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Development and Prospect of IT-based Taxation in China

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State Taxation Administration
People's Republic of China

Abstract: China's IT-based taxation started in the early 1980s. Since the 1990s, Chinese tax authorities have launched and promoted the Golden Tax Project Phase I, Phase II, and Phase III in succession. IT-based taxation has embarked on a new journey since then. In the new era, the State Taxation Administration (STA) of China has, in adherence to the requirements of taxation modernization for building a stable and powerful information system, followed the trend of IT revolution, seized opportunities, and braved challenges. Committed to revitalizing taxation through science and technology, STA managed to build a system cluster with the Golden Tax Project Phase III as the core across the board, featuring functions of VAT invoice management system and Electronic Tax Bureau. STA has vigorously promoted the action plan of "Internet + Taxation", consistently improved the application of tax-related big data, and provided strong IT support for better exerting the fundamental, backbone and supportive role of taxation in state governance.

Keywords: Taxation modernization; IT-based taxation; The Golden Tax Project

Since the advent of computers in the mid-20th century, the information revolution has flourished and mankind has made great strides towards an information society. China's IT-based taxation started in the early 1980s, after which its IT application in tax administration progressed rapidly as the country accelerated the development of information technology. In the 21st century, IT is playing a pioneering, strategic and fundamental role in modernizing taxation, and China is building an IT-based tax system conforming to the international trend and pertaining to China's basic situation. As a result of sustained efforts, a system with the Golden Tax Project Phase I, Phase II, and Phase III as the core has been established, featuring functions of VAT invoice management system and Electronic Tax Bureau (ETB) among others, thus promoting the action plan of "Internet + Taxation" and the application of big data in governance. In June 2019, the State Taxation Administration (STA) of China has, in response to the call of the time, proposed the construction of a new-generation information system,

launched the project of "Smart Taxation", advanced the objective of applying big data in tax administration and team management, and facilitated the modernization of China's taxation.

1. Development of IT-based Taxation in China

1.1 Initial Stage

China's tax authorities started to apply computers to work in 1985, set up the Computer Management Division in 1988, and convened the first national conference on computer applications in Guangdong province in April 1990, putting computer-assisted taxation on the agenda. In 1991, China's tax authorities advanced the reform of tax administration across the board, separating responsibilities of collection, administration and inspection. The advantages of computer technology in improving the quality and efficiency of tax administration at the grassroots level have gradually emerged by virtue of the synergy of administration reform, accounting reform and development and application of computers.

1.2 Development Stage

As the main initiative of China's IT-based taxation, the Golden Tax Project is a national project approved by the State Council and one of the "Twelve Golden" Projects of e-government.

After the reform of tax sharing system in 1994, in order to strengthen the monitoring and management of specialized invoices for VAT, and to combat illegal and criminal activities of using specialized invoices, China's tax authorities introduced the Golden Tax Project and piloted a computer-assisted VAT cross-checking system in 50 large and medium-sized cities. In May 1994, the Information Center of STA was formally initiated. Since then, China has had a full-time management organization for the advancement of IT-based taxation. In 1997, China decided to implement a new tax administration model "relying on computer networks", and the IT-based tax administration was promoted.

In March 1999, the Golden Tax Project Phase II was officially launched. In July 2001, the four systems of invoicing, certification, cross-checking and co-inspection of VAT anti-counterfeiting were put into operation to gradually systematize and standardize VAT management. Since 1 August 2003, the practice of taxpayers using handwritten specialized invoices has been put to an end. The goals of the Golden Tax Project Phase II have been achieved, and the work of IT-based taxation has been boosted.

1.3 Integration Stage

In 2009, STA initiated the first stage of the Golden Tax Project Phase III (hereinafter referred to as Phase III) in an all-round way. From the end of June 2012 to October 2013, pilot operations were carried out at Chongqing Municipal Tax Service, Shanxi Provincial Tax Service and Shandong Provincial Tax Service. At the end of 2014, STA implemented a comprehensive acceptance inspection of the first stage.

In 2015, the second stage of Phase III commenced and IT-based taxation embarked on a new journey. In early October 2016, the promotion of Phase III was completed in 16 provincial and municipal level tax services, including those in Liaoning, Jiangxi, Fujian, Shanghai and Qingdao, marking the nationwide promotion and adoption of Phase III after ten years of strenuous efforts.

Since 2017, STA has gradually optimized and extended functions of Phase III. In 2018, STA integrated information systems at the original national and local tax bureaus, developed a big data cloud platform and the ETB for Natural Persons, and established an information system for the administration of social insurance contributions based on Phase III. At the end of March 2019, through three stages, the system of Phase III had been consolidated in tax services at all levels.

2. Achievements of IT-based Taxation in China

2.1 The Golden Tax Project Phase III

In 2009, STA decided to launch Phase III driven by science and technology as well as

management in order to act on the requirements of the National Working Conference of IT Application in Taxation, further bolster IT-based taxation, and solve the problem that the original tax administration system could not meet the evolving work needs at that time.

Phase III has achieved the target of "One Platform, Two-Level Processing, Three Coverage Areas, and Four Systems". "One Platform" refers to the establishment of a unified technical platform including network hardware and basic software, with a nationwide network coverage rate of 100%. "Two-Level Processing" represents national tax administration information system that relies on the unified technical platform and realizes centralized processing of applications and data in STA and provincial tax services. "Three Coverage Areas" means that the information system covers all taxes, all major links in taxation work and tax authorities at all levels, and is networked with relevant governmental departments. The "Four Systems" comprises a collection management system, an administrative management system, an external information system and a decision support system.

With the comprehensive promotion and optimization of Phase III in place, the modernization of China's tax governance system and governance capacity has been greatly improved. Firstly, the standard for tax enforcement is unified. Technically, the trace management of tax law enforcement and the standardization of national taxation operations have been achieved. Secondly, data are centralized at national level. Data produced by tax authorities are centralized to STA on the same day to achieve timely and comprehensive comparison and identification of tax data. Thirdly, the costs of both tax collection and payment are lowered. Phase III further saves tax collection and management costs and improves efficiency. At the same time, through the gradual networking of tax service platforms, taxpayers' burden is reduced and their sense of gain is enhanced. Fourthly, tax reform is secured. The strong technical guarantee of Phase III supports the smooth advancement of major reforms such as replacing business tax with VAT and cutting taxes and fees. Fifthly, society-wide tax administration is promoted. Phase III has built an external information management system and established a standard system for information exchange. For the first time in the history of China's taxation, the basic platforms, application software and business standards have been unified, and tax administration data across the country have been centralized, effectively exerting the role of tax-related data as production factors and innovation engines, and significantly enhancing the ability of tax governance to serve the modernization of national governance.

2.2 VAT Invoice Management System

Since 2014, STA has comprehensively reformed the original invoice management system and built a VAT invoice management system that can deal with all VAT invoices and related information. By the end of 2015, the VAT invoice management system had fully covered general taxpayers and small-scale taxpayers above the taxing threshold. In July 2017, version 1.0 of the VAT Invoice System was comprehensively upgraded, and version 2.0 of the Invoice System with records of receipts, monitoring of circulation, interruption of transactions and feedback of governance was built, moving the collection of invoice information from "two-dimensional" to "three-dimensional". In April 2019, based on version 2.0 of the system, a public service platform of electronic invoice was created, adopting the domestic cryptography algorithm, breaking the monopoly of tax control equipment, and providing taxpayers with free basic services for issuing general VAT invoices online.

The new system has fundamentally changed the way to manage invoices, and played an important part in preventing and controlling tax risks, optimizing taxpayer services, standardizing tax law enforcement, and serving macro decision-making. First of all, the new system technically discriminates and analyzes "true invoices with false details", and helps solve this "deep-rooted disease" of invoice management. At the same time, it can also promptly detect tax loss risks and alert grassroots-level tax authorities. According to statistics, companies with

verified VAT problems account for about 90% of the number of risky companies reported by STA. Besides, taxpayers can handle most matters such as invoice issuance, cancellation, tax declaration, and authenticity verification through the Internet at one time, which significantly improves efficiency. In addition, thanks to the large database generated by the new system, practices of using invoices for the reimbursement of personal consumption and falsifying names of the commodity to obtain financial funds can be detected and curbed in a timely manner, and the corruption of false invoices can be blocked at the source.

2.3 ETB

In order to promote the action plan of "Internet + Taxation", to provide public services on a single website, to respond to the leaping development of information technology, and to adapt to the reform needs of collection and administration systems of the state and local tax administration, the building of Electronic Tax Bureau has been accelerated and improved day by day.

In 2018, STA formulated the standards for the building of ETB to guide local tax authorities to coordinate channels, interfaces, and login pages of online tax processing systems. In December 2018, an ETB with unified interface, business, data and key innovations was launched across the country. In 2019, STA, in view of the difficult, tricky and recalcitrant problems in taxation businesses, formulated and issued the "Standards of Constructing Electronic Tax Bureau (2019 Edition)", which was intended to provide convenient services to taxpayers and smart management experience to tax authorities. The Standards regulated business function classification, different authorization of business handling and electronic business processing, and dramatically improved the online, convenient and standardized taxation business handling. By the end of 2019, the number of registered users of the ETB exceeded 57 million, accounting for 88% of the total number of registered taxpayers, and the online filing rate surpassed 95%.

ETB breaks the limitation of time and space, and realizes cross-regional, cross-level and cross-departmental processing of tax-related matters, so that taxpayers can handle business without leaving their homes. At the same time, it also expedites the transformation of tax collection and payment from manual and paper-based to electronic and paperless. Supported by the ETB, tax authorities continue to streamline tax process and improve taxpayers' experience of business handling, significantly raising the efficiency of tax collection and administration, lowering tax administration costs, and effectively increasing the convenience of tax administration and the satisfaction of taxpayers.

2.4 ETB for Natural Persons

In order to follow the requirements of the Central Committee of the Communist Party of China and the State Council on the implementation of the tax reform to combine comprehensive and schedular individual income tax, to build a modern tax service and management system for natural persons, and to promote the modernization of the national tax governance system and governance capacity, STA took three years (2018-2020) to complete the main construction of the ETB for Natural Persons, and build natural persons a modern tax management information system that is compatible with the new tax administration model for natural persons and consistent with advanced Internet technology.

Based on the cloud platform and big data, the ETB for Natural Persons has built a capability system to support the modernization of national tax governance and set a benchmark for new taxation facilities. Firstly, it offers multi-channel services on mobiles, withholding platforms and websites, in service halls and on self-service machines, forming the largest service network for real-name registered groups in the tax system and covering all kinds of taxpayers and all channels of services. Secondly, by cross-departmental collaboration, it pools together tax-related big data of natural persons from inside and outside tax departments, builds an exclusive national tax file for each natural person and forges smart data fusion. Thirdly, it

builds the nation's largest production and transaction cloud for e-government, provides powerful cloud computing capabilities, and creates a scientific tax calculation model based on big data to offer targeted taxpayer services. Fourthly, through multi-party interactive channels, it offers personalized services such as information push, intelligent consultation and objection appeal, and follows the concept of "applying big data to tax administration" to create automated and intelligent supervision for tax collection and administration. Fifthly, by building a cloud-based operation system of connectivity and collaboration between STA and provincial tax services, its operation and management are gradually promoted. Aiming to be intensive and standardized, it achieves safe operation for large-scale government cloud platforms.

2.5 Tax-related Big Data

With the rapid advancement of "Internet Plus", especially since the advent of the "cloud era" for big data, tax authorities have actively strengthened data governance and utilization, and have achieved remarkable results.

STA, centering on the strategy of developing big data and goals of modernizing taxation, formulated a comprehensive and standardized work plan for data management, and gradually established organizational guarantee, management mechanisms and norms for standardized data management. Data management has been strengthened in six aspects, i.e. standards, collection, quality, sharing, application and security.

Relying on centralized data collection, STA built a cloud platform for tax-related big data based on technologies of cloud computing and big data. As of 2020, big data on the cloud platform of STA comprises seven categories of data, including registration, declaration and storage of more than 30 million corporate taxpayers, more than 30 million self-employed taxpayers, and hundreds of millions of natural person taxpayers and feepayers, covering every process of business activities in various economic entities, and forming an all-round and visualized big data application system. The cloud platform strengthened data governance, performed more than 40 specialized analysis such as VAT invoice risk monitoring, audit selection, and case study and judgment, launched a big data platform for "independent exploration space", made more than 10 functions all in one such as inquiry and analysis of related data and invoice accessible to tax authorities at all levels, and established a system of tax data service, data management and information resource sharing. As a result, the management of tax-related big data is gradually regulated by laws and rules.

3. Enlightenment of IT-based Taxation Development in China

3.1 Keeping up with Advanced Technologies Development

Aiming at building up "Smart Taxation", STA has been seeking transformation and upgrade of administration and services in the pursuit of IT application leveraging iteration and innovation of advanced technologies such as cloud computing, big data, artificial intelligence (AI), the Internet of Things (IoT) and blockchain, with a view to adapting to the evolving environment and emerging challenges in a new era.

3.2 Staying Committed to the Path of Unification

Adhering to its inherent development pattern, STA underscores unified organization and leadership in pursuing IT application in tax administration — advancing the building of basic platforms and software development with common faith, consistent pace and coordinated action, so as to prevent problems such as the silo mentality, scattered implementation, duplicated work, functional overlaps of application systems, poor compatibility, information asymmetry and waste of resources, thus saving the costs and enhancing the benefits of IT application.

3.3 Pursuing the Integration of Businesses and Technologies

By refining the functions of application systems according to the business shifts while giving full play to the role of IT in integration and optimization, STA has realized coordinat-

ed development of its business and technology through mutual reinforcement. Specifically, the improvement of the Phase III System demonstrates STA's continuous efforts to elevate its core functions of tax administration. The adoption of a sophisticated IT system to facilitate complex tax processes, not only improves administrative effectiveness and efficiency, but also enhances the tax governance system.

3.4 Highlighting the Supporting Role of IT Application in Major Tax Reforms

The endeavors to promote IT application in tax, particularly the practice of the "Internet + Taxation" action plan and the building of application systems such as the ETB, VAT invoice management system and the ETB for Natural Persons, have improved taxpayer services and enhanced tax administration, ensuring smooth implementation of major tax reforms including the overall promotion of replacing business tax with VAT, the reform of collection and administration systems of the state and local tax administration, individual income tax reform that combines comprehensiveness and classification, and larger-scale tax and fee cuts.

4. Prospects of IT-based Taxation in China

4.1 Five Current Changes

As a crucial link in the modernization progress of tax and one of the most important outcomes over the past two decades, the Golden Tax Project has played a significant part in the development of IT-based taxation in China. However, at this new historical juncture, the profound changes are taking place in the external and internal environment of taxation, which puts forward higher requirements for IT-based taxation. **First, the national strategy on IT application motivates new focuses**. STA should take the initiative to adapt itself to the needs of evolving national conditions in response to the call to build China into a "cyberpower", "digital China" and "smart society" proposed in the 19th National Congress of the Communist Party of China. **Second, serving state governance system imposes new requirements.** The fundamental, supporting and safeguarding role that tax plays in the state governance in a new era requires STA to look beyond tax administration itself, deploying and implementing the building of a new-generation tax information system from the perspective of state and social governance. **Third, functional transformation casts new challenges.** A more sophisticated IT system is needed for STA to establish a new tax order advocated by the reform to streamline administration, delegate powers, and improve regulation and services, to fulfill its duty of tax administration and to realize the modernization of tax governance capacity. **Fourth, the development of IT brings new opportunities.** With the rapid development of global information technologies, the

new-generation IT is gradually penetrating all walks of life and granting more possibilities to improve the manner of enforcement and taxpayer services, which expands much wider space for the development of IT-based taxation. **Fifth, taxpayers and feepayers raise their expectation.** The digitalization trend triggered by social media, mobile devices, the IoT and big data has changed people's lifestyles and shaped their habit of working and living through the Internet and terminals. Therefore, they tend to establish higher expectation for the convenience of tax administration.

4.2 Four Transformations

In the next 5 to 10 years, the deep integration of advanced technologies brings unprecedented opportunities and challenges to IT-based taxation. To this end, STA keeps abreast of the times and puts forward the blueprint for the new-generation tax information system based on the concept of Smart Taxation.

