxation, but also promote market expansion and economic efficiency. Yet, VAT-levels appear doomed to be differentiated between product and service categories within domestic markets, as well as between countries. One way to understand this is that the increase in transaction costs as well as the loss in longer-term economic gains do not collectively outweigh the shorter-term perceived political benefits of being able to differentiate VAT-levels within a specific jurisdiction. If there was a set of differentiations that were agreeable across countries, this would also allow for some form of harmonization, but the current state of the VAT system implies that the cost of not harmonizing the system does not outweigh the perceived value. This raises another interesting is theoretical question, at what point would the benefits of a harmonized VAT system outweigh the costs to such a degree that it would remain stable over time? Put differently, what does it take to make legislators choose longer-term economic gains over short-term political gains from differentiation? Even if VAT harmonization is deemed impossible to realize on any international scale, it is relevant to try to understand why that is so.

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CHAPTER 3

Digitalization and the Challenges to Finance Public Welfare: The Case of Sweden

Åsa Hansson

Introduction

The possibilities of digitalization in a global world are enormous, but digitalization can have negative consequences for individual countries' ability to conduct independent tax and fiscal policies and finance public sector activities. The technological development with digitalization, artificial intelligence, machine learning, and automation (henceforth referred to as digitalization) has made enormous progress, and the development can almost be considered a paradigm shift and something that will impact the way we live, work, consume, and do business. Digitalization coupled with globalization opens the world and makes it possible to provide and consume goods and services and conduct many types of activities without being physically present at a specific geographical location.

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It has been possible to consume without being physically present for quite some time. Today multinational firms are active around the world and use advanced technologies and new business models enabling them to offer new products and services. For individuals, the possibilities have also increased thanks to digitalization. The development means that more individuals can unbundle work and studies from a specific location and work and study from home. When individuals no longer need to be physically present at work, it becomes possible to work in one country but live in another, or to work in one municipality but live in another. The new technology will likely mean that some jobs disappear or change, but also that new types of jobs will emerge and that the way jobs are organized changes (e.g., gig jobs).

The unbundling of economic activities from geography is however in conflict with current principles of taxation. The current tax systems rest on principles designed over a century ago and when the economy looked quite different. To be able to tax, value or income needs to be identified and tied to a geographical location for it to be taxed there. In addition, income (or value-added) needs to be measured and assigned to either labor or capital to determine the tax bill. These principles worked well in an economy where physical goods were produced in a physical location, a so-called brick and mortar economy, and where individuals lived and worked in the same place and thus paid taxes and used publicly funded services in the same place (either the same municipality or the same country).

These principles are less well suited in a world where economic activities are untied to a specific geographic location. For example, American tech giants such as Facebook, Amazon, and Google create large values also in other parts of the world without being physically present there. Digitalization together with globalization also makes it harder to measure the value of these activities and tie them to either labor or capital. For example, what is the value of using Google or Amazon, or printing something on a 3D printer? And is the value due to labor or capital?

When the tie between geography and economic activities loosens up, mobility increases, and by that the possibilities to fragmentize tax payments and consumption of public services by settling where the mix of taxes and public services fits best at the moment. For individuals who can work from home or from anywhere, the opportunities to choose where to live increase, and if taxation and public spending become a decision factor

when choosing where to live for more than a small minority, generous welfare states can be challenged and hard to finance.

This chapter analyzes how digitalization can affect a country's ability to tax and thereby finance public welfare. The focus is on Sweden as Sweden poses an interesting case study to investigate how digitalization may impact the means to tax and finance the public sector. Sweden is known for its generous welfare state but also sticks out internationally by taxing labor income relatively hard, while at the same time taxing capital income at lower rates resulting in large differences between how labor and capital income is taxed, respectively. This provides incentives to avoid labor taxation in Sweden, as well as incentives to shift labor income to capital income. Both mechanisms are likely to become easier due to digitalization. In addition, Sweden is among the more decentralized economies where local communities finance and supply many public welfare services with large variations in local tax rates. Thus, choosing a municipality wisely will affect the tax bill. Furthermore, Sweden is one of the more digitalized countries in Europe (DESI, 2023) putting Sweden at the forefront of how digitalization may impact national tax systems.

The chapter starts by discussing the principles of the current tax system and how they are less suited for a digitalized and global world. International attempts to mend and adapt tax rules are then discussed. The chapter then moves on to discuss more general principles of a desirable tax system and how the tax system can be altered to be more compatible with the times we live in. Finally, some changes and new taxes that have been suggested such as taxing data or robots are discussed and proposed.

Principles of Today's Tax System—What to Tax, Where to Tax, and How Much?

Taxation is a national concern, and each country has sovereignty over its tax system. International cooperation exists and has deepened but rests on voluntary agreements where each country has veto power. The principles for today's international corporate tax rules were drawn up a century ago. The last comprehensive tax reform in Sweden took place in the early 1990s and, hence before Sweden joined the EU and long before digitalization made large advancements.

To tax, one must first decide *what* is to be taxed, i.e., what constitutes the tax base. In today's system, it is often value increases,

commonly measured as income, that constitute the tax base. Individuals' labor and capital incomes are important tax bases, and corporations' income or profit makes up an important tax base. Taxes taxing these tax bases are called direct taxes, and tax the production factors labor, capital, and to some extent land.

In addition to direct taxes, there are also indirect taxes, such as consumption and excise taxes and employers' social security contributions. The consumption tax in most parts of the world is a value-added tax (VAT), where the added value at each stage of production is taxed. Excise taxes are intended to correct for activities that are mispriced and to discourage, for example, activities that harm the environment or climate or goods we consume too much of e.g., alcohol and tobacco.

The second decision to determine is *where* the income or increased value arose, i.e., a geographical location, in order to decide who (what jurisdiction) has the right to tax the income. Today there are two basic taxation principles to follow, either income or increased value are taxed where they arise, according to the so-called *source principle*, or where the individual who receives the income lives, according to the *residence principle*. Traditionally, corporate income is taxed based on the source principle and taxed where production takes place. Personal income is usually taxed according to the residence principle, that is individual labor and capital income are taxed in the country where the individual resides.[1]

Last, it must be determined to *whom* the income belongs or to what production factor the income belongs, to figure out *who* and *how much* to tax. In many countries, like Sweden, labor and capital income are taxed differently and it then becomes important to determine how the income arose, i.e., whether the income is due to labor effort or capital (technology).

Digitalization in a global world challenges these principles and may require adjustments to the tax system for it to be able to finance public sector activities. Whether that is the case depends on the magnitude of the behavioral effects and is an empirical question, that will only be touched upon in this chapter.

[1] One exception is the United States that taxes citizens on their worldwide income, regardless of place of residence.

Digitalization in a Global World Challenges the Current Tax System

Today's tax system is based on an economy where people work, live, and consume in the same location and mostly produce and consume physical goods and services. Where few firms operate internationally, and where it is manageable to identify the location of incomes, who owns the income, and the amount of income. In a digitalized world, it is difficult to link the origin of an income to a geographical location, but also to determine the size of income created by digital activities. Where does value arise when someone uses Amazon to buy a book or is on Facebook or searches on Google? Does the value arise where the headquarters of the company is located, i.e., usually in the United States, or does it arise where the user of the service is, for example, in Sweden, France, or Portugal? What is the value of a digital service, or an algorithm?

The opportunity to take advantage of different countries' tax systems has been available for multinational corporations for some time and has resulted in international attempts to cooperate around corporate income taxation (more about that later). Now, individual taxpayers are becoming more mobile and the link between geography and economic activity weakens for individuals as well. Digitalization and the possibility to work remotely make it possible for individuals to optimize taxes and public services in a new way, much like what multinational corporations have been able to do previously. The Zoom revolution and other telecommunications developments, which were probably accelerated by the coronavirus pandemic, mean that many professional groups can work entirely or partly from home. The geographical link between where you live and where you work then weakens. For example, during the pandemic, many Swedes moved out to their summer houses but remained "at work" in town.

The possibility to work from home differs between workers, but many seem to have the possibility to work from home (WFH) entirely or partly. Bloom (2020) estimates that one-third of the US workforce will have the option to work from home entirely, another 40% may do so partially, while 30% will not have the option to WFH. There are thus significant groups who can WFH entirely or partly.

When the link between physical presence and economic activity is broken, individuals can tailor their lives in completely new ways (Dagan, 2022). It is possible, for some (but far from all) to work in many different

countries, live in one, study in another, take advantage of deductions in one country, and pay taxes in another without having to be tied physically to the same place. They can simply live as "digital nomads." This is positive but means that individuals can optimize based on taxes and publicly provided services, which can challenge the tax and welfare system. The current tax system is designed for an economy where we work, consume, and live in the same country, and hence pay taxes and consume public welfare there. Thanks to technology it is now possible to live in Sweden and pay taxes here but hold a job in Germany or live in Portugal and pay taxes there but still work in Sweden. Under the residence principle, this provides opportunities for individuals to optimize their tax payments by residing in a low-tax country while working in a high-tax country, and then, when necessary, consume welfare in a country where that is generously provided. It also means that you can consume public services in Sweden, e.g., digital education, but live in another country. It is also possible for other citizens to obtain education or hold jobs in Sweden without being present in Sweden. Although the development is positive for individuals and firms, it can pose a challenge for the tax and welfare system as tax bases end up in other countries. For high-tax countries, like Sweden, there is a risk of losing tax bases to low-tax countries, i.e., individuals who work in Sweden settle and become taxpayers in countries with lower tax rates. Even firms where employees are not required to be present can move out, which means jobs in Sweden are lost.

If digitalization leads to increased mobility among taxpayers, tax competition between countries or municipalities may increase to attract attractive taxpayers and result in lower tax rates. Portugal and other countries have recently become popular hubs for digital nomads and provide favorable tax regimes. Portugal, for instance, has taxed digital nomads at a 20% tax rate. Croatia grants tax holidays to digital workers moving to the shore of Croatia for up to a year, and Greece offers incoming workers who transfer tax residence to Greece a 50% rebate on their Greek source income tax for up to seven years (Beretta, 2022). Several countries issue Golden Visas or "Nomad Digital Residence" to attract workers and taxpayers.

Digitalization not only provides the opportunity to move abroad or for foreigners to hold jobs in Sweden, but it also makes it easier to live in one municipality and work in another. Sweden's public sector is decentralized; municipalities and regions finance and provide a large part of the public services. Digitalization can make it more difficult for municipalities

and regions to finance their activities if individuals begin to optimize their consumption of public services and tax payments. There are large differences in municipal tax rates (ranging from 35.15 to 28.98% (SCB, 2023)) and the ability of municipalities to finance equivalent public welfare in Sweden. This problem can be exacerbated by digitalization.

In addition to weakening the link between location and activity, digitalization also makes it harder to determine the value of certain activities. In a digital economy, it is not always straightforward to determine the value of a digital service or an algorithm that an AI service is based on. The technological revolution has increased intangible assets and decreased tangible assets. Intangible assets are not only more mobile, but they are also significantly more difficult to attribute value to than tangible assets. This increases tax planning opportunities and gives more lean way in how to measure assets for tax purposes.

Digitalization makes it more difficult to link income to geographic locations, but it also makes it harder to separate income generated from labor and technology (capital). If labor is taxed harder than capital, as is common, there are incentives to classify income as capital rather than labor income.

An important aspect of digitalization, that may impact taxation, is the effect of digitalization on how work is organized. One reason for organizing production in firms with employed workers is to lower transaction costs both for the firm, who knows that workers will show up for work, and for the workers, who know that they have a secure job and income (Coase, 1937). Digitalization and digital platforms lower transaction costs (search and matching costs) and may consequently change how work is organized. If digitalization reduces the searching and matching costs of finding workers for firms and work for workers, the way work is organized may change.

Crowdwork and work-on-demand via apps have become a thing. Crowdwork refers to work activities that are done through online platforms and often involve work that requires some skills such as web designing, IT services, and consulting. Work-on-demand via apps or gig-work can involve food delivery but also tasks that require skills and are managed by online platforms. Common to these types of work is that the link between the employer and employee weakens, and that the workers more easily can organize their work as contractors or as self-employed rather than being employed by one employer.

In many countries, self-employed are taxed differently than employees. In Sweden, the difference is particularly large providing incentives to take out compensation as lower taxed capital income. We are already seeing this development with the gig jobs, but so far mainly at the lower end of the skill distribution.

Digitalization has major impacts on production technology and consumption patterns as well and consequently tax revenue. One commonly discussed impact of digitalization is the fear of lost job opportunities when technology replaces jobs. Historically, technological development has often caused a concern that jobs will be lost (Shiller, 2019). Cars and tractors indeed replaced horses, but the development of technology has hardly erased horses. Today, they fulfill a different function. If technology (capital) were to replace jobs that would have a major impact on tax revenue collection as the lion's share of tax revenue stems from labor taxation. For instance, earned income is taxed relatively hard in Sweden, generating 57% of total tax revenue. In comparison, personal capital income is taxed at lower rates and generates about 5% of total tax revenue, while corporate income taxation generates 7% (ESV, 2023). A shift toward increased use of technology at the expense of labor would then reduce tax revenue and in addition, have distributional consequences.

So far, the historical development of technology and the creative destruction it entails have not led to massive unemployment and job losses as often feared. Instead, technological development has rather created more jobs (Kogan et al., 2017; Mastrostefano & Pianta, 2009). The fact that technological development has historically not led to massive unemployment does not necessarily mean that the technological development we are facing now with digitalization, artificial intelligence, and automation will not. This time it may be different! It is too early to know what will happen, but so far research does not confirm the common fear of massive job losses often presented in the media (Acemoglu & Restrepo, 2018; Arntz et al., 2017; Autor, 2015; Dengler & Matthes, 2015).

However, several studies have shown that the development of technology can lead to job polarization, with increased demand for the highly educated and low-educated and decreased demand for the middle-segment jobs that more often involve routine tasks that can be replaced by technology (Author et al., 2003; Goos & Manning, 2007; Goos et al., 2009; Michaels et al., 2014). When it comes to collecting tax revenue, it is the salary that makes up the tax base and thus affects tax revenue,

and if higher-income jobs are replaced by lower-income jobs, the amount of revenue collected will decrease. Likewise, if digitalization increases labor productivity and, hence, wages it will have a positive impact on tax revenue.

Overall, new jobs will likely be created, and others disappear in the so-called creative destruction, but the way we organize our work may also change. Many studies show that digitalization has heterogeneous effects and affects high- and low-income earners to different extents and may thus lead to increased income differences. Even if the development does not affect overall labor demand dramatically, the development will of course affect specific individuals negatively and therefore require measures to compensate them.

Digitalization will also likely change our consumption patterns. Our consumption is already less dependent on our location. Consumption of digital services is in many cases free of charge or done at low costs. This makes it less attractive to work as it is possible to have a rewarding leisure time with less money compared to before. It is for example possible to spend considerable time on Facebook, YouTube, or the Internet at no or low cost. That leisure time is less costly may lower the incentives to work and if so, reduces the amount of tax revenue collected. But it is also the case that consumption tax (VAT) is collected on consumption that is free of charge, reducing tax revenue from consumption.

The opportunities of digitalization will not be available for everyone or evenly distributed across the income distribution. Many jobs will still need to be done on-site, for example, plumbing, construction work, and many services, while other jobs are easier to do from remote locations. Individuals or families are also more or less mobile in different life stages. Families with school-aged children may have a harder time moving than individuals without children or with grown children. It is still an empirical question to determine how common it will be for those who can plan their lives from a tax/public service perspective. The fact that individuals and firms seem to structure their activities in the most tax-preferred way (Dagan, 2022) argues in favor of an increase in the phenomena. The tax and welfare system may be challenged if it is the case that a considerable number of individuals change their geographical location and take the mix of taxes and public services provided into account when moving.

A flatter world is desirable in many ways, it increases competitiveness and requires countries to be attractive. This applies to Sweden in particular, being a country with a relatively extensive public welfare

state and therefore comparatively high tax rates. When the link between economic activities and place of residence (and tax payments) is weakened, it becomes increasingly important that the tax and welfare systems are designed in ways that make the country attractive to live, work, and run businesses in. Increased mobility may require a stronger connection between what you pay and what you get back. For Sweden to be attractive for taxpayers to live in, public services need to be of high quality. It is important that the education offered is of high quality making the Sweden labor force attractive and that Swedish firms produce products that are demanded internationally.

It is an empirical question whether digitalization will threaten the means to finance the public sector.

Figure 3.1 illustrates how the labor income tax base has evolved as a share of gross national income since 1991 in Sweden. Labor income is measured as wage income and earned income. Earned income includes all types of compensation for work, including unemployment, retirement, and parental benefits tied to working, while wages are just wages. Wage income has dropped from 39 to 36% of GNI, while earned income has dropped from its peak in 1993 by 10 percentage points, from 60 in 1993 to 50% in 2021.

International Tax Cooperation

The fact that the principles of taxation are challenged is not new. The international cooperation that is in place mainly concerns corporate taxation, which constitutes a relatively small part of total tax revenue. Even if there is international cooperation, the result of this cooperation is meager as it is based on consensus, and no country voluntarily wants to give up a tax base to another country.

There has been extensive discussion within the OECD, UN, and the EU of the need for international cooperation in taxing corporations. In 2013, a collaboration was initiated by the G20 and OECD, the so-called BEPS project (Base Erosion and Profit Shifting, OECD, 2013) to mitigate tax planning by multinationals. The initiative has resulted in 15 action plans and aims at mitigating tax competition and tax base erosion. Resulting examples of this cooperation are the Pillars (see Brokelind's chapter in this volume for more details on the Pillars). Pillar-2 is the global minimum effective tax rate of 15% on corporate profits for large multinational corporations (applies to corporations or groups with revenue of at

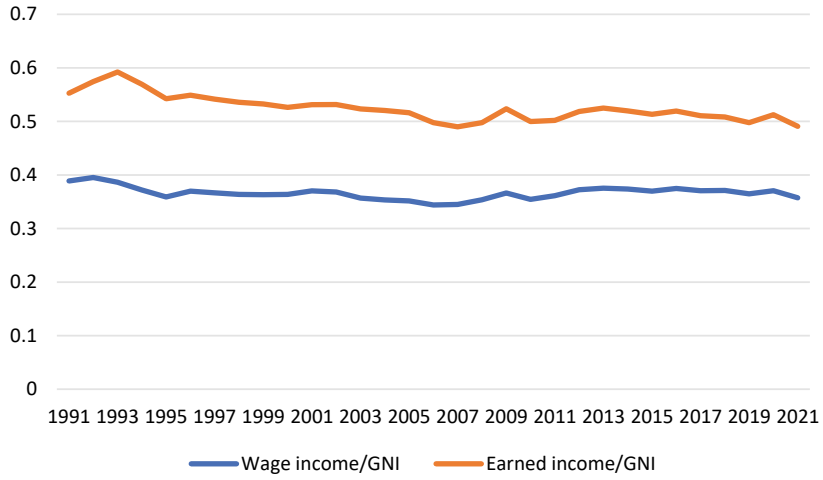

Fig. 3.1 The share of labor income (wage and earned income) to gross national income, 1991 to 2021. *Source* IoT (SCB)

least 750 million euros), that was implemented in the EU 2024. Another proposal is that of a digital tax, Pillar-1, but this has not yet been realized.

In the area of taxing consumption (the VAT), international tax cooperation has come further within the EU but is also continuing to be challenged by technological progress. Within the EU, VAT is commonly paid according to the destination principle and at the applicable VAT rate in the destination country. This makes it less attractive to consume in low-tax countries for tax purposes but also increases the administrative burden for firms and tax authorities and leads to extensive fraud (EU, 2023).

When it comes to cross-border taxation of personal labor income, the 2017 OECD Model Tax Convention on Income and Capital (OECD, 2017) applies. How taxing rights should be allocated between jurisdictions depends on several factors. Article 15 concerns private employment income and allocates taxing rates on income from employment to the residence state, unless the employment is exercised in the source state. Effectively this means that the source country, the country of employment, has the taxing rights. However, this does not apply if the recipient is present in the other state for a period not exceeding 183 days in 12 months. For self-employment income, the general rule is that the

income should be taxed in the residence state unless the business or self-employment income arises from a permanent establishment in the contracting state.

Beyond the 2017 OECD Model Convention, international cooperation in individual labor taxation is absent. Individual income taxation is still very much a national matter and is likely to remain so. Bilateral treaties between countries exist in certain border areas where it is common for individuals to work and live in different countries.[2] There are bilateral agreements, e.g., between Denmark and Sweden and Norway and Sweden to avoid double taxation.

Another challenge with increasing numbers of cases where employees and employers are located in different countries is that third-party reporting to tax authorities becomes harder. Employers typically withhold personal taxes and report incomes to national tax authorities. Tax compliance is much higher when third parties report income and a mismatch between countries of employment and residence may decrease tax compliance and cause tax base erosion.

The question is how much international cooperation in the tax field can achieve, and if it even solves the problems. So far, the success has been limited and the work is slow. This is not surprising as the cooperation is based on consensus, and no country is willing to give up taxing rights and tax bases voluntarily. To expect that it will be easier to cooperate on tax laws relating to individual earned income taxation is unrealistic. Revenue from labor taxation makes up the main part of revenue in many countries, including Sweden, and is likely to remain in the power of individual countries. In addition, the problems of determining where income arises and the difficulties of defining what constitutes labor versus capital income (income generated from technology) remain.

[2] In the Swedish tax system, an individual can either have unlimited or limited tax liability in Sweden. If you have unlimited taxable income, all income is taxed in Sweden regardless of where it comes from. This applies to individuals registered in Sweden and those who have their real home in Sweden or live in Sweden for at least six consecutive months, or have a home, family, or other important assets in Sweden. All others are limited taxpayers in Sweden and are only taxed for income generated in Sweden.

Features of a Good Tax System

It is becoming increasingly clear that today's tax system is not compatible with the world we live in and needs to be updated. It has been problematic to tax corporate profits for some time now, and remedies have been widely discussed internationally. As mentioned before, tax revenue from corporate taxation constitutes a smaller share of the total tax revenue (in Sweden around 7%) and is, thus, less problematic from a public finance perspective. If it also becomes more difficult to tax labor income, which constitutes the major source of tax revenue (in Sweden 57%) in a digital world the problem for the tax system becomes more alarming. The question is, what should a sustainable tax system in a digital world look like?

When designing or changing a tax system, it is important to base it on some principles. Taxes in themselves have no purpose, their main purpose is to finance public sector activities. Taxes can also be used to achieve distributional aims and to correct prices of activities that are mispriced (for instance pollution). Regardless of the purpose, the tax system should be designed in the best possible way.

The requirements of a good or desirable tax system were established long ago (already in 1776 Adam Smith set up these requirements) and still hold (Mirrlees Report, 2011). A tax system should:

- be efficient, i.e., not influence decisions and choices,
- be perceived as fair and legitimate, and
- be simple, transparent, and predictable.

Taxes have negative impacts on the economy because they distort behavior and decisions. The only exception to this rule is when taxes correct for negative or positive externalities, and the pricing is wrong to start with. Taxes should therefore be designed in a way where they disturb or influence the behavior and decisions of individuals and companies as little as possible. A tax system that does not distort our behavior is said to be neutral, which usually referred to as *efficient*. In a country with high ambitions for public welfare and, thus, relatively high taxes the tax system must be designed in a way that keeps efficiency losses down. A tax system that affects how hard we work, how much we work, or how much and in what way we save and invest is not an efficient tax system. Nor is a tax system where individuals and corporations spend large resources on

tax planning. One way to design a tax system that does not affect our behavior is to tax everything uniformly as it then does not matter what choices we make for how much we pay in taxes. The principle of uniform taxation was behind the Swedish tax reform in 1990–91 and is, largely still a guiding principle for designing tax systems. From an efficiency perspective, it is also better to generate the same tax revenue by taxing a broad tax base with a lower tax rate than taxing a smaller tax base with a higher tax rate.

If there are large differences in how sensitive different tax bases are to the level of tax rate it may be justified, from an efficiency point, to differentiate taxes depending on how easily tax bases change. Tax bases can change if they move out of the jurisdiction or due to behavioral changes. According to the theory of optimal taxation, mobile tax bases should be taxed at lower rates than more stable tax bases. This is because the distortions—that is, the extent to which taxes affect us—will be larger. Capital income is considered more mobile than labor income, which justifies lower tax rates on capital than on labor income, and financial capital income is more volatile than income from property that cannot relocate. An increase in the tax on financial capital can lower the volume of investments, affect where they take place, and where returns are reported.

Another important requirement a tax system must fulfill is that it is considered legitimate and fair by taxpayers. What this means in practice is more difficult to determine and differs between individuals. However, most people tend to agree that the tax system should be horizontally and vertically fair. Horizontally fairness means that individuals in the same economic position should be treated similarly. Vertical fairness means that those who have greater ability to pay taxes should pay more than those who are less able. Vertical fairness is closely related to the ability-to-pay principle, that is, taxes should be paid according to the ability to pay taxes. Another fairness principle is the interest principle, that is taxpayers should pay tax according to the interest they have in what they get back from what the taxes finance.

How these principles translate into actual tax design is unclear. Most people agree that a tax system that encourages tax planning activities is not legitimate and fair. Nor is a tax system where those with lower incomes pay more in taxes than those with higher incomes. Getting much further than that in terms of how to design a fair and legitimate tax system is difficult as individuals tend to have different ideas about what is fair and legitimate.

Another complication with the concept of fairness is that you must first establish who pays the tax to determine whether the tax is fair or not. The person who is legally obliged to pay the tax to the tax authority may not be the person who in the end pays for the tax. The economic incidence of the tax needs to be determined and can be different from the statutory or legal tax incidence. It must be a human being who pays the tax in the end. Taxes on corporate profit can therefore not be paid by corporations but are paid either by the owners, the employees, or the consumers of what the corporation produces. Who ultimately pays the tax depends on how easily the different agents can avoid the tax by changing their behavior. If owners can change their assets and not hold assets in Swedish corporations, they can avoid the Swedish corporate income tax. If consumers can change and consume goods produced in other countries, they can also avoid the Swedish corporate income tax. Finally, if employees can work outside Sweden, they can also avoid the Swedish corporate income tax. A tax may appear to be "fair" and fall on wealthy owners but may instead be paid by less wealthy workers or consumers who have a harder time changing their behavior to avoid the tax.

Apart from being efficient and fair, a desirable tax system should also be simple, transparent, and predictable. Taxes are important rules that affect both firms' and individuals' decisions in both the short and long run. These rules should be transparent and predictable so that firms and individuals can make well-founded decisions. Finally, for the tax system to be transparent and predictable, it should be simple. A complicated tax system is not transparent, entails high administrative costs for both taxpayers and tax authorities, and typically provides for tax avoidance and evasion.

It is not an easy task to create a tax system that meets all these requirements. A tax system that is perceived as fair may be inefficient, and an effective tax system may fail by being complex or administratively costly. There is, however, some consensus that a tax system should be designed based on the principle of uniformity, but where deviations may be justified when tax bases are mobile.

The previously mentioned international regulatory framework, the BEPS work within OECD, focuses primarily on fairness. This is done without defining what fairness entails or who is affected by the new regulatory framework. The regulatory framework is very complex and fails to fulfill the requirements of being transparent, simple, and administratively manageable. It may not even achieve the aim of being fair. As international tax agreements are based on unanimity it is nearly impossible to

find agreements that are effective and that all countries agree to. Why would any nation want to agree to give anything up? Hence, it is not surprising that the agreements lack effectiveness and are watered down.

Remedies?

How should a tax system be designed to be suitable in a digitalized and global world? The existing tax system can be adapted and made more coherent with the world we live in, or the system may need more radical changes where new tax bases are taxed. Or a combination of the two, that is, update when possible and change more radically where that is necessary.

When it comes to corporate taxation, international agreements and cooperation have tried to mitigate and mend the tax system but as Marian (2022 p. 555) puts it "International cooperation is still an attempt to square the circle—to force a century-old framework of taxation designed for a tangible economy into the reality of the data economy."[3] Even if international rules for taxing labor income were to be updated and improved, it is unrealistic to expect that international labor income tax coordination would solve the issues. So, the question is what is required, and can generous welfare systems survive in a global and digital world?

Below we will first discuss how existing tax systems can be adjusted to be more in line with the times we live in, and then we move on to evaluate some of the new taxes that have been suggested, such as taxes on robots, digital services, and data. Again, the Swedish tax system is used as the case.

Shift from More Mobile to More Immobile Tax Bases

First, a general shift from taxing more mobile to less mobile tax bases is desirable. As labor is likely to become more mobile, the tax burden on labor may need to be reduced. And consequently, the more immobile tax bases, property, and consumption, will need to be utilized to a larger degree. In Sweden, the tax on labor sticks out internationally for

[3] "The two-pillar framework may indeed improve income tax collection and compliance. But it does not transcend the challenge of the current data economy. It is still an attempt to square the circle—to force a century-old framework of taxation designed for a tangible economy into the reality of the data economy" (Marian 2022, p 555).

being particularly high while the taxation of property sticks out for being particularly low.

Taxation of property is the least distortive tax and compatible with a global and digital world as property is immobile. When other countries have increased their reliance on property taxation, Sweden has reduced its dependence on property taxation (Waldenström et al., 2018). Increasing the property tax is, hence, one way to finance a lower tax burden on labor and a way to compensate for lost labor income taxation.

However, it is unrealistic to expect the property tax to bring in considerable amounts of tax revenue. A more realistic candidate for generating tax revenue is taxation of consumption, that is VAT. Consumption is the broadest tax base which makes it a good base for taxation (Bastani, 2021). In Sweden, there is considerable scope to increase the amount of revenue generated from consumption taxation. The general rate is 25%, but there are several deviations from the general rate and exemptions. Many of the rate reductions or exemptions apply to domestic consumption that is geographically bound to Sweden and therefore could generate tax revenue in the traditional tax system. Food, as well as restaurant and catering operations, are taxed at a reduced rate (12%), as are hotels. This is difficult to justify in a digital world. Passenger transport and museum visits are taxed at 6%, and most welfare services, such as health care and childcare, that are consumed in a physical location are exempt from VAT. Many of the reductions are motivated by distributional concerns, for example, a lower VAT rate on food. Redistribution through reduced VAT rates is an inefficient redistribution policy and should be avoided (Bastani, 2021). Providing direct income support in the form of income or child support is more efficient.

