

Chapter 7. Special feature - Beyond the international tax rules: The impact of digitalisation on other aspects of the tax system

This chapter considers how digitalisation is affecting the tax system beyond the international tax rules. It identifies opportunities and risks for tax policymakers and tax administrations, and sets out areas where further work will assist governments, including in developing countries, to leverage the latest technological developments.

7.1. Overview

465. Chapters 1 and 2 of this report describe the far reaching implications of digitalisation. Beyond the international tax rules, other elements of the modern tax system are shaped by its disruptive effects which bring both opportunities and challenges. From the design of the tax system through to tax administration, relevant developments include the rise of business models facilitating the growth of the gig and sharing economies¹ as well as an increase in other peer-to-peer (P2P) transactions, the development of technologies such as blockchain, and growing data collection and matching capacities. This chapter explores some of these changes, looking at areas where further work in the coming years will provide the tools for governments to better understand and harness the opportunities these changes bring, while ensuring the ongoing effectiveness of the tax system. It will also be important to consider how some of the advances being made in this area can be effectively implemented in developing countries to take into account their particular constraints and environments.

7.2. Online platforms and their impact on the formal and informal economy

466. One of the major changes to the economy facilitated by digitalisation is the rapid growth in multi-sided online platforms. Online multi-sided platforms often facilitate transactions between individual sellers of goods and services to individual consumers, peer-to-peer (P2P) transactions, which occur outside of traditional business structures (e.g., the case of marketplaces). In particular, online platforms facilitate the growth and proliferation of the “sharing” and “gig” economies. Familiar examples are the temporary rental of a spare bedroom, unused apartment or parking space; or the provision of a service such as delivery of goods, occasional household services or the provision of transport or taxi services.

467. Some of the transactions facilitated by online platforms, including P2P transactions have long been carried out through other mechanisms such as for example by word of mouth, physical marketplaces or through community advertising and networking. In this context, it has traditionally been difficult for the tax authority to monitor and assess the amount and value of such transactions and as a result such activity has often taken place in the informal economy. As described in Chapter 2, digitalisation, however, has facilitated the emergence of multi-sided platforms as the global reach of the Internet enables digital businesses to quickly and relatively cheaply increase their customer bases and develop large networks across different sides of the markets, including across jurisdictions. As previously informal transactions, including between peers are now channelled and recorded through online platforms, there exists a new potential for tax authorities to monitor and assess previously unreported tax bases.

468. The size of the gig and sharing economy activity is not yet well measured. Although it has been growing rapidly, it remains relatively small on most estimates (see Box 7.1 below). Taken together the features of this business model suggest, though, that its share may continue to grow strongly given the scale of partially utilised assets in private hands, the likely unmet demand for different working patterns and the convenience of use for both buyers and sellers, including strong trust-enhancing mechanisms. This can have positive impacts on the economy and welfare through facilitating additional economic activity and individual choices, as well as potentially shifting some activity from the informal to the formal economy. These effects are likely to positively impact tax revenue. However, these types of business models also raise a

number of public policy issues as regards fair competition with other providers, as well as the impacts on social protections, pensions, consumer protection and government revenues; in particular taxation and social security contributions. For example, across OECD countries, a growing number of workers earn income outside of traditional employee-employer relationships. While this trend has been in place for some time in various OECD countries, it has met with renewed focus recently due to continued developments in the digital economy, which have ushered in an increased provision of services by self-employed workers through multi-sided platforms.

Box 7.1. Understanding the size of the gig and sharing economy

There is a lack of reliable data on the size of the gig and sharing economy, including as a result of different definitions. Vaughan and Hawksworth (2014) calculate that on a global basis the collaborative economy was worth USD 15 billion in 2014 and could reach USD 335 billion by 2025. Within the European Union (EU), Vaughan and Daverio (2016) estimated that the five main sectors of the sharing economy generated nearly EUR 4 billion in revenues and facilitated EUR 28 billion in transactions in 2015, exceeding earlier expectations of growth. Goudin (2016) estimated that the potential gains from removing barriers to bring underutilised assets into use could be of the order of USD 572 billion annually within the EU. Survey data also indicates a growing number of people who have engaged in P2P transactions. A Pew Research Centre Survey (2016) of 4 787 adults in the United States estimated that around 72% of US adults had used one of 11 different shared and on-demand services. Stokes et al. (2014) estimated that in 2014, 25% of the adult population in the United Kingdom had used P2P platforms to share assets or resources.