As a systematic reform to promote the modernization of tax governance system and capacity, the information system is aiming at building up Smart Taxation and realizing IT-led tax governance and IT-led organizational management on the whole through four major transformations in idea change, business innovation, job optimization and technology upgrade. **In terms of thinking and idea**, STA should adhere to the taxpayer- and feepayer-centered principle, focus on the leading and supporting role of IT and be committed to providing tax support relying on enhanced awareness of the Internet and big data for the modernization of national governance. **In terms of business and system**, STA will redesign the business process through the agency of data, reform invoicing services to drive related institutional optimization such as VAT, improve the tax supervision system via internal control and endogenesis, and promote shared tax governance through domestic coordination and international cooperation. **In terms of organization and job allocation**, STA will adapt its development to the requirements of classification management, intelligent service, precise supervision and systematic analysis, and adjust its organization and job allocation accordingly.

In terms of technology and platform, it is necessary to continue to promote the construction of a new-generation tax information system in accordance with the idea of creating a new system while adopting and optimizing the existing one, so as to build an intelligent, stable, efficient and safe tax governance platform.

4.3 Seven Visions

The vision of the new-generation tax information system is to build "Smart Taxation" and realize the modernization of tax governance system and capacity. The "Smart Taxation" includes seven aspects, namely, policymaking, electronic invoicing, taxpayer services, tax administration, government affairs, data empowerment and integrity assurance.

- Smart policymaking. A visual control console is set up to provide general and personalized views of tax information for leaders, and an intelligent tax analysis system is established to deliver an all-round display of the relationship between tax and national economy, thus providing decision-making references for state governance.
- Smart electronic invoicing. All fields of an invoice and each procedure of invoicing can be processed electronically. The work methods will be advanced from invoice management to tax administration, ex-ante control of invoice quantity to interim regulation of tax payments, and indiscriminate control of invoicing to precise control of deductions.
- Smart taxpayer services. Diverse measures will be implemented including pushing policy counseling directly to taxpayers, providing literally know-all enquiry services in the form of search engine, deploying panoramic service monitoring, developing intelligent semantic analysis consultation of speech, so as to create a taxpayer service ecosystem of service, self-service and mutual assistance.
- Smart tax administration. Map-based management of tax sources, joint management of taxes and fees and system integration are employed to realize an all-in-one operation system, intelligent collection of management tasks, and coordinated and standardized tax administration.
- Smart government affairs. An intelligent and efficient IT-based tax authority will be built to extend the scope of administration and office work. Efficient processing and deep use of data will enable the full integration of tax statistics into performance appraisal, decision making and deployment of the government affairs.
- Smart data empowerment. The advantages of tax administration will be tapped to eliminate interdepartmental data barriers and stimulate data circulation. With the aid of IT-driven data mining, related risks will be scanned and automatically reported to units responsible for risk control, audit and internal control for correlation analysis and overall response.
- Smart integrity assurance. An intelligent examination system that is capable of early detection, prediction and "multi-agent" response of risks will be placed to ensure smoothness in operation and maintenance, stability of application systems, and robustness and security of the technological environment, allowing effective services for hundreds of millions of legal persons and billions of natural persons.

Looking back, China's IT-based taxation has grew from scratch in 1985 into a powerful golden engine for the modernization of taxation right now, blazing a trail of modernization with Chinese characteristics. When the world is going through once-in-a-century transformations, China's tax is facing up with unprecedented challenges and opportunities. It is at this backdrop that the new-generation tax information system is conceived, as a response to the historical opportunity to consummate the IT-based transformation. For STA, only by grabbing it firmly with a sense of urgency and a sense of mission to benefit generations to come, and sparing no efforts to further pursue IT application as a solid foundation and lasting thrust for tax modernization, can the dream of Golden Tax soar around the world.

Digitalization of Tax Administration in Kazakhstan

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Ministry of Finance of the
Republic of Kazakhstan

Abstract: Technology progress is changing the working methods of state authorities. The development strategy of the state revenue authorities of Kazakhstan envisages the use of information technologies and information systems to improve the quality and effectiveness of the functions. This article describes the main information systems used at this stage, and the benefits for the country using them.

Keywords: Digitalization; Tax administration; Kazakhstan; Product traceability; Risk management; Mobile application

1. Introduction and Background

In April 2019, the First Belt and Road Initiative Tax Administration Cooperation Forum (BRITACOF) was held in Wuzhen, the People's Republic of China. More than 300 representatives from 85 jurisdictions, 16 international and regional organizations, academic institutions as well as business communities attended this Forum.

During the BRITACOF, *Memorandum of Understanding on the Establishment of the Belt and Road Initiative Tax Administration Cooperation Mechanism* for tax administration cooperation was approved and signed, marking the starting point for full-scale implementation of the Belt and Road Initiative Tax Administration Cooperation Mechanism (BRITACOM).

Kazakhstan attended the First BRITACOF and expressed confidence that this event will help develop necessary solutions to create the most favorable tax environment and will contribute to profound cooperation among Belt and Road Initiative (BRI) tax administrations. According to the *Wuzhen Action Plan (2019-2021)*, the State Revenue Committee of the Ministry of Finance of Kazakhstan (SRC) leads the task force on digitalization of tax administration.

One of the major goals of the BRITACOM is to improve the tax administration capacity of tax authorities. As Vice-chair of the BRITACOM Council, Kazakhstan fully supports this goal and has been committed to building a Belt and Road Initiative Tax Academy (BRITA) under the framework of BRITACOM

to provide training programs and seminars, etc. for tax officials from Russian-speaking BRITACOM parties. The BRITA for Russian-speaking BRITACOM parties, together with the Organisation for Economic Co-operation and Development (OECD) and BRITACOM Secretariat, held its first roundtable on "Transfer Pricing: International Standards and National Legislation" attended by representatives of the Tax Administrations of the Russian Federation, the Republic of Belarus, Uzbekistan, Tajikistan, Moldova, and the People's Republic of China in Nur-Sultan from 28-29 November 2019.

As a platform for BRITACOM parties to exchange views and enhance cooperation, BRITACOM has been playing its significant role of facilitating the cooperation among BRI jurisdictions through hosting BRITACOF series virtual events, and training programs, establishing official website, and releasing *Belt and Road Initiative Tax Journal*, etc.

2. Digitalization of Tax Administration in Kazakhstan

2.1 Types of Taxpayer Behavior

For the purpose of effective implementation of digital technologies, as well as for the positive effect of changes in digitalization on taxpayers, international practices distinguish 4 types of taxpayer behaviors (see figure 1).

The first category of taxpayers are law-abiding taxpayers. The State should simplify the regulations to the greatest possible extent for law-abiding taxpayers who pay taxes on time and are aware of all changes in the tax legislation. This means the availability of information, ease of use of systems, selection of ways to comply with tax laws, and preservation of data.

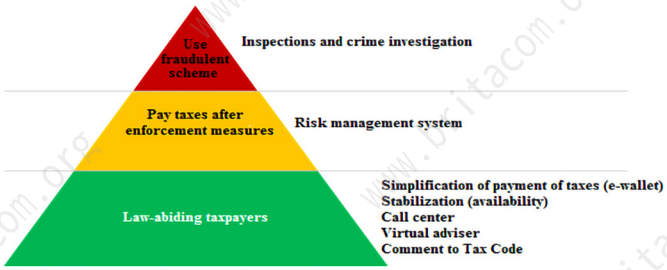

Figure 1. Behavior of taxpayers

The second category of taxpayers include law-abiding taxpayers who want to pay taxes, but are lack of knowledge of law. They can study the requirements of tax legislation and apply to the tax authorities if necessary. We provide assistance to such taxpayers for self-regulation processes in execution of the tax legislation.

The third category of taxpayers are those who do not want to meet tax requirements. They correct their mistakes under tax legislation after being identified or received a notification. This category can be regulated by audits.

The fourth category of taxpayers are a group of persons who do not want to comply with the requirements of tax legislation and use fraudulent schemes. Checks and investigations are applied to this category.

2.2 Digital Kazakhstan

The President's address to the people of Kazakhstan in 2019 declared the task for transition to the concept of the Hearing State that corresponds to the type of state governance — Good Governance, the motto of which is "from government to governance", i.e. the transition from a focus on the managerial experience to dialogue with the population. Distinctive principles of this type are not only the principles of justice and legitimation, but also the emergence of digital technologies in connection with the need to develop services and their volumes of information.

In Kazakhstan, the State program "Digital Kazakhstan", approved in 2017, involves the transition to digital public administration, which rationalizes business processes and data management, increases the efficiency of public services, and improves public interaction with government agencies.

In tax administration of Kazakhstan, use of integrated information systems and big data has increased the performance of tests, reduced time, in general simplified administration, and expanded capabilities in building trust with businesses and the public.

Firstly, it is simplification of tax management for businesses and the public. For example, the taxpayer's electronic wallet for individuals and individual entrepreneurs automatically posts payments to the budget. Money from the tax wallet is automatically credited to the corresponding taxes for which tax liabilities have arisen. The service provides information on the status of tax duties.

Secondly, electronic document management allows reducing time and financial costs of enterprises. The integration of information systems allows users to avoid errors when filling application forms because automatic control of the correctness of filling is used.

Thirdly, consumer's control by using mobile applications increases the public's confidence in the quality of goods and simplifies the accounting of purchases.

Finally, the interaction in electronic form (public services, communications and consultations) through new systems makes it possible to observe the processes and results of the provision of services in real time and analyze feedback from service recipients.

2.3 Product Traceability System

The product traceability system in Kazakhstan is implemented as a digital agenda in the Eurasian Economic Union (EEU) countries. The aim of this initiative is to reduce the share of the shadow economy and increase revenue by combining the tax and customs control using complex of information systems. Monitoring the movement of goods is carried out at all stages of adding value from the manufacturer or importer to the final consumer in the country (see figure 2).

The first element of the system is the "Astana-1" customs system that has already allowed issuing of 2.6 million customs declarations from the date of launch, 81% of which (2 million declarations) were issued automatically in one minute. The "E-window" portal is integrated with this system, which allows getting government services, necessary information

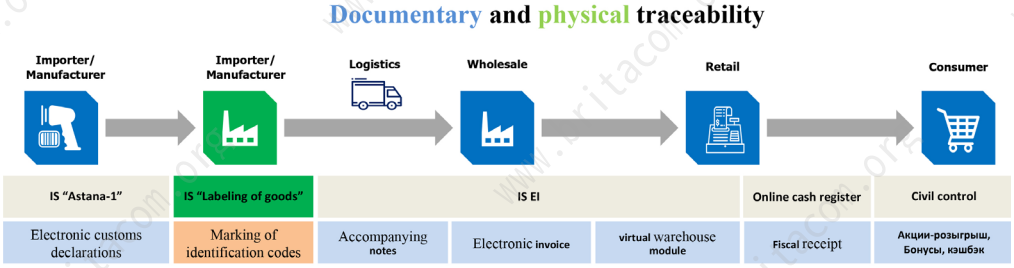

Figure 2. Product traceability system in Kazakhstan

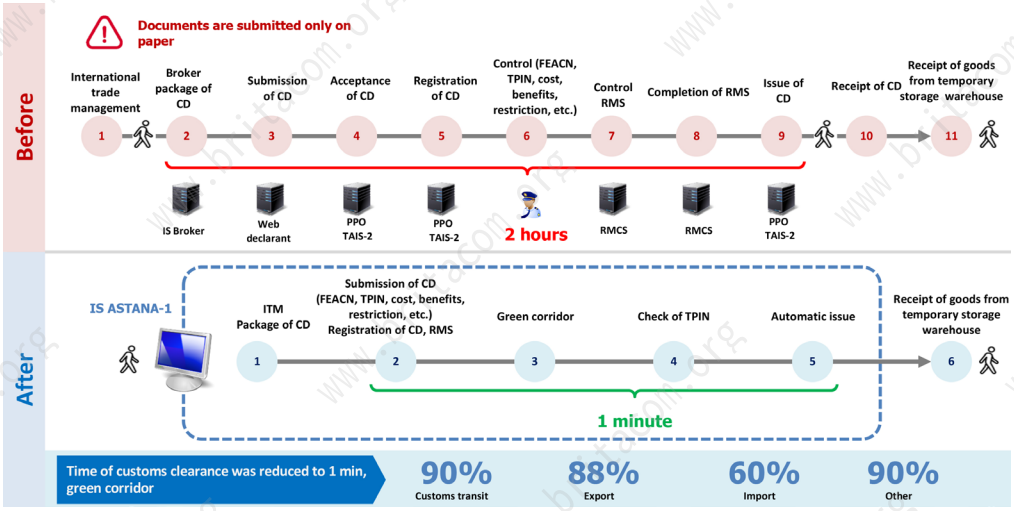

Figure 3. IS Astana-1 Procedure

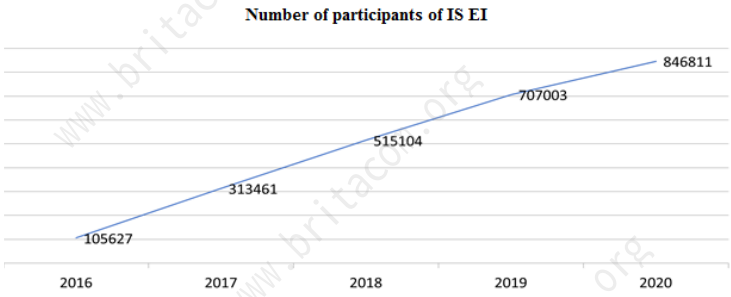

Figure 4. Dynamics of growth in the number of participants of IS EI in Kazakhstan

and permits for customs clearance in electronic form. 2,300 users are registered on this portal.

From 9 September 2020, the electronic queue system has been launched. In order for entry into the territory of the Nur Zholy checkpoint for travel to China, it is necessary to join the electronic queue by registering on the website (www.gocargo.kz). As of 1 November 2020, reservations are made for 5,570 vehicles in the system. The number of registered users is 3,620 vehicles.

Labeling of goods, which involves physical traceability, is subject to a number of goods that have a high risk of counterfeiting (for example, alcohol and tobacco products). Thus, we strive to provide a favorable competitive environment for business and prevent health-threatening products from entering the market. Documentary traceability of goods is carried out through the Electronic Invoices Information System (IS EI). From 1 January 2019, all value-added tax (VAT) payers must issue electronic invoices.

The turnover should be carried out by using the module "Virtual warehouse" of the IS EI. This module provides an online recording of goods. Electronic invoicing, as well as the conclusion of contracts and acts of works executed, is possible on a voluntary basis in the IS EI. As of 1 October 2020, 846,000 users were registered in the IS EI and more than 450 million electronic invoicing were issued (see figure 4).

According to a report by Billentis,[1] a Swiss company specializing in the analysis of the electronic document management industry,

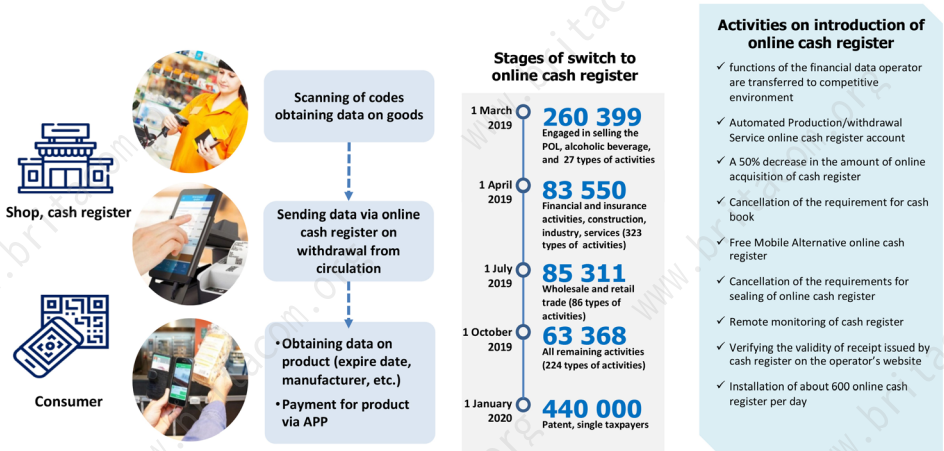

Figure 5. The introduction of online cash registers

1 Billentis (2020). *E-Invoicing/E-Billing International Market. Overview & Forecast*, https://www.billentis.com/einvoicing_ebilling_market_overview_2020.pdf.

Kazakhstan was recognized as one of the leading countries in development of electronic invoices in 2020.