A more uniform consumption taxation is desirable for several reasons. First, a uniform rate at today's 25% would make better use of the broad consumption base and could generate significant tax revenue. Second, a uniform rate would not distort consumption choices. EU's VAT directive limits what is possible to tax. However, Sweden utilizes this, relatively good tax base, to a lower degree than other EU countries. In Sweden, 51.8% of the potential tax base is used, compared to 56.2% for the rest of the EU (Blomquist et al., 2019)[4] and overall consumption taxes

[4] To compare with New Zealand, who utilizes 96 percent of its potential VAT tax base.

contribute to 28.2% of total tax revenue in Sweden, compared to 32.6% within the OECD (OECD, 2023a, 2023b).

As labor becomes more mobile, the argument to differentiate taxation of individual capital income and labor income weakens. It depends on how mobile labor becomes, but a general shift toward a more neutral taxation of labor and capital is desirable. It would also be desirable if personal capital taxation was taxed uniformly so, as not to distort investment choices. Today's tax system encourages, for example, investments in property and other passive investments (on the investment savings account, ISK). If the tax system is to encourage investment, it should rather be investments in entrepreneurship, innovations, and research and development which have positive spillover effects for the overall economy.

Taxation of corporate income provides relatively modest tax revenue but affects firm behavior, and as discussed previously is increasingly hard to tax in a global and digital world. It is challenging to adapt corporate taxation to the world we live in. The level of complexity when international regulations are added to existing national rules, to avoid tax evasion and to get a "fairer" taxation, is enormous. In addition, the tax burden of the corporation income tax is estimated to fall to 50% on the workforce (Fuest et al., 2018). Hence, it is not primarily the owners of the corporations that pay the tax but rather the workforce.

Corporate income is typically taxed twice, first at the corporate level by the corporate income tax and then when profits are distributed to owners, either in the form of dividends or capital gains, by capital income taxes at the individual level. This raises the question, why tax corporate income twice and not just replace the corporate income tax with owner taxation once profits are distributed to owners? This idea is not new, already in 2007 Norrman and Virin (2007) proposed that the corporate income tax should be abolished due to its legal and practical problems, as well as its negative impact on capital formation.

Digitalization does not reduce the legal and practical problems with taxing corporate income. As corporate income taxation generates modest tax revenue, it could be replaced by a higher capital income tax at the owner level or other taxes. No tax would be paid at the corporate level, but instead when profits are distributed or when shares are sold. It is much easier to determine where owners of corporations are located than where value in the production chain arises. Several countries, so-called tax havens, have no corporate tax (e.g., Bahamas, Bermuda, and Cayman Islands). The proposal for a global effective minimum tax of 15% is

intended to reduce incentives to locate profits in tax havens and a step in the opposite direction to abolishing corporate taxation but at high administrative costs.

However, taxing individual capital income will affect ownership as the required rate of return on an investment will be higher with a higher individual tax rate. Investors in countries that have higher individual capital income taxes will make fewer investments and hold fewer assets. If ownership is a concern, it is difficult to deviate from other countries' capital income taxation. A uniform individual capital income tax, which includes a property tax, is regardless a reform that is worthwhile to consider. Abolishing the corporate tax rate is not consistent with international tax agreements but maybe something that should be brought up at the table.

More Radical Changes to the Tax System

Instead of trying to patch and fix existing taxes, an alternative is to look for more radical solutions and new tax bases to tax. It could either be that the same principle of taxing value added is applied, but as business models are changing value is created in different ways and by new production factors compared to how it has been done historically. Or it could be that the principle of taxing value added, or income, needs to be replaced by some other principle. Historically, taxation has been based on other tax bases than income e.g., number of windows or width of the house. These have the advantage of being easy to measure but with other disadvantages.

Do New Ways to Produce Mean New Tax Bases?

New tax bases can be considered and either complement existing or partially replace old tax bases. Direct taxation tax returns to production factors, and these have traditionally been labor, capital, and land. Today's production is still based on these production factors, but others have been added or gained increased importance. For instance, energy has become increasingly important as a production factor and information or data is a relatively new production factor on which, among other things, AI and machine learning are based. A neutral tax system should not distort the choice between the use of different production factors but rather tax them as uniformly as possible. This may suggest that energy and data are taxed as production factors. Several high-profile individuals, including Bill Gates and the former Mayor of New York City Bill de Blasio, have proposed a tax on robots to prevent technology from replacing labor.

Taxing energy

Today, in Sweden energy is taxed and generates significant tax revenue, 56 billion SEK (Hansson, 2022). However, the energy taxes are not designed to be direct taxes on a production factor, but rather as indirect or excise taxes that are meant to reduce negative external effects from energy consumption. It is not energy consumption per se that causes negative external effects, but rather the emissions from energy use, and these differ between different energy sources and should be taxed based on their environmental impact. Hence, it is more efficient to tax emissions than energy (Brännlund & Kriström, 2020). Brännlund & Kriström have proposed that energy taxes are removed and replaced by emission taxes when justified, i.e., the taxes should correspond to the external effect.

Another approach is to view energy as a production factor, the same way as labor, and that the income the energy producer receives is taxed as an income from energy (in the same way as an income from labor). An energy tax can be designed in different ways but could be taxed more heavily than capital. Many energy sources are geographically bound and can therefore be taxed in a digital world. As always, it is a human being who ultimately pays the tax and, in this case, it could be the owner of the energy source, the consumer, or the workers. Who ultimately pays a tax depends on the market for energy, but the owners would likely pay the tax to some extent. Emissions from energy consumption should be taxed for their environmental and climate impact, an energy tax should not replace excise taxes.

Taxing Data

Another tax base that can be considered as a new tax base is technology, information, or data, for example, a robot tax or a tax on gigabytes. Different types of new taxes based on technology or data have been proposed and some have already been implemented. OECD and the EU have worked on proposals to introduce a digital service tax. Below different proposals for taxing data or technology are discussed.

A Digital Service Tax

OECD has proposed implementing a global digital tax, Pillar-1, in the international "Inclusive Framework" cooperation (OECD, 2021). Several countries have already submitted proposals or introduced some type of digital service tax on their own, without waiting for the OECD proposal to be implemented. The idea behind these taxes is to tax digital services in the country where the digital services are consumed, and often constitute some type of tax on turnover, for example on turnover from digital

advertisement. The UK has a digital tax of 2% of revenue from social platforms, internet searches, and digital platforms. Austria has a digital tax and France was about to introduce one but postponed the introduction due to a trade war between France and the United States. The EU proposed a digital tax in 2018, of 3% on revenues from digital advertising, digital platforms, and the sale of data, in anticipation of the global digital tax. The EU proposal was never enforced, but the work is said to be resumed if the OECD proposal is not materialized.

The motive for taxing digital tech giants such as Google, Facebook (Meta), Apple, and Amazon is that these create value in countries without being physically present there and are therefore not taxed in these countries. In addition, these large corporations can take advantage of tax rules in low-tax countries and thereby avoid taxation or reduce their tax payments (OECD, 2023a, 2023b).[5] The OECD proposal of a digital tax aims to tax large multinational corporations that make a profit and have a turnover of at least 750 million euros. The idea is that part of the profit should be distributed to the market countries according to some kind of formula.

At the time of writing this, it is difficult to determine when or if OECD's digital tax will become a reality and it remains to be seen how the EU will act if Pillar-1 falls through.

A Work-from-Home Tax

Deutsch Bank (Templeman, 2020) has suggested introducing a tax on the value added arising from work from home (WFH). The argument for the tax is that those who WFH do not contribute to the infrastructure of the working environment and that the revenue extracted can be used to finance those who lose their jobs when more people WFH e.g., those working in the sandwich shop, coffee shop or clean the office space and is no longer demanded when less people work in the office or eat lunch out, or buy coffee. The argument is not based on taxing the value added, but rather correcting the negative externality that arises when more people WFH. The suggested tax rate is proposed to equal the savings from not working, e.g., less cost of commuting, less money spent on eating lunch out and work clothes. Templeman suggested a tax rate of 5% paid each

[5] OECD estimates that tax evasion leads to $100–240 billion in lost tax revenue annually, which is equivalent to 4–10 percent of total global corporate tax revenue (OECD 2023a, 2023b).

day when working from home and argued to add up to the amount of money saved per day working from home.

One argument for a WFH tax, not mentioned by Templeman, is that such a tax may neutralize the cost of WFH and go to the office, and hence not distort that decision in favor of working from home. However, one can as easily argue that working from home reduces congestion, pollution, cost of office space, and personal stress and hence increases wellbeing, and should hence rather be subsidized.

In addition, the cost of administrating a WFH tax is probably large and may very well outweigh the revenue collected.

A Robot Tax

Several, including Bill Gates and former New York City Mayor Bill De Blasio, have proposed a robot tax to prevent robots and automation from replacing jobs. The idea is that firms that replace workers with robots should be taxed to disincentivize them from replacing jobs and to compensate for lost tax revenue. The obtained revenue can also be earmarked for retraining those who lost their jobs due to new technology. However, as previously pointed out, it is not obvious that robots and automation will replace jobs, they can create more jobs overall. That is not to say that some individuals will not be affected and need retraining. In general, technological development involves an improvement in efficiency and increased prosperity in society and should not be hampered by taxes.

A robot tax has also been justified on distributional grounds. Costinot and Werning (2023) suggest a robot tax justified based on distributional reasons, but that the tax rate should be low, between 1 and 3.7% of the value of the robots.

In addition to questioning the motives for taxing robots, there are also major practical problems with robot taxes. For instance, how is a robot defined? Should software count, and if so, what type? Should only software that replaces jobs be taxed or all types of software? Should accounting software, that has been used for a long time, count as robots, and be taxed? These issues make it difficult to believe that robot taxes are realistic options.

Taxing Data as Work

Another option is to tax the value added of information/data. The individual providing the information/data receives compensation corresponding to this value and this value (income) is then taxed. Providing data by posting information on, for example, Facebook or commenting

on other people's posts adds information that can be used in other contexts and for AI. Hence, the information has a value for which the person providing the information could be compensated. Posner and Weyl (2018) have suggested that such compensation should be paid out and that it then is subject to taxation like earned income.

Designing such a tax is administratively difficult and would unlikely generate significant tax revenue. First, a monetary value must be attributed to the information obtained and then returned to the provider in a particular geographic location. In addition, the value of a single comment on e.g., Facebook is almost worthless, it is in combination with large amounts of other data, and when these are manipulated, that value arises. The latter is more difficult to link to an individual and geographic location. Viewing the provision of data as something that yields a return that is taxed will most likely be complicated and administratively costly and in practice neither possible nor desirable.

A Tax on Gigabytes

Several researchers (including Marian, 2022; Lucas-Mas & Junquera-Varel 2021; Avi-Yonah et al. 2022) have proposed other types of data taxes that do not use turnover or income as a database but rather gigabytes, and that are considered more feasible.

Marian (2022) proposes a tax on gigabytes, i.e., on the volume rather than the value of data. Unlike value, volume is easy to measure. Marian suggests that this tax is levied on all uses of data, both when collected and downloaded. As these activities are geographically identifiable, it will be possible to determine who has the right to tax. The data user is the tax object and is liable for tax where he or she is located when he or she uses data either by uploading or downloading data.

Using gigabytes as a tax base would solve the problem of identifying the source of the revenue (data volume), and the tax object (the users) who is geographically located in a specific place, and since the tax is based on volume and not value, valuation problems are avoided. A basic deduction can be given to avoid that small users of data are liable to pay the tax. This would reduce administrative costs and make the tax progressive.

Avi-Yonah's et al. (2022) proposal resembles Mirian's in that the tax base is gigabytes in volume but would only apply to larger corporations collecting data and not taxing individuals or small businesses using data.

Lucas-Mas and Junquera-Varel (2021) propose to collect revenue by selling licenses to access the international supply of internet bandwidth

to reach digital markets. These licenses can either be designed globally (preferred) or unilaterally and provide significant revenue to market countries according to the authors.

Whether it is reasonable to use data as a tax base depends on the purpose of taxing data. If the aim is to generate tax revenue, it should be done in the least harmful way, i.e., by using a low tax rate on a broad tax base that generates significant revenue. If the data is a broad tax base that can generate significant revenue, it is an option well worth investigating, otherwise, consumption taxes such as VAT are probably a better option.

If the purpose of the tax is to remedy a market failure, for example, that data use leads to negative external effects, the tax should be designed accordingly. It may be more likely that data have positive externalities because their utility grows the more data that are available. Whether data would replace jobs and therefore have negative societal effects remains to be seen, but if this is the case, a tax on data may be justified. Taxes should not guide the choice of production factor and if the tax on labor is higher than the tax on other production factors, the choice of production factor is skewed in disfavor of labor. As already mentioned, labor is heavily taxed in Sweden, which can encourage increased use of technology. A third motive for taxing data is based on distributional concerns. There are many ways to redistribute, and the most effective way ought to be used whether that is a gigabyte tax, needs to be investigated, but likely unlikely.

Conclusions

As the link between economic activity and geographic location weakens, today's tax system, which is based on income being measurable and tied to a geographic location, is put to the test. Today's tax system is based on income or value being taxed either according to the source or residence principle. Both principles require that income can be linked to a location; either the country of production (the source principle) or to the country where individuals live (the residence principle).

Digitalization can have major consequences for individual countries' ability to tax according to the current system. How large the consequences will be, depends on how mobile companies are, but above all, how mobile taxpayers are and whether they weigh in taxes in their location decisions. Thanks to digitalization, it may be possible for many to

work entirely or partially from home. For those who can work entirely from home, it is no longer necessary to live and pay taxes in Sweden. They can still work in Sweden but live and pay taxes in a low-tax country. This also applies within Sweden, as tax rates differ between municipalities.

It has long been possible to consume without being physically present, and multinational companies have operated in many countries which has enabled them to tax plan. International regulations, regarding both consumption and corporate taxation, have come into place. These rules are based on consensus, which makes it difficult to find efficient solutions that everyone agrees on. In corporate taxation, progress has been modest, and a sustainable solution is far from being reached. The international rules are becoming increasingly complex and difficult to understand. It is therefore unlikely that effective international tax rules regarding labor income taxation will come into place.

Digitalization and globalization also mean that international competition to attract firms and taxpayers likely will increase. It is therefore important that countries with large governments, like Sweden, are attractive countries for both companies and taxpayers to operate in.

All in all, this means that it may be time to update tax systems, like the Swedish, where labor income is taxed relatively high and much higher than the taxation of capital income to make it more compliant with digitalization and to increase competitiveness. Regardless of the consequences of digitalization, it is desirable to shift the tax burden from the use of more to less harmful taxes. For example, shifting part of the tax burden from taxation of labor income to consumption and property taxation, by introducing a uniform VAT and capital income taxation. This would make the tax system less inefficient. If digitalization implies that many taxpayers become "digital nomads" and choose to settle in low-tax countries, more radical changes to the tax and expenditure system may be necessary, and new tax bases evaluated.

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CHAPTER 4

The Rule of Law in a State of Flux The Swedish Tax Law Perspective

Teresa Simon-Almendal

Introduction

The rule of law today across Europe is being contested. The state as governed by law, the *Rechtstaat*, is being politically disassembled in several countries. General principles concerning legality and legal certainty are marginalized and illiberal constitutionalism is gaining ground. This chapter, however, will not address these extreme developments, nor investigate how to counteract these anti-democratic forces. The subject here is less radical, as the chapter aims at exploring and analyzing whether the rule of law, within its Swedish tax law framework, is in a state of flux.

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The background to this topic is the immense number of regulations recently promulgated at several levels, at least for the past 30 years, which are overwhelming the field of Swedish taxation law. Sweden is globally known for its high taxes and welfare state, the latter constructed and maintained with taxes. Historically, as in many other countries, taxation in Sweden has had a central role for the entire political, social and economic structure. The modern welfare state, as we consider it after the Second World War, in many ways was constructed, built and paid for with taxes. During the post-war period, a rapid expansion of the tax system occurred in Sweden as in other countries in Europe in order to finance the extension of the public sector.[1] A value-added tax law was introduced, and the social security insurance-system was developed and in part assumed its character on the basis of taxes. The income tax area was also broadened and income tax rates heavily increased. Politically, the impact and dominance of the Social Democratic Party (which had been in political power for more than 50 years) have left deep traces in the general view of the concept of the welfare state and the meaning and purpose of taxes.

During the latest decades, though, with Sweden joining the EU in 1995 and due to digitalization, globalization, technological development and increased cross-border mobility, there has been significant pressure on the Swedish tax system. Many other countries are naturally experiencing the same. The maintenance of the welfare system is particularly tax-dependent,[2] while legal and societal developments, such as globalization, have led to new methods to avoid or minimize taxes. One of the greatest contemporary challenges is to secure the national tax base and to counteract far-reaching international tax planning. Additionally, economic crises, Brexit, climate threats, the pandemic and the Russian aggression war on Ukraine are putting the welfare state under pressure and have placed even more stress on the situation.

In order to meet contemporary challenges, the number of regulations of various kinds has been increasing, much due to initiatives taken by the European Union (EU) and the Organization for Economic Co-operation and Development (OECD). Anti-Tax Avoidance Directives, Base Erosion

[1] See Sven-Olof Lodin, Gustaf Lindencrona, Peter Melz, Christer Silfverberg, Teresa Simon-Almendal and Roger Persson Österman, *Inkomstskatt, En lärobok i skatterätt*, *Del 1* (Lund 2021) 11–12.

[2] See Robert Påhlsson, David Kleist, Pernilla Rendahl and Bo Svensson, *Grundläggande inkomstskatterätt* (Uppsala 2019) 30–31.

and Profit Shifting regulations, country by country reports, environmental taxes, carbon taxes, digital taxes, war taxes, company taxes, state aid rules, etc., are all examples within the field of taxation, aimed to stop or minimize threats and challenges of different kinds. In Sweden, there is an ongoing powerful Europeanization of national law. The EU "machinery" and the OECD are taking over more and more of the lawmaking in different areas, but most specifically as addressed here in the areas of taxation and financial regulation. All these rules and regulations are followed by sanctions, fines and penalty fees among other economic consequences for those, individuals and companies, who break or misinterpret the rules. It is not an overstatement to say that at least the area of taxation is being flooded with new rules and directives.

Strong and powerful government authorities have emerged in Sweden in the past fifteen years, such as the Tax Agency and the Financial Supervisory Authority. These agencies do not limit themselves to only guiding the taxpayers through soft law mechanisms on how to understand and apply the law, but also, at their own initiative, submit proposals for new legislation. In addition, by law these agencies have the mandate to impose fees and other economic sanctions on those who violate the law.

These developments can be questioned from several different perspectives. On one hand, they raise questions about how to uphold the principles of equal treatment and predictability, when the legal material appears to be almost boundless and unmanageable. Other questions in the field of legal certainty and the rule of law concern how the legitimacy of the judicial system can be maintained, and proportionality in the application of the law ensured, when sometimes not only one, but also several sanctions can be applied for the same act of non-compliance. On the other hand, these developments pose questions of a constitutional character. Powerful authorities, such as the Swedish Tax Agency, are growing and getting stronger at the expense of the legislature and courts. An interesting question, therefore, is whether this development is compatible with the principle of the separation of powers.

The following examines whether the rule of law, from a tax law perspective, in Sweden, is in a state of flux. The focus is narrowed to substantive and structural challenges and provides an overview of what indeed are many different difficult questions. The contemporary making of tax law is described in the next part, while part three investigates the notable emergence in Sweden of a strong and powerful Tax Agency, proactively working to meet challenges of various kinds. The rule of law

in Sweden is analyzed in part four, going deeper into the question of whether this concept is in a state of flux. Issues with respect to legal certainty and the rule of law are highlighted in part five, with part six comprising the summary and conclusion.

The Creation of Tax Law Today

As mentioned above, national legal systems, at least within the EU and definitely as is the case in Sweden, are being flooded by new regulations, especially in the area of tax. As well as the countries themselves, the EU and the OECD promulgate and impose different kinds of regulations.[3] The body of legal material is now so huge that one could ask whether it even is possible to find the law, when it is laid out like a puzzle with the pieces being the different directives and rulings. This places a significant burden on the authorities, judges, consultants and academics to identify, interpret and correctly apply the law.

Legitimate questions that arise therefore include whether this magnitude of rules is really necessary, and whether the rules actually hit the mark or just increase the administrative compliance burden for companies and individuals. The DAC 6 rulings can be used to illustrate this. These rules aim to combat tax evasion and avoidance by requiring tax advisors to submit to the tax authorities within the EU specific information about certain kinds of tax schemes being planned. These are complicated sets of rules requiring a thorough review of the company in question and its business partners with respect to tax planning transactions. Not filing the requested information, or misunderstanding what kind of information needs to be submitted, can lead to severe economic sanctions for the advisor (and their employer). However, after these rules were finally adopted, and after many companies had recruited specific personnel to exclusively work with the DAC 6 rules, it turned out that the rules were almost never applicable, as the companies in fact very seldom arranged that kind of reportable transactions.

The DAC 6-example illustrates the risk of potentially unnecessary and administratively oppressive rules coming from the EU. Another type of

[3] It is estimated that more than 30 percent of the laws adopted by the Swedish parliament during the period of 1999–2008 had some kind of connection to the EU. Jane Reichel and Karin Åhman, "Tjugofem år av Europarätt i Sverige" (2020) SIEPS 2020:5, 29. A fair guess would be this percentage is nowadays even higher.

rules entering into the national sphere externally is those rules that are implemented as a result of multilateral conventions being transformed into national law. This is the case with OECD's Pillar I and II, agreements between 137 states on new rules for taxation of corporate income, with, inter alia, a focus on challenges in the digital economy. These rules are, maybe, (much is yet to be clarified with respect to these rules) optional, but if a state chooses to adopt them, this has to be done in a certain way and through certain rules.

These two examples briefly illustrate the impact of the EU and the OECD on Swedish tax law. Neither the EU nor the OECD in principle has the mandate and right to make tax law. For centuries this power has rested with the nation state under the concept of "no taxation without representation".[4] This concept embraces the cornerstone for democratic legitimacy, with respect to the power to tax. This national parliamentary legislative system however now seems to be challenged by external forces. The EU and the OECD have already been mentioned, but in addition, international cooperations, resulting in unifications of tax rules,[5] combined with global ambitions in the fiscal field,[6] are changing the procedures and the processes for lawmaking in the field of tax. It is

[4] The phrase, "No taxation without representation" originated during the American Revolution, expressing one of the primary grievances of the American colonists against Great Britain. See for example, James Otis, *Rights of the British Colonies Asserted and Proved* (1765): "The very act of taxing, exercised over those who are not represented, appears to me to be depriving them of one of their most essential rights, as freemen; and if continued, seems to be in effect an entire disfranchisement of every civil right".

[5] See for instance, FAR (The Institute for the accountancy profession in Sweden, *Föreningen Auktoriserade Revisorer,* far.se) cooperates with international and global industry representatives in the development of regulations, such as IFAC (International Federation of Accountants), ACE (Accountancy Europe) and NRF (Nordic Federation of Public Accountants). FAR also cooperates with standard setters such as IAASB (The International Auditing and Assurance Standards Board) and IESBA (The International Ethics Standards Boards for Accountants).

[6] The Swedish Tax Agency (*Skatteverket,* skatteverket.se) cooperates for instance with tax authorities in many other countries and in several international forums. The cooperation is both operational and strategic. It involves, among other things, exchanges of information with other countries in order to determine the correct tax and to fight tax frauds and crimes. The strategic cooperations are also, for example, about exchanges of experiences and working together in taxation matters with other countries. In addition to that now said, the Swedish Tax Agency works together with several organizations, such as the EU, OECD, IOTA and the Nordic Agenda and it participates in the Swedish

(still) true that the right to impose taxes rests within a nation's competence. But to some extent, nations in different ways have delimited their freedom to tax through supranational or intergovernmental obligations, for instance through conventions or agreements or by regional memberships such as the EU.[7] A supranational tax law, to a certain extent, can be argued as emerging.[8] From the Swedish perspective, this is obviously the case when it comes to VAT law, governed by EU law, particularly the EU VAT directive.[9] The same can be said about the area of tax proceedings and procedural guarantees, where the European Convention on Human Rights and the Charter of Fundamental Rights of the European Union have had a deep impact on Swedish legislation. Other signs of supranational tax law emerging are the double taxation agreements,[10] as well as the Multilateral Convention to Implement Tax Treaty Related Measures to Prevent BEPS (MLI).

Overall, at least in Sweden, and particularly in the area of taxation, one can detect a slight legislative shift of power, bit by bit, to bodies other than the parliament. In this light, the question arises whether there is, from at least the Swedish perspective, a movement toward fiscal polycentrism. Polycentric law is a theoretical legal structure in which different "providers" of legal systems compete or overlap in a given jurisdiction, as opposed to monopolistic statutory law, according to which there is one

Aid Program and thereby contributes to strengthening the capacity of the tax administration in developing countries. For this information, see Skatteverket, "Om-oss, Samverkan, Internationell Samverkan" available at Skatteverket.se, last accessed 8 January 2023.

[7] See Cécile Brokelind, "The Power To Tax in International and EU Tax Law: Who is sitting Behind the Wheel?" in Johan Lindholm and Anders Hultqvist (eds), *The Power to Tax in Europe, Swedish Studies in European Law,* Volume 14 (Hart Publishing 2023) 191–205.

[8] See Anders Hultqvist, "Internationell interaktiv rättsbildning i skatterätten" (2014) Skattenytt 79 and compare, Martin Berglund, *Avräkningsmetoden, En skatterättslig studie om undvikande av internationell dubbelbeskattning* (Uppsala 2013) where Berglund develops the concept of transnational taxation.

[9] For the use of the concept parallel law-making, see Pernilla Rendahl, Ny skatt på digitala tjänster—Ett steg mot en mer rättvis beskattning inom EU:s inre marknad' in Antonina Bakardjieva Engelbrekt, Anna Michalski and Lars Oxelheim (eds), *EU och teknologiskiftet, Europaperspektiv 2020* (Santérus Förlag, 2020). See also Pernilla Rendahl, *Konsumtionsbeskattning av digitala tjänster—Forskningsrapport* (SNS förlag 2021).

[10] See Johanna Wheeler, "Tax Treaties: What Are We Going to Do with Them?" (2021) Bulletin for International Taxation, Volume 75, No. 11/12.

sole provider of law for each jurisdiction.[11] Devolution of this monopoly occurs by the principle of jurisprudence in which they rule according to a higher law. Polycentrism, on the other hand, implies that the rules are applicable horizontally without any internal hierarchy. From a tax lawyers' perspective, polycentrism consequently is what we see when different types of rules, originating from different kinds of sources and bodies, such as the EU, the OECD, etc., operate and are applicable at the same time in certain areas within the state. The field of tax law and tax matters are typical areas for this kind of competing rules. The notable effect of this is that which can be referred to as a form of "de-nationalization" of the law.

The Emergence of a Strong and Powerful Tax Agency

A notable shift of power can be traced, not only when it comes to handing over lawmaking and fiscal mandates from the state to external bodies. A powershift is also apparent with respect to the doctrine of the separation of powers within the state, where a significant trend in Sweden is the emergence of strong and powerful authorities, with, in some cases, as an effect, a decreasing power and mandate of the parliament and courts. This development to a large extent is due to the Europeanization of Swedish law. One example as mentioned is the Swedish Tax Agency. It is deeply involved in the tax law making processes, which can partly be explained by the fact that the Agency implements many of the EU-directives that have been adopted, but is also due to the condition that the Tax Agency, through and because of EU membership, takes part in the EU-lawmaking procedure.[12]

As well known, state power is shared under the separation of powers doctrine in order to prevent the (mis)use of powers.[13] The doctrine refers to the division of state power, and government, into different branches,

[11] See Mark Stephan and Graham Roy Marshall, "An Introduction to Polycentricity and Governance" in Andreas Thiel, William A. Blomquist, Dustin E. Garrick (eds), *Governing Complexity: Analyzing and Applying Polycentricity* (Cambridge University Press 2019). 21–44.

[12] See also footnote 6, *supra*.

[13] See for example, John Locke, *Two Treatises of Government* (1689) where the doctrine of separation of powers is espoused so that power is shared for freedom to be preserved.

each with separate, independent powers and responsibilities, so that the powers of one branch are not too dominate and do not conflict significantly with those of the other branches.[14] The typical division is three branches: the legislature (Parliament in the case of Sweden), the executive (the Government/Prime Minister and executive agencies) and the judiciary (the courts), referred to as the *trias politica* model. The intention behind the doctrine is to prevent the concentration of power by providing for checks and balances.[15] The doctrine of separation of powers is, as this author views it, a necessary prerequisite for implementing the rule of law and to have a state governed by law.

However, at least from what is happening and seen in Sweden, new economic and societal conditions, such as globalization and digitalization, have led to an increasing complexity with respect to new and more regulations and have, as mentioned above, pushed forward and opened up the gate for forceful and strong authorities in order to meet contemporary challenges. This can partly be explained by the legislature/parliament falling behind because of its lengthy legislative process, but partly also by the fact that the courts, which have to assess contemporary challenges such as different kinds of tax-driven transactions, come into the process at a later stage. Often the taxpayer alone, or with the support of experts and advisers, has to navigate through the complex tax law materials. The taxpayer is frequently in need of guidance when it comes to understanding tax law and being able to determine under which rule an economic transaction should be categorized.

The Swedish Tax Agency, at its own initiative, has taken the role of helping and guiding taxpayers through the vast set of tax law rules when needed. This help is provided in different ways. Normally, a taxpayer can easily contact tax administrators by calling or emailing questions. The Agency also works proactively by using its website and different information campaigns in order to prevent taxpayers from filing incorrect information and thereby incurring economic penalties and fines for wrongdoing. The proactive mode of conveying information about the interpretation and application of tax law, explaining and providing detail, and thereby giving the law a comprehensive and uniform content, in

[14] See Charles-Louis De Secondat Montesquieu, *De l'ésprit des Lois* (1748). See also SOU 1999:76, Demokratiutredningens forskarvolym I, *Maktdelning*.