469. The opportunities presented by multi-sided platforms as regards taxation are two-fold:
- i. **Facilitate integration into the formal economy.** Where previously unreported transactions (in particular in the cash economy) are now carried out through multi-sided online platforms and there is greater or full reporting of income as a result, more taxpayers and economic activity will be integrated into the formal economy. Conversely if the expected increase in transactions via multi-sided platforms is not accompanied by an increase in reporting, then it would lead to growth of the informal economy.
 - ii. **Drive growth and increase revenues.** Multi-sided platforms often provide new opportunities for economic activity as well as encouraging movement into the formal economy. This may help to drive growth and have some positive impacts on government revenue. The growth impacts can take place directly through enhanced economic activity as well as indirectly through positive spillover effects on other parts of the economy. This can arise, for example, through increased tourism or greater demand for services as a result of increased transport opportunities etc. The impact on growth and revenues will also depend to an extent on whether the economic activity taking place through multi-sided platforms is at the expense of existing, direct competitors. While important in all countries, the positive growth and revenue impacts are likely to be particularly significant for developing countries with large informal economies.

470. In order to realise these benefits, as well as to address some of the challenges arising from the operation of online platforms, there are a number of issues that must be addressed.

7.2.1. Understanding the tax implications of the changing nature of work

471. With the rise of the gig and sharing economies, changes in the mix of taxable status in the economy – for example from employee to self-employed or incorporated – can have important consequences. When changes in taxable status occur, different rules may apply for example on deductions and thresholds for income tax purposes and social security contributions. When these changes occur across significant proportions of the working population, this will have implications for government revenues as well generate other public policy concerns, including from loss of certain employment rights. These changes may either arise from individuals voluntarily choosing different work patterns or as a result of changing preferences of employers, at least in some areas of their business, or both. The growth in the use of platforms in certain sectors may already be acting to reduce the relative number of standard employment contracts.

472. For example, the legislation of some countries provides for lower levels of social security contributions for non-standard labour contracts. In other countries, the tax system provides incentives to offer labour services as a closely-held corporation instead of as employees subject to a higher rate of personal income tax. These features of the tax system could lead to revenue losses if there are large shifts in working patterns and taxable status. If governments wish to maintain today's expenditure levels, losses will have to be compensated by a higher tax burden on less elastic tax bases, such as for example property and consumption. The need for a shift towards other, less variable sources of taxation could also be exacerbated by the difficulties of raising corporate income tax from digitalised business, as highlighted in other chapters of this report. From a broader tax policy perspective, the impact of such changes on both revenue and the tax mix will need to be considered as part of a global and inclusive assessment on whether such a shift is welfare improving for the overall population.

473. Many governments and courts are already considering these issues. The evolution of such platforms and the nature of the contracts between the platforms and their users may, for example, provide greater opportunities for activities to be structured in ways that minimise tax liabilities and reduce the tax base.

474. The impact of platforms on the changing taxable status of economic actors across different forms of employment merits further examination. The OECD stands ready to deliver further work on this topic. Initial steps have already been taken to analyse tax incentives for platforms and more generally employers, to hire labour through non-standard labour contracts, and for employees to offer labour services either as a self-employed person or through a closely-held corporation.

7.2.2. Fostering innovation and ensuring equivalent tax treatment with similar, existing activity

475. Fostering nascent economic activity and ensuring appropriate tax treatment requires that governments take into account the impact of administrative burdens on users of online platforms. This issue is not new and is already recognised in many countries through simplified tax regimes for micro-businesses and small and medium sized enterprises, and for activity not primarily carried on as a business.

Box 7.2. Tax policy measures targeted at the sharing economy

In Denmark, the Ministers of Industry, Business and Financial Affairs, Transport, Building and Housing, and Taxation recently presented the Danish Government's strategy on growth through the sharing economy. The strategy contains 22 initiatives including higher basic allowances on renting out property, cars and boats if a third party (e.g., a platform) declares all income to the tax authorities. The strategy also includes an initiative on developing a digital solution for declaring income arising from the sharing economy.