The last element in product traceability is online cash register, starting from 2020, which is used on a mandatory basis.

The country has completed a widespread transition to an online cash register that transmits fiscal information to the database of state revenue agencies in real time. The country has taken measures to encourage the use of online cash register, so that taxpayers can smoothly switch to online cash register. As of 1 October 2020, only 252 models of cash registers had been included in the state register of cash registers, including 98 models of online cash registers and 10 models of mobile online cash registers.

2.4 Risk Management System

Based on the analysis of big data from the above-mentioned systems, as shown in Figure 6, we use a risk management system for in-depth analysis and forecasting, which allows us to classify taxpayers into categories according to the degree of risk for a more individual approach to administration. In-depth analysis of these invoices, issued receipts, tax reporting forms, and customs declarations allows us to identify risks associated with violations of tax legislation. This system has reduced the cost of working time for data processing by more than 30 times. The effectiveness of tax audits has increased by 70%, while their number has decreased by 30%.

In addition to the fiscal benefits from increasing budget revenues, the work on digitalization has also brought positive economic effects, including improving tax discipline among taxpayers, increasing number of importers, increasing number of individual entrepreneurs operating on the basis of a simplified declaration, and increasing amount of additional funds over the past year.

2.5 Mobile Application

In addition, since the beginning of 2020, the esalyq-Azamat mobile application "Tax Wallet" has been introduced, which is available on the App Store and Play Market (see Figure 7). The "Tax Wallet" allows excluding incorrect payments and penalties, reducing the number of refunds and collection orders, reducing the time spent by taxpayers, and eliminating the bank fees. As of 1 October 2020, the number of users of the "Tax Wallet" was more than 78,000.

We are currently working on creating a mobile application for the self-employed "Esalyq-Business". The free mobile app will allow the self-employed to quickly register online as a taxpayer via Face ID, register business transactions, and automatically calculate and pay taxes without reporting. We plan to complete the development of the mobile app in 2021.

The SRC plans to continue to work on digitalization and implementation of digital innovations. One of the priorities of the SRC is to improve the quality of public services and customer focus. Currently, 44 public services are provided to individuals and legal entities, including 27 tax services and 17 customs services. 99% of declarations are submitted by electronic means (5.7 million), and an Application Programming Interface (API) service has been implemented for business entities to submit tax reports from their accounting systems. Since the

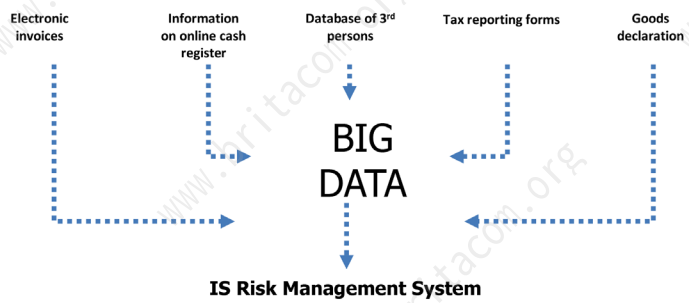

Figure 6. Use of big data analytics tools

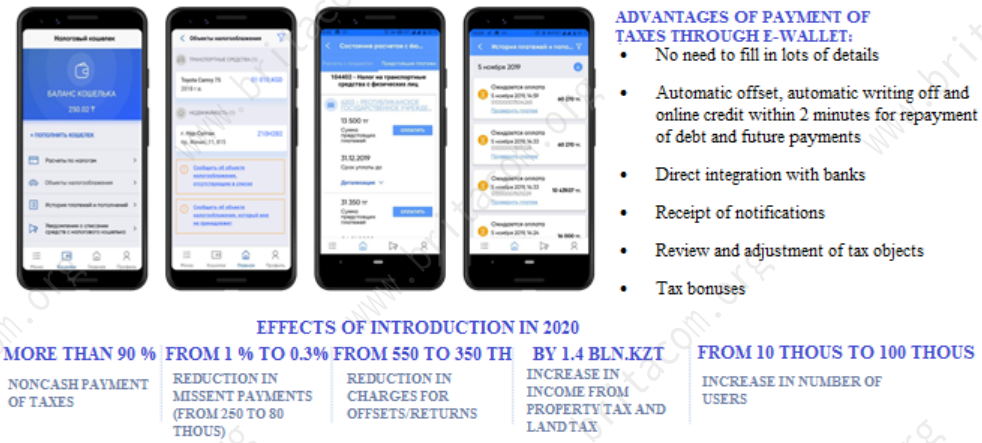

Figure 7. ESalyq-Azamat "Tax Wallet" mobile application

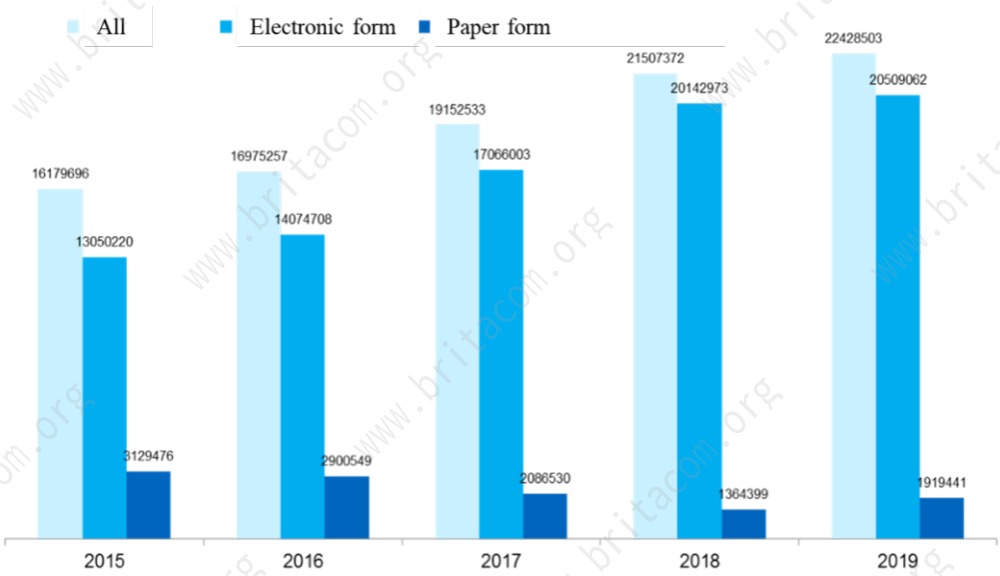

Figure 8. Dynamics of services rendered over 5 years

beginning of 2020, 17.3 million public services have been rendered, 97% of which are in electronic form (16.8 million electronically, 0.5 million on paper).

Thus, the SRC's work is aimed at developing automated services to facilitate the fulfillment of tax and customs obligations, improve tax and customs control technologies in order to increase the level of budget revenues and reduce the costs of business and the State. Therefore, we aim to encourage tax discipline for voluntary performance of obligations and improve business climate.

2.6 Support for Businesses and the Public during COVID-19

Since the beginning of 2020, the world's economic situation is not stable due to the COVID-19 pandemic. Businesses and the population need support. Despite the decline in budget revenues, the Kazakhstan Government has taken urgent measures to stimulate business activity in order to maintain stability and competitiveness, such as:

- Zero rates were introduced for some types of taxes in the current year until 31 December 2020 (property tax, land tax, individual income tax, excise taxes, etc.).
- The VAT rate has been reduced from 12% to 8% for sale and import of food staples.
- The deadline for submitting tax returns was extended from 31 March to 31 May 2020 (318,600 taxpayers).
- Small and medium-sized businesses were granted a deferral on taxes, social payments and other mandatory payments to the budget until 1 June 2020 for all categories of taxpayers.
- Tax control and enforcement measures were suspended until 1 June 2020.

3. Digitalization of Tax Administration in BRI Jurisdictions

Modern digital technologies in doing business challenge tax administrations regarding their traditional way of working with taxpayers. At the same time, this offers new opportunities for tax administrations to further improve measures and methods of tax administration.

In May 2020, Kazakhstan, as Vice-Chair of the BRITACOM Council, planned to hold the Second BRITACOF. Unfortunately, the worldwide coronavirus pandemic has made adjustments to plans, including meetings that were supposed to be held to discuss interim reports and develop joint plans for further work.

In this regard, in September 2020, a virtual meeting was held to discuss the interim report of the task force for digitalization of tax administrations, during which the preliminary results of the survey of various jurisdictions were considered.

The task force members, together with the Secretariat, developed a questionnaire on digitalization of tax administration and sent it to BRI jurisdictions. The questionnaire was created as an effective way to establish content, including increasing engagement and promoting discussion among BRI jurisdictions. However, of course, the main purpose of the survey was to study the level of digitalization of BRI jurisdictions.

According to the results of the survey, it was found that almost all BRI jurisdictions are smoothly switching to digitization of tax administration, in particular in the following areas:

- VAT. VAT is one of the largest sources of revenue to the budget, and it is easier to apply electronic registration, file an electronic declaration and make payment online.
- Simultaneous electronic and paper documentation.
- Simultaneous online and traditional tax payment.

At the same time, during the transition period, it is important to maintain paper document flow/payment, since this may be preferable for certain groups of taxpayers, for example, people of retirement age or those who are not familiar with new technologies.

In addition, some jurisdictions have moved ahead in the use of new digital technologies, such as blockchain, big data, risk management system, etc.

The rescheduled Second BRITACOF to be held in 2021 will discuss in detail the best practices of jurisdictions in the field of digitalization of tax administration and propose suggestions for digitalization of tax administrations of BRI jurisdictions. The logic goal of the suggestions is to develop solutions to create the most favorable environment for taxpayers and enhance cooperation between tax administrations of BRI jurisdictions.

References

[1] D. G. Krasilnikov, O. V. Sivintseva & E. A Troitskaya, *Modern Western management models: Synthesis of new public management and good governance*.

[2] Alexey Efremov, Yelena Dobrolyubova, Yelena Klochkova, Vladimir Yuzhakov, Elvira Talapina & Yaroslav Startsev. (2019). *Digital future of public administration by results*.

[3] Billentis (2020), *E-Invoicing/E-Billing International Market. Overview & Forecast*, https://www.billentis.com/einvoicing_ebilling_market_overview_2020.pdf.

Digital Transformation of Georgia Revenue Service

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Abstract: The article reviews the most inspiring steps and actions Georgia Revenue Service (RS) took in the past decade. Through structural, moral and finally digital transformation, RS made great efforts to build up a taxpayer-friendly environment and as a result, was ranked the 14th among 190 countries/regions around the globe by "Ease of Doing Business" for the "Paying Taxes" indicator. Currently RS is conducting to strengthen level and quality of transparency, find solutions to the challenges driven by digitalization, etc. It is hoped that examples described in this article will serve as a good example for those who yet have to face transformation process.

Keywords: Taxpayer-friendly; Digitalization; E-services; Blockchain

1. Introduction

In the early 1990s, after the collapse of the Soviet Union, one could never think that Georgia would ever catch up with or even prevail any of the civilized and developed countries in some indicators. Back then, the idea of digitalization was out of people's or government's minds "coverage area". "Survive" was the key word and to "survive" was the key goal for everyone. People would survive by either escaping the country in search of better life or stealing in the country; the government would survive by robbing citizens, and feeding them with vain promises, etc. "Rescue" came in the early 2000s, when new government took office.

With the new government in place, new words and phrases, such as "Fair", "Compliant", "Investment", "Transparent", "Attractive business climate", "Low taxes", "Taxpayer-friendly", later on "Digital" and many others, came to replace the old ones. Now, let's take it up in the right order.

All started with government's declaration to put the country on the path of development and progress by rooting out corruption, creating attractive business/tax environment so that foreign investors would be willing to invest in our country (as a small country, Georgia does not have valuable and "expensive" resources to sell on the global market, so foreign investment plays a pivotal role in the country's eco-

nomic development), moving to e-governance, building trust and cooperative relationship between government and citizens, and so on.

In this country-wide transformation process, Georgia RS (Tax and Customs Administration, SPS[1] Border Control Agency of Georgia) plays invaluable role in achieving strategic goal of the State. The very first thing that we've done was the unification of Tax and Customs Administrations, previously operating under the umbrella of the Ministry of Finance of Georgia but still deemed inefficient due to the duplicate functions, unqualified or corrupt staff, weak management and many other reasons. Authorization of the RS to perform functions falling under the responsibility of other government institutions (Ministry of Internal Affairs and Ministry of Agriculture), such as passport control and SPS border control, would also serve the other strategic goal of the government — the establishment of so called "one-stop-shop" principle. This principle would allow taxpayers to deal with either tax or customs matters by only applying at one government institution instead of a bunch of intermediaries and line ministries.

Unification was followed by tax cut and tax code simplification. Six taxes out of 26 have remained as a result. Meanwhile, almost half of the staff have been fired, mostly because of low qualification or involvement in corrupt deals and new employees were recruited. Further, over the years RS has developed electronic services, starting from electronic application and ending with electronic claim/complaint registration. Introduction of electronic services would serve two main purposes: first, to simplify administration process both for taxpayers and tax authority; second, to minimize direct communication between taxpayers and tax/customs officers, thus avoiding possible corrupt deals.

The following projects of proactive nature are aimed to increase compliance by building relationship between taxpayers and the RS based on trust and cooperation. For example, the "District tax officers" project would provide an information collecting service to the RS and advisory service to the small and medium taxpayers. Mediation Council would be a good platform for the taxpayers to cope with the findings[2] of tax auditors and defend their cases before independent experts. Alternative Audit, Personal Tax Advisors, Advanced Tax Ruling, Single Treasury Account and RS CAR[3] are the small number of the projects initiated and implemented by the RS over the last decade.

RS has always been very keen on digital solutions. Further, the following section will describe in more detail the nature and implementation steps of the most important and valuable ones.

2. Reforms to Serve Tax Digitalization

In the Georgia of the early 1990s, the only thing associated with the words "digital" or "automated" in my memory would be computer with limited functions during the Soviet time and slide glass doors (weirdest thing at that time) at the entrance of the rarely fancy grocery shop in the capital city of Georgia, Tbilisi. The same slide doors, many years later I have seen in one of the Italian movies of the 1970s. This gave me an idea how far and distant Georgia of that time was from now referred to as "developed" countries in terms of technological development. Having this in mind, we are happy to witness how smoothly and efficiently Georgia in general and RS in particular, went through digital transformation process. The main "selling point" of those digital reforms was the fact that they were developed and enforced within a short period of time from 2008 to 2018.

1 SPS stands for "Sanitary-Phytosanitary".

2 The "findings" refer to tax violations detected by the Auditor during the tax examination.

3 As for the RS CAR, it is a mobile service center, otherwise it is a real car equipped with all needed devices, which visits remote places where Revenue Service has no representation and provides all services that are available at the regular Service Centers to the taxpayers living in those remote places (in mountains).

2.1 E-services

As mentioned earlier, one of the main strategic goals of the RS was to establish taxpayer-friendly environment, where taxpayers could comply with their tax and customs liabilities without leaving their places of business, where tax compliance burden for both taxpayers and the RS would be reduced, where no more corrupt deals happen, and where voluntary compliance would be encouraged. To achieve the above, around 50 service applications (including various certificates, permissions, licenses, etc.) have been developed by the RS. It is worth mentioning that the vast majority of those applications and IT solutions were developed in-house, by the RS's IT department. The major service applications are released on Taxpayer's Personal Web-Portal (See Table 1). To get access to the portal, taxpayers need to go through registration process on RS website. For the security purpose, a two-step verification has been made mandatorily starting from August 2019.

Table 1: RS applications on Taxpayer's Personal Web-Portal

Revenue Service		
E-filing	E-application	E-complaint
E-waybill	E-invoice	Payment-balance
Pharmaceutical product	E-message	General information
Duty free	Tax calendar	Customs Clearance Zone

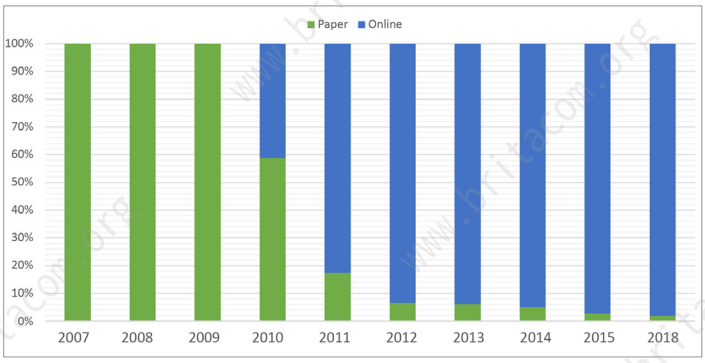


Figure 1. Paper vs Online filing

It is very convenient that Taxpayer's Personal Web-Portal is equipped with "user management" function. To be more specific, through his/her Web-Portal business owners can delegate access to different service applications to staff members according to their responsibilities. For example, the financial manager or accountant of the business can have access to only those applications that require data processed and managed by the accountant.