[15] See Charles-Louis De Secondat Montesquieu, *De l'ésprit des Lois* (1748).

addition to benefitting taxpayers, also generates an amount of soft law rulings.[16] These can be recommendations of different kinds, governing documents, guidelines and instructions on how the tax law should be interpreted and applied, as well as articles and interviews of a more political nature with Agency representatives, aiming to influence the general tax moral.[17]

The Swedish Tax Agency has gone in a relatively short time, about fifteen years, from being a quite unpopular tax collector, working reactively with fines and sanctions when finding incorrect information in income tax declarations, to now being the most popular Swedish governmental agency,[18] with a focus on a friendly and proactive approach when in contact with taxpayers.[19] This change in perception is much due to the proactive approach, which has been fruitful and very successful when it comes to earning trust and confidence in tax collection. The proactive approach, the result of a thorough internal reform, aims to meet and help taxpayers with tax issues in a proactive and friendly manner.[20] The organizational efforts for this change in attitudes and increased public confidence have even turned into the slogan "A Proactive Tax Agency!" The overall aim with this proactive approach is to aid and assist taxpayers in doing right, instead of reacting retrospectively, when filing errors have already occurred: "It should be easy to do right and difficult to do

[16] See Robert Påhlsson, *Riksskatteverkets rekommendationer—allmänna råd på skatteområdet* (Uppsala 1995) 32 and Robert Påhlsson, "Skatteverkets styrsignaler—en ny blomma i regelrabatten" (2006) Skattenytt 404.

[17] See the editorials by the former director-general for the Swedish Tax Agency, Ingemar Hansson,"Skatt är en styrelsefråga" (18 October 2015) Dagens Industri and "Skatteplanering är en varumärkesfråga" (29 December 2013) SvD. It has been argued that these politicized activities go far beyond the proper tasks of a government authority.

[18] During the years 2017–2021, the Tax Agency scored number one in the national annual ranking of the most popular authorities in Sweden. See Företagarna, "Myndighetsrankingen 2021, Vad tycker småföretagare om Sveriges myndigheter?" September 2021.

[19] See for the historical background to the Tax Agency and its former governance, Roger Persson Österman, "Något om alternativa former för att ge skattskyldiga rättssäkerhet och rättstrygghet i skattefrågor—en teoretisk och praktisk studie av ett amerikanskt och ett svenskt förfarande" (2022) LawPub, 8–13.

[20] See Anders Stridh and Lennart Wittberg, *Från fruktad skattefogde till omtyckt servicemyndighe*t (Göteborg 2015).

wrong".[21] Another famous slogan is "The right tax in the right way",[22] meaning that tax should be imposed with respect for the constitution, and that no one should pay more or less tax than that which is in line with the law. The Agency's vision for today is "Together we make society possible".[23]

The Tax Agency's internal service-oriented work with values and good treatment of taxpayers has been influenced by the principles of new public management, making their services more businesslike and improving efficiency by using private sector models. A focus on approaches such as customer satisfaction, customer service, etc., can be identified.[24] One illustrative example is from a presentation held by the director-general for legal affairs for the Tax Agency, where he explicitly stated that among the prioritized areas for the Agency is the "*customers* contact with the Tax Agency" (emphasis in original).[25]

With this said, the popular Tax Agency is still the investigating and deciding party vis-a-vis the taxpayer. Despite this friendly-approach, the Agency is the opposing and often stronger party relative to the taxpayer. When the Tax Agency interprets and applies existing tax law given the certain circumstances in each case, it must be underscored that this is done from its fiscal perspective. In the event the case is unclear, the Tax Agency often gives itself the right of interpretation, and it is not unusual for the Agency to submit proposals as to new rulings when it finds the existing ones, or absence of rulings, unsatisfactory or insufficient. This is in fact one of the core tasks för the Agency, which among other assignments, is

[21] See Skatteverkets strategiska riktning, October 2020, diarienummer 8–519,872. See also Anders Stridh and Lennart Wittberg, *Från fruktad skattefogde till omtyckt servicemyndighe*t (Göteborg 2015) 51.

[22] See Skatteverkets strategiska riktning, October 2020, diarienummer 8–519,872. See also Anders Stridh and Lennart Wittberg, *Från fruktad skattefogde till omtyckt servicemyndighe*t (Göteborg 2015) 49.

[23] See Skatteverket, *Vår verksamhet, Styrning och uppföljning*, www.skatteverket.se, accessed 8 January 2023.

[24] See for instance Skatteverkets strategiska riktning, October 2020, diarienummer 8–519,872, 15 with the heading *Vi bidrar med förutsättningar i kundens miljö*. See also Roger Persson Österman, "Något om alternativa former för att ge skattskyldiga rättssäkerhet och rättstrygghet i skattefrågor—en teoretisk och praktisk studie av ett amerikanskt och ett svenskt förfarande" (2022), LawPub, 4–7.

[25] The tax seminar, Aktuellt på Skatteverket with Michael Erliksson, held at Stockholm Centre for Commercial Law, Stockholm University, 27 May 2021.

to work for adequate law reforms as seen from the Agency's perspective.[26] One way to achieve this is to clarify the meaning of the tax law and hereby reduce possible interpretations.[27] The overall aim is to attain an equitable and uniform application of the law. The Tax Agency has thus been given the mandate to identify and propose new rulings, even though, in the end, it is the Government that decides what proposals will go further. The Ministry though frequently listens to the Tax Agency and follows its proposals.

The Agency's proactive way to identify gaps in the rulings and its attempts to propose new rules to meet, for instance, new tax planning schemes, places the Agency in the role of a quasi-lawmaker. It can also be noted, that on a significant number of occasions in recent years, the Tax Agency has reacted instead of the legislator when it comes to the understanding of the precedents of the Court of Justice of the European Union, and has declared that certain Swedish tax rules were incompatible with EU law and thus not could be applied.[28] The Tax Agency, in these cases, accordingly has taken upon itself the role and function of a constitutional court,[29] a type of court that does not exist in Sweden.

The development sketched above, in this author's view, implies a power shift from parliament to an executive agency. Due to the Europeanization of Swedish law, power has consequently shifted from the parliament and government to the courts and authorities.[30] At least with respect to the Tax Agency, the role of the Agency has changed, and its position has been clearly strengthened.

[26] This follows implicitly from the letter of fiscal appropriation drafted by the Government addressed to the Tax Agency, *Regleringsbrev för budgetåret 2022 avseende Skatteverket*.

[27] Actually, one of the core tasks for the Tax Agency is, by its own interpretation, to clarify tax law and hereby reduce the possibilities for interpretation. See Robert Påhlsson, "Skatteverkets styrsignaler—en ny blomma i regelrabatten" (2006) Skattenytt 402 and 409.

[28] Due to the EU-law doctrine of administrative direct effect, the Tax Agency actually has the duty to set aside Swedish law that is in conflict with EU law. See Case C-103/88 *Costanzo*, ECLI:EU:C:1989:256 (direct effect of directives with respect to administrative authorities).

[29] See Robert Påhlsson, "Skatteverkets styrsignaler—en ny blomma i regelrabatten" (2006) 425.

[30] See Jane Reichel and Karin Åhman, "Tjugofem år av Europarätt i Sverige" (2020) SIEPS 2020:5 63.

Is the Rule of Law in a State of Flux in Sweden?

The rule of law as a concept is not universally defined.[31] It embraces several principles, most aiming to protect the citizenry from the arbitrary use of the coercive power of the state as exerted through law.[32] To achieve this, legal systems are modeled in such way that the interpretation of the legal norms is foreseeable, that similar cases are treated equally, that there are legal norms protecting private property and that there is access to justice. The concept rule of law therefore encompasses principles such as equality before the law, the right to a fair trial, access to justice and independent judges and the sovereignty of parliament. In this context though, the concept rule of law is used with reference to a state governed by law, that is what the Germans call *Rechtsstaat*, a "constitutional state" in which the exercise of governmental power is constrained by the law.[33] It is closely related to constitutionalism and is often tied to the Anglo-American concept of the rule of law, even though it also differs from it by emphasizing what is just, i.e., a concept of moral rightness based on ethics, rationality, law, religion or equity.[34]

[31] The universal recognition of the merits of the rule of law has in no way been accompanied by a universally accepted definition of it. On the contrary, different people mean very different things when employing the term. See Jörgen Möller and Svend-Erik Skaaning, "Systematizing Thin and Thick Conceptions of the Rule of Law" (2012) The Justice System Journal, vol. 33, no 2, 136.

[32] See Albert Venn Dicey, *The Law of the Constitution* (OUP reprint 2013). Dicey's first principle of the rule of law was that "no man is punishable or can be lawfully made to suffer in body or goods except for a distinct breach of law established in the ordinary legal manner before the ordinary courts of the land". Dicey's second principle of the rule of law concerns equality: "every man, whatever be his rank or condition, is subject to the ordinary law of the realm and amenable to the jurisdiction of the ordinary tribunals". For other theoretical approaches as to the rule of law, see for example, Joseph Raz, "The Rule of Law and its Virtue" (1977) 93 LQR 195; Robert Unger, *Law in Modern Society* (Free Press, 1976) 176–181, 192–223; Ronald Dworkin, *A Matter of Principle* (1985) 11–12; and Tom Bingham, *The Rule of Law* (Penguin 2011).

[33] For a definition of Rechstaat, see Carsten Bäcker, "Rechtsstaat" in Mortimer Sellers and Stephan Kirste (eds) *Encyclopedia of the Philosophy of Law and Social Philosophy* (Springer 2020).

[34] See András Sajó and Renáta Uitz, "The Rule of Law and Its Executors" in András Sajó and Renáta Uitz (eds), *The Constitution of Freedom: An Introduction to Legal Constitutionalism, (*Oxford University Press 2017) 308–314.

The rule of law in the sense of a state governed by law can be viewed from different perspectives. One way to approach the concept is to differentiate between what is known as thin and thick perspectives.[35] There is a long tradition in Sweden of viewing the rule of law from a strictly formal point of view, the thin perspective. As can be seen in Europe and within the EU, a more material/substantive perspective can be identified, which can be referred to as a thick perspective of the rule of law. This broader view is reminiscent of the understanding of the *Rechtsstaat* as it implies that the legal norms have to be, not only formally binding, but also morally acceptable, for instance by respecting human rights as Bingham argues in his conception of the rule of law.[36] The distinction formal/thin and material/thick thus stands on the requirement of a moral content in the (legal) norms.

In the formal meaning of the rule of law, the thin perspective, "law" is understood as, and synonymous with, written law, law as it stands, that is rules of different kinds.[37] This view of the rule of law must be understood institutionally, so to say that it governs who decides the law, whether it be the parliament, the courts, the authorities, etc.[38] The formal perspective of the rule of law implies rigidity when it comes to the interpretation and application of the law. The letter of the law is what is to be applied, and the space for a principle-based application of the law is limited. With this approach to the rule of law, the authorities are upholding a central

[35] See Jörgen Möller and Svend-Erik Skaaning, "Systematizing Thin and Thick Conceptions of the Rule of Law" (2012) The Justice System Journal, vol. 33, no 2, 136–53. See also Brian Z. Tamanaha, "A Concise Guide to the Rule of Law" in Neil Walker and Gianluigi Palombella (eds), *Relocating the Rule of Law* (Bloomsbury 2009) 3. See also Brian Z. Tamanaha, *On the Rule of Law, History, Politics, Theory* (Cambridge University Press 2007) 102–113. Compare Gülriz Uygur, "The Rule of Law: Is the Line Between the Formal and the Moral Blurred?" in Immer Flores and Kenneth Himma (eds), *Law, Liberty, and the Rule of Law* (Springer 2013) 113–118.

[36] See Tom Bingham, "The Rule of Law" (2007) 66 CLJ 67, 739–740.

[37] See Joseph Raz, *The Authority of Law: Essays on Law and Morality* (Oxford University Press 1979) 211; and Jørgen Møller, "The Advantages of a Thin View" in Christopher May and Adam Winchester (eds., *Handbook on the Rule of Law* (Edward Elgar Publishing 2018) 21–33.

[38] See Nishigai Konatsu, "Two Types of Formalism of the Rule of Law" (2022) Oxford Journal of Legal Studies, Volume 42, Issue 2, 496–519.

position when it comes to interpreting and applying the law.[39] It is transmitted to the authorities to realize the aim and purpose of the law. The courts, on the other hand, will, in this formal way of looking upon the rule of law, receive a more limited role, more or less merely to review and ensure that the authorities respect different kinds of procedural requirements and prerequisites such as time limits, party insight, communication, etc.[40]

The thick perspective of the rule of law opens for a broader view of what constitutes the "law". This perspective is more structural in its character, meaning that it provides room for interpretation as to how the law is to be formulated and structured.[41] This more material/substantive-oriented perspective implies that "law" is defined not only as rules, but also as principles and rights.[42] With this view, the courts assume a central position when it comes to clarifying the purpose of the law and interpreting and applying it.[43] In addition, with this thick/material/substantive understanding of the rule of law, courts often get, or take, a more creative role when interpreting and applying the law, they make law as they point out certain fundamental principles and rights within the legal framework, which are to be respected and upheld.[44]

For different historical reasons, such as the deep impact and meaning of the welfare state, the fairly homogenous population, the dominance of the Social Democrat Party for over half a century, etc., a thin/formal

[39] See, e.g., Joseph Raz, "The Law's Own Virtue" (2019) Oxford Journal of Legal Studies, Volume 39, Issue 1, 7–8.

[40] See András Sajó, "The Rule of Law" in Roger Masterman and Robert Schütze (eds), *The Cambridge Companion to Comparative Constitutional Law* (Cambridge University Press 2019) 264–265. See, e.g., Jeremy Waldron, *The Rule of Law and the Measure of Property* (Cambridge University Press 2012) 83–96.

[41] See Paul Craig, "Formal and Substantive Conceptions of the Rule of Law: An Analytical Framework" (1997) Public Law 467; and Adriaan Bedner, "The Promise of a Thick View" in Christopher May and Adam Winchester (eds), *Handbook on the Rule of Law* (Edward Elgar Publishing 2018) 34–47.

[42] See Brian Z. Tamanaha, *On the Rule of Law: History, Politics, Theory* (Cambridge University Press 2004) 91.

[43] See András Sajó, "The Rule of Law" in Roger Masterman and Robert Schütze (eds), *The Cambridge Companion to Comparative Constitutional Law* (Cambridge University Press 2019) 263.

[44] See also Jane Reichel and Karin Åhman, "Tjugofem år av Europarätt i Sverige" (2020) SIEPS 2020:5 52.

perspective on the rule of law has been kept and maintained in Sweden.[45] Traditionally there has been a distinct show of loyalty by the courts to the legislator when interpreting the law. Until 2010 a court could only find a law in violation of the constitution on its face and only in the case in hand. The courts seek guidance with respect to interpreting the law in the legislative preparatory works.[46] The consequence of this has been a tight connection and a high compliance between the courts and the legislature. As stated above with respect to the Tax Agency, public authorities have had, and still have, great power in interpreting and applying the law, and the role of the courts has been, and still is, more limited. This limited role of the courts, though, is now evolving into something different. From this author's perspective, the rule of law as applied in Sweden is in transition. More or less since the Swedish EU membership in 1995, there has been a discernible shift, a slight movement within the state, toward a thicker view of the rule of law. At least three noticeable factors working in this direction can be identified.

Firstly, the ongoing *Europeanization* of national law must be pointed out. The impact of the EU on the member states' legal systems cannot be underestimated. By way of example, even though the EU does not have the formal power to tax, its initiatives and measures with respect to minimizing harmful tax competition, tax evasion, tax fraud, aggressive tax planning and tax avoidance schemes, etc., have had a deep influence on the Sweden legislature. Take for instance the impact of the State Aid Rules and The Anti-Tax Avoidance Directives, which all have been used in order to combat and eradicate the incentives for tax base erosion and "race to the bottom" transactions when it comes to offering on the nation-state-base level the lowest corporate tax within EU.

But more intriguing, with regard to the rule of law, is the right-based principle thinking that characterizes the interpretation and application of the law by the European judges and courts. In Sweden this has led to a

[45] See Stig Strömholm, "Uppsalaskolan och konstitutionens normativitet" in Eivind Smith (ed), *Grundlagens makt: Konstitutionen som politiskt redskap och som rättslig norm* (SNS Förlag 2002) 35–41; and Aleksander Peczenik, *Vad är rätt? Om demokrati, rättssäkerhet, etik och juridisk argumentation* (Norstedts Juridik 1995) 46–47.

[46] The importance of the Swedish legislative preparatory works, due to Europeanization, has decreased. Instead, new legally relevant sources of law, such as non-binding documents from Swedish and different European authorities have been added to the accepted hierarchy of legal sources. See Jane Reichel and Karin Åhman, "Tjugofem år av Europarätt i Sverige" (2020) SIEPS 2020:5 62.

deep impact of the concepts of rights,[47] whether legally enacted or not. This is distinctly the case when it comes to tort and tax law. Rights of different kinds have become relevant as principles of law,and these affect the decisions of the Swedish authorities and courts. By way of example, the Swedish tax procedure rules have been much modified and reformed by the influence of the European Convention on Human Rights and the case law of the European Court of Human Rights and the Court of Justice of the European Union. During the 2010s, the understanding and application of European law in Sweden led to an outright "uprising" within the judiciary, with some judges endorsing one understanding and interpretation of the European case law, and others a totally opposite one, with the effect of a complete unpredictability for taxpayers as to the meaning and application of the law.

This "judicial rebellion" can be seen as a sign of Europeanization and of the shift within Sweden to a thicker perspective on the rule of law, for as in the European context, the courts have a fundamental function and a much more independent role now than in the Swedish historical legal tradition. The "rebellion" and subsequent legal discussions were actually brought to a head in the debate about how to interpret the *ne bis in idem*[48] statute in the seventh amendment to the European Convention on Human Rights (article 4.1).[49] The debate finally ended in 2016 with the Swedish Parliament adopting new rules clarifying the law.[50] All this was very unique in such a small and normally consensus-oriented country like Sweden. A new focus on taxpayer rights has occurred in Sweden in the wake of the European Convention on Human Rights and the Charter of Fundamental Rights of the European Union. In the tax field, Swedish

[47] See also Jane Reichel and Karin Åhman, "Tjugofem år av Europarätt i Sverige" (2020) SIEPS 2020:5 62.

[48] The *ne bis in idem* principle, in simple terms, is a criminal law principle under which a person cannot be punished and be subject to several procedures twice for the same facts. The principle thus pursues to avoid double prosecutions and double punishments.

[49] See RÅ 2009 ref. 94; NJA 2010 p. 168 I and II; NJA 2011 p. 44: NJA 2013 p. 502: and HFD 2013 ref. 71 together with C-617/10, *Åkerberg Fransson*, EU:C 2013:280 and *Lucky Dev v. Sweden*, (7356/10), 27 November 2014.

[50] See the Swedish Legislative Bill, prop. 2014/15:131, *Skattetillägg: Dubbelprövningsförbudet och andra rättssäkerhetsfrågor*.

voices have even been raised for the development of a Taxpayers' Bill of Rights.[51]

The second factor working in the direction of a thicker perspective on the rule of law is globalization. As mentioned above, the EU and the OECD have stepped forward as regulatory giants, not least when it comes to preventing and stopping harmful tax planning and base erosion, which, in turn, often are the effects of the possibilities opened up by globalization. Globalization has had, as developed above, a deep impact on Swedish tax law and has resulted in polycentrism. As defined, polycentrism implies several normative sources of law colliding with, or affecting, national law in such manner that national law, in order to adapt to "the outside systems", is even created and renewed by influences from other normative legal systems. Sometimes this even gives rise to complete legal transplants.

An illustrative example from the Swedish tax context is the introduction of the "horizontal monitoring-processes", starting with and introduced by the Netherlands in 2005.[52] The process can briefly be explained as a cooperation between the tax agencies and certain appointed taxpayers, normally big international companies.[53] In a general framework, it is a voluntary scheme or program, to which taxpayers can adhere, through the signing of an agreement by which they undertake to share their planning with the tax agencies to allow access to their systems, to adopt rigorous internal control measures and in return have an individualized and specialized team in their interactions with the tax agencies and prompt responses to their inquiries. The companies obtain tax certainty for their operations, a good taxpayer image and commit themselves within

[51] See for instance Katarina Fast, "Taxpayers´ Charter—ett alternativ för Sverige?" (2009) Skattenytt 721–733. Compare United States Internal Revenue Service Publication 5170, The Taxpayer Bill of Rights (2014).

[52] See Esther Huiskers-Stoop and Hans Gribnau, "Cooperative Compliance and the Dutch Horizontal Monitoring Model" (2019) Journal of Tax Administration, vol.5:1, 66–110. See also Dennis De Widt, "Dutch Horizontal Monitoring: The Handicap of a Head Start" (2017) FairTax Working Papers Series No. 13.

[53] See Dario Gonzalez, *The inspection of large Companies: the cat and mouse strategy or the Horizontal Monitoring Model* (CIAT blog 2020), www.ciat.org, accessed 8 January 2023.

a framework of trust to a voluntary, transparent and accurate fulfillment of their tax obligations, while the tax agencies are ensured detailed knowledge of the corporate operations and a check on its tax planning.[54]

In the event these corporate taxpayers fulfill the conditions for the cooperation, they accordingly receive a sort of "fast track" into the tax agency, and when there, special assistance, guidance and treatment from the agency administrators when discussing their tax positions and filing tax returns. This potential legal transplant, however, was met with resistance in Sweden, as it appeared to be in conflict with the constitution resulting in, inter alia, perceptions of unequal treatment.[55]

Another example of globalization within the fiscal area is the global cooperation between tax authorities all over the world, which has led to a profound change in the modus operandi when it comes to gathering information about the taxpayer revenues. For the past decade, facilitated by new digital techniques and digitalization, multilateral agreements concerning, inter alia, the exchange of income information, have been signed globally, with the effect that there are very few tax "havens" and "paradises" left in the world. This cooperation is both operational and strategic.[56] It involves, as mentioned, exchanges of information with other countries in order to determine the correct tax and to fight tax frauds and crimes, but also implies exchange of experiences. Overall, the collaboration implicates that tax authorities globally work together in taxation matters. In addition, the Swedish Tax Agency works together with several organizations, such as the EU, OECD, IOTA and the Nordic Agenda in matters relating to tax, and it participates in the Swedish Aid Program and thereby contributes to strengthening the capacity of the tax administration in developing countries.[57]

[54] See Dario Gonzalez, *The inspection of large Companies: the cat and mouse strategy or the Horizontal Monitoring Model* (CIAT blog 2020), www.ciat.org, accessed 8 January 2023.

[55] See Robert Påhlsson, "Fördjupad samverkan/horizontal monitoring i svensk offentligrättslig miljö" (2012) Rapport, Svenskt Näringsliv; and Ulf Bernitz and Jane Reichel, "Effektivitet eller legalitet? En bedömning av Skatteverkets nya samarbetsformer" (2015) Rapport, Svenskt Näringsliv. See also Lotta Björklund Larsen, Karen Boll, Benedicte Brögger, Jaana Kettunen, Tuulia Potka-Soininen, Jukka Pellinen, Mette Brehm Johansen, and Kiran Aziz, "Nordic Experiences of Co-Operative Compliance Programmes: Comparisons and Recommendations," (2018) FairTax WP-series, No. 20.

[56] See footnote 6, *supra*.

[57] Id.

Other signs of globalization in the area of taxation are the global initiatives to new laws and regulations by private actors, such as lobbying organizations, law firms, accounting and auditing firms, etc.[58] These actors often collaborate and interact with each other globally when it comes to achieving a desirable interpretation and application of the law in certain tax issues. A now very well-known example is the application of the tax law in the cases of private equity and carried interest, where the Swedish solution finally, after years of proceedings, turned up to differ from the UK approach.[59] The same sort of opinion formation can be said about the Tax Agency itself, who often, as mentioned above, gives itself precedence in interpreting the tax law and whose soft law generating activity is becoming more and more important and intense. All these illustrating global imprints from the Swedish tax context indicate, as the author of this chapter sees it, a transfer within Sweden from a thin to a thicker, more substantive, view on the rule of law.

The third factor implying the emergence of a thicker perspective on the rule of law is the fact that Sweden has moved/is moving from a legal monoculture to a legally dynamic multicultural society. Sweden has for centuries been a quite isolated small fairly homogenous society in northern Europe, when it comes to population, ethnicity, culture, politics, values, etc. Under these conditions, law has had an implementing role with respect to morals and values. The fragmentation of society and the contemporary emergence of (multi)pluralism, combined with the challenges following wars, pandemics and epidemics, economic crises, bleeding tax bases, climate threats and other factors putting the welfare state under pressure, have, though, deeply influenced the law and lawmaking. Today, the law's role has gone from carrying out what in Sweden has been embraced as common values to being a tool for resolving conflicts between contradictory value systems.[60] The different,

[58] See for instance FAR, footnote 6 *supra*, which cooperates with international and global industry representatives in the development of regulations.

[59] See HFD 2018 ref. 31.

[60] See Mauro Zamboni, "The Positioning of the Supreme Courts in Sweden -A Democratic Oddity?" (2019) 15 European Constitutional Law Review 686–687. See also Jane Reichel and Karin Åhman, "Tjugofem år av Europarätt i Sverige" (2020) SIEPS 2020:5 64, who states that overall principles have become more important since the weight attributed to the legislative preparatory works has diminished, which places the responsibility for weighing the interest of different groups on the courts, rather than on the legislature.

and often unexpected, societal problems and legal questions arising from this dynamic multicultural society just cannot be handled simply with only the letter of the law. A principle- and right-based application is often needed in order to evaluate different interests and different values. In this regard, European law has had a deep effect when it comes to giving fundamental rights and general principles of law a more prominent role in the Swedish application of the law.[61] In European law, principles, enacted or not in law, often form the basis for the application of law. In recent years Swedish courts to a greater extent appear to have taken up a principled approach to the law, and it has become more common to consider general principles in application of the law.

Legal Certainty and the Rule of Law

As stated above, at least three factors, Europeanization, globalization and the emergence of a legally dynamic multicultural society, indicate that the rule of law is in transition in Sweden. This development, as depicted here, concerning the creation of tax law and the understanding of the rule of law in Sweden, is characterized however by a number of issues with respect to legal certainty and the rule of law. The now large number of regulations, due to legal polycentrism, working horizontally and/or vertically, sometimes impinging and canceling each other out, sometimes hitting the same phenomena and sometimes missing what they are supposed to regulate, are cumbersome and lead to an unhappy lack of predictability for taxpayers and the different actors within the legal system. Lawyers from all categories also argue that they are overwhelmed by the quantity of tax regulations, and that it is very difficult to predict the application of the law and the outcome of certain cases.[62]

Another effect of legal polycentrism and the multiplicity of rules that follow is that the same legal transaction can be hit by two, three or even more, sanctions and fines. This in its turn can lead to disproportionate results and even be incompatible with Article 6 and the *ne bis in idem* article in the seventh amendment to the European Convention on

[61] See Jane Reichel and Karin Åhman, "Tjugofem år av Europarätt i Sverige" (2020) SIEPS 2020:5 52.

[62] As an example of the comments on the DAC 6-rules, at that time proposed but now adopted, see Ulrika Öster, "Nyheter: Seminarium om rapporteringspliktiga arrangemang, Hård kritik mot utredningsförslag" (2019) Advokaten, nr 4.

Human Rights, as well as with Article 50 of the Charter of Fundamental Rights of the European Union. This plurality of rules may also result in unequal treatment. The greater risk for a lack of predictability seems to be a price for legal polycentrism. In any case, it is clear that the abundance of technically very complicated rules, the complexity of the tax system itself and the uncertainty about who is establishing the taxes, result in a problematic legitimacy question.

In the knowledge gap between how to understand tax law and which rule should be applied, the Swedish Tax Agency has grown strong and powerful, to the extent that a notable mix and shift of powers and mandates can be identified. The Agency's role has changed, and it has strengthened its position with the mandate to interpret and fill out European law and precedents. This is an important constitutional question, concerning the elected parliament's competence and freedom to decide in a sovereign manner about taxes. As stressed above, at least from a traditional historical Swedish perspective, the contemporary Swedish Tax Agency seems to go beyond its executive power as granted by the constitution and takes, or rather receives, by the mandate of EU law, a quasi-role of lawmaker, for example, when the Agency interprets and fleshes out the law and makes proposals for new legislation. In Sweden an evident shift can now be traced when it comes to withholding separate and independent powers with reference to the doctrine of a state's government, which can be queried from a rule of law perspective. This can be explained by Europeanization of Swedish tax law. The parliament's influence over the legislative process has simply been weakened.

Legal polycentrism itself though, is the effect of that the nations and member states have delimited their freedom to tax through supranational or intergovernmental obligations, for instance through conventions, agreements and/or EU-directives.[63] Fundamental national principles for taxation have thus been changed and legislative power has, as a consequence, moved to government bodies other than the parliaments.[64] There is a visible mismatch between the state's and the parliament's power and

[63] See about the emergence of an international tax system, Wolfgang Schön, "Is There Finally an International Tax System?" (August 2021) World Tax Journal, 357–384.

[64] See inter alia Mattias Dahlberg, *EU och svensk företagsbeskattning* (SNS Förlag, 2019) and Cécile Brokelind, "An Overview of Legal Issues Arising from the Implementation in the European Union of the OECD´s Pillar One and Pillar Two" (2021) Blueprint, Bulletin for International Taxation 75(5) 212–219.

the dynamic powers of the EU and the OECD, which also is the effect of Europeanization and globalization. This is a fundamental constitutional issue that has been much debated both within Sweden and in European tax discussions.[65]

The Complexity of Swedish Tax Law Today—Who Has the Power?

Democracy, the separation of powers and legitimacy are all highlighted values when it comes to lawmaking. These values, however, now seem to be challenged, at least in the area of taxation. The economic and societal reality, as well as the tax law itself, are becoming more complex, cutting across national borders and even globalized. Tax sovereignty within the nation state can no longer be taken for granted.

Despite the plurality of rules, which to a large extent is the effect of legal polycentrism, it is obvious that in the field of taxation, the mere law is simply not enough in this author's view when it comes to meeting contemporary challenges. Instead, the challenges themselves seem to be generating more rules. In fact, the extent of the number of rules jeopardizing the doctrine of *jura novit curia*, which may no longer even be true or possible to maintain given both the numerous legal transactions and the often complex, and sometimes even incompatible rules, difficult to understand and even more complicated to apply. In addition, those entrusted by the state to apply the law, whether judges or agency employees, also have to be familiar with and consider sometimes colliding and competing precedents of the European Court of Human Rights and the Court of Justice of the European Union when interpreting the law. It is a challenge in itself to simply have an overview of all applicable sources of tax law.