In Italy an optional taxation regime for short-term rental income has been introduced allowing the taxpayer to opt for a substitute tax (in lieu of personal income tax) in the form of a 21% flat rate tax on gross income from the rental. The new law applies to rental contracts not exceeding 30 days, on contracts defined online as well as contracts defined in traditional ways.

The United Kingdom has introduced two separate annual tax allowances for individuals, each of GBP 1 000, for income from a trade or property with the objective of simplifying the tax system and supporting the development of the digital and sharing economy. Where the allowances cover all of an individual's relevant income (before expenses) then they will no longer have to declare or pay tax on this income. Those with higher amounts of income will have the choice, when calculating their taxable profits, of deducting the allowance from their receipts, instead of deducting the actual allowable expenses.

476. Going beyond this, for example, by introducing special tax regimes for activities facilitated through the use of platforms may not be optimal: such activity will be in direct competition with existing activity (e.g., taxi services). This may result in different tax outcomes for substantially similar activities. On the other hand, there may be a case for considering simplified transitional measures to encourage existing and new activities into the formal economy, and for also taking into account the likely lack of experience with tax matters of some platform users. Further work could be undertaken to analyse options for achieving a balance between reducing the compliance burden for some players and preserving the level playing field. This is particularly important in light of the spread of the gig and sharing economies highlighted in Box 7.1.

7.2.3. Improving the effective taxation of activities facilitated by online platforms

477. Where a transaction involves payment from one individual to another, rather than being based on altruism or a cost sharing arrangement (for example contributing to petrol costs in a shared ride), then there can be taxable consequences for the parties involved. Platforms may create certain tax challenges for their users, including uncertainty amongst users about their tax liabilities. This is likely to be the case particularly where P2P transactions are involved.

478. For tax administrations, the challenges raised by online platforms, particularly in the case of P2P transactions, include a lack of information about the identity of users and the amount of payments made for the activities facilitated by the platform. Difficulties with access to that information will be exacerbated where the platform is not located in

the same jurisdiction as the person receiving payment for the transaction and where the tax liability is due.

479. There are a number of options to address this challenge, including targeted taxpayer education campaigns and gathering information from the platforms themselves. Both of these approaches are discussed further below.

Improving taxpayer education and self-reporting

480. Depending on the contractual arrangements between the platforms and their users, a traditional employment or other business relationship may not exist. As a result, payments may not generally be visible to the tax administrations in the way that they are, for example, for salaried employees in many countries, where withholding will typically also be a feature. Taxation of such income may therefore depend on self-reporting by the taxpayer in the absence of wider cooperation between platforms and tax administrations, and between tax administrations. Self-reporting tends to be most complete when an individual knows that the tax administration can obtain the data themselves or, more powerfully, if it is reported directly to the tax administration.

481. Lack of self-reporting can be exacerbated by uncertainty among platform users about their tax liabilities, including whether the activity is taxable. This can be a difficult area, with particular challenges arising over determining the correct employment status, any relevant income thresholds, and whether an activity is carried on as a business. Some platform users may see their activity as akin to a hobby or pastime rather than a business, and some will not be registered for tax in any capacity. As a result many appear not to report this source of income. In this regard, issuance of timely guidance by tax authorities on the appropriate tax treatment and reporting obligations in relation to emerging business models can be extremely useful. Even where they are aware, the lack of publicly available material as well as any complexity inherent in reporting of such income may lead some to take no action, believing the risks and potential penalties to be low.

482. Improving taxpayer education aimed at providers of goods and services through P2P platforms in particular, could make an important impact to ensure effective taxation of activities facilitated by online platforms. Consideration of these issues could build on previous work which gathered global best practice in taxpayer education, such as the 2015 report on *Building Tax Culture, Compliance and Citizenship*,² to look specifically at taxpayer outreach in the online platform environment where cross-border considerations also play a role. Combined with improving access to information by tax administrations, which is discussed further below, it is likely that significant progress can be made to improve effective self-reporting of tax obligations in respect of these types of activities.