For the wide spectrum of service applications developed by the RS, E-filing, E-invoice and E-waybill are the most actively used based on their importance for tax compliance.

2.1.1 E-filing

The first online service application was developed by the RS in 2008. The first E-filing module was created for personal income tax, and later the other taxes. In order to make e-filing work properly and meet the goals, RS resorted to enforcement measures. In particular, although it is not prohibited by the law to use material tax return form, to encourage e-filing, RS made material return form paid. Though the price was low, it still had an effect on taxpayers' behavior. Today we can say that e-filing accounts for 99.8% (See Figure 1). Material tax return forms are mainly used in remote places, where access to Internet or computer is very limited.

2.1.2 E-invoice

In 2011, RS has developed e-invoice service. Through this program, RS can track and trace all transactions conducted by taxpayers. To ease administration process, electronic system makes it possible to attach VAT invoices to appropriate e-tax return forms and file them with the RS in electronic way. According to the record, monthly RS handles roughly 600,000 e-invoices.

2.1.3 E-waybill

E-waybill was introduced in 2012. Together with VAT invoice, commodity waybill is a document of strict reporting, which must be issued by taxpayers, when transporting goods from warehouse to the store or any other destination. Through e-commodity waybill system,

taxpayers must indicate in the waybill form the title of transportable goods, quantity, name of the driver, state plate number of the vehicle and final destination. For RS, this system leads to the improved control over the taxable goods and eliminated physical interventions. To be more specific, previously when material waybills were in force, taxpayers may manipulate with quantities and titles of the goods in order to evade tax. Tax officers had to stop the cars and check the waybill document. With electronic solution, tax officers have access to all waybills issued electronically through the system. Now, tax officers only stop those distribution cars, whose plate number is not registered in electronic database. The advantage of this system is that it is a more flexible and convenient control tool.

For more simplicity and flexibility, recently RS has launched a new initiative to unify documents of strict reporting — VAT invoice and Commodity waybill under one document called "Tax Document".

According to the records, monthly RS handles roughly 1,200,000 e-waybills.

2.2 GPRS Cash Register

Along with traditional tax examination and control measures, the role of consumers in encouraging tax compliance among businesses is highly appreciated in tax literature. Direct monetary incentives channeled to the consumers can affect taxpayers' behavior. Turning a receipt into a lottery ticket with a chance of winning is an example of such incentive. Those consumers who contribute to government's attempt to tackle tax evasion by asking for tax receipt for any purchase will be rewarded with tax lottery. Given that examination and control measures are very resource demanding for the tax administration, clever usage of a "zero cost policy", such as tax lotteries, might be advisable (Fabbri & Hemels, 2013).

Along with the measures to improve tax compliance and ease tax burden, RS has been developing some control measures as well. One of such measures in 2011 was shifting from ordinary cash registers to new-type cash registers with GPRS function. To facilitate smooth transition to GPRS cash registers, in 2012 RS launched Receipt Lottery. Lottery would serve two aims: to encourage taxpayers to use GPRS cash registers and to create a culture among customers of asking for the receipts. With new cash registers, RS could get fiscal reports on every transaction on a daily basis. This, in turn, would make it possible to create reliable data for analysis and make more correct decisions.

In order to participate, customers had to buy goods or services from a vendor who had a GPRS-based cash register. The lottery result could be checked immediately by mobile phone. The Georgian Tax Lottery was a chance for every customer purchasing anything from groceries, shoes or hair care. The winning prizes were GEL10, 20, 50, 100, 10,000 and 50,000. The GEL10,000 prize was awarded once a month while GEL50,000 prize was given quarterly.

2.3 Single Treasury Account

In 2016 Georgia RS introduced single taxpayer account (unified treasury code) to simplify the carry forward procedure of tax credits to offset tax liabilities. Introduction of unified treasury code simplified tax payment system, reduced the number of procedures and time required to comply with tax liabilities, and thus enhanced administration process. Having the new system, taxpayers shall indicate only one treasury code for any type of payment, instead of 125 codes[4] previously for each individual payment. Besides being easily handled, the advantage of the system is that, without the need to file paper based on request by taxpayers, credits by one type of tax can be automatically channeled to offset liabilities by other types of

4 These were 125 individual codes or accounts which taxpayers can transfer a payment to. For example, for paying VAT tax, taxpayers used to use one account out of 125; to pay income tax, they used another code, etc. Now for any tax or other payments (including penalties, fees), they use one universal code.

taxes. In total, the system enables taxpayers to avoid approximately 5,100 transactions annually.

2.4 Automatic VAT Refund

In 2018 RS introduced Automatic VAT Refund system. The idea of the system is to assess VAT returns, identify risk status and based on the status grant the right to claim and refund due VAT credit. Those taxpayers whose VAT return falls under the "low risk" category can claim refund automatically by clicking appropriate button located on their Personal Web-Portal. Those VAT returns that fall under the "high risk" category are subject to manual examination. In the first case, VAT credit is refunded within two working days; in the second case accelerated review procedures and possibility to correct errors are allowed. The advantage of the system is quick access to the cash by the business, and much less time required for the refund procedure itself.

2.5 More Examples

DEMO.rs.ge — Self-learning module for future accountants and auditors, where the use of e-filing, e-invoice or any other services provided through RS Web-Portal can be simulated in real time.

Data sharing with other government agencies — For administration purpose, RS

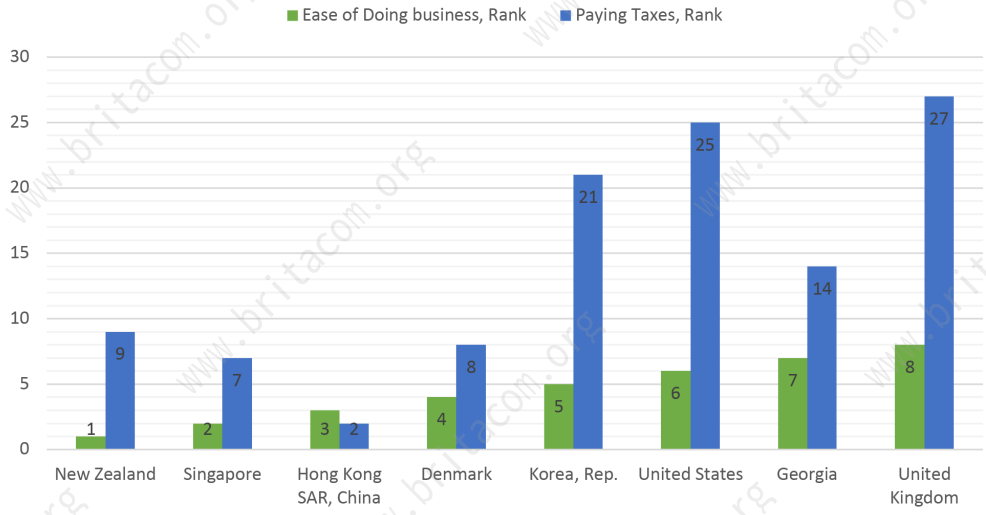
Figure 2. RS's cooperative government agencies list

closely cooperates with other government agencies who handle taxpayers' data necessary for tax assessment (See Figure 2). For example, RS in automatic manner shares data on taxpayers' movable and immovable property registered with Public Registry of the Ministry of Justice of Georgia, or shares vehicle registration data filed with the Ministry of Internal Affairs.

Mobile applications — Since e-filing and e-invoice are the most frequently used services, RS has developed special mobile applications for taxpayers, which can be downloaded to the mobile device and used even in case of Internet or computer unavailability.

These and many other initiatives have gained Georgia an international recognition and

Table 2: Doing Business 2020, ranking (Source: World Bank)



have led to the high rank. For example, according to the World Bank "Ease of Doing Business" ranking, Georgia takes the 14th place among 190 countries/regions around the globe for the "Paying Taxes" indicator (See Table 2). According to Tax Administration Diagnostic Assessment Tool (TADAT), Georgia is given a credit for being innovative and open to modern technological solutions in its dealing with tax administration.

Although living in digital era and having digital solutions to various tax issues make life much easier on one hand, on the other hand it creates a bunch of troubles and threats to tax administrations in their dealings with taxpayers. Because of budget constraints, government institutions, in our case (tax administrations), cannot fully catch up with business in their ingenuity and "creative thinking". To address the challenges arising from the business of digital era, international tax organizations make every effort to combine knowledge and experience of tax administrations around the globe under different projects and initiatives and to find worthy solutions. As a part of international tax community, RS (member of various international tax organizations and projects such as Global Forum[5], FTA, IOTA, BRITACOM, etc.) is trying, to the extent of possibilities, to participate in such projects and initiatives and contribute to the collective success for the matter of digitalization. For example, as an FTA member, RS participates in determination of digital visions for Tax Administration 2030. On its part RS (in charge of tax and customs issues) has already made first step in using blockchain technology in verifying authenticity of certificate of origin for customs purposes, and also determined to continue the exploration of the possibilities of blockchain technology in tax administration, which is fully supported by the government of Georgia.

3. Conclusion

Once so hardly imaginable transformation, Georgia RS went through over the past decade, which was a result of:

- government's determination to make changes;
- the small size of tax population. It is observable that in small community it is much easier to enforce new ideas, like in the case of Georgia when introducing e-filing and other e-services, than in big ones with very diverse segments of taxpayers;
- willingness and readiness of the society to support government in every endeavor; and
- very strong financial and expert support from international organizations.

Transformation, either digital or otherwise, is a resource demanding process to any tax administrations. But transformation of new "generation" by virtue of its complicated and comprehensive nature goes beyond one tax administration's interest and concern. Unlike then, today we are facing digital transformation challenges shared with other tax administrations around the globe. Blockchain, Internet of Things, Artificial Intelligence, Robotics and others are issues discussed and argued by developing and developed countries, shoulder to shoulder, within the framework of international organizations. Today, unlike then as a member of those organizations, Georgia RS has a "say" in collective action for addressing global challenges.

References

[1] World Bank Group (2019). *Doing Business 2020*, https://www.doingbusiness.org/en/reports/global-reports/doing-business-2020.

[2] Data Exchange Agency. *E-Georgia — Decades of Successful Transition*, https://dea.gov.ge/uploads/e-georgia.pdf.

[3] OECD (2019). *Leading Global Tax Administrations Agree Collective Actions on Tax Certainty, Co-Operation and Digital Transformation*, https://www.oecd.org/tax/leading-global-tax-administrations-agree-collective-actions-on-tax-certainty-co-operation-and-digital-transformation.htm.

[4] Fabbri M. & Hemels S. '*Do You Want a Receipt?' Combating VAT and RST Evasion with Lottery Tickets*, 41 Intertax 8, pp. 430–443 (2013).

[5] *Revenue Service Report 2019*, www.rs.ge.

5 The "Global Forum" refers to Global Forum on Transparency and Exchange of Information for Tax Purposes.

Effect of Digitalization on Serbian Tax Administration Reform

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Abstract: This article introduces the digitalization trends in the Republic of Serbia and its impact on transformation processes within Serbian Tax Administration, with short overview of a case study — unified collection.

Keywords: Digitalization; Modernization; Tax administration reform; Serbia

1. Digitalization as a Priority of the Government of the Republic of Serbia

As one of the strategic priorities of the government, digitalization of society and economy is considered the greatest chance for the Republic of Serbia to become more competitive and efficient, to have faster and more sustainable economic growth, which will also have effect on salaries, pensions and investments in education and healthcare.

Emphasis is placed on the digitalization of public administration, as the state authorities will thus provide better services to citizens and the economy, and it is also a powerful tool in the fight against the gray economy and corruption.

To realize the above mentioned goal, Office for e-Administration was established with the task to improve national information systems and registers, establish a national data center, and also bear in mind the information security.

2. Digitalization in Tax Administration of the Republic of Serbia

Tax Administration (TA) of the Republic of Serbia initiated a full-scale process of reforms defined by the Transformation Program and Action Plan in 2015, including numerous institutional, organizational and technological changes. Transformation of TA and its goals are based on the priority to establish a modern and efficient administration, create easier and fairer conditions for taxpayers to conduct their businesses and better communication of taxpayers with the TA.

Throughout the reform process, digitalization has a huge impact, as all reform activities are aimed at eliminating paper form as a way of communication and taxpayer compliance, which consequently reduces the need for direct communication of taxpayers with the TA. Strengthening digitalization contributes to the simplification of all business processes, which reduces the possibility of repetitive activities on the one hand, while on the other hand, through the establishment of an automatic validation system, contributes to the increase of security of conducting business within the jurisdiction of the TA.

Another major advantage of digitalization is the accelerated and automated exchange of data between local and third-party databases and registers. In this way, a more complete profile of the taxpayer is created, with valid and up-to-date data, all of which enable the correct detection of deviations in taxpayers' behavior and timely response, which is more of a preventive and less repressive reaction of the TA.

In the Transformation Program and Action Plan, the TA also outlines some basic principles that are simplicity of proper treatment, taxpayer-friendly approach, excellence, fairness and respect. These principles should lead to the achievement of strategic goals such as improving the efficiency and effectiveness of basic business processes, increasing the level of tax collection, improving the quality of services, reducing the cost of tax compliance and establishing a modern infrastructure and working environment within the organization. Through all of these principles and strategic goals, the need to further digitalize the provision of services to taxpayers and reduce the need for taxpayers' visits to organizational units of the administration is being pursued.

2.1 Effect of Digitalization on Risk Analysis

Like other modern tax administrations, TA of the Republic of Serbia bases its business on acting through risk detection and through activities aimed at preventive and less repressive actions defined in the annual compliance plans. The Compliance Plan is an umbrella document for further activities of its implementation through operational risk analysis and then through the actions of all organizational units of the administration in the business year.

Starting in 2018, the TA's risk management system introduced the state-of-the-art Big Data analysis techniques, which included the development of algorithms based on so-called machine learning that would allow the introduction of artificial intelligence (AI). The advanced phase of the research would also include deep learning methods that would be used to perform in-depth analysis of individual subjects' behavior based on mass data.

In order to improve the existing knowledge and rely on appropriate expertise, the TA has signed an Agreement on Business Cooperation in scientific research with the Faculty of Science — University of Novi Sad (Department of Mathematics and Informatics), within the project "Detecting the risk of avoidance of individual income tax through appropriate methods using AI".

The first result of the signed Agreement, related to the analysis of the distribution of monthly net earnings for the entire Serbian economy, indicated a deviation from the theoretical distribution that would be expected in the minimum wage segment and in the middle wage segment between one and two average wages. In the forth-

coming period, the distribution of wages will be made by industry, average wages and labor-legal status, with special attention being paid to taxpayers who have significant deviations from the homogeneous group.

The aim of this project is to develop a range of tax evasion risk indicators applying mass data analysis methods to TA for better job orientation and more efficient collection, as well as to define a forecasting model that would be set based on the large amount of data available. Significant deviations from the forecast could be a signal for an in-depth analysis of the behavior of individual business entities and a possible suspicion of tax evasion. As a result of cooperation with the Faculty of Science, software will be installed to evaluate the risk of all taxpayers according to certain criteria.

2.2 Collection

Acting in accordance with risk analysis and increasingly large exchange of data have an impact on further development of business processes in the collection area, both in regular and forced collection. Collection Sector acts in accordance with the priorities defined by the risk analysis, including the amount of debt, frequency of delay in payment, age of debt, parties related to the debtor, and other factors that determine effective handling of the collection process.

Special emphasis is given to preventive actions. Digitalization significantly facilitates the preventive behavior in the collection process because the intersection of taxpayer information with expected dates from the tax calendar allows the taxpayer to be informed in a timely manner of upcoming dates, defined obligations and tax compliance deadlines.