As developed above, with respect to tax matters, the rule of law in Sweden is arguably in a state of flux. Europeanization, globalization and multiculturalism influence and contribute to the transformation of the concept, in both form and content. That which can be discerned is a thicker, more substantial understanding of the rule of law. This definition of the rule of law stands close to the notion of the *Rechtsstaat*, indicating

[65] See Johan Lindholm and Anders Hultqvist (eds), *The Power to Tax in Europe, Swedish Studies in European Law, Volume 14* (Hart Publishing 2023).

the value of moral rightness and emphasizing what is just. The dominating factors toward a thicker notion of the rule of law have, according to this author´s understanding, opened up for a broader impact on rights in the application of the law. From having adopted a generally skeptical attitude to arguments about a higher standing law and the protection of fundamental rights, Swedish courts in recent years have, to a greater extent, assimilated a more principle-based approach to the law.[66] It has thus become more common to consider general legal principles when interpreting and applying the law.

As stated above, the historical Swedish understanding of the rule of law, here mentioned as a formal or thin perception of the notion, implies a literal interpretation of the law, which very rarely is sufficient for addressing complex contemporary challenges. The formal/thin understanding of the rule of law leaves little space for a purposive-oriented or a principle-based application of the law and gives less impact for rights. On the other, positive, hand, the application of the law with the thin perspective is quite predictable, even though within a rather rigid system. A more substantive understanding of the concept of the rule of law entails in its turn, a broader interpretation of the law and a more flexible application of the same. Understood this way, the rule of law implies efficiency in tackling new legal situations and unexpected legal transactions. An effect of this may be that legality and legal certainty are set against, and sometimes even run over, by the requirements for efficiency and the desire to create justice from a societal perspective. With the influence of European law, the application of the (tax) law seems to, at least within the Swedish context and under Swedish conditions, have become less predictable and more complex, with possible unequal treatment as a consequence. On the other hand, the development of the law has strengthened the legal protection of taxpayers.

With respect to that now said, it is not a bold guess to state that lawmaking, in order to enable the treatment of new situations and legal transactions, consciously will be made vaguer and less precise.[67] The development of using vague tax law rules can already be traced in Sweden, a use that has been much debated and criticized. The discussions have

[66] See Jane Reichel and Karin Åhman, "Tjugofem år av Europarätt i Sverige" (2020) SIEPS 2020:5 52.

[67] See Anders Hultqvist, Peter Melz and Robert Påhlsson (eds), *Skattelagstiftning, Att lagstifta om skatt* (Stockholm 2014) about the promulgation of tax law in Sweden.

been about how unprecise a tax law rule can be without being in conflict with the constitution.[68] Greater legislative detail, will not in this author's view, provide a sustainable solution to contemporary challenges, as the law, with such a design, will be overwhelming in its dimensions and consequently very difficult to overview and, additionally, be adapted for very specific cases and situations.

The use of vague rules, constructed with flexible prerequisites, is one way to tackle more advanced tax planning schemes and a way to protect an erosive tax base, as the mere unpredictability of the application of the law in those cases might have a deterring effect on more provocative and aggressive tax planning and avoidance transactions. The use of GAARs (General Anti-Avoidance Rules), SAARs (Special Anti-Avoidance Rules) and TAARs (Targeted Anti-Avoidance Rules) has increased, and these rules are very widely drawn. Many of them have and need extensive extra statutory guidance in order to be understandable and applicable.[69] Even though deliberately indefinite tax rules thus are frequently used in order to tackle a variety of tax-adjusted transactions, another significant explanation to the Swedish contemporary use of vague tax law rules is the impact of European law, which often gets the effect of vaguer and unprecise rules.

The application though, of unprecise law requires independent (and creative) judges, who, when meeting unexpected new legal situations, consciously can endeavor to achieve a principle and rights-based application of the law. The development in Sweden as described here, indicates that Swedish tax law and the application of the same develops correspondingly to European law, namely dynamically and driven by the courts.[70] As an effect, Swedish courts, at least when it comes to interpreting and applying European law in national tax matters, are arguably developing and adapting the European legal thinking, i.e., a more principle and rights-based application of the tax law. Through this progression, courts have received an increased power, possibly at the expense of the power of

[68] See Anders Hultqvist, *Hur vag får en skattelag va´?*, Rapport, Svenskt Näringsliv, November 2015.

[69] See Judith Freedman, General Anti-Avoidance Rules (GAARs)—A Key Element of Tax Systems in the Post-BEPS Tax World?, The UK GAAR' (2016) University of Oxford, Legal Research Paper Series 24 19.

[70] See also Jane Reichel and Karin Åhman, "Tjugofem år av Europarätt i Sverige" (2020) SIEPS 2020:5 7.

parliament. Whether this development will be at the cost of predictability, transparency and equal treatment remains to be seen.

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CHAPTER 5

Digitalization of the Global Economy and the OECD Reform of MNE's Corporate Income Tax: Background, Challenges, and Issues

Cécile Brokelind

Background

The main question of why and how to tax income arising from the digitalized economy has been at the top of the international tax policy debate since the inception of the "Base Erosion and Profits Shifting" (BEPS) Action Plan in 2013. As exposed at length elsewhere, (English & Baker, 2019; Fersnby, 2020; van den Hurk, 2021; Mason, 2020) the rules as they stand and as expressed in the OECD Model Convention (OECD, 2017) are suspected of not adequately addressing the "tax gap",

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i.e. the missing tax bases, occasioned by the combination of globalization and digitalization in respect of new business models. The lack of material connection of a complete business cycle to one or more specific tangible geographic locations makes the present rules on tax base allocation allegedly difficult to rely on. The problem is of course more sensitive for tax authorities, and tax legislators who need to assess their powers within their own jurisdiction and need information from other tax jurisdictions. Taxpayers, at least those enjoying opportunities (read Multinational Enterprises, MNEs) created thanks to the Internet and the dematerialized access to foreign market jurisdictions, end up choosing legally how and where to set up their business where taxation is lowest to reduce the transaction costs and distribute more dividends to their investors.[1] Despite the fact that investors should be taxed on the return they receive, many authors pinpointed that disappearing tax bases at the level of the firm cause a massive Corporate Income Tax (CIT) revenue loss especially for market jurisdictions (Kazmierczak, 2024).[2] As a response, many tax jurisdictions enjoying a large market for distribution have introduced a transaction tax of the kind of a "digital service tax" (DST), or a withholding tax on cross-border payments of services. The OECD even supported an equalization levy intended to serve as a way to tax non-residents "significant economic presence" in a country (OECD, 2015). The effectiveness of the DST is, however, challenged in academic debates, as it results in over-taxation and double taxation (Kazmierczak, 2024).

This societal phenomenon reflects what social science describes as a "glocal" tension, where the need for a local adaptation to the global (and uncontrollable) force justifies a new approach. In international tax law, this phenomenon has initiated many debates and publications, (Garbarino, 2019; Schön, 2019; Christians & Diniz Magalhes, 2024), which other disciplines could use to determine whether the legal framework in evolution will be efficient to fix the identified societal problems linked to diminishing tax bases and welfare financing.

[1] This chapter is not concerned with illegal activities, such as tax fraud, money laundering, or substance-free arrangements, which can be punished under criminal law, outside the scope of "material tax law". It was drafted and updated in January 2024, before the US Trump administration 2025 took office.

[2] The author quotes R. Lighthitzer's study on the French DST, "It is not correct to state that the digital sector is undertaxed" and "effective tax rates for digital and traditional businesses cannot be compared one-by-one, as digital businesses earn different types of income".

From a mere tax technical viewpoint, the question is whether the added value (not in the sense of the Value Added Tax/VAT) arising from savings linked to an easier access market for digital business models, through cheaper distribution and wider marketing access falls out of the scope of taxable income and if this needs to be changed in the law.

How to Capture Value Creation in Digitalized Business Models, the OECD's Approach

Urged by its members in search of increased tax bases after the 2008 financial crisis, the OECD initiated a global reform aiming at reallocating taxing rights between jurisdictions on a global scale, and at fighting against tax avoidance and harmful tax competition on the other hand. A need to reach destination-based income taxation has emerged in this ongoing reform. A clear-minded (or cynical) approach to this problem also demonstrates that the primary losers with regard to profit shifting are European non-havens and developing countries, whereas the main winners are US-owned multinational enterprises (MNEs) and wealthy individual owners.

Corporate income tax is a domestic tax based on a firm's profits. It is not a transaction tax, nor a wealth tax. Therefore, it is levied on a net basis, allowing taxpayers to deduct from their taxable bases the costs for carrying out their business and realizing profits. As far as corporate income tax law is concerned, it seems fair to say that the value created by a digital business model is already taxed as a regular business income, when profits are computed out of accounting profits and losses (i.e. revenues of sales, less expenses). What escapes corporate income tax is the unrealized gains arising from an increased goodwill or intangible asset lacking actual valuation, because there is no actual market value, or no transaction. It is this value that is targeted in the OECD reform. One could say that this is a revolution in the meaning that tax laws do not intend to catch unrealized gains, but at the same time, the reform is not based on traditional legal values such as the ability to pay principle. This principle requires taxation to be assessed on realized income and not mere value increase.

Over the years, several approaches were discussed including far-reaching proposals to fully or partially reallocate taxing rights to market countries. "Market countries" represent tax jurisdictions with many consumers, which value is not automatically reflected in the taxing capacity of the state where the MNE resides. During the reform's

design phasis, three options were discussed at the level of the Inclusive Framework/OECD: international taxation based on "significant market presence", taxation according to the value of "user contributions", and profit allocation to marketing intangibles. Some scholars also supported a new model of taxation based on "digital investment" taking the nature of the corporate income tax as a tax on return on country-specific investment seriously and addressing the legitimate concerns and aims of the current debate (Schön, 2019). The outcome of these proposals ended up combining these three tracks in two tracks. The first track, the Pillar One, reallocates some part of the most successful MNES' profits to the tax jurisdictions offering a wider market (more populated and richer countries). The profit in question ('residual profit') is the one arising from the MNEs goodwill, or intangible value, which otherwise arises in the home jurisdiction of the MNE's head office, most likely escaping CIT thanks to favorable tax incentives for developing new technologies. The second track, Pillar Two, was conceived as a safety net for those MNEs who, even though part of their profit is reallocated in market jurisdictions thanks to Pillar One, succeed in using tax heavens or jurisdictions levy a CIT with an effective tax rate lower than 15%. This track ensures that the harmful tax competition between tax jurisdictions ends, and that the proceeds of the higher CIT can be allocated as agreed in the Pillar One rules.

This reform called "BEPS 2.0" was designed in October 2020 and although both tracks were supposed to be adopted at the same time, only the Pillar Two has achieved tangible legislative progress. The EU adopted a Directive on 14 December 2022 on a minimum corporate income tax reflecting the Pillar Two Model Rules.[3] On 11 October 2023, an international agreement was agreed within the Inclusive Framework on a Multilateral Convention (MLC) to Implement Amount A of Pillar One. According to the Convention's rules to be implemented by those jurisdictions which will sign it,[4] MNEs in scope (20 billion € revenue and total profits greater than 10% of their revenue, i.e. the largest and most profitable of them) will be taxed in the market state on their profit in excess of 10% of revenue. To put it simply, this agreement acknowledges

[3] Council Directive (EU) 2022/2523 of 14 December 2022 on ensuring a global minimum level of taxation for multinational enterprise groups and large-scale domestic groups in the Union, OJEU L 328, 22 December 2022.

[4] It will enter into force when at least 30 tax jurisdictions have ratified it, and it needs to be these jurisdictions hosting at least 60% of the expected in scope MNEs.

market's states priority over some of the extra profits made by large firms thanks to the internet access of their end consumers. This reinforcement of the source principle in international tax law, recognizes value creation, in the meaning that access to large consumers market should be taxed as a "super profit" or in other words as an intangible asset (goodwill) which otherwise could easily escape taxation all in all.

Transfer pricing rules, i.e. common valuation principles and methods applied by states bound by a double tax treaty based on the OECD model for intra-group transactions, require a stand-alone approach to this valuation, to reflect the missing value that otherwise associated companies would be able to reach in order to reduce their taxes. However, transfer pricing rules, even in their latest version (2017) dealing with for instance the "hard to value intangibles" such as the goodwill or the market access for a foreign investor, do not solve the problem either. The "super profit" does not exist before its realization and escapes net corporate income taxation.

Accessing large markets as a taxable basis is not, however, the end station for the reform. Otherwise, a simple "digital service tax" or any kind of consumption tax fills in the gap and brings in much more tax revenue for the states than this mere "Amount A" reform. It is therefore submitted that the OECD reform of taxing digital business has another agenda than taxing value creation thanks to digital business models. A more cynical reason for such an ambitious reform is exposed in academic debates. As noted by Shaviro (2020):

> [Responsible taxation] should, in the view of many, involve imposing significant new tax liabilities on wealthy individuals and highly profitable corporations, especially those otherwise paying little tax.

This is especially true regarding the rationale of the OECD Pillar Two, introducing an effective taxation of a minimum 15%, which works as an anti-tax avoidance measure, although not drafted as an anti-avoidance rule (Compare Arnold, 2019). The Pillar Two rules have nothing to do with catching value otherwise not encompassed elsewhere. In a nutshell, the status of international tax law is progressing, and even the UN tax committee has recently under the lead of African nations, suggested a new model of taxation for MNEs which would challenge the OECD's

two pillar model.[5] Among others, it would deprive some of the OECD attractive tax jurisdictions from taxing rights for profits arising from developing countries, establishing a kind of digital tax at source, and would reinforce the fight against tax evasion and money laundering through an extensive information exchange system. The OECD's inclusive framework rules need therefore to be considered in a much wider context than that of the 147 participants it has united.

The OECD Two Pillars, Domestic and EU Law, Disentangling the Knots

Within the EU, the Pillar Two Directive has been in force since 1 January 2024. Several legal issues arising from the adoption of common rules for taxation are commonly discussed in scholarship debates. The global effort of coordination is highly prized in academic debates for its ability to make all participants of the Inclusive Framework sit around the same table and discuss their common possibilities. However, it raises the problem of allegiance for the EU Member States. The European Union and its integrated free trade area, i.e. the Internal Market, traditionally adopt a less cynical view of the need for common legislation, than the OECD global approach of anti-tax competition. The Internal Market does not build on the concept that taxation should occur where the economic activity takes place, if the economic activity takes place somewhere for real in the European Union. Accordingly, already at the level of concept of the policy, the OECD's Inclusive Framework, by enhancing national tax sovereignty, is at odds with the foundation of EU law. One could however argue that due to the 14 December 2022 directive on minimum corporate income tax, the gap is filled. EU member states are hence required (and not

[5] UN, 22 November 2023, resolution A/C.2/78/L.18/Rev.1, tabled by the African Group "***Promotion of inclusive and effective international tax cooperation at the United Nations***" https://press.un.org/en/2023/gaef3597.doc.htm. In brief, the UN proposal differs from OECD's Pillar 1 in three key ways: it avoids the complex distinction between residual and routine income, applies only to certain digital businesses rather than all consumer-oriented ones, and grants more tax authority to market jurisdictions. The UN proposal allows jurisdictions to receive a fixed amount based on gross payments without requiring a physical presence, simplifying tax assessment for developing countries. They only need to verify if payments for services originate in their jurisdiction, relying on withholdings by payers or intermediaries. While the OECD plan is more comprehensive and complex, the UN's approach is simpler and easier to administer but less extensive.

recommended as under OECD soft law) to tax MNEs in scope on their global revenues at a minimum of 15% rate. One of the problems is that the computation is not the same as in the OECD Pillar 2 Model Rules, and not the geographic scope either. Moreover, to avoid the Directive to directly infringe EU primary law rules on fundamental freedoms, the minimum tax must be paid even for low-taxed domestic affiliates. One could argue that this goes much beyond an effective and proportionate rule, because it will hit blindly all investments, even those with a commercial motivation for investing in a lower tax country. This runs counter the Court of Justice of the EU (CJEU)'s analysis of the fundamental freedoms, which allows restrictive measures (taxing income belonging to another state and another legal person) only for the sake of protecting own tax bases or *tax avoidance*. Here, the minimum corporate directive goes far beyond this requirement, since it allows a mechanic carve-out for assets and personal costs up to a maximum of 10% of their book value.

What to expect next? EU member states are implementing by way of domestic rules the Directive and the question is to know whether these measures can be benchmarked against EU Primary Law. It is very unlikely that the validity of the Directive itself would be challenged at Court, as most secondary law benefits from a presumption of "good faith" and conformity with the Treaties. However, the domestic rules implementing a Directive may be tested against the benchmark of the Fundamental Freedoms or of State aid prohibition if they are offered some leeway or options of implementation. Consequently, it is not impossible that some legal disputes arise at court on the interpretation of the Directive, and a too severe implementation by a Member State.

Legal Issues and Challenges Caused by the Reform

Outline

The two pillars' rules present several legal challenges:

- For the Pillar One, the access to large market may create value, but it is not accounted for anywhere unless the accumulated gains in the profitable corporation are realized. Any other rule could breach international law; Additionally, Pillar One rules discriminate clearly between large and small enterprises, because of automatic revenue thresholds. How can such a "steeply progression" in a corporate

income tax be reconciled with the ability to pay or the prohibition of state aid to domestic (smaller) business operators be guaranteed?
- For the Pillar Two, the automatic corrective mechanism organized in the main and secondary rules to tax all "super" profits above a certain threshold presumes of a "aggressive tax planning low-taxed operation", which runs counter the EU's freedom of establishment or free movement of capital: EU Member states laws may not presume of tax avoidance unless a proof of genuine commercial activity can be brought by taxpayers. Pillar Two Directive rules are, however, applied also to domestic groups and entities (which is not the case of the OECD model rules), therefore avoiding a prima facie conflict with the non-discrimination principle of EU law. One can discuss whether the admitted goal of the rules to apply only to cross-border active MNEs would not consist in such a forbidden discrimination.

Pillar One Issues

In international public law, the territoriality principle grants a state the power to make laws for its territory, and in the absence of a permissive rule to the contrary, states may not exercise jurisdiction in another state's jurisdiction (Jääskinen, 2014, Kingston, 2016). In other words, states must provide for a legitimate link to their taxing powers in their nexus rules.[6] How loose such link may be is a question that is discussed vividly in doctrinal debates (Baker, 2020; Brokelind, 2021; Gadžo, 2018; Greggi, 2020; Kokott, 2019). The European Union is bound to respect international public law when exercising its legislative competence. In other words, should EU Member States agree to implement the reform proposed by the OECD under Pillar One by way of a directive, for example, the relevant nexus rules would have to contain a reasonable link to the European Union's territory. Now, we have a multilateral tax convention (MTC) which would not require per se a Directive on a Digital Service Tax (DST) to be enacted in EU member states tax laws, unless the MTC fails to be ratified by 30 states at least, and the

[6] The principle of legality requires no taxation without representation. This principle also requires that the power to tax is linked to a national taxing power legitimized and validated by the rule of law. This is what nexus means.

standstill for not introducing DST stops. Consequently, one can wonder whether market access would be a sufficient link to the European Union's tax jurisdiction in the field of corporate income tax. The answer is not straightforward, as the ability to pay principle is not compatible with the destination tax principle expressed in Pillar One. Moreover, the rules suggest an extraterritorial taxation that reaches out to taxpayers with no physical presence on the territory in question and is already taxed for their worldwide ability to pay somewhere else. How would such a tax with no solid territorial ground be treated under EU law?

The CJEU has avoided taking a position in this issue as revealed in the aborted project for a financial transaction tax (FTT) as well as in the proposed Bankers' Bonus Directives, which were unsuccessfully challenged before the Court by the United Kingdom in respect of a breach of reasonable nexus.[7] Similarly, the CJEU did not take a position on the Italian FTT, featuring the same loose nexus as in the draft FTT directive (the "issuance principle"), thereby giving rise to juridical double taxation.[8] Accordingly, should the European Union adopt a DST directive based on the OECD's Pillar One recommendations, it would most likely give rise to similar questions in respect of the nexus rules presented in the draft. There is no clear answer that can be derived from Court of Justice's case law that a loose nexus is in line with international public law. Surely, the question will be raised again if the project is adopted in the European Union.

The second burning issue, which is the one most debated in academic debates, deals with the problem that very progressive taxes omit from their scope a specific category of taxpayers, for example, small and medium-sized enterprises (SMEs), and target only large undertakings, mostly non-resident taxpayers, i.e. US MNEs. In other words, any carve-out, either by the computation of a threshold test of EUR 750 million or by a specific intention of the legislator to reach a specific sector, may give rise to a State aid prohibition (art. 107.1 Treaty on the Functioning

[7] For the draft on Financial Transaction Tax Directive, *see* CJEU, 30 Apr. 2014, Case C-209/13, *United Kingdom of Great Britain and Northern Ireland v. Council of the European Union*, EU:C:2014:283. For the draft on Bankers' bonus Directive, *see* CJEU, 9 December 2014, Case C-507/13, *United Kingdom of Great Britain and Northern Ireland v. Council of the European Union*, EU:C:2014:2481, especially the AG's opinion of 20 November 2014, para. 34–41, EU:C:2014:2394.

[8] CJEU, 30 Apr. 2020, Case C-565/18, *Société Générale S.A. v. Agenzia delle Entrate—Direzione Regionale Lombardia Ufficio Contenzioso*, EU:C:2020:318.

of the European Union -TFEU) as well as a prohibition of discriminatory taxation (Art. 49–63 TFEU). The issue has been resolved, at least in respect of article 107.1 TFEU, given the recent decisions of the CJEU in two instances on the Hungarian and Polish trade taxes (retail and communication).[9]

As explained by Advocate General Kokott in her Opinion on these cases, the Court's ruling should be decisive for the Commission's contemplated DST directive, for the moment on the hold, which contains similar characteristics to the disputed trade taxes.[10] The key issue boiled down to defining the reference system of the disputed trade taxes, as any deviation could make the disputed tax selective and unlawful. The question was whether a steeply progressive tax *in fact* exempting small and medium taxpayers is in line with the ability to pay principle expressing the reference system. Indeed, small market operators should also be paying the tax according to their capacity, and filling in the state's cash box, instead of being totally exempted (Parada, 2020). The CJEU, however, found that Member States are free to introduce such steeply progressive trade taxes. It reaffirms Member States' sovereign choice to tax enterprises on any kind of tax basis they find fit, such as "turnover", even though it is more common for legal entities to pay corporate income tax on profits at a standard tax rate and on a net tax basis. According to the Court, turnover constitutes a relevant indicator of a taxable person's ability to pay principle, as explained in its *Tesco Global* and *Vodaphone* rulings.[11] In contrast with the previous *Gibraltar* case,[12] where the tax system had been configured according to manifestly discriminatory parameters, the Court did not find in the Commission's reasoning sufficient ground to reveal such discrimination, but also did not exclude such possibility. One wonders, though, whether this is not a real U-turn from all previous CJEU case

[9] CJEU, 16 Mar. 2021, Case C-562/19 P, *European Commission v. Republic of Poland, Hungary*,EU:C:2021:201.

[10] Opinion of Advocate General Kokott, 15 Oct. 2020, Case C-562/19 P, *European Commission v. Republic of Poland, Hungary*, paras. 1 and 84, EU:C:2020:834.

[11] CJEU, 3 Mar. 2020, Case C-323/18, *Tesco-Global Áruházak Zrt. v. Nemzeti Adó- és Vámhivatal Fellebbviteli Igazgatósága*, para. 70, EU:EC:202:140; 3 Mar. 2020, Case C-75/18, *Vodaphone Magyarország*, para 50,EU:C:2020:139.

[12] CJEU, Cases C-106/09 P and C-107/09 P, C*ommission and Spain* v *Government of Gibraltar and UK*, 15 Nov. 2011, EU:C:2011:732.

law in which the hypothetical discrimination risk was sufficient to apply article 107.1 of the TFEU (Károlyi & Szudoczky, 2020).

As to the Pillar One's rules, even if they can pass the test of selectivity in respect of the steeply progressive rate, one question remains on the carve-out for "traditional" and "tangible" business and services, which represents a competitive advantage. This advantage, i.e. in not paying any additional tax in the market jurisdiction, is an upfront selective State aid. The only way to avoid the Commission's scrutiny under article 107(1) of the TFEU is for the Member States to adopt a directive and agree on the scope of the rules, as was done with regard to VAT.

Last, but not least, the indirect discrimination arising from the fact, and not from the law, that only non-resident taxpayers are caught by the very progressive trade tax needs to be confronted in respect of that field where the CJEU case law is not straightforward (Mason & Parada, 2019; Szudoczky & Károlyi, 202). The CJEU case law on trade taxes and indirect discrimination has been inconsistent, particularly between the Hungarian *Hervis Sport* and *Tesco* cases on service withholding taxes.

Initially, the Court suggested that national measures impacting non-resident companies could lead to indirect discrimination. However, the *Tesco* case caused confusion by asserting that progressive tax rates do not inherently result in discrimination. Advocate General Kokott argued for a distinction between incidental and intentional effects that disproportionately affect non-resident taxpayers, proposing a qualitative and quantitative test for indirect discrimination. Meanwhile, the European Commission argued that steeply progressive taxes, like those in Hungary and Poland, did not reflect taxpayers' ability to pay, which could still amount to discrimination. Despite this, the CJEU maintained that progressive taxes with zero-tax bands were non-discriminatory if all taxpayers were treated equally in terms of progressivity. In Tesco, the CJEU diverged from earlier rulings, concluding that article 49 TFEU, concerning restrictions on freedom of establishment, did not apply.

In other words, and according to the most recent CJEU case law, a steeply progressive tax on digital transactions would not breach fundamental freedoms, despite its clear intention to tax non-resident taxpayers exclusively, insofar as all taxpayers enjoy the first exonerating bracket indistinctly. Consequently, the intention of the legislator was insufficient to characterize this situation as indirect discrimination. Although it may appear to be very strange that preparatory work proving the discriminatory effect had no bearing, this ruling may be explained by the need to

pave the way for the European Union's digital tax project. The question that remains is how the European Union will implement this digital taxation, either through a directive implementing Pillar One or through a self-standing DST as proposed earlier in 2018 (European Commission, 2019). This position may limit the possibility for the CJEU to review the implementing rules in respect of secondary law under the benchmark of primary law.[13]

The next question, which is adequately treated elsewhere at length (Szudoczky, 2020), deals with the implementation of such a directive, with measures that clearly breach EU primary law on the fundamental freedoms and the State aid prohibitions. In the past, the CJEU gave various answers to this question, sometimes acknowledging that the agreement the Member States reach through a directive avoids a potential conflict with the fundamental freedoms, and other times reaffirming that any domestic law (even the implementation of a secondary law instrument) should respect primary law, such as fundamental freedoms. It remains difficult to predict the outcome of such a situation for an EU DST or a Pillar One implementation, especially in times of new leadership in the United States challenging the former government's alliances with the EU.

Pillar Two Issues

The rules under Pillar Two introduce a new benchmark for a "normal level" of taxation for MNEs that operate globally through affiliates (Haslehner, 2024). It does not entail destination-based taxation as in Pillar One. Rather, it establishes a method to identify a "global minimum rate" under which the resident state would be entitled to top up the level of tax as if the MNE had invested at home, i.e. meaning capital export neutrality (CEN). This minimum level constitutes the benchmark against which the effective company tax payable in a country, the effective tax rate (ETR), is assessed.

[13] In a US presentation of the steering group of the inclusive framework meeting held on 8 Apr. 2021, the United States clearly stated that they will not accept any result that is discriminatory towards US firms, a statement raising some doubts as to a possible EU Directive targeting US tech giants directly. *See* https://mnetax.com/wp-content/uploads/2021/04/US-slides-for-Inclusive-Framework-meeting-of-4-8-21-2.pdf (accessed 21 Apr. 2021).

Briefly, the rules provide for a form of controlled foreign company (CFC) legislation featuring four elements. An ETR is computed based on commercial accounting recorded in each jurisdiction where an affiliated entity is located on the basis of International Financial Reporting Standards (IFRS) and/or (US) Generally Accepted Accounting Principles (GAAP). This step 1 is a way to determine the "GloBE tax base"[14] that features readjustments, such as income from participation exemptions and loss carry-forwards. It includes a formulaic substance-based carve-out expressed as a percentage of tangible assets and labor costs for each tax jurisdiction, which constitutes step 2. Intra-group transactions are also considered at an arm's-length level. Once this base has been identified, in step 3, the corporate income tax due in each jurisdiction is reassessed with a view to a possible comparison. Finally, by way of step 4, the ETR of each jurisdiction will be computed by dividing the aggregate of adjusted covered taxes assigned to the jurisdiction by the aggregate of the profit (or loss) before tax assigned to the jurisdiction. Where the aggregate profit before tax assigned to a jurisdiction is zero or negative (i.e. lossmaking), there will be no GloBE income and no GloBE tax liability with respect to that jurisdiction for the MNE Group for that year.

In other words, the tax paid for the whole group is reallocated according to a specific formula and compared to the agreed minimum tax rate to determine whether additional taxation can be levied in the residence state of the ultimate parent company (first) or in that of the foreign affiliate, irrespective of the actual existence of the transactions carried out between affiliates. It makes sure that all group affiliates in scope pay globally 15% minimum effective CIT through a set of interrelated rules, organizing a "top-up tax". The design of the rules is meant to neutralize the use of low-tax incentives such as patent boxes or any CIT relief for attracting FDI.

The rules also provide for several threshold requirements (EUR 750 million of consolidated group revenue) and, therefore, target large groups only. The scope of Pillar Two is much wider than that of Pillar One, as it does not target one sector of economy, i.e. digital, and, therefore, it can escape the prima facie selectivity of the State aid prohibitions. However, due to certain exceptions for investment funds, pension funds,

[14] GloBE stands for Global Anti-Base Erosion Rules.

state-owned companies, and international and non-profit organizations, some risks in respect of the State aid prohibition may remain still.