Box 7.3. Educating taxpayers about tax obligations arising from the platform economy

The Canada Revenue Agency (CRA) has added new pages to its website, providing information on income tax and goods and services tax (GST)/harmonised sales tax (HST) obligations for registering, collecting, remitting and reporting income derived from the sharing economy. These webpages include information specifically intended to assist taxpayers who may not have reported income in previous years and now want to correct their tax affairs. The CRA has also collaborated with one large accommodation sharing platform, using the platform's own communication tool, to provide its users with information concerning their tax obligations, and is planning to offer similar collaboration with smaller platforms

In France a requirement was placed on P2P platforms to provide information on the tax and social security obligations of the users of these platforms. This requirement is deemed to have been complied with if the message sent by the platform to its users following each transaction provides accurate, unambiguous and transparent information concerning these obligations and includes, "in a clear manner", hypertext links to the websites of the tax authorities and social security organisations. In addition, the platforms must send their users an annual statement (prior to 31 January) of the gross amount received from transactions carried out via the platforms.

Obtaining tax data about transactions facilitated through platforms

483. Addressing the lack of information available to tax administrations about the identity of taxpayers using platforms, particularly in the case of P2P transactions, would be an important step forward in improving tax compliance in this sector. As discussed in Chapter 2, some multi-sided platforms often act as payment intermediaries. Others may facilitate a transaction with the payment being made directly between the parties. In both cases, the platform will typically retain at least some relevant information, for example about the identity of the parties to, and the amount of, the transaction. Other third parties may also hold relevant information about transactions facilitated by platforms, for example, payment service providers that are linked to the platform.

484. Where such powers are not already available, introducing legislative measures which require platforms or other third parties to report payment and identification data of P2P users and/or which allow tax administrations to request group information, could provide tax administrations with information needed to improve compliance or to enhance selection of cases for audit. The fact that data is reported would also be likely in itself to encourage greater self-reporting. As tax administrations continue to improve data use, increasingly it will be possible to join up this information with other income data, opening up options for pre-filing of tax returns or automatic checking of tax returns. Requiring withholding is also a possible tool, although in some contexts this may involve greater administrative difficulty for the tax administration, platform or taxpayer depending on the design of the withholding measure.

485. However, domestic legislative requirements may not be directly effective where the data is located in a jurisdiction other than the jurisdiction of the platform seller. In

such cases, it may be possible to obtain agreement from the platform to supply information directly to the tax administration, although in some jurisdictions this could breach data protection requirements unless the consent of the platform user is obtained. Information can also be obtained from platforms located in other jurisdictions through individual requests for information to the relevant tax administration. However, in order to be accepted as a legitimate request, information would need to be sufficient to identify the individual taxpayer concerned or meet the criteria for group requests where applicable under international agreements. This approach will often not be very cost-effective or timely. Some tax administrations have attempted to increase the number of requests for information through web scraping techniques (i.e., techniques used to automatically extract data or collect information from the web), although this is not straightforward and the effectiveness of this approach may depend on the systems employed by the platforms.

Box 7.4. Obtaining tax information directly from platforms

The Estonian Tax and Customs Board (ETCB) has entered a cooperative agreement with two well-known ride-sharing platforms for information sharing. The platforms first ask consent from the drivers for income information to be shared with the ETCB. Where consent is given, the platforms compile the relevant data into a single file with names, personal codes and income amounts, and send this file to the ETCB before the beginning of income tax return submitting period. The ETCB prefills the natural persons' income tax returns using all relevant data. The natural person has to check the prefilled data, amend if necessary and submit the income tax return. The process is entirely electronic.

The Finnish Tax Administration (FTA) has focused efforts on sharing economy platforms related to the accommodation industry, P2P lending and crowd funding activities. While domestic legislation has been effective at collecting third party data from P2P and crowd funding platforms within Finland, it cannot be applied where the platform only has a presence in a third country. The FTA has also used website scraping techniques and international administrative cooperation, including receiving data through spontaneous exchange. However, data obtained in this way has often not been complete and has faced administrative obstacles.

In Mexico, the Mexican Tax Administration (SAT) has worked with a ride-for-hire service in order to help their drivers to comply with tax regulations, including sending electronic invoices to all their customers. As part of this, the ride-for-hire service requires that a driver obtains the electronic certificate required to digitally sign invoices before registering with the platform. Drivers are able to use the platform's own systems to file and send invoices to the customers and to SAT, as well as to download them for record keeping purposes.

In Ecuador, the Ecuadorian Tax Administration has worked with a taxi company in such a way that the company will prepare, file and send each month an electronic invoice to each passenger for their usage of the platform (their rides). In addition, each driver will prepare an electronic invoice relating to the commission they would receive from the taxi company. The Tax Administration will receive all of these invoices electronically.