Establishment of better communication between the TA and taxpayers contributes to voluntary and timely compliance with regulations and preventively mitigates cases of delay, risky liquidity and the transition of treating taxpayers as regular payers. Forced collection, on the other hand, mostly benefits from digitalization through acceleration of collection procedure and protection of the TA's interests in bankruptcy proceedings that are initiated as a result of illiquidity.

2.3 Audit

In TA of the Republic of Serbia, audits are performed by inspectors who represent a limited resource and whose engagement must be properly targeted at the riskiest segments of the TA's interests. The Compliance Plan is a framework for managing strategic risks at the administration level, as well as operational risks within the Audit Sector. Based on the Compliance Plan, the Audit Sector creates annual audit plans that operationalize the activities of inspectors, focusing on industries or taxpayer groups whose behavior deviates from the established upper and lower normal limits.

The impact of digitalization on the work of Audit Sector is reflected in the collection of taxpayer profile data, which enables more efficient work of field inspectors and avoids wasting time on parts of business documentation where no irregularities are detected.

2.4 Organizational Structure

Converting all tax returns and certificates into electronic form is also a prerequisite for changes in the organizational structure. In the Transformation Program and Action Plan, the TA of the Republic of Serbia has taken a diametrically different direction from the one reflected in the policy of decentralization and expansion of the branch network by opening branches and sub-branches, which was a policy before the reforms began, in order to strengthen the centralization of management and reduce the need of physical presence at a large number of locations. Taxpayers can now file all tax returns under the jurisdiction of TA electronically, and the method of payment and fulfillment of established obligations have also been improved.

3. Case Study: Establishment of Joint Collection System as the First Obligatory Electronic Tax Return

The first mass mandatory electronic service in the Republic of Serbia was introduced in the process of establishment of joint collection system. In 2013, Government of the Republic of Serbia, Ministry of Finance and the TA recog-

nized the need to alter the manner of determining, paying and recording taxes and withheld contributions for mandatory social insurance.

The TA, one of the most important bodies within the Ministry of Finance, has been designated as the holder of the reform of this situation.

- The first conclusion of the reform is to simplify, merge, reorganize and eliminate some of the business processes used to administer taxes and contributions for compulsory social security with a view to achieving the goals of the reform, which is to facilitate taxpayer business, eliminate the involvement of TA employees in receiving and recording huge amounts of paper forms, as well as enable compulsory social security funds to have an accurate balance of paid social security insurance for each insured person.
- The second conclusion is that the flow of information and money (tax returns, payment of tax liabilities, reporting of funds and end-users of budgetary funds) must be synchronized and performed simultaneously.
- The third conclusion is that the digitalization and automation of the business processes and the work of the TA, taxpayers and funds are prerequisites for the realization of the stated goals.

Realization of the described process starts from enumeration of all income defined according to the law, their grouping per affinity by type, basis for taxation, tax rate and other criteria. Types of income are assigned a corresponding income type code. Then, different types of income recipients and payers of income are provided with these codes. All 12 previous forms (tax returns) are merged into one tax return, where it is possible to list simultaneously income recipients who have different types of income.

One account for payment of public revenues as per taxes and deductible social security contributions has been introduced. A unique number has been introduced to record the tax liability presented in the tax return and to monitor the payment of the tax liability on that basis. A complex key has been created for the allocation of liabilities and funds to public revenue accounts and end-users of budgetary funds, which consists of a combination of a revenue code, income payer code, income recipient code, head office of the income payer, residence of income recipient, and the amount of tax liability reported in the tax return.

The TA is electronically linked to the Central Register of Compulsory Social Security, which keeps a record of the basics of insurance for each insured person (and through it to the compulsory social security funds), the Treasury Administration through which the flow of budget funds is monitored, the Ministry of Interior that keeps record of private individuals by unique identification number of citizens, and commercial banks through which taxpayers make payments of tax liabilities from their business accounts, in order to automate information flow.

The TA has set up a portal through which taxpayers electronically file a tax return and mandatory social security contributions withholding. A system within the TA was also created to verify the accuracy of tax returns, accept them (if correct) and then continue to process them.

At the same time, changes were made to the regulations that supported the digitalization and automation of the described processes, and this procedure was defined as mandatory for all taxpayers to file tax returns solely in electronic form, and as such constituted the first mandatory electronic tax return.

The process begins with the filing of a tax return by the taxpayer on the TA portal. It is possible to import the tax return in three ways: by directly entering the data in the pre-defined form of the portal, importing the tax return created in the taxpayer's accounting system in XML format, and importing the tax return under a special protocol with the TA for payers with hundreds of thousands of recipients of income in one report.

The TA system checks the correctness and accuracy of the data from the tax return. If the tax return does not meet one or more of the verification criteria, the system won't accept it and at the same time inform the taxpayer of the type and the specific part of the error on the portal. If the tax return fulfills the verification criteria, the sys-

tem will accept it, assign a tracking number to the tax return, simultaneously notify the taxpayer, and automatically debit the tax account with the total amount of tax liability recorded in the tax return.

The key for the allocation of liabilities and funds to public revenue accounts is, according to the rules described above, the allocation of amounts owed for private individuals — recipients of income by compulsory social security funds and levels of government in the Republic (municipalities, cities, provinces and Republic) to which a certain portion of income belongs, by each tracking number. The TA automatically submits the above information to the Central Register of Compulsory Social Security, which adds the basics of insurance to each recipient of income and submits the complete information to the compulsory social security funds, which continue to carry out procedures within their jurisdiction. Also, information created by means of the key to allocate liabilities and funds is provided to the Treasury Department to distribute funds to budget users when taxpayer payments are made.

When paying the tax liabilities stated in a specific tax return, the taxpayer creates only one order for transfer of funds, from his business account to one account for payment of public revenues by deduction, and the total amount of tax liability is presented in the tax return. As we noted before the introduction of this system, taxpayers filled dozens of transfer orders into which they entered special accounts for payment of a certain type of tax liability. Now they do it on one transfer order, to one account and enter one tax liability amount.

When receiving a transfer order from its client — the taxpayer via the electronic service, the commercial bank checks in the TA system whether the tracking number by which the payment is made is assigned to a specific taxpayer. If the response is negative, the bank does not accept the payment and the taxpayer must correct the error made when filling the order. Otherwise, the bank accepts the transfer order and realizes it.

The paid funds, monitored through the tracking number, reach the Treasury Department; and the Treasury Department links these funds to the information on the allocation of funds by the same number, which was previously submitted electronically by the TA and further distributes funds to budget users. In this way, the possibility of errors in the payment of tax liabilities is minimized and the work of the TA employees to correct the errors is eliminated.

The described processes are carried out completely automatically without human inter-

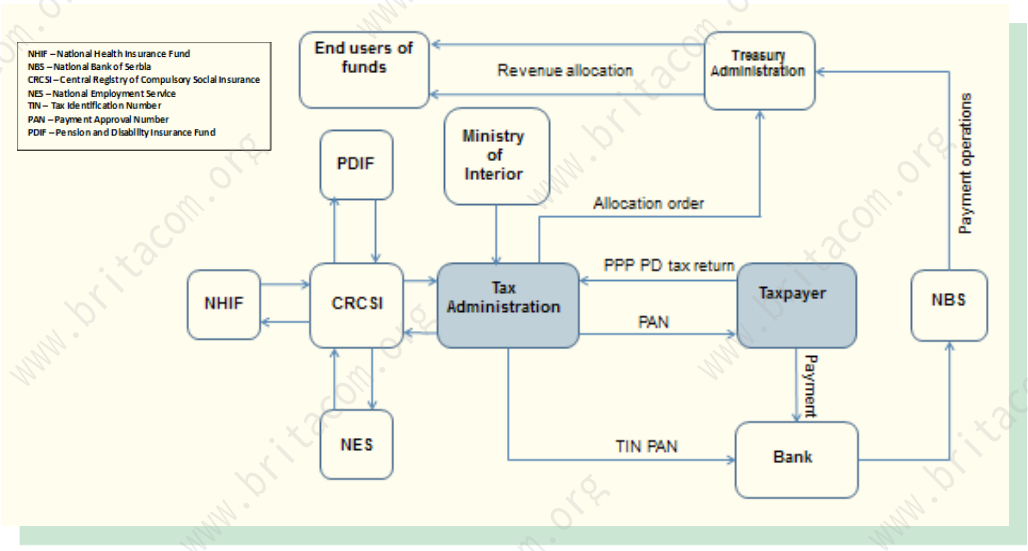

Figure 1. Project of joint collection PPP-PD[1] (basic scenario of the business process)

1 PPP-PD stands for Individual Tax Return on Calculated Taxes and Contributions.

vention, the flow of information and the flow of money are parallel, and the TA receives a database in electronic form which increases the capacity of risk analysis, thereby improving the effects of tax controls.

The positive experience and knowledge gained in the digitalization and automation of business processes lead the TA to continue in this direction. In succession, from 1 January 2018 all tax returns are filed electronically by taxpayers (companies and sole traders) only on the TA portal. Also from 2019, taxpayers who pay taxes and contributions on a flat-rate determined income are able to obtain the determined tax liabilities electronically through a tax inbox opened on the TA portal.

Everything mentioned above was previously supported by amendments to the regulations introducing the obligation to file tax returns electronically. Taxpayers — private individuals can still file their tax returns at the tax office counters in paper form.

From the beginning of the full application of e-filing of tax returns to 31 December 2019 the total number of applications filed and processed through electronic services on the ePorezi portal was 32,370,086. The total number of tax returns filed electronically over a year is approximately 6,300,000. In this way, significant savings are achieved, both by taxpayers and by the TA. The number of taxpayers' visits to the TA has been reduced, and the possibility of errors when filing tax returns virtually eliminated.

About 99% of the tax returns are filed electronically during one year. On average, about 530,000 tax returns are filed electronically through the ePorezi portal over the course of one month, with the highest number of tax returns in March 2018 — 609,434. On average, about 17,700 tax returns are filed and processed each day — the largest number of tax returns filed per day was 73,000 on 15 January 2018. A total of 10,383,934 taxpayer requests were processed via electronic service for inquiry on balance of tax accounts until 31 December 2019.

4. Further Development Trend

The conducted activities represent the basis for further steps towards modernization of the TA, namely the digitalization and automation of the tax audit process of taxpayers' behavior in real time, based on pre-defined risk parameters created on the basis of data and information from the taxpayer's profile, as well as eliminating the need for taxpayers to file tax returns for certain tax forms, due to the ability of the TA to prepare and complete the tax returns in advance based on the data and information available to it.

In order to realize these intentions, there are still many activities to be conducted on digitalization and process automation, such as e-fiscalisation, which envisages the introduction of a new system of fiscalisation in the Republic of Serbia based on software not hardware, and through which the TA will have real-time data on the turnover and amounts of tax liabilities shown on the accounts. The system of fiscalisation management will be located in the TA and there will be no possibility to manipulate fiscal bills when issuing them. The implementation of the e-invoice project is also an important segment, since through the e-invoice monitoring platform, the TA will have an insight into the activities of taxpayers in real time.

Everything mentioned above increases the capacities of the TA in terms of volume, type and value of real-time data it holds, which results in setting up of an automatic control system for a number of medium- and low-risk taxpayers and directing audit resources to high- and very-high-risk taxpayers; preparation of tax returns in advance (for certain tax forms); communication between taxpayers and the TA electronically.

Taxpayers will have at their disposal a modern, customer-oriented TA with which they can communicate electronically, with simplified manner of determining tax obligations, clear rules and procedures, cost savings and time savings because of the transition to full digitalization and automation of the TA's business processes.

References:

[1] Republic of Serbia — Tax Administration Transformation Program 2015-2020.
[2] Republic of Serbia — Action Plan of the Transformation Program 2018-2023.

Digitalization Practice in the Spanish Tax Agency

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Abstract: This article will address some digitalization projects that the Spanish Tax Agency is developing, most of them fully in-house, either for control or for assistance purposes. Firstly, the real-time VAT reporting system called SII, in place since July 2017, which has enabled a more timely and better control of VAT operations and at the same time has contributed to reducing the administrative burden on taxpayers. Secondly, the online tools progressively developed for assistance to VAT taxpayers, including the use of AI and the establishment of a new model of assistance through the ADIs, whole of digital assistance offices adding to the walk-in services in the local offices. Thirdly, the reporting obligation of intermediaries in the vacational rentals since year 2018 as a tool to boost voluntary compliance and improve the control of this sector, especially transactions where electronic platforms are involved; and last, but not least, the IT tool developed to hold virtual meetings between tax auditors and taxpayers called VIVIs, which will contribute to the efficiency of the Tax Agency and will also reduce the administrative burden on taxpayers.

Keywords: Digitalization; Spanish Tax Agency; Value-added tax; Real-time reporting; Virtual assistant; Artificial intelligence

1. Background

Digital solutions have become part of our daily lives. Also worldwide economy is rapidly becoming digital to a great extent and thus new business models have emerged. Within this context, tax administrations need to develop Information Technology (IT) tools for an alignment of the assistance services with the digital era and an efficient detection on non-compliance.

The Spanish Tax Agency (Agencia Estatal de Administración Tributaria, AEAT) has pioneered the development of e-services within the Spanish public sector and its IT solutions have been awarded with several prizes and recognitions both at domestic and international levels by governmental bodies, non-governmental organizations and the media.

Accompanying e-services, the AEAT has also created the necessary tools for risk analysis and control, progressively incorporating the latest technologies, such as big data analytics, artificial intelligence (AI) and predictive modelling.

All this has been possible thanks to the IT Directorate of the AEAT, in charge of the development, implementation and maintenance of the IT systems and infrastructure, including those for internal management, the ones for cooperation and exchange of information with other bodies of the Spanish Administration, other countries and the European Union, and the electronic office and website for taxpayers. In order to fulfil its commitments, the AEAT has opted to entrust the IT Directorate with providing in-house solutions rather than using Commercial off the Shelf (COTS) software.

However, as the economy becomes globalized, tax administrations cannot walk alone in their digitalization path. In order to get the most out of digital solutions, cooperation with other tax administrations and harmonization have proved to be crucial. In this regard, the Organisation for Economic Cooperation and Development (OECD) and the European Commission (EC) have made great efforts to achieve common standards that contribute to a more efficient exchange for information, among other projects.

The AEAT promotes the early adoption of international standards and its in-house developed projects are, as could not be otherwise, in line with the main trends at an international level.

2. Immediate Supply of Information in VAT

2.1 Introduction

In the Paying Taxes 2020 report of PricewaterhouseCoopers (PwC) and the World Bank Group, four stages have been identified in the adoption of technology for the administration of value-added tax (VAT).

1) Level I: minimal use of technology;
2) Level II: use of technology as a tool for online filing and payment systems;
3) Level III: advanced use of technology, which includes real or quasi real-time filing and mandated e-invoicing and payment systems; and
4) Level IV: use of the latest technologies (blockchain, AI or big data).[1]

The AEAT has developed some advanced tools that belong to level III (Immediate Supply for Information in VAT, that will be explained in this section) and cutting-edge ones that can be framed under Level IV (HERMES tool for control or virtual assistant for VAT, that will be explained in the current section and section 3 respectively).

2.2 VAT Book-keeping Evolution

VAT books are kept according to the rules of the Spanish VAT regulation,[2] which dates from 1992. Since then, book-keeping has experienced a huge transformation in consonance with the development of new technologies, the greater use of electronic means by the Spanish businesses and the progressive implementation of the electronic invoice. As a result, the number of businesses and professionals not using electronic systems for book-keeping is residual. In this context, it has been necessary to modernize VAT book-keeping approaching the moment of register to the moment when the economic operation has taken place.[3] This was done through a modification of the VAT regulation in December 2016, by means of Royal Decree 596/2016, in order to introduce the so-called SII (Suministro Inmediato de Información, in Spanish; Immediate Supply of Information, in English), which came into effect in July 2017.

In a nutshell, the SII is a new book-keeping system maintained directly in the electronic office of the AEAT in which billing records must be forwarded to the Tax Agency through electronic means in four days' time (quasi real-time reporting).