Introducing a minimum tax level into the European Union for all Member States, among other things, is intended to ease the application of national or treaty-based anti-abuse rules, which require a subjective approach to substantiate the economic reality of tax-audited transactions. A mechanical recapture of the missing tax bases is an attractive tool for enforcement authorities, being very convenient to avoid procedural costs and risks. However, it can be questioned whether this objective justifies a total reform of corporate income tax, thereby introducing complicated analyses and computations in respect of the recaptured tax bases of the associated entities (de Wilde, 2024). In any circumstances, in the case of proceedings reaching the Court of Justice of the EU (ECJ), this main characteristic to eliminate the burden of proof of abuse for tax authorities would not go unnoticed. As can be learned from CJEU case law on abusive practices dealing with rules on direct taxation, the Member States cannot justify a restrictive tax rule for the need to limit the erosion of their tax bases.[15] The result of the CJEU case law is that the only way to justify a restrictive tax rule is to counter abusive practices in line with the judgment in *Cadbury Schweppes* (Case C-196/04)[16] and related cases. As stated in doctrine (de Broe, 2018; Devereux, 2020; Koerver Schmidt, 2020; Pinto Nogueira, 2020) the Pillar Two rules in their current form present some risks of collision with the European Union's primary and secondary law. The most obvious risk lies in the standard appreciation of the substance carve-out, thereby not leaving any possibility for taxpayers to demonstrate economic substance in another way. Implementation through a directive in the European Union would require a substance carve-out of the same kind as that of article 7(2)(a) of the Anti-Avoidance Directive (2016/1164) (ATAD).[17] Some have suggested applying the top-up tax in a domestic situation as well, as this action would be the only way to remove discriminatory treatment, i.e.

[15] CJEU 20 Jan. 2021, Case C-484/19, *Lexel AB v. Skatteverket*, paras. 67–68,EU:C:2021:134.

[16] CJEU, 12 Sept. 2006, Case C-196/04, *Cadbury Schweppes plc, Cadbury Schweppes Overseas Ltd v. Commissioners of Inland Revenue*, EU:C:2006:244.

[17] Council Directive (EU) 2016/1164 of 12 July 2016 Laying Down Rules against Tax Avoidance Practices that Directly Affect the Functioning of the Internal Market, OJ L 193/1 (2016).

applying a corrective rule in a cross-border situation only but to the detriment of foreign economic operators (Englisch and Becker). Nevertheless, it can be wondered as to why a "domestic" tax base erosion would matter to the OECD, which only focuses on harmful tax competition *between* states. Moreover, the rule would definitively concern only large companies with a domestic revenue of EUR 750 million, which could require an exemption from the State aid prohibition for SMEs according to article 107(1) of the TFEU, unless the amount of aid is less than the de minimis threshold of EUR 200,000 a year for a maximum of three years. This situation leaves very little room to introduce the rules in its current form, especially as many sectors would be left out of the contemplated top-up taxation rules and would have to be notified to the Commission for State aid clearance.

Conclusions

The previous sections explained how the ongoing international tax policy reform led by the OECD may have long-stretching legal consequences. The starting point of the reform lies in the need to address the dematerialization of business transactions, and the increase in value digitalized large business enjoy, when reaching remote markets without needing to invest in tangible assets and manpower abroad, reinforcing MNEs' economies of scale. At the same time, the international legal framework is not moving forward toward a perfect global solution. It remains difficult to ignore physical borders, limiting geographically each state's power to tax. Furthermore, the constitutional rule of any state to abide to the principle of legality, requiring a democratic representation for any taxation rule, cannot apply to the OECD's reforms. By nature, the OECD's recommendations do not become international binding law. However, even if the EU has partly integrated the OECD's rules in its legal framework adopting a Directive on Pillar Two, it does not bind non-EU states, where most of the "value created by large consumers markets of digital goods" is located.

Finally, this chapter reveals that the implementation in the EU of the OECD Pillars adopted or not in form of a binding law needs to be assessed against the benchmarks set by EU Primary Law ensuring a well-functioning internal market (a kind of supra national constitutional

law). The main field of concern lies within the scope of these rules, tackling only MNES or non-domestic taxpayers. This assessment reveals the following results:

(1) The CJEU's case law states that very progressive taxation does not discriminate against non-resident taxpayers when all taxpayers experience similar progressivity. However, taxation on a fictitious basis, which encompasses the extraterritorial tax bases of non-residents, is not in line with article 49 TFEU (promoting the freedom of establishment). The Pillar One rules in their current shape give rise to some concern with regard to this argument, as the tax bases in the source state can be qualified as "fictitious" in terms of territoriality and tax sovereignty and source taxation. The "value creation" of a market access is merely a concept rather than a positive source of law and does not yet accord to taxable income within the meaning of expressing the net variation of the wealth of taxpayers in a tax year in question.
(2) As a rule, the State aid prohibition under article 107(1) TFEU does not necessarily apply to steeply progressive taxes favoring small and domestic economic operators as, in these circumstances, turnover taxes can adequately reflect the ability to pay principle when expressed neutrally. However, if the objective of the tax is not only to express the ability to pay principle, but also to target in law and in fact only non-residents, which is for the EU Commission to prove, the rule is discriminatory and would not pass the test. For this reason, the rules in Pillar One create problems as, first, it is likely that their goal and expected effect is to apply only to non-EU-based large MNEs and, second, they propose a series of carve-outs in respect of tangible and traditional business operators, which also benefit from the "value creation" of access to the market.
(3) Under EU law, even secondary legislation such as the Pillar Two Directive controlling arrangements leading to tax base erosion or targeting harmful tax competition should allow taxpayers to prove that their investment within the EU is based on commercial reasons, and supported by tangible indices (staff, premises, assets) as expressed in EU Primary law such as art. 49 TFEU. The OECD Pillar Two rules featuring standard and presumptive thresholds such as explained above would not pass the test of Primary

EU law. The fact that EU Member States agreed to implement the OECD rules through a Directive decreases the risk of a clash with EU Primary law, but does not exclude it fully.

(4) A serious investigation on how any directive implementing Pillar One and Pillar Two would match the existing secondary legislation in the field of direct taxation would have to be carried out to check out potential cases of conflict, especially in the field of anti-tax avoidance where another Directive already applies.

The international political framework surrounding these issues is under constant changes. The United States was contemplating to adapt its domestic BEAT rules to the general concept of UTPR suggested under the Pillar Two OECD model rules, as well as drafting Pillar One rules to focus on only those MNEs with an ability to face their complexity, i.e. those most intangible driven and most profitable. While the UN is also discussing on how to adopt or reject this reform can be decisive to its actual effects. What remains to be assessed is whether despite the legal issues presented in this paper, there is a meaning for the two pillars' reform in a constantly changing world, where the time of reaction of the global institutions becomes the main obstacle to the reform itself. In other words, the question is to know what valid legal grounds for changing an "ill-functioning" legislation which misses additional value of some MNE's successful business models thanks to digitalization can decently be maintained. Fairness, redistribution, simplicity, and efficiency of the OECD's two pillars reform as universal values fail to address the basis of the law: its constitutional geographic limits, expressed in sovereignty, legitimacy, and acceptance by the people. Taxing someone in one state because no one else does would not satisfy to such requirements, and could initiate a trade war. While the Inclusive Framework provides for an international soft agreement, politically negotiated and negotiated, it shows some flaws in a pure legal context, and will take time to be implemented. Who knows what more problems will have popped up when finally, all these rules will come into effect. The time gap between the occurrence, the identification, and the resolution of the problems shows the need for further research on a time-flexible reform tool in international tax law and how to share the pie.

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CHAPTER 6

Some Insights into the Challenges & Opportunities of Digitalization in the Field of a Value-Added Tax

Mariya Senyk

Introduction

The digitalization of the economy presents new challenges for tax systems, which are often unable to adapt at the same pace. No common definition exists as to the term "digitalization". Some authors focus on changes in communication methods, while others emphasize shifts in business models (Bloomberg, 2018). For the purposes of this chapter the definition provided by the International Monetary Fund (IMF) is used as "a wide range of new applications of information technology in business models and products that are transforming the economy and social interactions".[1] Digitalization brings many challenges, but also opportunities, to value-added tax (VAT) systems as will be illustrated below.

[1] IMF, Measuring the Digital Economy (February 2018), available at: https://www.imf.org/en/Publications/Policy-Papers/Issues/2018/04/03/022818-measuring-the-digital-economy.

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In 2010, the European Commission, through its Green Paper,[2] launched a broad discussion on the transformation of the EU VAT system to make it more simplified and efficient. One of the factors driving the need for the system's overhaul mentioned in the Green Paper was the development of technologies resulting in changing of business models, growth of services, while slow evolvement of the EU VAT legal framework was not fit to the technological developments. In response to the digital transformation of the economy, the EU legislature continually introduces new rules to adapt the EU VAT system—often with the aim of simplification—yet this often results in greater complexity and overregulation.

One of the changes in the field of VAT brought about by digitalization is the significant increase in international trade in both goods and services. A wide range of products is now available online. According to Eurostat, the share of EU enterprises carrying out e-commerce transactions in goods and services increased from 17.21% in 2013 to 23.83% in 2023.[3] From the producers' perspective, this means access to new consumer markets without requiring physical presence in the sale jurisdictions. Even small businesses, previously focused on local markets, can now use various tools and services to market their products internationally. Digitalization has also given rise to new business models, such as organization of sales through various online intermediaries and marketplaces, where individuals are able to sell their own free assets and skills. From the consumers' perspective, this results in an increase in small-scale transactions and lower barriers to trade. Overall, a dividing line between producers and consumers has become blurred, as individuals can now act in multiple roles.

Digitalization is accompanied by advancements in technology, such as cryptography, cloud computing, artificial intelligence (AI) and blockchain technologies, all of which have significant implications for tax systems. For example, blockchain-based technologies are used by several states for the exchange of information, invoicing and VAT refunds (Post & Cipollini, 2022). AI-tools help tax authorities to detect fraud and increase the effectiveness of their internal processes.

[2] European Commission, Green Paper on the future of VAT: Towards a simpler, more robust and efficient VAT system, COM(2010) 695 final, 1.12.2010.

[3] Eurostat, E-commerce statistics, available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=E-commerce_statistics.

The purpose of this chapter is to outline the main challenges posed by digitalization in the field of EU VAT, a tax area that has been harmonized at the EU level. This implies that VAT systems of the Member States are based on the same principles and basic rules, although the Member States still have some freedom in designing national VAT rules. Digitalization creates both challenges and opportunities to improve VAT systems. In Sect. 6.4, three examples of how technological developments and new business models have been used by the EU legislature to improve the EU VAT system are presented, together with some critical reflections on these measures. The first example is the one-stop scheme, which has been considered successful by both the European Commission and the Member States. The second example concerns the involvement of digital platforms in VAT collection, a development made possible by the growing role of digital intermediaries in the supply of goods and services. The third example is the "VAT in the digital age" package that was adopted on 11 March 2025, and which consists of the three pillars: a new real-time digital reporting based on e-invoicing for cross-border transactions, new rules for platform economy and single VAT registration.

Brief Insights into VAT Based on the EU Model

Before outlining the main challenges in the field of VAT caused by the digitalization of the economy, a brief explanation of how VAT works is provided.

VAT is an indirect tax on consumption, meaning that the final consumer ultimately bears the tax burden, while taxable businesses are generally relieved from it. As a general tax, in contrast to specific indirect taxes, such as excises, VAT has a broad tax base covering both supplies of goods and services, although certain transactions are exempted due to various political considerations.[4]

Since it would be impractical to require consumers—primarily individuals—to remit the tax to the treasury, businesses are responsible for collecting the tax. The VAT system is designed so that taxable businesses, both companies and private entrepreneurs, remit VAT on their sales of goods and services only after deducting the input tax they have paid on their purchases, provided that these purchases are used for

[4] For example, the provision of medical care, education and financial services.

taxable output transactions. This deduction mechanism ensures that VAT collected by the treasury corresponds to the value added by each trader in the production–distribution chain, while businesses act as tax collectors without being burdened with VAT. However, if a business carries out transactions that are exempt from VAT or fall outside the scope of the tax, it cannot deduct input VAT relating to such exempt or outside-the scope output transactions either, which results in VAT becoming a cost for such businesses.

In a cross-border dimension, VAT follows the destination principle, which ensures that all consumption within a state's territory is taxed. According to this principle, imports of goods are taxed with the same VAT rate as domestic goods, while exported goods are relieved from the local VAT. This approach ensures competition neutrality between imported and domestic goods. Cross-border sales of services are usually taxed in the state of destination if it is a business-to-business supply, or in the state of purchase if it is a supply to a final consumer, subject to certain exceptions where supplies of services are taxed in the state where a consumer is established or resides to ensure taxation at the place of consumption.

Since VAT is a transactional tax, and different tax rates and rules may govern various goods and services, taxable persons must accurately identify and classify each of their transactions for VAT purposes. A classification of a transaction determines the place where it is taxed, an applicable tax rate or exemption, a person liable to pay VAT, etc.

As indicated earlier, the EU VAT is a harmonized tax, with the EU VAT Directive[5] being the main legislative act laying down the rules that must be implemented by the Member States. However, the Member States have some discretion in forming up their national VAT systems, for example, in determining the scope of exempt activities and applying certain exceptions to the exemptions or determining VAT rates, to name a few. Furthermore, the EU VAT rules may be interpreted differently by the national courts and tax authorities.[6] Consequently, despite the EU VAT being a harmonized tax, a taxable person engaged in cross-border trade within the EU must navigate the VAT rules of 27 Member States.

[5] Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax, OJ L 347.

[6] It is the role of the Court of Justice of the European Union to ensure that EU legislation is interpreted uniformly throughout the EU.

Challenges Caused by Digitalization

A Rise in Cross-Border Trade in Services

Digitalization has led to a significant increase in cross-border services including digital supplies such as supplies of music, films and games, direct streaming services, the provisions of software, telecommunication services, etc. It has also led to a different distribution of who is buying and selling goods and services. These changes increased the interaction between VAT systems, creating risks of double taxation and non-taxation due to the lack of international VAT coordination.[7] To address the challenges stemming from uncoordinated application of national VAT systems, the OECD launched a project in 2006 to develop VAT/GST International Guidelines, aiming to establish international standards and recommendations for the taxation of cross-border services and intangibles, including digital supplies. The Guidelines were completed in 2015 and adopted as a recommendation by the OECD Council in 2016. To a great extent, the EU VAT rules align with the OECD's guidelines.

The increase in cross-border services' supplies revealed that their taxation at the supplier's location, a taxation point earlier used in the EU VAT legislation, could no longer assure taxation at the place of consumption because services could be sold at a distance. As of 1 January 2010, the main rule for the place of supply of services to taxable persons (business-to-business supplies) was shifted from the supplier's to the customer's location. Another issue was the taxation of remote services to final consumers (business-to-consumer supplies), taxation of which at the supplier's location led to distortions of competition as consumers could order remote services from jurisdictions with lower VAT rates or no VAT at all. To address this, as of 1 January 2015, telecommunications, broadcasting and electronically supplied services ("TBE services") provided to EU consumers have been taxed in the consumer's jurisdiction.[8]

Another challenge concerned the collection of VAT on business-to-consumer remote services. In the EU VAT system, suppliers are generally responsible for collecting and remitting VAT to the treasury. However, when suppliers are based outside the taxing jurisdiction, and in the

[7] In contrast to income taxes, there are no international agreements on the avoidance of double taxation in the field of VAT.

[8] The same taxation point applies as of 1 January 2025 in respect of virtual events and other streamed activities.

absence of cooperation agreements between the supplier's jurisdiction and the taxing jurisdiction, enforcing VAT obligations becomes difficult. In this case, a state that has the right to tax, so-called "substantive jurisdiction", does not have a jurisdiction over the persons, both companies and individuals, who are liable to tax, so-called "enforcement jurisdiction". While an alternative approach could involve requiring consumers to pay VAT on their purchases, this would impose high administrative costs and offer limited control possibilities for tax authorities. The EU adopted the supplier collection model, making foreign suppliers responsible for VAT payment. To simplify VAT compliance, suppliers can use the one-stop shop ("OSS") simplification scheme, allowing them to register in a single Member State of their choice to fulfill their VAT obligations in respect of these services across the EU. This solution created a more level playing field between EU and non-EU suppliers, as both must now charge VAT on their supplies to EU consumers. However, VAT collection on remote services' supplies to final consumers depends largely on the voluntary compliance of non-EU suppliers. Data on the collection of VAT through the non-Union scheme[9] of the OSS indicates that compliance levels are far from desirable. For example, VAT declared in the non-Union scheme in 2023 amounted to 2,4 bn EUR compared to 20 bn EUR declared in the Union scheme and 3,9 bn in the import scheme.[10]

Suppliers of remote services to consumers must deal with quite burdensome rules for determining the Member State of the customer's location, where such services are to be taxed. Even though the EU legislation contains a set of rules for determining a customer's location,[11] these rules are quite burdensome for suppliers and have faced criticism from scholars (Claessens & Lejeune, 2014). Currently, a simplification exists for EU small businesses that may determine a customer's location based on one item of evidence in contrast to two items of non-contradictory evidence, which is the primary rule. However, this simplification does not apply

[9] The non-Union scheme is used for the declaration and payment of VAT on business-to-consumer supplies of services taxable in the EU provided by businesses not established in the EU. For more information, see Sect. 6.4.1.

[10] European Commission, Group on the Future of VAT, 46th meeting—9 October 2024, taxud.c.1(2024)7,639,309–EN.

[11] These rules are laid down in Council Implementing Regulation (EU) No 282/2011 of 15 March 2011 laying down implementing measures for Directive 2006/112/EC on the common system of value added tax (recast), OJ L 77.

to non-EU businesses, creating a discriminatory disproportionate burden on non-EU small enterprises, which must navigate more complex rules to determine their customers' locations.

As mentioned in Sect. 6.2, VAT is a transactional tax, meaning that each transaction must be properly identified and classified for VAT purposes, which is the responsibility of a taxable person. Proper classification is crucial as it determines the applicable tax rate, place of taxation and other VAT implications. This task has become increasingly burdensome for businesses, given the large volume of transactions and the often-ambiguous provisions of the VAT Directive. For instance, the VAT Directive provides for a special place-of-supply rule in respect of electronically supplied services ("e-services"), which are defined as "services which are delivered over the Internet or an electronic network and the nature of which renders their supply essentially automated and involving minimal human intervention, and in the absence of information technology is impossible to ensure".[12] This definition is open to interpretation and, given that many services are now delivered online, creates challenges in distinguishing between the category of electronically supplied services and other services also provided through electronic networks. For example, distance teaching may be classified as an e-service, or a service relating to educational activity, which is not an e-service. Especially complex are classifications of so-called "composite supplies" containing different elements that may be either classified as a single supply or multiple supplies. The issue is compounded by the lack of concrete rules in the EU VAT Directive, where only guidance may be found in the case law of the Court of Justice of the European Union. Some examples of such services include the charging of electric vehicles consisting of a supply of electricity and a supply of access to the charging points network, the provision of software with installation, etc.

E-Sales of Goods

The growth of e-sales of goods led to additional VAT challenges. The Internet allowed consumers to order goods from around the world without paying VAT on importation into the EU, due to the former

[12] Art. 7(1) of Council Implementing Regulation (EU) No 282/2011 of 15 March 2011 laying down implementing measures for Directive 2006/112/EC on the common system of the value added tax (hereinafter—'Implementing Regulation').

exemption for low-value goods.[13] This exemption created a competitive disadvantage for EU-based businesses, as it became more attractive for consumers to purchase goods from non-EU suppliers and to take advantage from the VAT exemption, and was criticized as a loophole vulnerable to fraud estimated at EUR 7 billion per year.[14] Sellers had also an incentive to undervaluate the price of imported goods to benefit from the exemption (Messina, 2021).[15] To restore a level playing field, the import VAT exemption for low-value goods was abolished as of 1 July 2021, as part of the EU VAT e-commerce package.[16] Now, when EU consumers order goods from outside the EU, the EU VAT is due on these goods, regardless of their value. A simplification import scheme was also introduced to simplify the collection of VAT on distance sales of goods imported into the EU in consignments with an intrinsic value not exceeding EUR 150 (excluding products subject to excise duties) through the special scheme—the import-OSS.

Prior to 1 July 2021, e-commerce sellers of goods had to register for VAT in every Member State where they made distance sales, subject to various turnover thresholds set by the Member States. The existence of different thresholds resulted in the fragmentation of the single market and increased the complexity of VAT compliance in cross-border situations, especially for small businesses. Since 1 July 2021, a common threshold of EUR 10 000 (or equivalent in the national currency) applies for small EU businesses engaged in distance sales. Businesses below this threshold can pay VAT in the Member State of their establishment. However, this simplification does not apply to non-EU businesses, resulting in their discrimination. Suppliers engaged in intra-EU distance sales of goods can also benefit from the OSS simplification scheme, allowing them to pay VAT at a single point without having to register in every Member State where VAT is due.

[13] Between 10–22 EUR per parcel as determined by Member States.

[14] European Parliament, EPRS, Filling the gap: The EU's fight against VAT fraud, available at: https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/767221/EPRS_BRI(2025)767221_EN.pdf.

[15] Ibid.

[16] EU VAT e-commerce package aimed at overcoming barriers in cross-border e-commerce and modernizing the EU VAT system to fit it to the digital single market. The package consisted of Council Directive (EU) 2017/2455, Council Regulation (EU) 2017/2454 and Council Implementing Regulation (EU) 2017/2459.

On 1 July 2021, new EU rules extending VAT obligations to digital platforms "facilitating" online supplies of goods entered into force in the EU as part of the VAT e-commerce package adopted in 2017. A new Article 14a was introduced into the VAT Directive, which made digital platforms facilitating certain supplies of goods as "deemed suppliers". While these rules aim at simplifying VAT collection, they are not without pitfalls as will be discussed in Sect. 6.4.2 below.

Platform Economy and New Business Models

The emergence of new business models involving digital platforms—particularly those that enable collaborative consumption—has posed additional challenges for the EU VAT system. This shift has been described by some scholars as "a disruptive development" for the EU VAT system.[17] Examples of such platforms include Airbnb in the tourist accommodation sector and Uber in transport services' sector, though many more examples exist. The core idea behind these platforms is that they allow consumers to share their underused assets with others, spreading the costs of such assets among multiple users. The European Commission defines the collaborative economy[18] as "business models where activities are facilitated by collaborative platforms that create an open marketplace for the temporary usage of goods or services often provided by private individuals".[19] The platforms' role in these transactions can vary significantly, where some platforms do not participate in the underlying supply or receive any consideration, while others act as intermediaries and receive VAT on their commission, and some act as commissionaires, either as

[17] Traversa and Lamensch, 'Collecting Value Added Tax in the Platform Economy: Overview of the Fundamental Issues and Recent EU 2018 Developments' in Bram Devolder (ed) The Platform Economy: Unravelling the Legal Status of Online Intermediaries, (Intersentia) p. 364.

[18] It is also referred to as "sharing economy", "peer-to-peer economy", "platform economy", "gig economy" and other synonyms.

[19] European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "A European Agenda for the collaborative economy", COM(2016) 356 final.

actual or deemed suppliers of underlying goods or services.[20] The collaborative economy business model presupposes the involvement of three economic actors: an online platform operating a virtual marketplace, individuals supplying goods or services and customers receiving temporary access to those products (Beretta, 2018).

One key VAT issue in the platform economy is the problem of identification of taxable persons and classification of transactions.[21] To be considered a taxable person for VAT purposes, an individual or an entity must carry out economic activity independently and on a regular basis. Economic activity encompasses the provision of services and goods for consideration, as well as renting out assets for consideration on a continuous basis. Whether the providers of underlying services or assets may be regarded as independent from a platform depends on the platform's specific business model. If not, these providers may not be considered as taxable persons. Some platforms may provide their services without consideration, and are, as such, outside the scope of VAT.

Furthermore, many individuals who share their assets through digital platforms may qualify for VAT simplification rules, exempting them from VAT registration and obligations. Member States apply national annual thresholds for these rules, which, starting as of 1 January 2025, may not exceed EUR 85 000 or the equivalent in national currency.[22] This situation has led to concerns from traditional businesses, which face competition from services offered by individuals through digital platforms as the latter do not have to charge VAT on their supplies of services due to the VAT exemption for small businesses. This creates an incentive for individuals benefiting from the platforms not to formalize a business and avoid paying taxes on their activities including VAT.

Another VAT challenge involves the classification of services provided by the platforms. These services may be considered as e-services since they

[20] Traversa and Lamensch, 'Collecting Value Added Tax in the Platform Economy: Overview of the Fundamental Issues and Recent EU 2018 Developments' in Bram Devolder (ed) The Platform Economy: Unravelling the Legal Status of Online Intermediaries, (Intersentia) p. 367.

[21] There exist some other VAT issues in respect of determining the place of supply of transactions, taxable amount and the application of exemptions, which are not discussed here.

[22] For the application of the exemption scheme to cross-border transactions, additional annual threshold applies, which shall not exceed EUR 100 000 in 27 Member States.

are essentially automated or as other services depending on the character of the underlying supplies and the platform's involvement in the provision thereof. For example, services provided by Uber may be classified as transport services, intermediary services or e-services. The Commission outlined the following criteria to determine whether a platform provides an underlying service: (1) whether the platform sets the final price to be paid by the user; (2) whether the platform sets other terms and conditions of the supply; (3) whether the platform owns the key assets used to provide the underlying services.[23] Different Member States apply varying VAT treatments of transactions in these business models, creating legal uncertainty for businesses engaged in cross-border transactions (Janssen, 2021). The EU legislature has proposed a solution for platforms facilitating supplies in the passenger and short-term accommodation sectors as a part of the "VAT in the Digital Age" (ViDA) package. This legislative package makes platforms responsible for collecting VAT on services provided by non-taxable persons.[24] However, platforms in other sectors of the economy have yet to be addressed by the EU legislature.

Another platform-based business model involves social media platforms, such as Instagram, YouTube, Facebook, TikTok, etc. These platforms provide individuals with free access to their services, while they instead earn money through selling advertising to various businesses. In exchange for free access to social media platforms, users agree to be exposed to advertisements placed on the platforms. From a VAT perspective, a service provided by these platforms to users lies outside the scope of VAT, although it may be argued that untaxed consumption is occuring here, given the users are consuming services offered by the platforms). The difficulty in applying VAT to such services is in establishing the link between the platforms' services and a corresponding service provided by the users, which is required to be subject to VAT. Yet, another issue concerns determining a taxable amount and a taxable event.[25] As a result, many transactions within this business model remain untaxed with VAT.

[23] European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "A European agenda for the collaborative economy", COM(2016) 356 final.

[24] See Sect. 6.4.3 below.

[25] Traversa and Lamensch, 'Collecting Value Added Tax in the Platform Economy: Overview of the Fundamental Issues and Recent EU 2018 Developments' in Bram

It is not uncommon that individuals exchange their goods and services with other individuals through online barter exchange platforms (swapping transactions). In this case, no monetary considerations are present, but barter transactions take place. Individuals can either exchange their goods or services for other goods or services or contribute their goods or services to a common pool in exchange for the right to benefit from another's goods or services included in the pool.[26] From the VAT perspective, barter transactions are subject to VAT, but in the described scenario individuals supplying goods and services could doubtfully be classified as taxable persons and there could also be problems with establishing a direct link between the service provided and the remuneration received,[27] which is a necessary precondition for the application of VAT. The VAT assessment will have to be done on case-by-case basis, but it looks like under the current EU VAT rules transactions in such business models will in most cases remain outside the scope of VAT.

New Products and Classification Issues

Digitalization has led to the emergence of new products with uncertain VAT treatment, such as virtual currencies, various types of tokens and other crypto assets, to name a few. For example, non-fungible tokens ("NFTs") may be defined as "a unique digital asset stored on the blockchain that serves as proof of ownership or authenticity for a digital or physical item/right".[28] Their difference with cryptocurrencies is the fungibility feature. While cryptocurrencies are fungible, NFTs are non-fungible (Alarcón Díaz, 2023). From the standpoint of VAT, NFTs may be treated as supplies of services, as a property title to the underlying asset, as a voucher, as a composite supply consisting of a digital token

Devolder (ed) The Platform Economy: Unravelling the Legal Status of Online Intermediaries, (Intersentia) p. 365.

[26] European Commission, Value Added Tax Committee, Question Concerning the Application of EU VAT Provisions—VAT treatment of sharing economy, 22 September 2015, taxud.c.1(2015)4,370,160—EN.

[27] Ibid.

[28] Dej and Waliczek, "What are non-fungible tokens (NFTs) and where are they useful?", available at: https://www.weforum.org/stories/2023/10/nfts-non-fungible-tokens-blockchain/.

and a related asset.[29] While the predominant view is that NFTs should be treated as electronically supplied services, this approach may not be applied to all situations and an individual assessment is required for each case.

One of the challenges in applying VAT to crypto assets is the pseudonymous nature of many transactions, making it nearly impossible to determine the users' location (Wolfers & Stephanny, 2023). Additionally, challenges arise in classifying a transaction as a supply of goods or services, identifying the parties involved, and determining the amount of consideration. For example, how should transactions happening in the metaverse—such as in-game purchases, exchanging of virtual goods, or conversions of virtual currency into fiat currency—be treated (Wolfers & Stephanny, 2023)? Should these transactions be left outside the scope of VAT unless they result in real-world economic events? These are just a few unanswered questions concerning the VAT treatment of virtual transactions.

Composite supplies—where multiple elements are supplied together and cannot be separated—have always posed difficulties in VAT in view of different rates and rules applied to various supplies of goods and services. The VAT Directive provides no specific guidance on composite supplies. For example, if a meal is sold with a soft drink, and the food is taxable at the reduced VAT rate while the drink with the standard rate, how should this transaction be classified for VAT purposes? Digitalization has exacerbated this problem by introducing digital elements into many composite supplies. One example is hybrid conferences, where participants can participate either in-person or online. In view of the new place-of-supply rules in respect of virtual events effective as of 1 January 2025, the participation in conferences will be taxed at different places depending on whether it is an in-person or online participation. A hybrid event may also consist of various elements, both onsite and online, leading to different places of taxation. For example, an event may be held online on the first day and at a specifically designated place on the next day. That is why a proper classification of a transaction is of utmost importance.

[29] See in this regard, VAT Committee, Working Paper No 1060, taxud.c.1(2023)1,930,643—EN.