Adopting a collaborative approach

486. In that context, there is a strong case for collective discussions between tax administrations and platforms about possibilities for obtaining access to transaction and identification data held by multi-sided platforms, particularly where they involve P2P transactions. Through the OECD's Forum on Tax Administration, 50 tax administrations have recently agreed to collaborate on such a project to be completed in 2018 which will have four components:

1. To develop a common understanding of the various types of platforms, the scale of the challenges and opportunities, and the location and accessibility of platform data.
2. Understand the approaches already applied by different tax administrations in order to increase tax compliance amongst platform users, including through education, legislative changes, and collaboration with the platforms.

3. Consider the scope of information that tax administrations would require in order to match income received from activities facilitated by the platform with the users who are tax resident in their jurisdictions. This is likely to be similar in many respects to the information required under the Common Reporting Standard where information is sent annually on financial accounts held in other jurisdictions with information allowing for the identification of the beneficial account holder in the receiving jurisdiction. Even in cases where the platform is not the payment intermediary and payments are made by another third party or between the parties to the transaction, relevant information may still be held by the platform itself.
4. Consult with some of the larger platforms with cross-border operations with a view to agreeing a common set of information which, with appropriate legal arrangements in place, could be provided by those platforms to all tax administrations in the jurisdictions in which their users are located. Such a common solution, which would likely depend on a combination of domestic legislation for the provision of data and agreements between tax authorities for spontaneous exchange, would reduce the burdens on these platforms and tax administrations which would otherwise arise should information be requested by a large number of individual tax administrations in different formats and with different periodicity. The issues to be considered would be the common set of information, a common format and transmission mechanism, a common timetable and any necessary domestic legislation.

Possible multilateral agreements for data exchange

487. As well as considering the range of solutions for accessing income and identification information through cooperation between tax administrations and platforms, and based on the outcome of that work, it may be appropriate to explore further the possibility of a possible multilateral agreement between countries. Such an agreement, along the lines of the Common Reporting Standard, might require all platforms carrying out particular types of activity to provide information in a standardised format on platform users, transactions and income to the tax authority in their jurisdiction of residence for exchange, through appropriate legal gateways, to the jurisdiction of tax residency of the user. This set of information, as well as the underpinning legislation and international agreements, is likely to be broadly similar to that required under the CRS.

7.3. Digitalisation and tax compliance

488. As noted above, online platforms facilitate the recording of P2P transactions that may have previously been very difficult to trace. If this information can be made available to tax authorities, it can be integrated into data matching analysis to enhance tax compliance. Technology is in fact expanding the capabilities of tax administrations in a wide range of ways, to enhance the effectiveness of compliance activities, improve taxpayer services, and reduce compliance burdens. Some of the latest developments in this regard are described below, as well as some of the potential risks arising from digitalisation.

7.3.1. Enhancing the effectiveness of tax compliance activities

489. Recent years have seen a large increase in the amount of third party data available to tax authorities coupled with lower storage costs and advances in analytics techniques.

These data include transaction and income data, behavioural data generated from taxpayers' interactions with the tax administration, operational data on ownership, identity and location, and open source data such as social media and advertising. This data can be used as individual sources or in combination to enable partial or full reporting of taxable income and to uncover under-reporting, evasion or fraud. It can also be used to understand better taxpayer behaviour, to measure the impact of activities and to identify the most effective interventions, both proactive and reactive.

490. A growing number of tax administrations are increasingly using algorithms to review the broad range of data to which they now have access in order to more effectively define risks. These new processes are replacing some audit actions, including audit selection, and other verification checks previously performed by people. These developments are allowing tax administrations to increase the number of such verification checks which can be performed, shifting from a small percentage of returns to cover much larger proportions, in turn increasing the amount of tax revenue which is appropriately raised.

491. New technology is also being used to tackle the under-reporting of sales or the over-reporting of deductions through false invoicing, forms of tax evasion which have themselves been made easier through the use of technologies such as sales suppression software and more sophisticated tools that create forgeries. A number of tax administrations have introduced requirements for data recording software which records and secures sales data immediately at the time of a transaction, and in some cases transmits it in real time to the tax authorities. The introduction of a requirement to use such electronic data recording technology has seen VAT revenues increase by up to 20% in certain countries,³ and has also led to criminal charges for tax evasion. These tools have also proven useful for business owners in providing protection from theft by employees as well as facilitating a more efficient process to meet their tax obligations.