2.3 Main Features of SII

Now getting into a more detailed explana-

1 PwC (2019). *Paying Taxes 2020*, https://www.pwc.com/payingtaxes.
2 Real Decreto 1624/1992, de 29 de diciembre, «BOE» núm. 314, de 31/12/1992, ref. BOE-A-1992-28925.
3 Real Decreto 596/2016, de 2 de diciembre, «BOE» núm. 294, de 06/12/2016, ref. BOE-A-2016-11575.

tion of the system, its main characteristics are:[4,5]

1) Liable taxpayers:

The SII is mandatory for businesses registered in Spain with a turnover higher than €6,000,000 (large companies); businesses registered in the monthly refund scheme (REDEME); and those registered as a VAT group in Spain. All of them must submit monthly VAT returns. The rest of our VAT taxpayers can also enroll on a voluntary basis.

2) Books to be kept in the electronic office of the AEAT:

- Register Book of issued invoices;
- Register Book of received invoices;
- Register Book of investment goods; and
- Register Book of specific Intra-Community operations.

3) Information to be supplied:

The main data is the invoice number (and serial number if applicable). The number is essential to identify the invoice and be able to compare the information. Other fields requested are, as an example, issuance date, transaction date, taxable amount, tax rate, type of invoice (complete, simplified and amending), description of the transaction, settlement period and special regimes.

For issued invoices, it must also be stated whether the transaction is not subject to VAT or is exempt from VAT. For received invoices, the deductible amount must be reported.

4) Data reporting deadline:

- Four days both for issued and received invoices; and;
- Exceptionally, eight days in 2017 (adaptation period).

5) Submission methods:

The transmission of data is done electronically, normally through web services based on the exchange of Extensible Markup Language (XML) messages. Exceptionally, for taxpayers with few operations or for correcting mistakes, a web form is completed.

6) Simplification of formal obligations:

At the time of implementation of SII, some existing informative obligations were considered redundant and thus, have been removed for taxpayers enrolled in the SII, namely, the recapitulative statement and statement of operations with third parties.

2.4 Purposes of SII

With this system, the AEAT envisages to obtain timely and good-quality information to fulfil its objective of controlling and preventing fraud. At the same time, it pursues efficient management of VAT, reducing the administrative burden on taxpayers.

Both objectives have been successfully achieved. In particular, the time required to comply with VAT has been reduced to 9 hours since 2017 thanks to the SII, as the Doing Business and Paying Taxes reports 2019 acknowledged.[6]

The SII also serves to assist taxpayers in the fulfilment of their VAT liabilities. At the moment, it allows cross-checking of self-information with third parties' information also registered to the system, which prevents from making mistakes. For 2020, a new assistance service has been launched, which is restricted to taxpayers enrolled in the REDEME except for large companies and VAT groups, to assist them in preparing the VAT returns (Form 303).[7] It is

4 IOTA. *Impact of Digitalization in the Transformation of Tax Administrations. Real-Time VAT Reporting Techniques: The Spanish Immediate Supply of Information System (SII)*, Rosa Prieto and Mercedes Jordán, pp. 45-48 (2018).

5 Legal and technical specifications of SII are regulated by Ministerial Order (Orden HFP/417/2017, de 12 de mayo, «BOE» núm. 115, de 15/05/2017, ref. BOE-A-2017-5312).

6 World Bank Group (2018). *Doing Business 2019*. World Bank Group (2019), *Doing business 2020*, https://www.doingbusiness.org. PwC (2018). *Paying Taxes 2019*. PwC (2019), *Paying Taxes 2020*, https://www.pwc.com/payingtaxes.

7 Form 303 regulated in Orden EHA/3786/2008, de 29 de diciembre, «BOE» núm. 314, de 30/12/2008, ref.BOE-A-2008-20953, and Orden HAP/2194/2013, de 22 de noviembre, «BOE» núm. 283, de 26/11/2013, BOE-A-2013-12385.

the so-called "Pre-303" service. the AEAT will make available to SII taxpayers the VAT aggregated books, made up by grouping the amounts of the books kept in the electronic office of the AEAT through the SII. These amounts are precisely the ones to be declared in Form 303. Taxpayers will be able to transfer the information from the aggregated books to the corresponding box of the VAT return, and if required, to modify them before submitting it (electronic submission is mandatory for SII taxpayers).

In the near future, it is envisaged to extend the pre-filled return to all taxpayers enrolled in the SII.

The AEAT's website[8] is constantly updated to inform timely and accurately SII taxpayers of all novelties. Currently, there are two banners that lead to SII services: the SII banner and the new "Pre-303" banner (see Figure 1 and 2).

Figure 1. Banner of SII on the AEAT's website

Figure 2. Banner Pre-303 on the AEAT's website

2.5 The SII in Figures

The number of taxpayers enrolled has increased steadily from 54,000 in 2017 to 64,358 in 2020, with 938 of them being voluntarily registered.

In terms of the number of taxpayers registered, they represent a 1.7% of VAT taxpayers. But in terms of turnover, they represent 80%.

2.6 Control of SII: HERMES Tool[9]

Together with the SII, a new risk analysis model was developed in order to be able to make an efficient use for control purposes of the millions of records that the AEAT was receiving. This new system has been called HERMES.

Hermes was the Greek god of trade and eloquence, god of boundaries and transitions and messenger of the other gods. He was the interpreter of other gods' sentences for humans. Hermes was also considered quick, witty and ingenious.

Being the new risk management tool, HERMES is flexible, easy to interpret and able to easily generate GENIO reports. As it will be explained later, the names HERMES and GENIO suit them perfectly.

HERMES was initially created to control risks emerging from the VAT SII system, but its huge potential has driven the AEAT to extend its use to other risk areas based on information sources. As an example, it is also used for the control of high net worth individuals or in enforced tax collection procedures.

HERMES is a risk and profile system for the analysis of taxpayers. It has been developed as a further step in the path to reach a single system for taxpayers' risk analysis, enabling the AEAT to better plan its control activities and define profiles (risk groups) to allow adapting the resources to the defined profiles in order to perform the most adequate control activity in each case (preventive measures, extensive control, intensive control, etc.).

Therefore, HERMES is an infrastructure that allows risk definition, management and calculation, through any data contrast that might be relevant for tax purposes. Risks have a standardized structure to facilitate its treatment. This includes the main identification items (name and tax identification number of the taxpayer, type of tax return and period) and risk details (score assigned, economic relevance, distance between the amount declared and the AEAT

8 http://www.aeat.es/.

9 Newsletter FISCALIS Risk Management Platform (January 2018), Ignacio Méndez Cortegano.

estimation and share that it represents). The results of the risk execution are stored in the data warehouse and used to create risk profiles, also with a standardized structure, from which we can benefit for other controls in different areas. GENIO reports can be generated for each risk and each profile calculated.

Advantages of the HERMES system are:

- Flexibility: aligned with the immediacy of the SII, it is an immediate process and allows including new risks in the system without a further IT development. Therefore, it is possible to give an immediate reply to any new risk arising and to modify the risks depending on the needs.
- Simplicity: risks can be defined directly as data warehouse consultations by the functional areas. There is a homogeneous extraction of data.
- Trust: risk values and selected files can be validated prior to their incorporation to the system and simulations can be performed to check the impact of the risks.
- Definition easiness: use of the warehouse and the GENIO reports for validation, simulation and selection based on risk values.
- Interpretation easiness: explanatory reports on the risks affecting a file are available and complementary information can be added.
- Efficiency: a grouping of profiles is possible in order to reduce the number of actions.

3. Digital Tools for Taxpayers' Assistance

3.1 Introduction

Since 2017, the AEAT has been implementing a number of online assistance tools, namely virtual assistants using AI, but also other less sophisticated that have proved to be very useful as a complement to the virtual assistant.

The path to the establishment of these tools started with the SII but has been progressively extended to the whole VAT and to the censal obligations.[10] In July 2019, a banner was placed in the frontpage of the AEAT's website that directs to the three assistance tools (see Figure 3). For the future, it is planned to continue to widen the scope of this kind of services to other taxes and to be able to offer pre-populated returns for censal purposes and for the corporate income tax. Moreover, a whole digital assistance model is envisaged in the AEAT's Strategic Plan, which has started in 2020 with a pilot for the creation of the so-called "Administraciones de asistencia digital integral" (ADIs), Offices for Integral Digital Assistance in English.

Figure 3. Banner of VAT and Censal Virtual Assistance tools on the AEAT's website

3.2 Virtual Assistant for SII and Related Tools[11]

In the previous months to the introduction of the SII (July 2017), the AEAT made a big effort to inform the business sector on the new system by all means. A large-scale campaign took place, including meetings with the business sector, information on the website and a new email box where businesses could address their questions to SII specialists.

Soon the email box was collapsed with over 200 questions per day and an efficient alternative had to be sought. This was the reason for the AEAT looking into innovative solutions such as AI. However, this project, which began as a solution for the high workload generated by the introduction of the SII, soon became a revolutionary instrument for assistance purposes.

The AEAT's virtual assistant or chatbot works with AI technology created by a multi-

10 Obligations to register and modify data or de-register in the census of businesses, professionals and withholders.

11 OECD (2019). *Tax Administration 2019: Comparative Information on OECD and other Advanced and Emerging Economies* (Chapter 9, Sonia Sanz), https://doi.org/10.1787/74d162b6-en.

national supplier. In April 2017, a small working team was set up with experts both of tax and technology of the AEAT and staff of the supplier.

The first step was the design of the virtual assistant by compiling questions that taxpayers might formulate and drafting answers to them. If it is not possible to give a one-off answer, it is necessary to design a conversation through decision trees that take into account different situations. It is also necessary to make the virtual assistant understand natural language and not only technical one; therefore, it has to identify a question posed in different ways with the same meaning. Consequently, the second step was training the virtual assistant through the formulation of sets of questions and checking that it worked properly. The virtual assistant can learn from the information it captures and improve its understanding and the working team modified the decision trees when necessary. Then it was tested by tax officials and again the virtual assistant improved its understanding of the language and some decision trees were modified. After the final fine-tuning, the virtual assistant for SII was launched in October 2017 and made available to the public in the AEAT's website.

However, the virtual assistant needs to be continuously updated and monitored. This is why after each conversation taxpayers can rate their satisfaction with the answer. If the rating is negative, a form will open so that a tax official can answer the question by email. In addition, the conversations are followed up to improve the service.

The results obtained with the Virtual Assistant for SII have exceeded expectations. As soon as it was launched, the emails received in the query box decreased dramatically (in more than 90%). Nowadays, the average access to the virtual assistant has stabilized in 250 uses per day for a segment of 62,000 taxpayers.

Apart from the virtual assistant, the AEAT saw the need to develop other related tools for specific questions that didn't require a conversation, for example, the rules to know the deadline to report on a transaction or the period in which the invoice has to be registered and declared. For this purpose, an in-house solution called "calculadora de plazos" (term calculator) was developed and launched in June 2017. It can be used separately or connected to the virtual assistant which directs to this tool when applicable. A total of 858,006 consultations had been made until 31 December 2019.

Figure 4. Screenshot of SII online assistance tools on the AEAT's website

From the general banner to the virtual assistance tools, the specific tools for SII (virtual assistant and term calculator) can be accessed together with some short explanatory videos (see Figure 4).

3.3 Virtual Assistant for VAT and Related Tools[12]

As seen above, the virtual assistant for SII was considered to be working fine and providing valuable assistance to taxpayers. Therefore, it was decided to extend the AI technology to the whole VAT, creating a more comprehensive virtual assistant.

The complexity of such task made the AEAT decide to launch the virtual assistant for VAT in thematic blocks, starting with foreign trade issues in 2018 and finalizing with deductions, refunds and submission forms in 2020.

The design, implementation and functioning are similar to the virtual assistant for SII (de-

12 OECD (2019). *Tax Administration 2019: Comparative Information on OECD and other Advanced and Emerging Economies* (Chapter 9, Sonia Sanz), https://doi.org/10.1787/74d162b6-en.

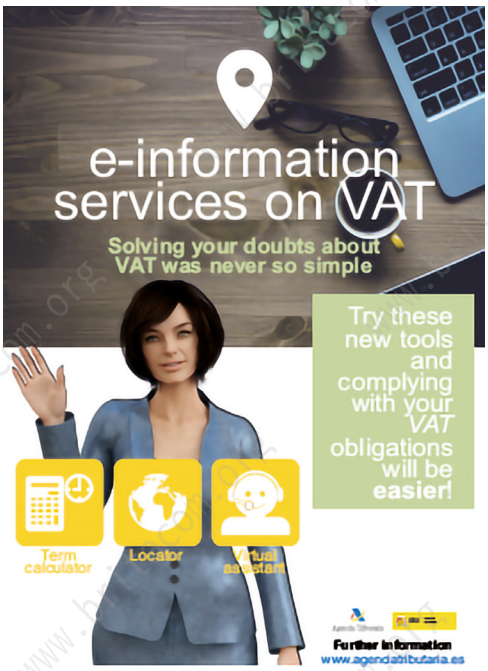

Figure 5. Poster with one of the avatars

Figure 6. Screenshot of VAT online assistance tools on the AEAT's website

cision trees, testing, link to other online assistance tools, second layer of assistance by email for non-solved issues, getting feed-back and monitoring).

The assistant has had 48,495 accesses in total in years 2018-2019. At the end of 2019, the number of accesses grew exponentially, reaching 500 per day, compared with 25 in 2018. This has been caused by the higher number of blocks available and the use of the tool by tax officials.

Like the virtual assistant for SII, the AEAT saw the need to develop other related tools for specific questions that didn't require a conversation. All these tools are in-house developed solutions.

The tool "localizador" (locator of supplies of goods or services) is configured as a drop-down menu in which the user has to choose the answer from a closed list to every question. After replying to all the questions, it gives information on three issues: where the place of supply is located, who is the taxable person and whether VAT has to be charged or not. The locator was developed in two phases: the locator for the supply of services was launched in February 2018 and the locator for the supply of goods in June 2018. Both have been updated in order to adapt them to modifications in the VAT legislation at EU level. The locator can be used separately or connected to the virtual assistant which directs to this tool when applicable. Up to 31 December 2019, 276,610 queries had been made (see Figure 5).

The other tools developed are: "calculadora de plazos modificación base imponible y otras rectificaciones" (calculator of deadlines for modification of the taxable amount and other rectifications) connected to the virtual assistant block on modification and rectification of the taxable amount, "calificador inmobiliario" (real estate taxation determiner) and "ayuda confección modelo 303 para arrendadores" (assistance in completing Form 303 for landlords) connected to the block on real estate transactions, and "calculadora de prorratas" (pro-rata calculator) connected to the deductions block.

From the general banner to the virtual assistance tools, the specific tools for VAT can be accessed, together with some short explanatory videos (see Figure 6).

Resulting from all the above, it can be concluded that the effort made by the AEAT to assist taxpayers with these tools has been highly appreciated by both taxpayers and the AEAT staff.

From the point of view of taxpayers (companies and tax advisers), it has allowed getting answers to a variety of questions in an efficient way (no need of walk-in enquiry) and with a

unified criterion. The response to the queries, which is recorded and can be printed, provides them with greater legal certainty, and they can justify their actions in a subsequent tax control procedure. For non-VAT expert staff, it is also a very useful tool that helps them to get a quick solution to complex regulatory issues. Especially, it is very helpful for staff dedicated to providing taxpayer information services.

3.4 Censal Assistance

Businesses, professionals and withholders have to register with the AEAT in order to start their activities. For these purposes, they need to submit a declaration (Form 036 or simplified Form 037)[13] and they are incorporated to a census. In the return, they must answer to many questions related to the type of economic activities they will develop and the special regimes (if any) that will apply. This makes registering for economic activities a quite complex issue.

The AEAT is fully conscious of it and has started a new line of assistance in this field. The first step has already been achieved with the launch of a search engine of economic activities in July 2019. In Spain, there is a National Classification of Economic Activities (Clasificación Nacional de Actividades Económicas, CNAE), and a good classification is essential to be able to comply with tax liabilities in a proper manner. That is the reason why this tool is so useful. It has been developed in a way that it can understand natural language and not only technical language or sophisticated words. The user is requested to type a "significant word". A list of possible activities appears and if any of them is the one the user is looking for, an in-depth explanation will appear when clicking the "detail" button.

For the future, it is planned to develop a virtual assistant for censal issues linked to the online preparation and presentation of the return.

3.5 Tax Collection Assistance Tools

In July 2020, the AEAT took a further step to assist taxpayers in the tax collection field by launching two calculators: one for payment deadlines and the other for interests and deferrals. These tools allow taxpayers to easily verify the status of the debt and the interests to be paid, the interest rate and its breakdown in days.