Opportunities Created by Digitalization

While digitalization presents challenges for VAT systems, it also offers new opportunities for tax collection and combating VAT fraud. In recent decades, tax authorities have gained access to new tools such as "continuous transaction control" ("CTC"), which enable data collection, increase efficiency and reduce evasion. CTC models, including clearance and real-time reporting models, are believed to enhance tax compliance, allowing tax authorities to detect noncompliance effectively through real-time or near-real-time reporting. Receiving information about possible noncompliance in (almost) real-time is important since tax authorities obtain a chance to detect VAT fraud on time, before the involved fraudsters have disappeared. Technological advancements have also shifted tax assessment from self-assessment by taxpayers to assessment by authorities, with post-assessment by taxpayers (Stephanny & Frias, 2023).

In 2019, Eurofisc[30] started to use an electronic system, the Transaction Network Analysis ("TNA"), that can detect VAT fraud at an early stage. The TNA is an automated data mining tool that interconnects Member States' tax IT platforms. This allows cross-border transaction information to be quickly accessed and suspicious VAT fraud to be reported almost in real time.

Technologies have enabled tax authorities to gather vast amounts of data on transactions. For instance, as of 1 January 2024, payment service providers established in the EU must record certain information on cross-border payment transactions related to e-commerce and report it to national tax authorities.[31] The data is stored in a central database, CESOP, with the aim of improving VAT control over remote

[30] A network of liaison officials from 27 Member States and Norway launched to combat VAT fraud.

[31] By virtue of Council Directive (EU) 2020/284 of 18 February 2020 amending Directive 2006/112/EC as regards introducing certain requirements for payment service providers. The new VAT obligations apply not only to banks and financial institutions, but to all businesses processing payments unless specific exemptions apply. For a detailed analysis of the rules, see M. van Hilten and G. Beretta, "European Union—The New VAT Record Keeping and Reporting Obligations for Payment Service Providers", Int. VAT Monitor, 2020 vol. 31 (4).

supplies.[32] Whether this will prove effective remains to be seen, especially as enforcement possibility in respect of businesses not established in the EU remains a challenge. Furthermore, the measure neither covers alternative payment methods, such as cryptocurrencies and digital tokens, nor barter transactions, leading to criticism from scholars (van Hilten & Beretta, 2020).

Digitalization has had a significant impact on the fight against VAT fraud. Those Member States that invested the most in IT in their tax administrations between 2016 and 2019 had an 81% greater increase in VAT revenues compared with other Member States.[33] Digital means of communication improve an exchange of information between tax authorities of Member States and, as such, improve VAT compliance; the increased use of digital payments and electronic invoices helps to detect fraud.[34]

The following are three concrete examples of how technological advancements and evolving business models driven by digitalization are being leveraged by the EU legislature to improve the EU VAT system—the first being the OSS simplification scheme.

The One-Stop-Shop Scheme—A Successful Example?

The gradual shift toward a more destination-based EU VAT system where VAT is collected as close as possible to the place of consumption has raised challenges regarding the collection of VAT on business-to-consumer remote supplies by non-EU businesses. Requiring non-established suppliers to register for VAT in every Member State where VAT was due was impractical due to high administrative costs and the difficulty of enforcing VAT obligations on non-EU businesses. For example, a US supplier making supplies to consumers in 10 Member States would face the need to register in each one.

[32] A database was created based on Council Regulation (EU) 2020/283 of 18 February 2020 amending Regulation (EU) No 904/2010 as regards measures to strengthen administrative cooperation in order to combat VAT fraud.

[33] European Parliament, EPRS, 'Filling the gap: The EU's fight against VAT fraud' (Briefing), 7, available at: https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/767221/EPRS_BRI(2025)767221_EN.pdf.

[34] Ibid.

To address this, the EU legislature introduced the mini one-stop-shop scheme (mini-OSS) as a special scheme for electronic services, allowing non-EU businesses to register and account for VAT in a single Member State of identification, thereby avoiding the need to register in every Member State where VAT was due. This system, introduced by Directive 2002/38/EC and effective from 1 July 2003, allowed for VAT declaration and payment under an electronic system provided by the Member State of identification, which distributed VAT to the Member State of consumption. The scheme, which was initially temporary, was applied until 31 December 2014. As of 1 January 2015, the scope of the mini-OSS was expanded to EU providers of telecommunications, broadcasting and electronic services (the Union scheme), as well as to non-EU providers of telecommunications and broadcasting services (the non-Union scheme). Later, on 1 July 2021, the mini-OSS was further extended to cover both supplies of goods and services transforming it into a real OSS with the three special schemes: (1) the non-Union scheme covering all business-to-consumer services supplied by non-EU businesses with the place of supply in one of the Member States, (2) the Union scheme covering all business-to-consumer services supplied by EU businesses in Member States where they are not established, intra-Community distance sales of goods[35] and certain domestic sales of goods ("deemed supplies") facilitated by both EU and non-EU digital platforms, and (3) the import scheme covering distance sales of goods imported into the EU in consignments not exceeding EUR 150.[36] Participation in these special schemes is currently optional.

The OSS has undoubtedly simplified VAT compliance for businesses liable for VAT in various Member States where they are not established. According to the European Commission, the OSS has reduced up to 95% of VAT obligations for online sellers and electronic platforms across the

[35] These are supplies of goods to certain taxable or non-taxable legal persons, as well as to non-taxable persons, dispatched or transported by or on behalf of the supplier, including where the supplier intervenes indirectly in the transport or dispatch of the goods, from a Member State other than that in which dispatch or transport of the goods to the customer ends.

[36] More information about the special schemes may be found in: European Commission, Explanatory Notes on VAT e-commerce rules, published in September 2020, available at: https://vat-one-stop-shop.ec.europa.eu/guides_en.

EU, a simplification made possible by technology.[37] This development would have been unthinkable decades ago, when the EU VAT system was first designed for the single market.

According to the European Commission, VAT revenues collected under the mini-OSS grew from EUR 3 billion in 2015 to EUR 4.57 billion in 2018. During this period, VAT revenue in the EU scheme increased from EUR 2.7 billion to EUR 4.1 billion, while revenue in the non-Union scheme grew from EUR 300 million to EUR 450 million.[38] Member States collected €20 billion in VAT revenues in 2022 via expanded OSS, which is a 26% increase of VAT collection via the new systems comparing to 2021 figures. Almost 130,000 companies have registered in OSS to account for VAT on their online sales.[39]

Despite the success, there are doubts about the OSS's effectiveness. In 2019, the European Court of Auditors concluded that tax administrations of Member States performed inadequate controls in the mini-OSS and did not fully exploit intra-EU administrative cooperation in VAT. The situation is amplified by the fact that Member States of identification lack incentives to audit businesses registered in the special scheme due to the absence of reimbursement from the Member States receiving the VAT revenues.[40] Additionally, there is insufficient coordination of audits between different Member States (Muller, 2021). The Union scheme of the OSS has proven more effective due to administrative cooperation mechanisms within the EU,[41] which are lacking with third countries.

[37] European Commission, VAT e-Commerce—One Stop Shop, https://vat-one-stop-shop.ec.europa.eu/index_en.

[38] European Commission, VAT Mini One-Stop-Shop (VAT MOSS), September 2019, available at: https://taxation-customs.ec.europa.eu/document/download/9e6385a3-550b-4f13-b44b-324dff2cefb4_en?filename=moss-statistics-2019.pdf.

[39] Directorate General for Taxation and Customs Union, New EU VAT rules for e-commerce: Updated revenue figures point to a successful implementation, June 2023, available at: https://taxation-customs.ec.europa.eu/news/new-eu-vat-rules-e-commerce-updated-revenue-figures-point-successful-implementation-2022-05-23_en.

[40] European Court of Auditors, Special report 'E-commerce: many of the challenges of collecting VAT and customs duties remain to be resolved (pursuant to Article 287(4), second subparagraph, TFEU)'.

[41] The legal basis for administrative cooperation in the field of VAT is Council Regulation (EU) 904/2010 of 7 October 2010 on administrative cooperation and combating fraud in the field of value added tax (recast).

Nevertheless, both the European Commission and the Member States consider the OSS a success, as demonstrated by the continued expansion of the simplification scheme in recent years.

Use of Platforms for VAT Collection

As highlighted in Sect. 6.3.3 above, new business models involve digital intermediaries, such as digital platforms, that can be defined as "online interfaces that facilitate, for a fee, the direct interaction between multiple buyers and multiple sellers, without the platform taking economic ownership of the goods or rendering the services that are being sold (intermediated)".[42] Examples of such platforms are platforms facilitating short-term accommodation, sharing of household assets or platforms intermediating digital content. Although, as discussed in 6.3.3, digital platforms pose challenges to the EU VAT system, they also offer opportunities for VAT collection. The role of digital platforms in collection of VAT and performance of other supporting measures for collection of VAT on online sales, such as monitoring of transactions and reporting, has been recognized by the OECD.[43]

From the perspective of the EU legislature, it is easier to control a few large platforms than numerous underlying suppliers. That is why the EU VAT system is progressively moving toward a third-party collection model, where VAT is collected by intermediaries, specifically digital platforms, involved in underlying supplies. Apart from the VAT collection, online platforms have record keeping obligations. According to Article 242a of the VAT Directive, platforms have an obligation to keep records when they facilitate[44] supplies of goods and/or services supplied to non-taxable persons in the European Union, even if they are not liable for collection of VAT on such supplies.

[42] IMF, OECD, UN and WTO, *Handbook on Measuring Digital Trade*, 2d. ed, 2023, 92.

[43] *See* OECD (2019), *The Role of Digital Platforms in the Collection of VAT/GST on Online Sales*, OECD Publishing, Paris, https://doi.org/10.1787/e0e2dd2d-en.

[44] According to Article 5b of the Implementing Regulation 282/2011 the term "facilitate" means "the use of an electronic interface to allow a customer and a supplier offering goods for sale through the electronic interface to enter into contact which results in a supply of goods through that electronic interface".

The EU VAT rules making digital platforms responsible for the collection of VAT on electronic services provided through the platforms were introduced already in 2015. On 1 July 2021, new EU rules extended VAT obligations to digital platforms facilitating online sales of goods. These rules form part of the VAT e-commerce package adopted in 2017. A new Article 14a was added into the VAT Directive, which designates digital platforms facilitating certain supplies of goods as deemed suppliers, so called "deemed supplier provision". This provision applies to both EU and non-EU platforms facilitating distance sales of goods imported into the EU in consignments not exceeding EUR 150 (low-value goods), and supplies of goods within the EU (both domestic and intra-EU) to a non-taxable person if the supplier is not established in the EU. The definition of "facilitation" is broad, potentially encompassing any platform involved in a supply. To comply with VAT obligations under the deemed supplier provision, digital platforms can choose between two special simplification schemes: the import scheme and the Union scheme as described in Sect. 6.4.1. above.

Typically, VAT liability falls on the taxable persons supplying goods or services. Sometimes, the liability may be shifted to a customer, so-called "reverse charge". The question arises as to whether it is justified to impose VAT obligations on digital platforms, even fin the case of domestic and intra-Community distance sales by non-established suppliers, given that platforms act as facilitators rather than actual suppliers. The deemed supplier provision imposes a significant administrative burden on platforms, and some scholars argue that it may be disproportionate (Papis-Almansa & Sroka, 2024). There are concerns that platforms may not be sufficiently involved in the supply of goods to be considered suppliers, and they might lack the necessary information for VAT collection, such as when payment is not made through the platform or when the platform is not involved in the dispatch or transportation of goods. Additionally, the rules do not account for the volume of sales, which could impose an excessive administrative burden on smaller platforms. Furthermore, some of the rules are vague, leading to the lack of legal certainty for businesses. For example, it is not always straightforward where a taxable person is liable for VAT on distance or domestic sales of goods facilitated by a platform. Additionally, the new import VAT platform collecting model has faced criticism from a customs' perspective (Messina, 2021). For example, to function smoothly, a new import scheme will require an extensive

exchange of information between platforms, couriers and customs authorities, which is currently lacking and the absence of which may lead to other forms of abuse (Messina, 2021).

The role of digital platforms in VAT collection will be further enhanced by the "VAT in the Digital Age" (ViDA) package, discussed in Sect. 6.4.3.

Despite criticisms regarding the proportionality of this collection mechanism, the measure can be seen as an opportunity created by digitalization within the EU VAT system.

VAT in the Digital Age (ViDA)

In its communication as of 15 July 2020, the European Commission set out an "Action plan for fair and simple taxation supporting the recovery" containing a set of 25 actions.[45] Digitalization of the economy is considered by the Commission as an opportunity to reduce compliance costs for both tax administrations and businesses, and to combat tax fraud. As part of this action plan, the Commission introduced several proposals in 2022 to modernize the EU VAT system, making it fit for the digital age—a prime example of leveraging technological advancements to enhance the EU VAT system. The proposals, referred to as "VAT in the Digital Age or ViDA",[46] aim to create a system resilient to fraud and supportive of SME trade within the single market.

The ViDA was adopted by the Council on 11 March 2025 and will be gradually rolled out until January 2035.[47] The ViDA reforms are based on the three pillars. The first pillar introduces almost real-time digital reporting obligations for intra-EU transactions and mandatory e-invoicing based on an EU standard. This transaction-by-transaction

[45] European Commission, 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.

[46] European Commission, Proposal for a Council Directive amending Directive 2006/112/EC as regards VAT rules for the digital age, COM(2022) 701 final.

[47] The ViDA consists of Council Directive (EU) 2025/516 of 11 March 2025 amending Directive 2006/112/EC as regards VAT rules for the digital age; Council Regulation (EU) 2025/517 of 11 March 2025 amending Regulation (EU) No 904/2010 as regards the VAT administrative cooperation arrangements needed for the digital age, and Council Implementing Regulation (EU) 2025/518 of 11 March 2025 amending Implementing Regulation (EU) No 282/2011 as regards information requirements for certain VAT schemes.

reporting system will help tax authorities to receive more information to combat VAT fraud, particularly missing trader intra-Community ("MTIC") fraud. MTIC fraud occurs when a fraudulent business buys goods from a supplier in another Member State and then sells them to a customer in its Member State and charges VAT thereon. The missing trader disappears with the collected VAT without paying it to the tax authorities. The purchaser, which could be unaware of fraud, claims VAT deduction in respect of goods purchased from the fraudster. This type of fraud becomes possible due to the exemption on intra-EU sales of goods. According to the VAT Gap report,[48] Member States lost EUR 89.3 billion in VAT in 2022, with a significant portion attributed to intra-EU VAT fraud, evasion and avoidance. The aim of the first pillar of the ViDA is to combat VAT fraud in intra-EU transactions and prevent Member States from using divergent VAT reporting systems.

The effectiveness and impact of the first pillar are difficult to predict before its implementation. The introduction of digital reporting requirements for intra-EU transactions will enable tax authorities to collect even more information on taxpayers' transactions and detect potential irregularities. However, concerns have been raised about the potential threat to business confidentiality and the measure's ability to tackle MTIC fraud effectively (Amand, 2023). According to Amand, the effectiveness of digital reporting requirements is based on inappropriate evidence as the national fraud, where these mechanisms were already implemented by various Member States, is of a different nature than the MTIC fraud. Hence, the argument that digital reporting requirements will help to solve the problem of intra-EU missing traders because it works at a national level is fallacious (Amand, 2023). Furthermore, it is probable that new types of fraud will emerge shifting from the missing trader to another part in the chain. Additionally, the system will generate a vast amount of data requiring extensive scrutiny by tax authorities, necessitating significant resources.

The second pillar of the ViDA increases the role of digital platforms in VAT collection for short-term accommodation rentals and passenger transport services where the underlying suppliers are not required to collect VAT. Platforms will become deemed suppliers for these services

[48] European Commission, CASE, Poniatowski, G., Bonch-Osmolovskiy, Braniff, L., Harrison, G., Luchetta, G., Neuhoff, J., Śmietanka, A., Zick, H. VAT gap in the EU—Report 2024, Publications Office of the European Union, Luxembourg, 2024.

and will also be responsible for VAT collection on certain goods' transfers within the EU and distance sales to all B2C supplies facilitated by platforms. This aims to prevent competitive distortions between traditional businesses and small service providers. However, there is a concern that this could create a reversed competitive distortion, where underlying supplies to platforms are exempt from VAT without the right to deduct (Sánchez Gallardo & Echevarría Zubeldia, 2023).

The third pillar of the ViDA introduces the concept of a single VAT registration to avoid multiple VAT registrations in the EU by the expansion of the current OSS system and the VAT reverse charge mechanism.[49] The extension of the OSS has been welcomed by scholars, though there is some criticism regarding the exclusion of the deduction system from the scheme.[50] The impact assessment suggests that SMEs will benefit significantly from these measures, saving approximately EUR 7 billion in costs from 2023 to 2032.[51]

Final Reflections

Digitalization challenges the current EU VAT system, as it does other areas of law. The EU VAT system struggles to keep pace with digitalization, particularly given that all tax decisions at the EU level require unanimity. In the author's view, the most significant challenge is the dramatic increase in the number and volume of small-scale transactions, which strains businesses and tax authorities alike. Businesses must determine the VAT treatment of each transaction, while tax authorities must manage and make effective use of vast amounts of transactional data.

[49] Reverse charge means that the obligation to pay VAT is shifted from the supplier to the customer.

[50] C. Amand & E. Ceci, 'An EU Single VAT Registration on B2B Supplies', Int. VAT Monitor 2021, vol. 32(2).

[51] Commission Staff Working Document Impact Assessment Report, SWD/2022/393 final, 6.2.3.

Technologies present both advantages and risks for VAT systems. While they can be misused for tax evasion,[52] they also have the potential to enhance the EU VAT system by addressing issues such as VAT fraud and simplifying compliance. However, their also entails certain risks, including security exposure and potential interference with fundamental human rights, such as the right to privacy and the right to protect personal data (Papis-Almansa, 2022). These remain crucial areas for research.

The EU legislature is leveraging technology to make the EU VAT system more fraud-proof and simple. Furthermore, transformation in business models is being used to enhance the efficiency in VAT collection. However, it remains to be seen whether these technology-based measures will achieve their objectives. This is also an area where more research will be needed.

As highlighted in Sect. 6.3.4 above, digitalization has led to the emergence of new types of transactions that are difficult to place within the framework of the current EU VAT system. At the same time, these transactions may expand the EU VAT tax base and increase tax revenues of Member States. This development requires further research, particularly in relation to virtual transactions.

On a broader scale, it may be questioned whether the EU VAT system is fit for the digital economy, given its increasing complexity and fragmentation. Although it has been criticized for its inability to fully address the challenges posed by digitalization, it remains a superior system for indirect taxation by providing a stable revenue base, ensuring neutrality for businesses and shifting the VAT collection function to businesses—who carry out this function without compensation. The EU VAT system is likely to remain in place for decades to come, and, hopefully, with more harmonized rules and the effective implementation of technology-based solutions, will become better suited to a digitalized and global economy.

[52] For example, the use of automated sales suppression devices (also known as zappers) that falsify electronic records of point-of-sale systems. See in this regard P. Stephanny and R. Frias, "The Death of the Indirect Tax Return", Tax Notes International, vol. 112 (2023).

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CHAPTER 7

Navigating the Digital Frontier: The Implications of Tax Technology on Systems of Expertise and Legitimacy in Taxation

Amanda Sonnerfeldt

Introduction

Digitalization has become a central focus today due to the rapid and widespread diffusion of digital technologies. Though not a new phenomenon, advancements are evolving at an exponential pace, leading to the integration of these technologies into financial and business ecosystems. The adoption of interdependent and interconnected digital technologies—such as big data analytics, artificial intelligence, and cloud computing—has deeply penetrated various sectors (de Mello & Ter-Minassian, 2019). This digital transformation has fundamentally altered traditional practices and business models, driving major changes in organizational strategies, resulting in significant economic and societal impact (Knudsen, 2020; See Wernberg's chapter in this volume).

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As a result of these developments, governments have started to introduce or revise rules that define what is taxed, how it is taxed, and the underlying principles of tax policy, in order to safeguard tax revenues and to ensure fair competition (Avi-Yonah et al., 2022; See Brokelind's and Hansson's chapters in this volume).To support tax law and policy, compliance and tax administration are essential components of the regulatory architecture, crucial for maintaining a reliable revenue stream for governments. For instance, tax administrations participating in the 2023 Tax Administrations Survey collect net revenues totaling EUR 13.4 trillion and employ approximately 1.7 million staff (OECD, 2023).Tax compliance and administration ensure that individuals and businesses declare and pay their taxes, which is vital for economic stability, funding public services, and supporting the overall functioning of society (Végh, 2018).

Within this context, digitization—the technical process of encoding analogue data into digital format—has enabled a shift toward real-time reporting, e-invoicing, and an availability of digital data. This transformation is further propelled by digitalization initiatives, which involve the design and use of digital technologies alongside changes related to socio-technical structures (Knudsen, 2020). Technology-driven tools such as data analytics, digital identification, robotic process automation, and more recently, artificial intelligence have been increasingly utilized to streamline, automate, and enhance various tax-related processes, tasks, and compliance obligations across both corporate and public sector tax domains.[1] Tax technology has the potential to lead the way in innovation, tackle the challenges of new business models, and transform how taxpayers interact with tax authorities (Bassey et al., 2022a, 2022b).

Three key trends are shaping the trajectory of tax compliance and administration. Firstly, there is a notable shift from traditional, paper-based Tax Administration (TA) 1.0 and toward TA 3.0.[2] TA 3.0 envisions a future of digital transformation where tax systems are seamlessly integrated with digital technologies, enabling real-time data exchange for

[1] See for example, ICAEW (2022) Digitalisation of tax: interational perspectives. https://www.icaew.com/technical/technology/technology-and-the-profession/digitalisation-of-tax-international-perspectives; Deloitte (n.d.) Digitalization of indirect tax demands a holistic approach. https://www.deloitte.com/global/en/services/tax/perspectives/digitalization-indirect-tax.html.

[2] Tax Administration 1.0, 3.0, etc. are OECD proposed terminology with high number indcating a more current version of digital transformation of tax administration.

more efficient tax collection and compliance (OECD, 2020). This evolution is driven by the increasing availability of global data from mobile payment providers, electronic cash registers, online marketplaces, and other sources enabling tax authorities to obtain data from third-party data sources (Estevao, 2021). Concurrently, tax administrations are leveraging this surge in data to reduce administrative burdens, allowing them to focus on what they perceive as more critical activities and providing a seamless, integrated experience for taxpayers (OECD, 2020). For instance, where digital and automated tax processes are embedded in the same systems that taxpayers use to carry out their businesses. The tax administration report highlights that over 80% of tax administrations are leveraging large, integrated data sets and analytics tools to enhance risk management and compliance. Additionally, more authorities are utilizing digital assistants like chatbots to enable near 24-hour service operations (OECD, 2021).

Second, tax law and policy are becoming more transaction-focused due to the complexities and cross-border nature of the digital economy. This requires accurate tracking and taxation of digital transactions, with a growing emphasis on transparency and real-time reporting mechanisms. The introduction of e-invoicing and digital reporting reflects the demand for more timely tax reporting, reducing opportunities for non-compliance (Confederation of Swedish Enterprises, 2019). Authorities are also requiring more detailed reporting and disclosures, aligning with global efforts to enhance transparency in tax systems. For example, Council Directive (EU) 2021/514 ('DAC7') extends the EU tax transparency rules to digital platforms and introduces an obligation for platform operators to provide information on income derived by sellers through platforms. Furthermore, it provides for tax data sharing between EU tax authorities regarding the taxable events and income generated through these platforms.

Thirdly, as businesses face an increasing volume of financial transactions and more stringent reporting requirements, both large and small businesses have began to invest in tax software and engage tax consultants to navigate the complexities of tax compliance in order to meet reporting obligations and deadlines. This trend is fueling the rapid growth of the tax consultancy and the tax software market. For example, the software market was valued at USD 15.89 billion in 2023 and is projected

to increase to USD 47.90 billion by 2032.[3] Companies are also integrating Enterprise Resource Planning (ERP) systems with tax functions to streamline processes and improve real-time compliance; investing in Robotic Process Automation to automate repetitive tasks and turning to data analytics and AI for predictive insights and risk management in their tax processes.[4] In light of the prevailing trajectory, tax technology is positioned to assume an increasingly pivotal role in optimizing the efficiency and effectiveness of tax compliance and administration. It offers the potential for more accurate and transparent tax reporting, collection, and payment, while also providing robust safeguards against fraud (OECD, 2020).While tax technology is frequently lauded for its potential benefits, these advantages remain largely theoretical. Furthermore, there is a prevailing belief that existing systems are adequate and that tax professionals already possess the requisite skills to utilize these technologies effectively.

This chapter aims to highlight critical challenges arising from emerging trends in the tax technology landscape and outline key research questions that require further exploration and attention. It serves to advance understanding of their implications on tax systems of expertise and legitimacy in the context of compliance and administration. Through extant literature, reports from organizations such as the OECD and trade journals, the study reviews current development in tax technology and presents a discussion on how digitalization is shifting the nature of expertise embodied in three domains: commodities, organizations, and tax professionals and their implications on legitimacy. While the benefits and affordances of tax technology are well-documented, this chapter contributes by providing a foundation for analyzing the fundamental challenges and limitations introduced by this shift. It also explores the evolving competencies required by tax professionals to maintain and enhance trust and legitimacy within the tax system.

[3] Tax Management Software Market Size, Share & Industry Analysis, By Deployment (On-Premise and Cloud), By Enterprise Type (Large Enterprises and SMEs), By Vertical (BFSI, IT & Telecommunication, Healthcare, Retail, Manufacturing, Energy and Utilities, Hospitality, and Others), and Regional Forecast, 2024–2032. Source: https://www.fortunebusinessinsights.com/tax-management-software-market-102631.

[4] See for example, https://www.thomsonreuters.com/en-us/posts/tax-and-accounting/ai-driven-erp-systems/

This chapter is structured into the three following sections. The first delves into the transformation of tax systems of expertise within the digitalization landscape. The second addresses critical legitimacy issues emerging from the transition to technology-driven systems. Lastly, the chapter concludes with reflections and proposes a forward-looking research agenda for future studies in this rapidly evolving field.

Tax Systems of Expertise in the Context of Digitalization

Expertise encompasses a high level of advanced and specialized knowledge or skill within a specific subject or field. In contrast to competence, which refers to the ability to perform tasks according to established standards, expertise transcends mere proficiency and mastery. It is characterized by the capability to tackle complex challenges, offer unique insights, and make substantial contributions within a specific area, grounded in specialized knowledge (Abbott, 1991). In modern society, there is tendency to place confidence in abstract systems of expertise—systems in which we trust that others possess greater knowledge about certain matters than we do ourselves (Giddens, 1990). Writing about the future of professions, Abbott (1991) puts forth that expertise can be seen to be embodied in commodities, organizations, and persons (professionals), which act together in mutually reinforcing ways.

In the context of tax technology, commodities include expert systems where algorithms and routines are embedded in software for compliance activities aligned with tax regulations, as well as robots programmed to perform routine tasks. For companies, tax rules are increasingly embodied in tax software programs, which not only automate the filing process but also empower tax professionals to analyze complex tax planning scenarios, run projections, and measure the outcomes of various tax reduction strategies through predictive and prescriptive analytics. According to consultancy reports, companies are starting to build AI models in-house to make data-driven suggestions and recommendations showing businesses how they can achieve their strategic tax goals.[5] These tools are becoming integral to a tax professional's toolkit, actively contributing to

[5] See for example EY (2020a, 2020b) How artificial intelligence will empower the tax function. Available at: https://www.ey.com/en_se/insights/tax/how-artificial-intelligence-will-empower-the-tax-function.

data-driven decision-making. For tax authorities, technologies including data analytics, machine learning make possible analysis of a more extensive data set, enabling deeper insights into taxpayer behavior and economic activities. These technologies facilitate the detection of tax evasion, identification of compliance risks, and streamlining of tax processes, enhance tax assessments, and design more effective tax policies (Alm, 2021).

Expertise embodied in organizations involves the coordination and integration of various specializations within entities. This structure leverages economies of scope and human capital, enabling the assembly of multidisciplinary teams tailored to solve complex problems. Both companies and tax authorities are redesigning their processes to enhance collaboration and expanding their workforce to include important new actors such as data specialists, chief information officers, IT departments, and data analysts. For companies, the integration of tax into Enterprise Resource Planning (ERP) solutions exemplifies this shift, allowing potential for seamless tax management within broader business processes and fostering closer collaboration between tax departments and accounting teams. For tax authorities, tax and technical personnel collaborate to develop advanced analytics tools that reduce the risk of tax evasion. These tools enable the comprehensive analysis of extensive data from various sources, providing deeper insights into taxpayer behavior and economic activities, thereby enhancing compliance and enforcement efforts.

Expertise embodied in persons refers to the specialized knowledge, skills, and competencies in taxation that individuals develop through education, training, socialization, and experience in a particular field. The expertise embodied in tax professionals encompasses three critical elements of tax knowledge: general, procedural, and legal (Bornman & Ramutumbu, 2019). General tax knowledge involves a comprehensive fiscal awareness, including a deep understanding of governmental fiscal strategies and robust financial literacy, and the impact of taxation on company or entity's financial position on personal finances (Ahmed & Braithwaite, 2005; Cullis & Lewis, 1997; Muehlbacher et al., 2011). In the context of digitalization, this also includes familiarity with digital financial tools and platforms. Procedural tax knowledge pertains to the mastery of tax compliance procedures, effective interaction with tax authorities, and detailed record-keeping practices, all of which are increasingly facilitated by digital systems and software (Sakurai & Braithwaite, 2003). Legal tax knowledge requires an in-depth understanding of the

policies, law, and regulations governing taxation, ensuring that tax professionals can navigate and apply these rules with precision and authority (Saad, 2014; Lai et al., 2013).This knowledge is crucial for adapting to evolving digital tax administration frameworks and ensuring compliance in a rapidly changing technological landscape, allowing professionals to navigate complexity, make professional judgment, innovate, and handle unpredictable environments.

The three forms of expertise interact to form a system that encompasses substantive know-how including tax regulation, norms, and routines that are essential for ensuring societal trust in tax compliance and administration system. Digitization and digitalization have led to a more dependence on tax technologies. Tax expertise, once primarily held by tax professionals, is increasingly shifting toward organizations and commodities.