492. Technology has also allowed for significant advances in tax transparency internationally as well as domestically, in particular through enhanced information exchange between tax administrations. The OECD's Common Reporting Standard (CRS) for the automatic exchange of financial account information (AEOI) has made available to tax authorities information on offshore transfers and accounts which was previously unknown and unknowable. Using technology available through the OECD-developed Common Transmission System, as the platform for secure bilateral exchanges of information between participating tax administrations, these exchanges now occur automatically on a periodic basis. With the large amounts of AEOI data, tax authorities must ensure it is effectively deployed, matching it with existing information sources relating to the taxpayers concerned.

Box 7.5. Impact of data recording technology and electronic invoicing on the fight against tax evasion and fraud

- In Hungary, requirements to introduce electronic cash registers saw VAT revenue increase by 15% in the targeted sectors, exceeding the cost of introducing the new system.
- In Quebec alone, more than CAD 1.2 billion has been recovered following the introduction of data recording technology in the restaurant industry. By 2018-19, this is expected to reach a total of CAD 2.1 billion.
- In Rwanda, in the two years since the introduction of electronic cash registers in March 2013, VAT collected on sales increased by 20%.
- Over EUR 500 million in risky VAT was identified over a 2 year period in the Slovak Republic following the introduction of electronic invoice data matching processes
- An additional 4.2 million micro-businesses were brought into the formal economy after Mexico introduced mandatory electronic invoicing.
- In Russia the Federal Tax Service has implemented a system that allows it to monitor VAT compliance on a nationwide basis mostly in real time, drastically reducing opportunities for fraud. The approach is based on automatic cross-matching of all VAT paid with all VAT claimed across all transacting parties. 2016 results show an increase in VAT collection over 2015 of 8.5%, while in 2014 the increase amounted to 12.2% and 16.8% respectively.

493. Taking this a step further, work is now being launched by the OECD’s Forum on Tax Administration to investigate innovative approaches to the analysis of the data now available under the CRS. This includes tax authorities working together to develop a more systematic analysis of behavioural patterns relating to both onshore and offshore non-compliance/evasion, including with respect to different taxpayer segments such as individuals, small traders, and micro businesses. In time, such approaches will be able to not only detect existing tax evasion, but also pre-empt and deter these behaviours through the use of targeted tools.

7.3.2. Improving taxpayer services

494. The increase in data availability and advancements in analytics are also leading to improvements in taxpayer services. This includes identifying ways to make it easier to understand and report tax obligations, for example by use of analytics on large data sets to identify areas of uncertainty or errors in reporting, as well as to understand where guidance and communication needs to be clearer for taxpayers, or where tax administration processes may need to be redesigned. The use of such techniques can also inform behavioural insights, allowing tax administrations to more effectively use “nudge” techniques designed to alter taxpayer behaviour, to prevent for example the accumulation of tax debt by upstream engagement or to prompt taxpayers to review potential errors in tax returns by automatically drawing attention to taxpayers in comparable situations or previously received information concerning the particular taxpayer.

495. Many tax administrations are now providing self-service options for taxpayers through the introduction of mobile and web-based applications, seeking to use channels

of communications that are easiest for taxpayers. Such applications can allow taxpayers to update their personal data, register for tax purposes (and other services provided by tax administrations), upload tax returns electronically and receive electronic notifications. This has been accompanied by a shift towards user-centric design in most tax administrations, which can also be integrated into broader e-government initiatives subject to data protection limitations.

496. The increase in the availability of online services for taxpayers is aimed at maintaining and building voluntary compliance against a background of heightened expectations on the part of many taxpayers in respect of the level of services and access to the tax administration. Increased self-service also requires enhanced security to protect confidential information and to minimise fraud. In this regard, a number of tax administrations are now using enhanced authentication techniques, such as multi-step verification and unique identifiers such as biometric information.

497. Given their ability to facilitate taxpayer interaction with the tax system, the piloting and roll-out of new technologies to support the delivery of more effective taxpayer services should continue to be monitored. Current efforts to compile best practice and facilitate peer-to-peer knowledge sharing between tax administrations to lift standards in taxpayer service across the globe should be reinforced, including ensuring that developing country tax administrations can both contribute to and benefit from these developments.