3.6 Offices for Integral Digital Assistance (ADIs)

The Strategic Plan of the AEAT for the period 2019-2022[14] pursues to consolidate a holistic approach in the assistance services to taxpayers, and focuses on the ex-ante control methods in order to improve voluntary compliance. One of the main axes of the plan is the establishment of a new model of assistance through the ADIs, whole of digital assistance offices adding to the walk-in services in the local offices. A pilot will be done in 2020 focusing on VAT, making use of the already existing virtual assistants and oth-

13 Forms 036 and 037 regulated in Orden EHA/1274/2007, de 26 de abril, «BOE» núm. 112, de 10 de mayo de 2007, ref. BOE-A-2007-9508.

14 The Strategic Plan is public and can be consulted through the following link: https://www.agenciatributaria.es/AEAT.Internet/Inicio/La_Agencia_Tributaria/Planificacion/Planificacion.shtml.

er online tools. The scope will be progressively widened to other areas, such as censal and tax collection, creating a possibility of instant transfers of funds through the mobile phone. The ADIs will provide phone assistance making use of all the online tools described above. Officials will be trained specifically in order to develop their skills for this task.

4. Virtual Visits for Tax Procedures (VIVI Project)

On 17 June 2020, a modification of the General Tax Act has been published in the Boletín Oficial del Estado (State Official Gazette, BOE[15]), with the aim to allow videoconferences in the framework of tax application procedures.

According to the Law, tax application procedures with taxpayers may be performed through digital systems that, via videoconference or other system alike, allow bidirectional and simultaneous image and sound communication, visual, auditory and verbal interaction and guarantee a secure transmission and reception of documents ensuring their authorship, authenticity and integrity. For the utilisation of this system the taxpayer's consent is required.

The project started in 2019 as a pilot jointly developed by the Tax Auditing and the IT Directorates for the implementation of "virtual visits for auditing".

In order for this solution to reach its highest potential, the system includes the possibility to electronically sign documents and exchange records or other documents, just as it would happen in a face-to-face meeting.

Consequently, VIVI includes the following tools:

- A videoconferencing system;
- An Electronic Registry to load documentation delivered by the taxpayer;
- The electronic signature of both the tax official and the taxpayer; and
- The electronic file of the taxpayer, so that the tax official can access all the information.

The project started before the breakout of the COVID-19 crisis but the latter has boosted the use of such kind of tools to ensure the continuity of the business and the safety of taxpayers and tax officials. Therefore, the Spanish Tax Administration has taken this opportunity to speed up its effective implementation and extend it to the rest of the tax application procedures.

5. Conclusions

From the AEAT's experience in its digitalization projects, the following conclusions can be drawn:

Digitalization is a worldwide phenomenon affecting not only the economy but also every citizen in their daily lives, which has come to stay. Therefore, Tax Administrations must be fully conscious of it, keep up with digital developments and take advantage of their huge potential.

However, digitalization cannot be an end in itself. IT tools must be a means to support a better achievement of three major goals: assistance services to taxpayers, control activities to tackle non-compliance and reducing the administrative burden in the fulfilment of tax obligations.

In order to face digitalization successfully, a mid-term strategy is required, aligned with the business strategy of the tax administration, and at the same time flexible enough to adapt to the changing environment. When designing and applying the digitalization strategy, it is essential to converge with international trends, especially in projects led by international organisations (OECD, EC). Moreover, international cooperation must be promoted so that all tax administrations can exchange information and best practices, which in the end will result in a global benefit.

Without prejudice to other digitalization models, the Spanish model, which consists in having a potent IT Department that creates in-house solutions on demand, making use of a state of the art technology, has proved to be successful and the AEAT will continue to rely on it for future digitalization needs that might arise.

15 Real Decreto-ley 22/2020, de 16 de junio (Disposición final primera), «BOE» núm. 169, de 17/06/2020, Ref. BOE-A-2020-6232.

Applications and Future Outlook of Blockchain Technology in Digital Tax Administration

—Case Study of Blockchain Invoice System in Shenzhen Tax Service, STA

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Abstract: In recent years, with the accelerating digitalization of economy, the necessity for digitalizing tax administration becomes increasingly prominent. As a new technology based on digital information storage and processing, blockchain provides a new solution to digital tax administration, particularly given its tamper-proof feature. This article introduces the innovative application of blockchain technology in electronic tax invoice, including its management model and technical implementation method. It elaborates the breakthrough of the blockchain-based electronic tax invoice in digital management by focusing on the essential function and whole-process management of tax invoice as well as the value of data, and discusses the practical value and other applicable scenarios of blockchain technology in digital tax administration.

Keywords: Digitalization; Blockchain; Electronic tax invoice; Tax administration

1. Background

Nowadays, as information technology advances by leaps and bounds, big data, cloud computing and artificial intelligence are widely used, and enhancing tax administration via these technologies are essential to the competitiveness of tax authorities. Hence, digital tax administration comes into being as all authorities are inclined to put these technologies wherever they can for better management and efficiency. Digitalization is revamping administration at an unprecedented speed, bringing higher efficiency, better taxpayer service, stronger awareness on compliance and more effective risk control.

1.1 Why Blockchain Technology?

Blockchain technology is seen as a reliable distributed ledger system with multiple parties engaged. It is unique because it

- engages multiple parties (i.e. all parties) in information recording;

- engages multiple parties (i.e. all parties) in data storage and maintenance;
- is irrevocable as it stores data and contracts on chain where only writing and reading are allowed;
- is embedded with a consensus mechanism that provides tamper-proof data and high credibility; and
- shares information, traces transactions and verifies data.

In a nutshell, these features make it ideal for digital tax administration.

First, blockchain data is produced collectively by various parties located at different nodes, and each node is an indispensable principal. Likewise, in tax administration, there are lots of parties engaged, including governments, tax authorities, enterprises and other third-party participants. This technology will enable all of them to participate without information asymmetry and towards better co-governance.

Second, the openness and transparency in blockchain and tax administration are mutual as both require an open and transparent process as well as authentic and effective data that are non-temperable. Therefore, blockchain technology is believed to make tax administration less complex, reduce disputes and enhance trust between tax authorities and taxpayers.

Third, blockchain technology provides reliable fundamental data upon which tax authorities can allocate administration resources by risk categories and taxpayers can make proactive risk management independently. In this sense, its distribution and traceability are consistent with the accuracy, inclusiveness and authenticity required in the risk management of taxes.

Last but not least, blockchain allows parties to share stored information through consensus and interact with other chains. Such cross-chain interaction makes it easy to share tax-related information between tax authorities and other government departments and thus promotes collaborative tax compliance.

1.2 Why Electronic Invoice?

In China, invoice is a key voucher in economic activities as well as an important source of information and a major instrument for tax administration. The technical advantages of blockchain make it highly compatible for electronic invoice. Introducing blockchain into the management of electronic invoice could facilitate the collaboration between tax authorities and enterprises to maintain a highly secure and tamper-proof database while breaking the data barriers to achieve cross-sector cooperation in different systems. In July 2018, State Taxation Administration (STA) of China approved a pilot program of "Blockchain + Electronic Invoice" proposed by Shenzhen Tax Service (STS), which focuses on applying blockchain technology to tax administration. This program allows the circulation of invoices from issuance to reimbursement to be done entirely via digital means, promotes invoice management through technologies on data governance and eliminates data intermediaries by breaking down data silos, bringing genuine transformation of digital tax administration.

2. Innovations in Blockchain-based Tax Invoice and Development of the Digital Tax Administration

2.1 Overview

The vision of STS is to "Make the Use of Invoice Easier". It holds the philosophy of "turning invoices into assets and data into value" and, under the principles of security, effectiveness and openness, sets up business norms in operation regulation, process design and risk control through institutional and technical innovations. By connecting the Big Data Platform[1] and the Electronic Taxation Bureau,[2]

1 Big Data Platform is a tool developed by STS, which can collect, store, process, source and analyze tax-related data automatically.

2 Shenzhen Tax Service. Electronic Taxation Bureau is an online website providing online taxpayer service. https://shenzhen.chinatax.gov.cn/dzswj/indexPage.jsp?dzswjRandom=1583826448172.

STS has developed an online blockchain-based electronic invoice system where taxpayers can self-issue invoices as needed at zero cost and tax authorities can monitor the whole invoice flow and get first-hand data. Invoicing upon transaction is now a common practice as the bond between invoices and economic transactions is strengthened and the essential function of invoice as a legal receipt is emphasized. By 23 November 2020, more than 35.86 million blockchain-based tax invoices with a total amount of 42.85 billion RMB had been issued by a wide range of enterprises in catering, parking, retailing, IT and finance, which have registered in and accessed the system. With the participation of enterprises like Tencent, Walmart, China Merchants Bank, Shenzhen Metro, Shenzhen Taxi, Vanke Service, Ping An Bank and Pagoda, the stability and effectiveness of this system are self-evident. In addition, it has been proven effective in reducing the cost of collection and compliance, improving administration and taxpayer service, delegating powers, streamlining procedures and optimizing business environment according to the feedbacks from taxpayers and consumers. This system has therefore been widely acknowledged by various parties both at home and abroad.

2.2 Innovations of the Blockchain-based Tax Invoice

2.2.1 Mechanism innovation

The blockchain-based electronic tax invoice system enables:

- invoicing upon transaction;
- reimbursement right after invoicing; and
- generation of real-time data through invoice.

These innovations allow the life circle of an invoice from issuance, payment, reimbursement to tax filing to be realized on the chain, where all invoices can be found, traced and verified. Therefore, problems like duplicate reimbursement, false reporting and counterfeit invoices are well curbed, saving time, cost and labor for enterprises and consumers and reducing the financial and compliance risks of those who use them.

Before invoices are issued, enterprises shall register in the system and select an invoicing service provider (or use the interface provided by the tax authority to set up its own service). Issuance can be done on the chain by invoicing enterprises and consumers would check their invoices in the Cards and Offers on their WeChat[3] account. If any mistakes occur, the enterprise could write off the invoice.

As is shown in figure 1, the business process of the blockchain-based electronic invoice is divided into initiation, issuance, circulation, collection and reimbursement, all under supervision of the tax authority.

- At initiation, the tax authority puts the rules and specifications on the chain (i.e. online), verifies and controls issuance in real time.

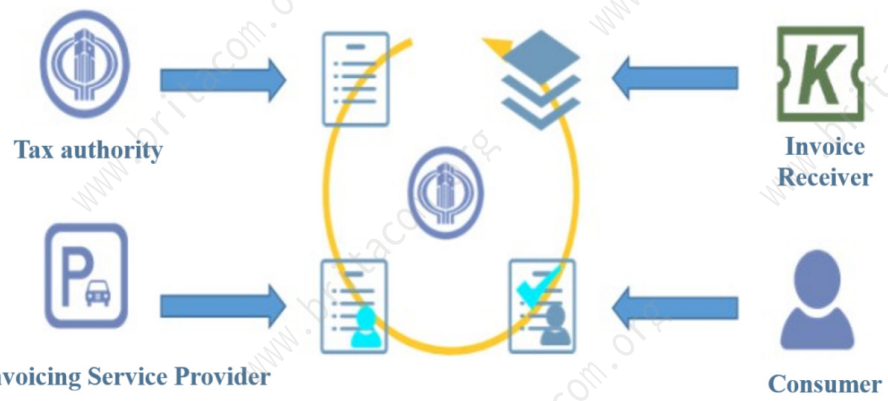

Figure 1. Business process of blockchain-based electronic invoice

3 WeChat is a mobile text and voice messaging communication service developed by Tencent in China.

- At issuance, the invoicing enterprises apply to acquire invoices, fill in details of the transaction as well as their identification information.
- At circulation, the taxpayers receive the invoices online and update information on their identities.
- At collection, the receivers verify and lock status of the invoices on the chain.
- At reimbursement, the receivers review, update status of the invoices on the chain, reimburse the payment, and complete filing.

2.2.2 Technical innovations

This system, on Trustsql, a world-leading platform with high performance, excellent stability and domestic intellectual property rights, is able to process more than 10,000 requests per second and respond in milliseconds. STS relies on the distributed, multi-center, traceable, and tamper-resistant features of the blockchain and creatively adopts the consortium blockchain technology to develop an advanced and fast-responding technical framework and unified application norms. Thus, a cost-free, secure and reliable invoicing service is available to taxpayers

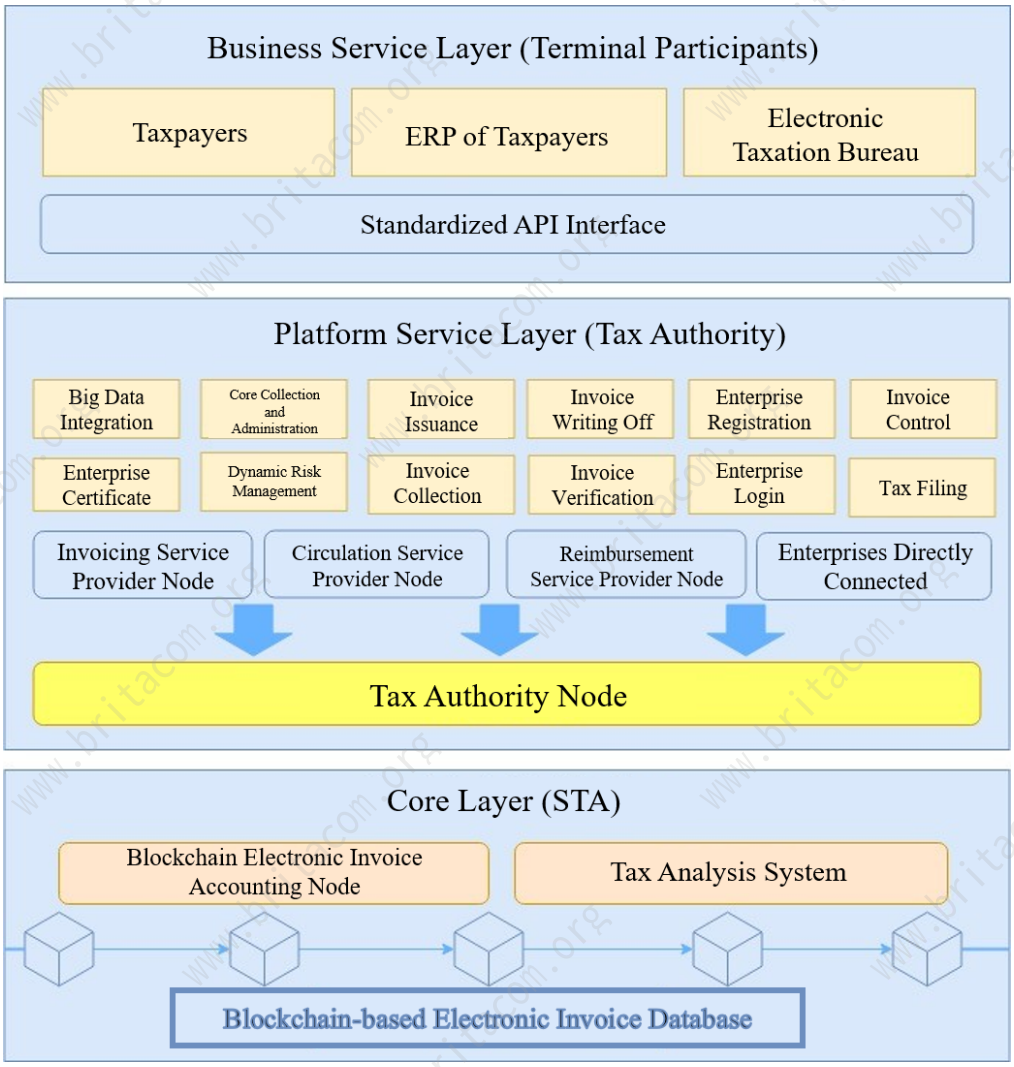

Figure 2. Framework of blockchain-based electronic invoice of STS

and consumers in a system with high openness and technical integrity.

As is shown in figure 2, there are three technical layers in the blockchain-based electronic invoice framework.

The Core Layer consists of several consensus nodes and the Tax Analysis System. It provides a firm support to the whole framework and stores data. STA (or entrusted provincial tax authorities) has the supervision function penetrated into all the three layers by setting up norms, including the supervision on the specification of business standards, technical standards and operational standards.