Legitimacy in the Era of Digital Tax Expertise

Legitimacy is a multifaceted concept that is understood, interpreted, and applied differently across various academic disciplines. Relevant to this anthology, it is important to distinguish between legal, moral, and social legitimacy as blurring these concepts has led to much of the uncertainty and obfuscation in legitimacy debates (Thomas, 2014). Etymologically, the term 'legitimacy' is derived from the Latin *lex* (law), which gives rise to *legitimus* (lawful). With reference to previous chapters, legal legitimacy refers 'a property of an action, rule, actor or system which signifies a legal obligation to submit to or support that action, rule, actor or system' (ibid, p. 75). Hence, from the legal perspective, a system is legitimate when it adheres to the rule of law and procedures on law making. Once it is obtained, it provides a compelling reason for compliance, even in the presence of conflicting moral considerations. Moral legitimacy is akin to legal legitimacy in that both evaluate objects against specific normative frameworks. However, moral legitimacy is grounded in ethical principles and values, reflecting the perceived righteousness and ethical integrity of the action, rule, actor, or system. Social legitimacy, which this chapter refers to, does not adopt a normative stance or adhere to an objective 'ought' or 'should.' Instead, it regards legitimacy as an empirical concept (ibid). Drawing on social science scholarship to examine what is legitimacy, where and how it occurs (Suddaby et al., 2017). Suddaby et al. (2017) identified that legitimacy research in social sciences has regarded

legitimacy in primarily three ways: as a capacity, property, or resource; an interactive process of social construction, and social judgement or evaluation. In this chapter, legitimacy is defined as a capacity or resource that occurs between the legitimacy object and the external environment. It refers to the acceptance by individuals or groups that an institution, system, or authority has the right to govern, enforce rules, or make decisions, based on its perceived fairness, legality, transparency, accountability, and expertise. This contingency view emphasizes the fit between the attributes of a system or organization and the expectations of the external party.

Table 7.1 outlines the significant transformations in the dimensions of work, occurring simultaneously with the evolving tax systems of expertise in the digital era.

This development has implications on legitimacy as it disrupts existing order of work and the way which tax expertise is organized, challenging the established norms, values, and systems that are perceived as valid and acceptable. The following section provides a discussion on the potential affordances and issues challenging legitimacy given the above shift in the systems of expertise in taxation.

Technology affordances can be defined as 'action possibilities and opportunities that emerge from actors engaging with a focal technology'. (Faraj & Azad, 2012, 238). Tax technology brings several significant dispositional affordances i.e., the inherent potential or capability of a digital system to support certain actions or behavior by its users (Salijeni et al., 2021). This concept is rooted in the idea that the design and features of a digital tool can predispose users to interact with it to increase the scope and depth of its analysis through data storage capacities and enabled by the handling of large datasets. It also provides communicative affordances referring to the capabilities that digital tools and platforms provide to facilitate interactions between actors. In this case, taxpayers, tax professionals, and tax authorities.[6] As more technologies are adopted, it shapes how tax knowledge is accessed, shared, and utilized within digital ecosystems, challenging traditional systems of expertise in companies and tax administration.

[6] See for example, ICAEW (2022) Digitalisation of tax: international perspectives. https://www.icaew.com/technical/technology/technology-and-the-profession/digitalisation-of-tax-international-perspectives.

The introduction of modern information and communication technologies into tax systems, including E-Registration, E-Filing, E-Payment, and E-Invoicing, has significantly streamlined processes across various stages of tax administration. These technologies enhance the efficiency of registration, assessment, verification, collection, and dispute settlement (OECD, 2020). For instance, E-Registration simplifies the initial taxpayer registration process, ensuring accurate and timely data entry. During assessment and verification, automated systems and big data analytics enable tax authorities to process vast amounts of information quickly, uncovering insights and detecting anomalies with greater precision (Khmyz et al., 2023). E-Invoicing, as seen in Brazil, reduces errors and evasion, thereby improving the accuracy of tax assessments (Confederation of Swedish Enterprises, 2019). In the collection phase, real-time data sharing and automated reporting provide communication affordances enabling timely and accurate tax payments, reducing the administrative burden on both taxpayers and authorities (Khmyz et al., 2023). In dispute settlements, digital interfaces and AI-driven tools enhance communication between tax authorities and taxpayers, improving service quality and expediting the resolution of disputes. The incorporation of AI and blockchain technologies in the United States into these systems for instance, has shown to further amplify their capabilities (Adelekan et al., 2024).

Correspondingly, the integration of modern technologies into business operations has transformed tax departments in companies. For instance, the electronic transfer of invoice data as transactions are created and booked in accounting systems, directly interfacing with tax authorities' databases, reduces errors, non-compliance, and fraud. Contingent upon the implementation, the effectiveness of tax systems can potentially be improved through decision-making supported by advanced decision support systems, which provide real-time, quality information. Currently, tax teams spend 40% to 70% of their time on data gathering and processing; automation, robotics, and new human–machine collaborations have freed up resources, allowing professionals to focus on higher-level tasks. The integration of AI is expected to further enhance efficiency and enable more sophisticated analysis and decision-making.[7]

[7] See for example, EY (2020a, 2020b) Global Tax Technology and Transformation Survey. Available at; https://www.ey.com/en_gl/tax-technology-and-transformation-survey-2020.

While the affordances of tax technology are well-documented, there is no conclusive evidence that these technologies will achieve the expected outcomes of efficiency and effectiveness in tax compliance and administration (Mallick, 2021; Omar et al., 2020). Major challenges include errors in input data, lack of interoperability, knowledge and expertise, data privacy concerns, and the lack of robust regulatory frameworks. Such challenges are evident across both developed and developing countries, affecting small and medium-sized enterprises (SMEs) as well as large multinational enterprises (Bassey et al., 2022a, 2022b; Soulange et al., 2017; Confederation of Swedish Enterprises, 2019).[8] These issues highlight the importance of addressing legitimacy challenges due to shifts in tax systems of expertise.

Legitimacy Issues Related to Expertise of Tax Professionals

The adaptation to new technological paradigms presents challenges, including the necessity for ongoing training and overcoming resistance to change. However, the expectation that professionals will effortlessly adapt might not always align with reality. Issues may arise that undermine the perceived legitimacy of their expertise, particularly when errors or anomalies occur.

Outsourcing tax services to third countries has been enabled by digitalization and technology advancements. While outsourcing may bring cost advantages, it may compromise the quality of tax filings due to the reduced involvement of local tax experts. Hence, outsourcing may increase the probability of errors, omissions, and non-compliance with complex tax laws. Offshore teams may lack in depth understanding of local regulations and the ability to adapt to jurisdiction-specific nuances, increasing the risk of inaccuracies. Hence, undermining the legitimacy related to the expertise of tax professionals.

The integration of advanced tax technology systems into the workflows of tax professionals raises significant legitimacy issues concerning the delineation between machine and human labor. Machines have the capacity to perform data processing and routine tasks, and more importantly, predictive and prescriptive analytics tools can facilitate scenario analysis and risk assessments traditionally done by tax professionals, but

[8] See also Deloitte (2024a, 2024b) Global Tax Policy Survey, https://www.deloitte.com/content/dam/assets-shared/docs/services/tax/2024/dttl-global-tax-policy-survey-report.pdf?dl=1.

with greater speed and data-driven insights. It raises the question as to whether tax professionals can maintain their legitimacy when machines are arguably capable of performing much of their traditional work more efficiently and effectively.

While it has been argued that tax professionals are now freed from routine tasks to focus on higher-level, value-added activities requiring professional judgment, human insights, and experience, it is essential to reflect on whether they are adequately prepared with current legal, procedural, and fiscal tax knowledge. If tax professionals are basing their professional judgment on insights generated by tax technologies, it is essential to consider whether they possess the new competencies needed to fulfill their evolving roles. For instance, the shift toward more data-driven and advisory responsibilities requires competencies in data interpretation, critical thinking, communication, and strategic decision-making, far beyond traditional technical tax knowledge.

To maintain their legitimate standing in business and society, tax professionals are required to develop new competencies. Firstly, they need to acquire technical and technological knowledge, particularly in data analytics and artificial intelligence applications, in order to understand the function, capacity, and limitations of these tools. Such expertise helps balance the power dynamics between data and IT personnel and tax professionals, and allows tax professionals to leverage data-driven insights for more accurate tax forecasting, compliance, and strategic decision-making. This, in turn, enhances their effectiveness and maintains their professional legitimacy.

Secondly, digital intelligence and contextual knowledge are deemed crucial by company boards and top management within the emerging ecosystems of tax technology. This requires tax professionals to have the insight to understand how new tax technologies, regulations, and global tax trends interact and influence their work. It also involves the ability to navigate the broader environment, including finance, strategy, and law, to identify opportunities for tax professionals to harness value innovatively.[9]

[9] See for example, Journal of accountancy (2017) What CEOs and CFOs need to ask about tax. https://www.journalofaccountancy.com/videos/what-c-suite-leaders-need-to-ask-about-tax.html; EY (2023) How tax leaders can increase their impact today and in their next role How tax leaders can increase their impact today and in their next role; https://www.ey.com/en_us/insights/tax/how-tax-leaders-can-increase-their-impact-today PwC (2024) What's important to tax executives in 2024 https://www.pwc.com/us/en/executive-leadership-hub/tax-executive.html.

Thirdly, ethical awareness is central to maintain the legitimacy of the tax profession. Tax professionals are expected to understand ethical issues when using tax technology. This includes issues relating to data privacy, accuracy, and transparency, as well as addressing potential biases in AI and machine learning systems. By doing so, they uphold trust and compliance with regulations, integrating technology without compromising professional standards. This is particular critical as tax technology may open avenues for tech-savvy individuals and corporations to exploit loopholes in digital tax systems, further emphasising the need for vigilant ethical oversight.[10]

The tax profession is undergoing significant transformation due to the integration of robotics and analytics tools. This evolution underscores the importance of mid-level expertise and continuous professional development, but it also brings significant legitimacy challenges. As tax professionals increasingly depend on advanced technological tools and collaboration with IT personnel, their traditional authority and autonomy are being questioned. These shifts in power dynamics within organizations necessitate a reflection on their professional identity, balancing traditional tax expertise with new technological skills to maintain their legitimacy in a rapidly evolving landscape.

Legitimacy Issues Related to Expertise in Organizations

The digital transformation and advancements in tax administration toward TA 3.0 are placing new demands on tax departments and related functions. Tax requirements are increasingly integrated into financial systems, significantly impacting ERP and information systems infrastructure. E-invoicing mandates imply that relevant customer, product, and supplier data may be shared with tax authorities. Consequently, companies are adopting a more holistic and centralized approach to meet these evolving requirements. This shift involves moving from siloed tax teams to multidisciplinary networks that include IT, risk, and accounting experts, enhancing connectivity. However, this development raises issues of legitimacy, as the shift in expertise from individuals to organizations can lead to concerns about governance, accountability, and fairness.

[10] See for example, KPMG (2024) How to create an ethical framework in tax https://responsibletax.kpmg.com.

These developments have introduced several legitimacy issues. One of the primary concerns of tax authorities and the general public is ensuring fairness and equal treatment for all taxpayers. Automated systems, blockchain technology, and algorithms used in tax compliance and assessments need careful monitoring to prevent biases (Alexander, 2022; Anisimova, 2021; Kim, 2022; Wirtz et al., 2020). However, the audit of algorithms is in its infancy, with standards and competence still under development, creating a significant legitimacy gap (Kim, 2017). As tax departments integrate more with IT and data analytics teams, it becomes crucial to define clear boundaries for their roles and responsibilities. The above section questions if tax professionals understand 'tech,' in this paragraph, given the reliance on multidisciplinary teams, one question if non-tax experts understand tax? While establishing guidelines and frameworks can help delineate the scope of work for tax departments and their interactions with other departments, ensuring that each team understands its responsibilities and limitations is vital. The idiosyncrasies and dynamics of each company and each tax authority make governance and internal controls particularly challenging. These complexities can lead to inconsistencies in how tax policies are applied and enforced, potentially resulting in unequal treatment of taxpayers. Additionally, the integration of multidisciplinary teams can blur the lines of accountability, making it difficult to pinpoint responsibility for errors or biases in tax processes. This lack of clarity can undermine trust in the tax system and raise questions about the legitimacy of tax practices and decisions.

Maintaining accountability in a more automated and integrated environment is another significant challenge. As tax functions become more intertwined with IT and accounting, robust reporting structures and accountability mechanisms are necessary to ensure transparency and responsibility at all levels. This integration also presents challenges in seamlessly combining accounting, IT, and tax compliance functions to avoid fragmented and conflicting information. Utilizing integrated software solutions and platforms that ensure real-time data sharing and consistency across departments may alleviate some of these issues. Furthermore, leveraging data collected for tax purposes for other beneficial uses without breaching privacy or regulatory guidelines requires developing clear policies on data usage and investing in technologies that ensure data security and compliance with regulations. Without these measures, the risk of fragmented information and data misuse can

further erode the legitimacy of tax practices, as external stakeholders may question the integrity and fairness of tax practices.

The emergence of new structures and processes, as well as new forms of work, due to technological advancements aimed at solving more complex problems also raises legitimacy issues. Measuring performance in a more automated and integrated environment necessitates developing new KPIs that reflect the efficiency and effectiveness of automated processes and the integration of various functions. Fostering a culture that embraces change, along with new ways to manage human capital, and continuous training and development programs can prepare employees for new technologies and processes. Building multidisciplinary, diverse, and inclusive teams that include skills from tax, IT, data analytics, and other relevant fields is another challenge. Promoting diversity and inclusion initiatives and encouraging cross-functional collaboration can help address this issue. Ensuring effective collaboration and communication between tax professionals and other specialists, such as data analyst and cyber security experts, is essential. While multidisciplinary teams and a collaborative work environment can help achieve this goal, balancing the need for compliance with the agility required to adapt to new technologies and processes presents an additional legitimacy challenge.

The digitization of reporting, accounting practices, and tax filing has the potential to significantly transform the roles and tasks of professionals in these fields, making them more efficient and data-driven. However, achieving seamless integration of accounting, IT, and tax compliance requires careful planning and execution to avoid fragmented and conflicting information. These developments present both opportunities and challenges, and organizations must navigate them carefully to ensure they harness the benefits while mitigating the risks. The shift in expertise from siloed tax departments to multidisciplinary teams necessitates addressing emerging legitimacy issues to maintain trust and effectiveness in tax governance and compliance.

Legitimacy Issues Related to Expertise in Commodities

The development of tax-related commodities, whether by in-house teams or third-party developers, raises significant legitimacy issues. When companies rely on third-party developers, there is a risk that these developers may not fully understand the complexities of tax laws and

the specific regulatory context, leading to potential inaccuracies. In-house teams may benefit from closer integration with tax experts, but they still face challenges without sufficient training. For tax administrations, ensuring that developers possess adequate tax knowledge is crucial for maintaining the system's credibility. To maintain the legitimacy of digital tax systems, it is essential that tax authorities and software developers implement stringent security measures to safeguard taxpayer data from cyber threats, unauthorized access, and potential misuse. Without robust privacy measures, public confidence in these systems could erode, undermining their effectiveness and reliability.

The quality of data used in these systems is another critical factor affecting their legitimacy. Poor data quality can undermine the system's credibility, leading to incorrect tax forecasts and decisions. Both companies and tax administrations need to ensure high-quality data input to maintain public trust, and avoid the 'Garbage-in garbage-out' phenomenon. Additionally, the system must provide credible predictive analytics and engage robust assurance mechanisms to validate its processes and outputs. Regular testing and auditing of algorithms are essential to ensure their reliability. Automation of tax processes can lead to a 'black box' problem, where it becomes difficult to understand how decisions are made or how data is processed. Independent auditing may serve as a mechanism to oversee these processes in order to maintain impartiality and accuracy, which is crucial for both companies and tax administrations. The absence of formal structures to support such oversight may undermine the legitimacy of the system, potentially leading to disputes and resistance.

Transparency and security are also vital components in maintaining the legitimacy of tax-related systems. As tax technology reshapes tax compliance and the responsibilities of tax professionals, and tax authorities, it introduces potential risks to transparency and public accountability. Legitimacy issues arise if redesigned processes fail to maintain procedural fairness and align with stakeholder expectations. Robust security protocols are essential to protect taxpayer data from cyberattacks and unauthorized access. Ensuring secure access for authorized users while preventing misuse is critical to maintaining public trust. Ethical considerations regarding the extent of system autonomy and clear communication about the system's processes and decisions are necessary to uphold the system's legitimacy.

Finally, the digitization of financial reporting and the evolution of tax expertise present challenges and implications for both companies and tax administrations. Legacy systems and a lack of investment in back-office functions can hinder compliance and enforcement. Ensuring that tax professionals are equipped with the necessary skills to interact with new systems is crucial for maintaining the system's legitimacy. The role of tax professionals in interacting with these systems must be clearly defined, and ethical guidelines need to be established to address the boundaries between machine and human work. However, achieving this requires significant investment in resources, which not all companies, tax authorities may be willing or able to commit. This reluctance to invest can further undermine efforts to maintain and enhance the legitimacy of these systems.

A Path Forward

Research has shown the importance of policy coherence, education, and institutional infrastructure to support compliance to tax rules by companies and enforcement by tax authorities (Cialdini, 1989; Coleman & Wilkens, 1995; Etim et al., 2020; Hasseldine et al., 2012; Jankeeparsad et al., 2016). However, the rapid digitalization of tax systems introduces new complexities that challenge these traditional drivers of compliance. Despite growing adoption of technology in tax administration, there remains a significant gap in understanding how digital transformation reshapes the interaction between technical capabilities, organizational processes, and professional roles in tax compliance. This paper therefore proposes a targeted research agenda to address these critical areas and bridge this knowledge gap.

Professional

Given the evolving challenges and competencies required by tax professionals to maintain and enhance trust and legitimacy within the tax system, it is crucial to conduct further research in the following areas to deepen our understanding of the tax knowledge necessary for the profession to be future-ready:

- How is the rise of tax technology reshaping the skillsets required for tax management and professionals, particularly with a growing

emphasis on technical expertise and data analytics? Are tax professionals equipped with the necessary knowledge and technological competencies to effectively operate in these advanced, data-driven environments? To what extent are current professional training and certification programs in taxation adapting to these evolving demands? Should educational curricula in tax law and economics reflect the changes in tax work brought about by digital tools and data analytics?

- Does the increasing reliance on technology in tax practices risk deskilling tax professionals, potentially eroding their role as experts in judgment-based decision-making and complex problem-solving? How has tax practice in the era of digitalization provide a suitable environment for the development of tax professionals as experts? What are the differences in how junior and senior tax professionals interact with digital tools? How can we ensure a future relevant professional tax knowledge base given the extensive use of digital technologies?
- What ethical and regulatory challenges arise with the increased adoption of tax technology? What are the ethical responsibilities of tax professionals in a digital landscape given the risks of bias in algorithmic decision-making and privacy concerns?

Technical

With the evolving challenges and technological advancements reshaping the tax landscape, it is crucial to conduct further research to deepen our understanding of how tax work is performed and to ensure the tax system remains efficient, transparent, and trustworthy:

- How is automation transforming traditional tax workflows, including the preparation, filing, and auditing of tax returns, and assess the implications for efficiency and accuracy. How does algorithmic decision-making change the traditional workflow of tax experts, especially in complex or ambiguous cases? How is blockchain technology changing the preparation, storage, and retrieval of tax documents?
- Tax technology is not simply 'used' by the humans but continuously negotiated as humans make sense of the properties embedded

within it. To what extent should digital tools be given agency? How would it change accountability structures in tax practice? To what extent can automated tax systems handle nuances in tax legislation? Do human expertise remain crucial for interpreting complex legal provisions?
- How is AI integrated in tax planning and compliance activities to streamline complex tasks, enhance decision-making, and improve compliance rates? How is AI used in tax administration? What are the challenges of integrating AI into the tax planning workflow, and how does it affect governance and oversight risks and procedures?
- To what extent are digital tools effective in detecting tax evasion and fraud? How these tools are changing enforcement practices?

Organizational

As tax work evolves to incorporate expertise from data science and analytics alongside traditional fields like accounting, it is imperative, particularly in research, to recognize the shift toward a more social, less technocratic perspective. Recent studies highlight this transformation, emphasizing the need to balance technological advancements with a nuanced understanding of their broader social implications (Gracia & Oats, 2012).

The organizational changes discussed above, which introduce new ways of working, formation of multidisciplinary teams, and resource challenges warrant further research in the following areas:

- What is the relationship between tax technology—specifically robotics, AI, and data analytics—and the overall costs of tax compliance and reporting for both organizations and tax authorities? Does the implementation of these technologies lead to cost savings or introduce new financial burdens?
- How is the integration of robotics and AI in tax technology impacting the boundaries between core tax functions and broader organizational services, such as legal, advisory, or financial services? Is it blurring these distinctions or reinforcing them?
- How do collaborations between technology providers and tax professionals shape the evolution of digital tax solutions, and how has digitalization shaped the approach and frequency of tax

audits? How do software developers influence tax practices through software development and how do tax experts contribute to the design of these systems? What are the new risks for errors, and oversight that require different professional interventions? Does the design and deployment of these technologies reflect a tax-centric approach, or do they align with broader business objectives?

- What are the legal and regulatory ramifications of the claimed benefits of tax technology, such as enhanced data analytics and improved accuracy on the potential for litigation or disputes with tax authorities? How does this affect risk management strategies for companies and tax advisors?

In conclusion, future research could delve into these three interconnected areas to understand the evolving landscape of tax technology in a more comprehensive manner. Exploring the interaction between tax professionals' knowledge and the impact of tax technology on their work and organizational dynamics is crucial to understand the implications of tax technology on compliance and tax administrative practices. By integrating these areas, research can offer a more holistic view that not only the practical implications but also contributes to theoretical advancements in the field. Furthermore, encouraging multi-disciplinary studies can also foster innovative solutions to the complex challenges posed by tax technology in practice. To ensure a well-functioning tax system, it is essential not only to recognize its benefits but also to be acutely aware of the challenges and implications on the expertise within taxation systems.

Table 7.1 Changes in Dimensions of work due to digitalization

	Traditional	*New*	*Shift of expertise*
Centre of decision making	Tax professional	Professional and machines coworking	Shift of expertise from the tax professional to commodities
Level of specialization	Siloed, tax expert knowledge	Wholistic, wider knowledge inclusive digital intelligence	
Connectivity of work	Sequential, ad hoc, dispersed, work paper centered	Continuous, connected, centralized, data centric	Shift of expertise from the tax professional to commodities and organization
Organization of expertise	Homogeneous team, permanent	Diverse, multidisciplinary, contingent, networked	Shift of expertise from the tax professional to organization

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CHAPTER 8

Chaperoning: Taxtech Controls and Tentative Implications for Tax Compliance

Lotta Björklund Larsen

Policymakers around the world foresee that new digital technologies such as AI, blockchain robotics, big data, automated transfers of accounting ledgers will increase tax compliance. The introduction of proceedings from a conference on digital technologies states: "Tax Agencies can collect all data seamlessly, capture life-payer tax events, offer pro-actively new services accordingly, leverage advanced analytics to target socio-economic issues, cooperate with other governments or private sector for better efficiency, better react to change, handling operations in a more optimized way, also enabling a better experience for their employees. They are also shifting the balance between control and self-compliance, making compliance much easier to achieve by a better taxpayer experience" (Digital Economy Taxation, 2019). The digitalization of accounting and taxation practices—a set of tools in the following referred to as *Taxtech*—make

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possible completely new ways ensuring that the correct amount of tax is reported and paid in a timely fashion. The increasing usage of Taxtech promises a bright future, a brave new world, of increased tax compliance.

From the perspective of tax administrations, the possibilities with Taxtech increasing compliance seem endless, yet the issue is how to do this in practice (cf. OECD, 2020; PwC, 2018). As a baseline there might be legal constraints (e.g. GDPR or the Swedish Publicity and Privacy Act—OSL), existing technologies and digital systems are incompatible, organizational restrictions set hinders but also societal views on how taxpayers perceive changes in how their tax reporting, payment and control thereof is automated. Taxtech may have implications on how much taxpayers will comply but also on the knowledge we have about taxpayer compliance. Tax compliance may in practice be voluntary or enforced and tax administration work constantly to increase taxpayers' compliance. Audits, controls and overseeing are used by tax administrations all around our globe in manifold ways and are under development. The implications of tax administrations' use of Taxtech on compliance have just started to be addressed and continue to happen as we speak.

In this chapter the focus is to muse on *what* impact controls in the Taxtech era might have on tax compliance. I build on existing tax compliance research but will also propose a new concept to think about how compliance might be achieved with the increasingly digitalized controls. Taxtech allows tax administrations new ways to control and oversee taxpayer data, even taxpayer activity. The shift in tax controls from traditional processes to more automated, real-time and information-based systems poses potential legal and ethical challenges. This shift also emphasizes the growing role of software developers and other external actors have in ensuring compliance.

This chapter starts out describing the method, material and theoretical outset. It continues describing five different strategies to increase compliance. I then move focus to a brief overview of the different routes other tax administrations have taken using Taxtech tools. The focus is then narrowed to describe the STAs—the Swedish Tax Administration—work with controls and audits in the, past followed by its current considerations implementing new Taxtech tools. This chapter proposes a sixth way to think about strategies increasing compliance. This proposal concludes this chapter.

Methodology

This paper builds on long and extensive ethnographic fieldwork conducted 2010–2013[1] at the STA (reported in the book *Shaping Taxpayers* 2017 and *Fair Share of Tax* 2018) and with continuous engagements with the STA in various other projects. The fieldwork material comes to new light in this paper. I have also conducted eight complementary interviews in 2017 and had many informal discussions regarding STA's continuous change of control work. Policy documents as well as internal work in progress have been made available to me.

There are two strands of literature used to analyse and theorize the material. Tax compliance research and in particular what impact tax administration controls are seen to have, provides an empirical background. To grapple critically with how new technical solutions make an impact, I use insights from STS (Science, Technology and Society) studies. Its premise is that *how* technology is used will always have an impact on societal issues (e.g. Agre, 1997; Jasanoff, 2016; Latour, 2005); in this case on compliance. Introducing new technology such as Taxtech has the potential to change people's views on and acceptance of tax compliance.

Five Strategies to Increase Tax Compliance

Tax administrations' approach to auditing and controlling has been subject for change over time and overlap with the various strategies tax administrations have taken to increase compliance. Manual tax controls—checking annual statements with actual book-keeping, paying visits to taxpayers, verifying business activities—are time-consuming, expensive and prone to human errors. The timing when tax administrations intervene and control, from after tax returns has been handled in, to take place closer to when transactions take place, is not new but has been going on for a long time. It makes for interventions and control prior to that

[1] I followed a risk assessment project for its entire duration of three years at the STA. The risk assessment project was followed from its initiation, through the research phase, intermingled with presentations of its conclusions among management and to see the final project report finally buried by the Director General (cf. Björklund Larsen, 2017). The resulting material comprise of over 100 hours of transcribed meetings and interviews at the STA, all their internal e-mails, policy regulations and instructions for their work, as well as copies of work in progress.

the tax return is being submitted. The strategies on how to increase tax compliance has varied historically. We can refer to them as the five C's.

Coercive strategies where taxpayers have been forced to pay were for most of taxation history rulers' main tool. Under the threat of weapons or legal prosecution, non-obedient taxpayers were fined or jailed and subsequently subject to public condemnation (Levi, 1988). Coerciveness comes in a different disguise today with third-party reporting (Kleven et al., 2011, OECD, 2014). A taxpayer has very little possibility not to comply when employers, social security, banks or other credit institutions are legally obliged to report information subject to tax assessment. In addition, there is not only reporting but also payment. The largest portion of fiscal income in Sweden are from tax on individual income which is paid by the employer. Thus, the taxed portion of the income is never in the hands, or in modern reality, never on the bank account of an employed taxpayer.

Controlling and auditing taxpayers ensuring that the right tax has been reported and paid is currently seen as one of the most important tools of any tax administration. As not all taxpayers are righteous and moral entities that always aim to pay the "right tax", there has to be an underlying threat of an audit or a control. These tools can be part of coercive strategies but can also in more refined ways ensure that taxpayers at large trust the work of the tax collector. The argument goes that by showing that all taxpayers are made to report and pay the tax they owe, other taxpayers—organizations, individuals, corporations—are more prone to pay their share.

Communication strategies were the results of tax administrations insight that tax is for most taxpayers a horribly complicated task. Instructions in everyday language, step-by-step instructions and leaflets in most spoken languages of a country are seen to increase the possibility but also willingness to pay tax. Communication also includes informing taxpayers about what taxes are used for carrying a very moral message.

Collaborating with taxpayers in the name of making taxpayers reporting procedures more efficient is a fairly recent idea. One such example is the OECD promoted so-called cooperative compliance initiatives where tax administrations collaborate with multi-national corporations. It is a regulatory framework building on the idea that participating corporations should disclose relevant information, including their tax risks, and be transparent towards tax administrations (Stevens et al., 2012). This is intended to deliver greater tax certainty and predictability

and secure good tax compliance (Owens & Pemberton, 2021). Although projects inspired by the OECD guidelines have been implemented with much fanfare in many countries, this collaboration has raised many other challenges such as legal equality (Majdanska & Pemberton, 2019), increased business opportunities for tax advisers (de Widt et al., 2016), or creating reciprocal obligations between the parties (Huiskers-Stoop & Gribnau, 2019). Although the equality between the parties has been questioned in legal terms (Gribnau, 2017), the benefits of risk-based regulation in a cooperative compliance framework may be easier to realize for corporate taxpayers than for tax administrations (De Widt & Oats, 2017). Badly implemented can such projects even lead to increased distrust in tax administrations as was the case of the STA in its attempt to introduce its version of cooperative compliance (Björklund Larsen, 2016, Björklund Larsen & Brøgger, 2021).

Reducing complexity is a somewhat overlooked strategy in tax compliance literature (Mann, 2006). Here the intention is that tax administrations could increase the willingness to pay tax and also compliance level by making the tax return process for taxpayers as simple as possible. Digitalizing tax returns can, if introduced carefully in an environment where all can assess the technology be one such smoothing strategy. That employed Swedish taxpayers are seen to be more compliant than the American counterparts can perhaps be partly explained by this strategy; the former spend very little time doing their tax returns, whereas the latter have to on average use 27 hours (Lepore, 2012, cf. Björklund Larsen, 2017: 69).