Box 7.6. Improving taxpayer services through the use of technology

In India, the government has built a nationwide biometric database based on fingerprints and iris scans from more than a billion residents. Those residents are issued with a 12 digit identity number which is used for security purposes in many government and private sector applications, including income tax returns.

Peru's tax administration, SUNAT, launched its first mobile app in February 2015. This provides constant tablet and cell phone access to a range of services including tax registration, invoice issuing, access to a virtual tax guide and the ability to report tax evaders.

The Danish Tax Administration (SKAT) is collaborating with software developers to embed tax-related guidance and functionality in third party accounting software solutions targeting small businesses. The long-term ambition is that transaction data flowing from banks to accounting systems should form the basis for a semi-automated process that integrates with SKAT's business processes.

7.3.3. Reducing tax compliance burdens

498. A number of tax administrations have long had processes in place to minimise the tax compliance burden for salaried employees and wage earners, including automated reporting of earnings or even withholding tax from salary and wages in regular instalments. Such approaches, which rely upon information being obtained from third-parties, have also been seen to improve compliance levels. These automated compliance processes are now being further enhanced as a result of the increasing availability of data on other sources of income, which in some countries allows the comprehensive pre-filling

of tax returns. Tax administrations are increasingly looking at how such “compliance by design” approaches can be used for businesses as well as individuals.

499. In this regard, the availability of digital information and the use of technology by taxpayers is increasingly allowing tax administrations to embed tax requirements and reporting within taxpayers’ existing systems (such as accounting software and record-keeping tools, online banking, electronic cash registers and mobile applications). Tax administrations are increasingly working with third party software providers and tax service providers as well as developing in-house solutions such as applications supporting the recording, calculation, reporting and payment of tax. Embedding compliance, including upfront verification, in the design of tax administration systems offers the opportunity to substantially reduce administrative burdens, freeing up taxpayer and tax administration resources while also improving overall compliance.

500. Burdens on taxpayers can also be reduced through increasing the efficiency and security of income and transaction reporting, and a number of tax administrations are also exploring the use of blockchain for this purpose. Blockchain is a distributed ledger technology that can be used to store any type of data, including financial transactions. By recording when a transaction occurs, the details of the transactions (e.g., transfers of the ownership of assets), and providing assurance that the relevant business rules have been met without the necessity of a centralised verification authority, blockchain offers some useful applications for tax authorities. For example, a secure method for the registration and authentication of taxpayers, or the recording of transactions (e.g., land title registers).

501. As with other types of technology, blockchain also presents some risks particularly as a result of the absence of a central rule-setting governance mechanism. Some of its applied uses, such as crypto-currencies,⁴ may also offer a new avenue for masking the identity of those sending and receiving payments. As such, it could present new transparency risks which if unchecked may undermine progress over the last decade to tackle offshore tax evasion. More broadly, the implications of crypto-currencies for tax crime and other financial crime may be an area where further study is warranted.

502. Greater integration of government and third-party information systems, as well as more effective process design offers opportunities to reduce the compliance burden for taxpayers. As with all new technologies, it will be important to ensure that the risks, as well as the benefits are fully understood and mitigated to the extent possible. Given that many of these technologies are being deployed globally, future work that allowed tax administrations to work together to explore these issues would be a cost-efficient use of resources that would also disseminate its benefits effectively.

Box 7.7. Use of electronic data to enhance compliance

A large number of tax administrations have already adopted pre-filled returns for some or all sources of personal income. Some jurisdictions, including Belgium, Denmark, Finland, Hungary, Iceland, Lithuania, Malaysia, Malta, Norway, Singapore and Slovenia, have adopted a “deemed acceptance” approach of pre-filled returns after the expiry of a notice period. In their most advanced form, complete pre-filled tax returns cover close to 100% of personal income taxpayers in a number of jurisdictions.

The Australian Tax Office has incorporated a tool in its mobile app which allows users to record tax deductions on the go. Using the camera on their device, taxpayers can capture receipts and use location services to record work-related car trips for vehicle deductions, eliminating the need for paper records.

The Kenya Revenue Authority introduced the iTax system in 2013. This is a web-enabled tax collection system that provides a fully integrated and automated solution for the administration of income taxes, including pay as you earn, VAT and withholding taxes. It allows taxpayers to simply update their tax registration details, file tax returns, register all tax payments and make status enquiries with real-time monitoring of their account.

7.4. Emerging frontiers for tax and digitalisation

503. The examples cited in this chapter reflect only a small sample when considering the far-reaching implications that new technologies, driven by digitalisation, could have for the whole tax system. These range from the impact of automation and artificial intelligence on the workforce, the changes that the growth of 3-D printing and augmented reality could bring to value chains, to the ability of big data and analytics to radically transform tax policy-making and compliance activities in a way that enables real-time, bespoke measures to be developed.

504. In light of the opportunities to improve taxpayer services, enhance compliance and tackle tax fraud and evasion, further work on the issues highlighted in this chapter is warranted, including on how best to assist less developed countries to realise these benefits. Initial steps have already been taken to progress some of these issues, including with respect to:

- The impact of online platforms on the changing taxable status of economic actors across different forms of employment. Namely, the shift from standard labour contracts to non-standard labour contracts, which may include the offering of labour services either as a self-employed or through a closely-held corporation. This work will be delivered in 2019.
- Options for tax authorities to access information held by online platforms regarding the income-generating activities facilitated by such platforms. This work will be completed in 2018. Based on its outcomes, further work could also be considered in putting in place a multilateral data exchange mechanism for information held by platforms, to be shared with tax authorities automatically on a periodic basis.
- Analysing the financial account data now available to tax authorities as a result of the CRS, to identify behavioural patterns with respect to both onshore and

offshore non-compliance/evasion with a view to improving detection and deterrence tools for such activities. This work will be delivered in 2019.

- Developing options for measures which strike a balance between reducing the compliance burden for innovative entrants to the market, while preserving a level playing field for similar, existing activities.

505. In addition, further areas of work which could be explored as highlighted in this chapter include:

- Further develop tax policy work currently underway to assess the impact of the shift from standard to non-standard labour contracts on both revenue and the tax mix. Specifically, a global and inclusive assessment on whether such a shift is welfare improving for the overall population will be needed.
- Build on existing best practice with respect to taxpayer education to focus on situations involving online, cross-border activities to improve understanding of tax obligations and promote self-reporting for voluntary compliance.
- Peer-to-peer knowledge sharing between tax administrations to build a database of best practice and monitor new developments in the use of new technologies to improve taxpayer services.
- Analysis of how and the extent to which the integration of government and third party information systems offers opportunities but also some risks in terms of reducing the tax compliance burden on taxpayers, and consider options to mitigate the risks while effectively disseminating the benefits.
- Analysis of the risks of tax evasion posed by crypto-currency and blockchain technology more generally, and the possible solutions, such as legislative measures which require digital asset exchange platforms or other third parties to report, and/or which allow tax administrations to request information on transactions regarding digital assets such as crypto-currency as well as targeted exchange of information.

506. In each of these areas of ongoing and proposed work, it will be important to ensure that developing countries, as equal-footing members of the Inclusive Framework on BEPS, can both contribute to and benefit from these developments, in a way that takes into account their specific constraints and environment. As appropriate, this may include working with the regional tax administration bodies, as well as the Platform for Collaboration on Tax.

507. More generally, the TFDE should continue to monitor new developments, including digital innovations, which may have implications for the effectiveness of tax systems, from policy matters through to administration, in view of the rapid degree of transformation resulting from digitalisation. An update on progress on each of these topics will also form part of the Inclusive Framework's 2020 report on tax and digitalisation.

Notes

¹ The term 'gig economy' indicates a labour market characterised by the prevalence of short-term and often non-standard contracts or freelance work as opposed to permanent jobs and standard labour contracts. The term 'sharing economy' refers to a market in which assets or services are shared between private individuals, either for free or for a fee. Both the gig economy and the sharing economy have become increasingly prominent as a result of digitalisation, and in

particular, the use of the Internet, which has allowed a rapid expansion of such activities on a global scale.

² More information on the OECD's previous work on this topic can be found in the 2015 Report on (OECD/FIIAPP, 2015^[1])

³ (OECD, 2017^[2])

⁴ A crypto-currency is a digital asset used as a medium of exchange and which relies on cryptography to secure its transactions, to control the creation of additional units, and to verify the transfer of assets. It is a type of virtual currency, meaning a digital unit of exchange that are not backed by government-issued legal tender

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