Yet, as already realized many years ago, most tax compliance research advocate combinations of the above (cf. Levi, 1988). The STA has over the years tried many of these compliance increasing strategies and tools. With the Ingmar Bergman affair in 1974,[2] it realized that harsh **control** and **coercion** strategies were counterproductive (Stridh & Wittberg, 2015; Björklund Larsen, 2015). Nudging strategies has over the last

[2] World famous filmmaker Ingmar Bergman was in January 1976 abruptly led away from a rehearsal by two policemen. He was to be questioned regarding tax negligence while his home searched. He is later found innocent but the treatment created headlines all over the world and he decided to leave Sweden. The issue for him was not the taxes he was said to have neglected to pay, but rather the treatment he had been subject to: a bureaucratic show of strength accompanied by threats and blackmail. See also Bergman's autobiography *Laterna magica* and Stridh and Wittberg 2015 *Från fruktad skattefogde till omtyckt servicemyndighet.*

decade been encouraged by the STA such as being serviceable and making the yearly tax return **less complex**, **communicating** information in many languages (Sweden being a country with a large immigration flow) and treating all citizens equally. This includes aiming not to accuse anyone of cheating and careful wording when referring to taxpayers—even the non-compliant ones—or singling out categories of taxpayers, deemed more prone to avoid and evade taxes. STAs current motto is "together, we make society possible".[3] **Collaborating** seems to be in focus for compliance yet have proved difficult working with MNE's following the OECD promoted cooperative compliance model (Påhlsson, 2012; Björklund Larsen, 2016; Hambre, 2018). The current reliance on third-party information for all taxable income makes **coerciveness** take on a new meaning in combination with making taxation very **less complex.** Yet, **controlling** does not go out of fashion as the NAO criticism underlines (see below). The question is how and what to control.

Digitalization and Changed Controls

Contemporary taxation relies on increasingly automated and digitalized accounting transfers. Tax administrations around the world have seen the possibilities for increased efficiency and compliance with digital technology since its infancy. There are heavy investments in digital technology in recent years (e.g. IOTA, 2018, DET, 2022), yet Taxtech routes taken differs. Tax administrations in some countries already have rules and regulations that are reported to apply new digital technology in ways that are efficient also for taxpayers.

A few examples can be mentioned. Estonia has been at the forefront on the digitalization path and its e-governance policies include mandatory digital tax returns since 2003. KISS—Keep It Short and Simple—strategy governs the Estonian Tax and Customs Board Administration where four principles apply (DET, 2019). These principles are first, once-only entries to public administrations and second, digital by default through applying blockchain technologies. Thereby can no one—not even the government itself, change the data which makes possible the third principle, trust-by-design, apply. Finally, the fourth is that the infrastructure should be available to use by any institution; it thus works as open-source.

[3] *Tillsammans gör vi samhället möjligt.*

Tax administrations in some other countries, such as Norway, require digital transfer of ledgers for corporate tax returns. In Finland do most taxpayers, whether individuals or corporations, manage their tax matters online through "MyTax" digital platform adapted to its entirely new "CTS" platform. The British HMRC works with similar ideas of digital chains in what is called MTD—Make Tax Digital. Poland conducts the "split payment" method when collecting VAT instead of the previously used and deemed inefficient, reverse-charge method. With these methods does the buyer posit the due VAT amount in a specific bank account whereas the remaining amount is paid to the supplier. Various ways of performing real-time VAT compliance have been introduced in numerous countries in the OECD.[4] The Federal Tax Service of Russia has since a few years, complete insight in vendors cash registers overlooking it online. The Russian solution is said to ensure VAT compliance and hindrances to unfair competition, but also provides live snapshots of the entire consumption economy (CIAT-IOTA, 2018) and makes possible a complete governmental insight into any corporate taxpayer. Russia is not the only nation choosing this road (cf. Brazil, Georgia, etc.).

These are some very brief snapshots into tax administrations digital transformations, recently referred to as "Tax Administration 3.0"[5] (OECD, 2020). This discussion paper outlines a paradigmatic shift towards a more "frictionless and seamless taxation" where tax administrations adapt to the profound technological changes within contemporary society, business activities and work. Version 3.0 is described as a way of interconnecting to taxpayers' own systems—their ecosystem. This is very much work in progress, and importantly, there is no template. Each country has its own laws, regulations and existing systems to take into consideration. Yet what is hoped for with version 3.0 is increased voluntary compliance as well as detecting non-compliance.

As technology makes possible large changes in how tax is reported and collected, it is clear that control strategies and practices also may change dramatically. The implication is that virtually no control post-filing

[4] Poland, Portugal, Slovakia, Czech Republic or Lithuania applies a form of transactional reporting, often using the SAF-T developed by OECD through rigid usage of online cash registers. Hungary and Spain have introduced (nearly) real-time reporting and Italy and Poland uses a split payment mechanism so that a supplier never gets the VAT.

[5] Tax Administration Version 1 is largely paper-based with many manual procedures. Version 2 is sometimes referred to as e-administration.

is required as transactions are open-source and available to check in real-time. How can we understand tax controls when these more intrusive and encompassing strategies apply? Will they become obsolete?

Some tax administrations still struggle to integrate software, e.g. Sweden. The STA has therefore chosen other and different routes to develop tax controls.

Controls at the STA—Swedish Tax Administration

The STA is one of the most revered and trusted governmental public administrations in contemporary Sweden and argued to be the result of very deliberately working with compliance strategies over many years. The STA nourishes this standing and is thus very cautious to adopt new practices that might "rock the boat"; by no means should tax compliance be diminished. Yet, its controls have been increasingly digitalized and responsibilities are moved from the STA to other actors at the tax arena. With its good societal standing and its long work aiming to increase compliance in various ways, the STA provides a good case to study how new ways of conducting controls may make an impact on its very explicit tax compliance strategies.

A Swedish tax control is heavily regulated by law, very time-consuming and has historically been carried out for a select few taxpayers post-filing. The Tax Law section (*Taxeringslagen*) within the Swedish constitution states three purposes of a control. First, to verify that tax filing and other required information is complete and performed according to the rules and regulations for a specific year; second, to ensure that the same information can be provided for ensuing years; and third to acquire, if necessary, information from a third party (e.g. business associates). For example, in 2012 at an audit control of self-employed entrepreneurs were 10 days allocated for each taxpayer, of which 2/3 of the time was involved administrative tasks and one-third concerned the actual auditing. The manager of the department signed off at 4 different times for each auditee (Björklund Larsen, 2017, ch. 3).

STA conducts two standard types of controls; the "desk control" where the control is conducted at the STA office or the more intrusive and encompassing "audit control" where STA employees follow up the control of ledgers and books with a visit to the taxpayer's office.

As a control is a very time-consuming event, are taxpayer selection for controls are thus crucial. Emphasis on sampling the most probable

offenders and tax avoiders has long been the main route to increased tax control efficiency. Controls are thus not random, but one where the STA's deep knowledge about taxpayer behaviour is articulated. The tools have been many and changed during the reorganization of revenue collection, of who is conducting collection and control, and not the least the increased digitalization. Starting in the 1980s, the modern tax technology has brought a maze of data, tools and computing power which has propelled the audit and control change (OECD, 2020).

The sampling methods that have been developed during STA's digital journey—formerly rules[6] and score cards[7] and lately data mining[8]—can be conducted at what the STA calls various levels. The "tax return level" derives from the information given on a taxpayer's tax return forms. The interest is in finding suspect combinations of information on the form, triggering a hit if a taxpayer should be subject for a desk or an audit control.

At the "taxpayer level", more encompassing information about the taxpayer is retrieved and used. Although much taxable information is reported by third parties, there are still some issues that need human estimates and calculation (e.g. real estate transactions, deductible costs for work transport, etc.). In focus is a more encompassing history of behaviour of a taxpayer and its' compliance to rules and regulations. Has the taxpayer followed various registration requirements correctly? How is its track record of reporting and payment of other taxes and fees? Often is data mining as a method applied at this level.

[6] The rules method is a complex set-up of stipulations derived from actual experiences and categorization of traits for a potential offender. The rules method can be applied at different levels. It is a fairly qualitative method as the rules are made in up in close collaboration between analysts and experienced tax inspectors. The outcome of each rule is given points according to indicated risk; either raising the risk level or lowering it. The digitalized taxpayer information is controlled, rule by rule each resulting in a score.

[7] Score cards are more complex setup of rules that are brought to bear on a given population of taxpayers, for example corporations in a specific industrial sector of a certain size. Taxpayers that accumulate the highest score can then be subject to a close examination; either individually in a specific audit control or by adding to the accumulated knowledge at the STA about taxpayer behaviour.

[8] Data mining can be used to create predictive models that, learning from past audits, help audit selectors identify the best audit candidates. By using an advanced model for case selection, tax administrations can deliver value by choosing the right cases and avoiding unproductive cases; for one authority, unproductive cases made up more than 50 percent of audits.

At the "network level" is focus on the relations the taxpayer engages in. It is an investigation of internal and external networks of a particular taxpayer: ownership and wealth, members of the board, other stakeholders with interest in the taxpayer. It is a network analysis, both investigating the claims and interest others have in the taxpayer, but also the taxpayer's own stakes in other individuals, businesses and organizations.

Simultaneously, the STA has during the last two decades emphasized "right from the start" strategies in various ways (Wittberg, 2005). Although focus has been on taxpayers correct reporting to the STA, subsequent control still compared that the annual tax return was in accordance with taxpayer's book-keeping which in turn should reflect actual transactions made. Controlling what was "right from the start", looked backwards and downstream. It compared the accumulated numbers on the annual tax return with transaction numbers in the book-keeping and aiming to understand if this reflected actual business transaction.

There has been considerable pressure on the STA to control more taxpayers. In a report by NAO in 2012—the Swedish National Audit Office—it was suggested that STAs dealing with possible tax offenders were inefficient. The NAO showed that a large number of digitally made decisions tend towards nothing further being done, and as such, it suggested that both the sampling and the following handling of controls should be made more efficient (Riksrevisionen, 2012, 2020). This criticism was to some extent reiterated in the more recent NAO audit,[9] November 2020. While the STA takes the critique from NAO at heart, there are also other concerns. As one STA manager said: "We have no idea about the consequences of our controls". That is, they might know how selected taxpayers subject for specific type of control behave, but not how taxpayers at large react to conducted controls. The NAO thus criticizes the contemporary handling of potential offenders, while the STA is concerned how changed controls may impact tax compliance.

Working Out New Controls at the STA

Contemporary Taxtech makes it possible to control compliance in different ways. The STA has internally debated and analysed how the surge of digital tools is imagined to impact compliance? During the last

[9] Riksrevisionen "Automatiserat beslutsfattande i statsförvaltningen" 2020.

5–8 years two strategies has been contemplated, each which would make profound changes to controls.

Some years ago, the STA imagined a future of controlling digitized information chains among its corporate taxpayers. The idea was that any economic transaction would be tinkered with only once—when registered in the taxpayers' business system. External certifiers would ensure that the system worked according to rules and regulations. Apart from providing financial reporting it would automatically prepare annual tax statements and transfer them, without human intervention, to the STA. The STA would only provide APIs with relevant legal information, the various tax rates, etc., to ensure that all certified systems used the same rates. The actual control would thus be transferred from the resulting accounts at the end of the accounting year to verifying the input: making sure that all transactions subject for tax are entered into the certified system. Proponents thought it would be a very efficient system. Instead of controlling thousands of individual corporations, the control would be on the business/accounting systems. The control would neither be oriented towards transactions, nor on issues. Instead, focus was at input of any commercial transaction and that it became part of secure information chains within certified systems.

Responsibilities would thus be spread and in practice would governmental controls be outsourced to certification organizations who had to make sure that also software providers complied.

This thinking has been abandoned. The idea of external certification of accounting systems is gone. The STA understood that it was simply too difficult to certify software providers in a sustainable and secure way. New versions of software are constantly released due to adaptation, bug fixes and development and to keep up with certification was seen as too onerous. In addition, who would be responsible for the certification?

STAs contemporary ambition is not more modest but all-encompassing and still in the making. Here, the STA suggests a move from an "issue based" control to "information based" control. Issue is this current strategy which means taking action based on a specific event or a transaction that raises concern at the STA. It could be like an audit control I observed at the STA office in Örebro.[10] The aim of this particular

[10] Although this particular audit control took place ten years ago, it was an issue that was contextualized to the taxpayer's situation in all its complexity. The current digitalized

audit control project was to ensure that costs accounted for were business related and not an attempt to deduct private consumption. One case regarded a professional photographer and his taxi expenses. The tax inspector posed numerous questions such as if a posting in the bookkeeping of a taxi drive actually took place; was it taken during business hours, did the transport originate from his office, why was the alternative of taking public transport not chosen, was there a receipt proving the ride (Björklund Larsen, 2017, ch. 3). Issues like that. The tax inspectors said they strived to be reasonable taking a more holistic approach. Although this audit control project specifically aimed to find non-business costs, there was still a consideration for the photographer's business. The photographer explained that the many receipts for taxi rides taken at night, were for installations at commercial events taking place in the evenings, explanations that the STA accepted. The underlying suspicion were that the rides were rather for going home from a private night out. Although supporting documentation was lacking, the STA only charged for half of the undocumented taxi rides.

"Information based" implies taking a more encompassing approach, yet the STA has been a bit hazy in their answers of its exact definition. The emphasis is that all information from a taxable entity ought to be present and accurate: its ownership, address, business idea, commercial concept, suppliers, etc. On the one hand it means that the STA works to ensure that the information given by taxpayers is sound, safe and correct according to rules and regulations. A more classical control. On the other hand, it also means that the STA is spreading its net engaging more explicitly with other actors on the tax arena.

The STA illustrates the information-based controlling in brochures.

control can be said to be an attempt to do what previously was painstakingly and diligently conducted by human intervention, yet with a rule-of-thumb decision.

Skatteverket 2020, author translation

We see a female/male figure—a tax inspector—standing in front of a globe with three computer servers prominently placed to the figure's left side. The servers are so big that the tax inspector figure shrinks at their side. The feeling is truly that Taxtech is taking over and that the inspector will play a smaller role. This illustration is widely used in presentations where STA explains this more holistic view, recognizing that it has large implications on the way a tax administration work. Three points are emphasized.

First, the concept of control is replaced with the notion of having "quality assessed" information. The quality assessment is made in metaform and made on information gathered from numerous sources: taxpayers' business and accounting systems, payment providers, other governmental bureaucracies, international organizations as well as "other" sources. The chosen information will be assessed together with data from STAs different handling systems: both into the automated decision-making systems and in the systems for conducting manual controls.

Assessment regards *who* provides the information, *what* does the information regard, and *which* (type of) taxpayer is in focus. Such information regarding payments, for example, is vital for conducting legitimate controls (Skatteverket, 2020).

Second, this requires certain security dimensions around the given information. Software providers, software versions, payment systems, digital infra-structures—all the bits and pieces that make sure the information is transferred from one place to another—have to be quality assessed.

Third and finally, it also means a change for tax administration capabilities. Leadership has to change and so will ways of working as all tax inspectors have to apply a different approach to their tasks using other sets of knowledge. The OECD notes that an increasing number of staff will work with control investigations (2020: 59), yet with changed emphasis and new skills. A control will mean an increased focus on secure systems, certain quality in the information given and about who is giving it but also on the selection process of taxpayers' subject for controls.

Chaperoning: A New Way to Think About Compliance?

The STA currently investigates if there are any legal constraints to conducting controls in this way. In the debate about Taxtech it is easy to be blinded by the rosy arguments about efficiency and optimization or increased tax compliance in the name of simplified and "better taxpayer experience". The possibilities that Taxtech makes feasible in forming new controls makes for an enormous change in not only *how* taxpayers are controlled, but *who* is actually doing the control, *what* is subject for control and *when* in time it is done.

Tax controls—both the desk and the more encompassing audit variety—have made a journey since the first digital technologies made its entrance at the STA in 1980s. Local knowledge about taxpayers has increasingly been replaced by knowledge about taxpayer cohorts as well as categories statistical probabilities for making errors. Although digital software allows for various automated sampling and selection of taxpayers, the actual control is carried out manually. It is still a work intensive endeavour that is heavily regulated by laws and regulations.

Yet, new Taxtech tools will radically change controls as we know them. Perhaps we possibly see a new compliance strategy—a sixth C—what I

propose to call **chaperoning.** Audit controls as we know them seem to be a thing of the past.

First, the timing of *when* controls are done is changing. From downstream controls solidly conducted *after* tax returns have been handed in, there are now possibilities of conducting them when transactions are happening; when payments are done. IRL so to speak. Creating structures that preempts errors in the first place becomes even more adamant than conducting actual controls. Taxpayers should not even think about doing something inappropriate.

Second, it is difficult to understand *what* exactly is now subject for control. It is a more holistic approach when focus is moved from issues to information. Controlling at different levels makes it possible to control different issues at tax return or taxpayer or network levels. It is apt to ask if quality assured information is a larger intrusion into taxpayer reality, an even more overseeing Big Brother or at least a chaperone that makes sure that taxpayer behaviour is proper and according to tax rules and regulations.

Third, from controls being heavily regulated by law and conducted by the STA, we can ask *who* is conducting the controls—software developers, tax administration, tax advisors, algorithms loaded with values, AI? There are many actors engaged making sure that compliant behaviour is conducted.

Fourth, such work transfers, and even outsources, *responsibilities* from tax administrations to many other stakeholders and especially to software developers for business and accounting system providers. What is not always recognized is that accounting software/business system developers increasingly acquire a central position on the tax arena, a position that neither them nor policymakers are comfortable with. Are they ready to take on such responsibilities—legally but also ethically?

Depending on *how* the new controls are conducted, this seem to be the end of controls as we know them. What will happen to the legal issues surrounding traditional Swedish audit controls—those meant to protect the taxpayer? In the end, will such controls increase our collective willingness to pay tax? My tentative answer is that competent humans—a kind of chaperones—still must assess that Taxtech is doing its job correctly, responsibly and equitably.[11]

[11] A warning example is the "Dutch Childcare Allowance Scandal" (Hadwick & Lan, 2021) which led to economic catastrophe for many taxpayers, a reputation of an otherwise

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CHAPTER 9

Conclusions: A Move Toward a Tax System Fit for a Digital and Global Economy

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The tax system is essential for financing our public welfare and the public sector. The tax system and its capacity to generate tax revenue typically reflect the structure of the economy and in particular its limitations. Historically, how to generate tax revenue has changed, and differed depending on means and capacity to tax. For instance, real estate, the number of windows, or the length of buildings have previously constituted the base for taxation. It is, hence, not strange if the tax system, that

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is, what is taxed, who has the right to tax, who is taxed, the amount of tax payments due, how tax is administered, and how tax authorities work, change over time to align with the economy's structure.

The ongoing advancements in technology, including digitalization, artificial intelligence, automation, and machine learning, are gradually changing the dynamics of the tax ecosystem. These developments are influencing key aspects of current tax systems, such as the determination of who, what, and where to tax. Moreover, they impact tax compliance processes, affecting how both tax authorities and companies' tax departments operate and ensure adherence to regulations.

The technical advancements have changed business models and value chains and shifted assets from tangible to intangible assets. Digitalization has lowered thresholds for economic exchange between national markets, expanding the volume of international exchanges between a growing variety of actors ranging from individuals to multinational enterprises. These lower thresholds also affect the volume of economic exchanges within individual countries as it becomes possible and worthwhile to engage in a wider variety of small-scale transactions. This increases welfare and efficiency but also leads to rising complexity of the economy, and likely a need for new or changing institutions, such as the tax system. Maybe we are now at a point when it is time to change the tax ecosystem.

Digitalization challenges the core of contemporary tax systems, the ability to tie income and value added to a particular geographical location, a nexus. Where should, for example, large multinational tech companies that operate without being physically present, be taxed? How and where should online and hybrid consumption be taxed? Consumption expenditure is no longer restricted to the place of residence; many services are distributed online or in hybrid. While VAT taxation is primarily based on the destination principle, the administrative burden and complexity of tax rules increase. And how and who should tax taxpayers who work remotely or separate their workplace from their taxable jurisdictions nationally or internationally? Digitalization has opened opportunities for some taxpayers, but far from all, to be more footloose and, for example, be able to strategically choose tax residence. Some countries have responded by offering attractive tax schemes to attract taxpayers. Moreover, AI may replace workers and shrink the labor share in the economy. Many countries tax labor at higher rates than capital, implying that a shift in tax bases from labor to capital will reduce tax revenue. On top of that, intangible assets are harder to tax than tangible assets.

The chapters in this volume bring together different perspectives on how digitalization changes or may change the conditions for how the tax ecosystem functions, from generating enough tax revenue to finance public sector activity effectively, fairly, and legitimately to practical issues of compliance and how digitalization affects how tax authorities and tax departments within companies work.

Rather than offering and suggesting explicit suggestions and legislation to fit the tax ecosystem into a digital and global world, this anthology analyzes and discusses different aspects of the impacts of technological change on taxation as well as the issues that may arise and the opportunities it creates. The anthology covers a wide range of different tax arenas and disciplines. Furthermore, the anthology investigates some outcomes from international cooperation that are meant to cope with the issues of taxing multinational companies in a digital era, the consistency of these rules concerning existing institutions and rules, and the shift in taxation power.

Even if the chapters address different aspects from different disciplines, some common threads run through the anthology. Two recurring themes across the chapters are the need for increased transparency or legal certainty and simplicity, and that technological change can have both positive and negative impacts on the tax system and the ability to generate tax revenue. Obviously, the positive effects should be utilized while the negative should be dealt with and minimized.

A tax or tax system that is increasingly hard to understand, complex, opaque in its operationalization, and unpredictable will ultimately lose both efficiency and legitimacy. Transparency is not only an issue of openness or availability of information but also about understandability. A company and individual subject to taxation should be able to understand the key aspects of the tax system and comply with it. Taxation is still a national capacity, decided in a national political context, ideally through a democratically valid process. For this process to function, transparency and simplicity are essential. It is hard to have an opinion and be able to vote rationally without knowledge about the tax system and what it finances. But for transparency to be meaningful it needs to be selective. Drowning tax administrations and taxpayers with information is not meaningful, it needs to be relevant and accessible information. This is easier to accomplish in a fairly simple tax system.

The link between digitalization and transparency is multifaceted as digitalization may be a tool to both increase and reduce the complexity

and transparency of the tax system or different parts of the ecosystem. For instance, in the field of VAT, technology offers solutions that can simplify compliance and combat VAT fraud by shifting VAT collection from suppliers to digital intermediaries. For example, by shifting VAT collection from suppliers to digital intermediaries and requesting the latter to report on their activities. Digital records allow for reporting of individual transactions and, by extension real-time reporting. This is a powerful tool to counter the informal economy, as well as a means to reduce compliance costs and make it easier for business owners to report their sales to tax authorities, while also reducing compliance costs and simplifying tax reporting for business owners.

Similarly, tax departments within companies can get help complying and filing tax returns by using digital and AI tools, thus reducing the administrative burden. The cost of exchange of information between countries is drastically reduced thanks to technology and tax authorities can reduce audit costs by using technology. However, the use of new technology not only requires new skills but also comes with risks and biases that may violate the rule of law and equal treatment of and fundamental rights for taxpayers.

At the same time, the very intent to try to fix the tax system may lead to increased complexity and lack of simplicity and transparency. For instance, the development in the field of international tax law trying to cope with the changes caused by digitalization in a global economy raises concerns of legal, economic, and political nature. The intent of the international agreements and cooperation has been to mitigate and mend an outdated tax framework but as Marian (2022 p. 555) puts it "International cooperation is still an attempt to square the circle—to force a century-old framework of taxation designed for a tangible economy into the reality of the data economy".[1]

In this anthology, other additional concerns are raised about how the new rules, particularly the two Pillars, conform with existing institutions and rules. Pillar One reallocates profits to market jurisdictions based on consumer presence, even without physical business operations. It introduces "Amount A" to tax multinational companies' residual profits

[1] "The two-pillar framework may indeed improve income tax collection and compliance. But it does not transcend the challenge of the current data economy. It is still an attempt to square the circle—to force a century-old framework of taxation designed for a tangible economy into the reality of the data economy" (Marian, 2022, p 555).

exceeding a 10% profit margin. Pillar Two enforces a global minimum corporate tax rate of 15%, designed to curb harmful tax competition. While Pillar Two has made significant progress, with the EU adopting it in 2022, Pillar One is still, as of the time this anthology is written, in its negotiation phase. Concerns about the Pillars are the extraterritorial reach of the new nexus rules which allow countries to tax multinational companies based on market access rather than physical presence. This may conflict with international laws and the principle of territoriality. In addition, the tax proposals create a competitive imbalance by imposing higher tax rates on large multinational companies while sparing small businesses. This may violate the EU's state aid rules.

Digitalization also presents significant challenges to the current EU VAT system. These challenges can be divided into two main categories: those arising from changes in the economy and those related to the legislative responses to these changes. In the context of VAT, the first category includes issues such as the increase in transaction volumes, including cross-border transactions, the enhancing role of digital intermediaries in the supply of goods and services, and the emergence of transactions that do not easily fit within the scope of the existing EU VAT framework. The second category involves challenges like overcomplexity of rules, lack of legal certainty, overregulation, concerns related to human rights, and the misalignment between legislative measures and the challenges they seek to address.

Another important aspect discussed in the anthology is how the increased complexity and large number of new tax rules and directives from the EU to fix outdated tax frameworks have shifted power from the legislative power to tax authorities, at least in Sweden. The EU and the OECD are taking over more and more of the law-making in different areas, but most specifically in the areas of taxation and financial regulation. Strong and powerful government authorities, such as the Swedish Tax Agency, do not limit themselves to only guiding taxpayers through soft law mechanisms on how to understand and apply the law, but also, at their initiative, submit proposals for new legislation. In the anthology, it is argued that these developments can be questioned from several different perspectives. First, they raise questions about how to uphold the principles of equal treatment and predictability, when the legal material appears to be almost boundless and unmanageable. Second, authorities, such as the Swedish Tax Agency, are growing and getting stronger at the expense

of the legislature and courts. This raises the question of whether this development is compatible with the principle of the separation of powers.

It is not only tax authorities that have to deal with an increasing number of complex tax and administrative rules. Often, companies are subject to these new rules. At the same time, the tax landscape is being revolutionized by digital tools that fundamentally alter the operations of tax departments within companies, tax authorities, and tax professionals in the field of tax compliance. For example, there is a pronounced shift toward real-time reporting, e-invoicing, and an increased reliance on digital data. This transformation is further propelled by investments in data analytics, robotic process automation, cloud-based platforms, and, more recently, artificial intelligence, across business and public sector tax domains. In the anthology, we advance the understanding of emerging trends in the tax technology landscape and discuss their implications on expertise and legitimacy. There is a need to better understand the interaction between tax professionals and technology, to assess the trust, transparency, and legitimacy of tax technology, and to examine its impact on tax compliance and enforcement. The shift in the use of technology also requires new skills and expertise by tax professionals to effectively navigate and leverage tax technology in the digital era.

Technological changes have not only altered the way tax professionals and tax authorities work, but they have also impacted how taxpayers work and organize their work in profound ways that may impact the functioning of the tax system and tax revenue collected. The anthology discusses different mechanisms through which technological changes coupled with globalization increase labor mobility and, hence, the cost of taxing labor.

Digitalization increases the opportunity for many individuals to become more flexible in how they organize their work. During the Covid pandemic, many worked from home and this trend continued after the pandemic. Working remotely either from home or from anywhere has increased and being a digital nomad has become a thing. More opportunities and choices in life increase welfare but may at the same time make taxation more complicated and taxation of labor income more costly. Add to this, that digital platforms have reduced the transaction cost of finding gigs or contact work and reduced the benefits of being employed. In many countries self-employed are taxed at lower rates and tax compliance is generally lower among self-employed who report their income themselves. Tax compliance is higher when a third party reports income to

tax authorities. Moreover, the developments in AI may lead to increased automation of production in certain industries and shifting value creation from labor to capital (AI or machines). All of these phenomena may have tax revenue and distributional implications.

The answer to increased taxpayer mobility may be increased international tax cooperation in the field of individual taxation. However, even if international rules for taxing labor income were to be updated and improved, it is unrealistic to expect that international labor income tax coordination would solve the issues. So, the question is what is required and feasible to do?

The anthology offers some recommendations.

- Shift taxation away from mobile to more immobile tax bases. As labor becomes more mobile, taxation should be shifted toward property and consumption.
- Reduce the difference between the taxation of labor and capital. The increased exchange of information has reduced the means to avoid individual capital taxation and, hence, capital mobility, while labor mobility has increased. This calls for a more balanced taxation of individual labor and capital income.
- Corporate income has become increasingly hard to capture and tax in a digital and global economy, allowing for profit-shifting and base erosion to minimize taxation. As profits are eventually distributed to owners, an alternative is to increase taxation for the owners. It is easier to determine the nexus of owners than the nexus of companies.
- Taxing new technologies like robots or AI is likely not the way forward as it comes with considerable problems of definition, and they generally constitute small tax bases and, hence, an inefficient way to generate tax revenue. In addition, it risks holding back productivity gains associated with the use of these new technologies.
- The importance of transparency, simplicity, and legitimacy cannot be overstated. Taxation is determined in a political process, and voters/members of society have the right to have a fair chance to understand the tax system. It is good to be reminded that many conflicts and wars have been fueled and initiated by a perception of unfair taxation. For instance, the Boston Tea Party initiated the War of Independence in the United States, and the French Revolution was also grounded in unfair taxation. Technology should be used

to increase tax transparency in a meaningful way, not only to tax authorities but also to taxpayers.

- The new technologies promise increased efficiency, accuracy, and simplicity. These are arguments for increased compliance and make the new innovations tempting to implement. However, a warning should be raised for unintended consequences as digitalization may also completely change how reporting, paying, and controlling tax are made and thus have unforeseen consequences for legitimacy and voluntary compliance.
- More research is needed in the field of taxation, preferably inter- or multidisciplinary, as taxation gets increasingly complex, and each discipline tends to compartmentalize its own problems with its own methods. The inter- or multidisciplinary dimensions also apply to tertiary education, which must meet new demands of skills for future tax professionals.
- There is a need to build bridges between disciplines and combine in-depth analyses to adapt the tax ecosystem to a digitalized economy.

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