Platform Service Layer provides for managing the Tax Authority Node and the Invoicing Service Provider Node (or Enterprises directly connected). Tax Authority Node (hereinafter referred to as "TAN"), built and maintained by the provincial tax authority, is responsible for infrastructure maintenance, enforcement of norms, supervision of Platform Service Layer and Business Service Layer (including supervision on prices) as well as the alignment of invoice-based data with the existing systems. TAN is also in charge of basic functions like key generation and distribution of the Blockchain-based Electronic Invoice Platform and access control. Untampered and traceable invoices are created at this layer. Therefore, tax authorities leverage big data technology to detect compliance risks right here. Business nodes, including Invoicing Service Provider Node, Circulation Service Provider Node, Reimbursement Service Provider Node as well as Node for Enterprises that are directly connected, provide service to taxpayers directly. They are developed via unified interfaces and managed via TAN.

Business Service Layer allows data interaction of service providers with the Platform Service Layer via their respective invoicing service platforms, where taxpayers and consumers interact and invoice lifecycle management as well as other value-add services are provided. Some free applications have been developed, such as WeChat-based invoicing applications and applications for collecting invoice. In this layer, taxpayers are engaged in the whole process (initiation, issuance or write-off, circulation, collection, searching, reimbursement and data management) of blockchain-based electronic invoice.

2.3 Development of Digital Tax Administration

2.3.1 Invoicing upon transaction emphasizes the essential function of invoice as a legal receipt

2.3.1.1 Saving cost

As multiple nodes of the electronic invoice go on-chain, the whole cycle of acquisition, issuance, circulation, reimbursement and filing is completed. With the support of the blockchain technology, invoices could be issued through a mobile phone or an ordinary computer connected to the Internet, instead of using a specific hardware, an equipment or a tax-controlling device. For invoicing enterprises, information on invoices could be managed through a website client or a micro program on WeChat and be automatically uploaded and filed via the big data platform, exempting them from the trouble of tax filing. For consumers, they can save these digital invoices on their mobile phone and submit a reimbursement request via the embedded ERP system or other invoice collection platforms in the blockchain as a closed-loop process, saving the cost of printing, mailing and delivery.

2.3.1.2 Streamlining procedures

Invoicing upon Transaction by the electronic invoicing system emphasizes the essential function of invoice as a legal receipt. When a taxpayer makes an application, the system will automatically identify the real-name reporting, detect the abnormal information on business operation and the official seal graph, and decide whether to approve the request for invoicing within seconds. Given that invoices could only be issued upon a real transaction in the system, tax authorities eliminate quotas on the number of invoices to issue and the maximum capital value of each invoice for taxpayers using the system. In other words, taxpayers could issue as many invoices as they need, which improves the validity of invoices.

Meanwhile, the system has enabled time

consistency between issuance and tax liability, ensuring the accurate implementation of tax law.

2.3.2 Comprehensive supervision mechanism

2.3.2.1 Ex ante supervision

The blockchain-based electronic invoice system has a certain threshold where taxpayers under the following circumstances are not allowed to use:

- where a tax audit result appears to be out of reach, does not operate in the registered addresses or refuses to cooperate;
- where the taxpayer is identified as a counterfeit invoice issuer in tax audit;
- where the taxpayer is identified to be risky in the New VAT Invoice Management System;[4]
- where the taxpayer is identified as an abnormal taxpayer;
- where the taxpayer is in the blacklist of the Identity Recognition System;[5]
- where the taxpayer fails to produce a special seal for invoice as required; and
- other scenarios identified as improper by the competent authority.

2.3.2.2 Ongoing supervision

The whole lifecycle of blockchain-based electronic invoice is under the supervision of the tax authorities. Early-warning thresholds, including the number of issuance and the capital value on each tax invoice, have been set up in advance to detect compliance risks. Once reached, the system would send alarming notifications to tax authorities and, if the taxpayer is identified to be in high risk, invalidation and cancellation of invoices would be activated at the same time.

2.3.2.3 Ex post supervision

Compliance risks of blockchain-based electronic invoice would be detected by the existing compliance risk management mechanism under unified deployment. Tax authorities could analyze related data, establish risk indicators and models and take actions on non-compliance.

2.3.3 Efficient data management

2.3.3.1 Service and administration in the whole process

The blockchain-based electronic invoice system benefits taxpayers by streamlining internal control and reducing compliance risk. As everything is managed online and invoices are turning into assets and data, problems of duplicate reimbursement and counterfeit invoices are well tackled. Thanks to the system, the data on invoices are updated onto the tax filing platform and the Electronic Taxation Bureau automatically, making it more convenient for taxpayers to account and file tax returns. Meanwhile, it provides interfaces for taxpayers' financial accounting system, through which taxpayers can verify tax invoices and complete the reimbursement more efficiently.

2.3.3.2 Broadened data access for tax authorities

A wide variety of data, such as data on invoices, transaction, payment and reimbursement, are made available to tax authorities in the system. As the flow of invoices aligns with the flow of capital, tax authorities are able to verify the validity of a transaction and to curb inflated invoice. In addition, invoices are traceable in their whole lifecycle in real time, and detailed information of their owners are also available. Thus, tax authorities are able to overcome information asymmetry and target at tax administration with high precision and efficiency.

2.3.4 A neutralized, standardized, transparent, secure and reliable tax invoice management technology

The Blockchain-based Electronic Invoice System is developed under the principle of neutrality and transparency and open to all qualified technology providers by the uniform

4 The New VAT Invoice Management System is a tax invoice issuance and management system developed by STA. It is widely used in China currently.

5 The Identity Recognition System is developed to store identity information of legal representative, financial manager and tax staff of an enterprise. Only registered people are allowed to process tax matters on behalf of the enterprise.

technical standards of the tax authorities. Ownership of taxation blockchain system and the intellectual property rights of related technical specifications belong to the tax authorities. Besides, cross-chain attempts within pre-determined data range and application rules are encouraged. It is insisted that the main purpose of tax authorities to develop this system is to tackle the chronic problems facing taxpayers and enterprises. Any attempts to utilize it for business purposes by the technology providers are prohibited.

3. Practical Value and Future Outlook

3.1 Practical Value

The value of the Blockchain-based Electronic Invoice System in tax governance includes two aspects. First, it improves accuracy of administration, streamlines the procedures and enhances efficiency. Second, it is a new data-based mechanism developed to digitalize tax administration. Based on the distributed blockchains, the right to control data assets is back in the hand of the tax authorities and related stakeholders. Ownership of the data is confirmed in a more stringent way where non-stakeholders could be removed. It has ensured an alignment between economic transactions and issuance of invoices, avoided the complexity and conflicts in data ownership transfer and reduced management costs for parties engaged.

At present, although the full-fledged mobile payment in China has significantly facilitated the consumption in China, subsequent challenges on invoice management occur as more invoices are needed.

Therefore, it is expected that in a free market, this system will popularize in the consumption field and pose wider application. In the long run, it could even improve or make the existing tax system simple in the following two perspectives:

- Due to the deductibility of VAT, downstream enterprises would use more invoices and have better compliance as issuance of invoices and compliance rate in consumption increase. Increased compliance in consumption would lead to simplified VAT system, e.g. tipping invoicing towards end consumption, and reduce tax burden of upstream enterprises and the administration burden of tax authorities.
- More information on the overall budget of individuals will improve administration on individual income tax and help optimize related tax system. From a long-term perspective, the overall budget of an individual equals the amount of wages and salaries plus capital gains less consumption. At present, tax authorities could get information on wages and salaries from withholding enterprises and capital gains from financial intuitions, but have no access to direct individual consumption data. With the blockchain system in place, they are able to evaluate the overall income of an individual using big data, a firm support to the existing Comprehensive Individual Income Tax System. Hence, it will improve administration of tax authorities and optimize tax system.

Furthermore, given that consumption is key to economic development, this system, as an application widely used in consumption, would help the government formulate macro-control policies more precisely, and give taxation full play to its role in economic regulation and national fiscal management.

3.2 Future Outlook

With further development of the information technology, blockchain will have a wider application in taxation. It will help shift the focus of the digital tax administration from integration within the tax authorities to data-based integration with the society.

3.2.1 Promote digital accounting of electronic invoice

Establishing a collection and reimbursement platform of the blockchain-based electronic invoices will facilitate digital reimbursement, accounting and filing.

Tax authorities could further explore the application of blockchain in managing housing rentals, deductible expenses of corporate income tax, special additional deductions of individual income tax, etc., so as to enhance the overall administration on different taxes.

3.2.2 Develop blockchain-based electronic ID and promote information sharing of different government departments

Blockchain-based digital ID could be developed for taxpayers so that:

- they could be identified and verified nationwide;
- information on these IDs could be shared among different government agencies;
- management on cross-region tax matters could be made better;
- tax collection and administration on enterprises with branches in other areas could be optimized; and
- tax collection and administration on individuals could be improved.

Blockchain-based electronic tax payment vouchers and other electronic proof on tax matters should be made available so that:

- information on tax payment, tax arrears, records of illegal acts, service trade and other external payment tax filing, tax credit evaluation and other information of taxpayers could be digitized and included as assets management; and
- problems like repeated announcement on tax matters, inconsistent caliber on statistics, results unable to apply across systems and false information could be avoided.

As a result, tax-related information will have a wider application in the society and a new credit system based on information sharing and mutual recognition as well as honesty and rule of law will come into being. In addition, establishing a fair, open and transparent market and a law-based business environment is conducive to high-quality economic development.

3.2.3 Establish blockchain-based export tax refund system

At present, the VAT rebate system still requires further improvement. Export rebate, a link to realize tax rebate in export, has matured with institutional mechanism and procedures, and presents an inseparable part in VAT invoice management. It meets the conditions for applying blockchain to improve the quality and efficiency in relevant audits and to control risks. While leveraging the blockchain technology, tax authorities can make reference to the supply chain management and revamp export tax rebate.

- Based on the blockchain system, nodes are structured among the tax authorities, exporters, multi-tier suppliers and logistics enterprises to integrate the management of information on enterprises, production capacity, business operation and financial data. Thus, tax authorities are able to verify the information of an enterprise from the source.
- Key information of an enterprise like its overseas order, procurement, manufacturing and goods transportation could be encrypted and uploaded on the blockchain in real time on top of the invoice flow, goods flow and cash flow. Hence, tax authorities shall be able to verify with multiple stakeholders the authenticity of the information and meanwhile, produce a smart contract on access control of the data to ensure data security for all parities engaged.
- The AI Risk Compliance Model embedded in the system will help alert risks in exports and align VAT invoices with management of export tax rebate.

The Potential of Blockchain to Transform Tax Systems in BRI Jurisdictions

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Abstract: This short article sets out how technology is able to help resolve some of the basic problems that have plagued Belt and Road Initiative economies over many decades, namely: how to assist companies to take advantage of global markets; how to move away from a cash-based economy to a cashless economy; and how to deal with the growing volume of illicit financial flows. These technologies will transform the tax administrations of BRI jurisdictions over time.

Keywords: Tax; Blockchain; Digitalization; Belt and Road Initiative

Blockchain has the potential to transform our economies and tax systems. The Internet is rapidly evolving from a medium for information exchange to a tool for value exchange. The Internet of value, driven by blockchain and digital currencies, is enabling peer-to-peer commerce on a global scale. Finding, accessing, transacting, paying, and settling with counterparties worldwide are becoming frictionless. Although it started in the digital currency arena, blockchain is quickly becoming acknowledged as one of the most important breakthroughs for advancing global trade. It provides a network platform that grants any user access to the global scale and payment capabilities traditionally only enjoyed by very large multinational enterprises (MNEs).

1. New Technologies Can Transform the Way That Companies and Tax Administrations Interact

Blockchain enthusiasts envision a brave new world in which technology empowers enterprises to build businesses without relying on intermediaries. These businesses are digital nomads existing only in the cloud and are rapidly growing in developing countries and economies in transition. They hope to create tradable liquid markets not only in established industries previously dominated by intermediaries, but also industries in which effective trading was not feasible in the past.

The new business models based on the blockchain technology rely on com-

puter code uploaded to tens of thousands of servers around the globe that work together, which enable anyone to exchange information and payments immediately, directly, securely and at low cost. Rather than trust in intermediaries like large banks, these firms and the customers trust the software which is transparent and available for inspection by all. The traditional functions of an intermediary are taken over by the shared distributed set of a computer code running autonomously on the cloud. Moreover, the rapid rise of digital commerce will fuel this trend. Amazon and Alibaba alone now account for over $200 billion in sales each year, a number that is growing by more than 40% annually. In fact, all businesses are being affected by digitalization. This environment offers all companies — big and small — the opportunity to operate globally, contacting directly to consumers without barriers and at low cost.

The organisations based on distributed blockchain are ones in which computer code applies to tens of thousands of services across the globe, enabling participants in the networks to exchange information, goods and services for payment without a centrally controlled entity.

In the traditional markets, MNEs and financial institutions play a significant role in ensuring compliance with a range of regulations. However, with the emerging blockchain business model, small and medium-sized enterprises (SMEs) can bypass these intermediaries and organise peer-to-peer networks rather than around a central entity.

It is unclear how compliance with regulation and tax will occur in this new environment and who would be responsible for meeting these regular obligations, but again the technology may be able to offer a solution to achieve better compliance.

2. Achieving Better Compliance

These new technologies offer governments of the Belt and Road Initiative (BRI) jurisdictions a new approach to achieving better tax compliance. The opportunity to leverage the power and the transparency of blockchain to recapture some of the tax gap by means of higher compliance and reduced administrative and compliance cost is significant. Trust and transparency are the hallmarks of blockchain solutions and maybe this is just what tax needs. Designing compliance into the fabric of this new blockchain technology would offer automation, transparency and assurance of compliance with clear-cut rules.

Blockchain-based businesses provide a unique opportunity to rethink the nature of compliance, potentially moving from a regime of periodic payments and reporting in which audits are the main enforcement mechanism to a real-time flow payments and information in which the automated monitoring or control is built into the systems, and hence becomes the primary enforcement mechanism. This could lead to a significant reduction in compliance costs for companies in BRI jurisdictions.

When the rules are clear, such as in the indirect tax area, blockchain helps achieve tax compliance. Developing these blockchains, in which compliance is a core component, the code allows compliance to be built into the basic business processes. Blockchain can enable us to rebuild trust in the tax system, which is particularly important in the BRI where jurisdictions have very different "tax cultures". When the tax rules are unclear and subject to legal interpretation, it's clearly more difficult to achieve this. Complying with these complex rules can be difficult for the taxpayers and tax administrations, especially in cross-border business activities. Here we can look for Artificial Intelligence (AI) to achieve frictionless compliance. With more detailed information flowing through to tax administrations in real time, AI technologies may be able to use these data to determine potential income tax obligations, including not only domestic obligations but also international obligations stemming from tax treaties.

Increasingly, AI agents use deep learning, and artificial neural networks became capable of performing tasks which were unimaginable less than a decade ago. Today we may be able to use these systems to deal with complex anti-tax avoidance rules and to assess the risk and the outcome of various cross-border scenarios.

To succeed in these efforts, machines will need access to large databases since these are required to identify tax avoidance. As in any other tax law dispute, parties may provide more specific data sets on a case-by-case basis. With access to these databases, AI can teach itself using a carefully predetermined set of searching conditions to identify tax avoidance fact patterns. Ultimately, AI can learn to perform compliance in related tasks, such as recognising when an arrangement is totally lacking in economic substance or when a case is eligible for Mutual Agreement Procedures (MAP).

The goal of marrying the high-quality detailed company specific data collected via blockchain from companies (by country-by-country reporting, master and local files and exchange of information) and from existing audit files will enable us to train AI engines to develop in ways which assist tax lawyers, MNEs, governments, judges and others in dealing with cases that may involve anti-tax avoidance rules. Indeed, AI seems to be the perfect partner to support high-value jobs within tax administrations and business that require human judgement. Using an AI tax assistant may reduce much of the regulatory and compliance friction.

These digital technologies that are disrupting business and ending traditional tax compliance may also present opportunities to enhance efficiency and improve tax collections within both tax and customs authorities, which is particularly important for the BRI. The BRI tax administrations need to seek scenarios that integrate existing technology with the vision of the future in which digital compliance is designed as a natural part of business operations for both small and large businesses — domestic and cross-border — with blockchain and AI being at the core of this transformation. I believe this opportunity can be best realised by integrating design compliance solutions into blockchain platforms to create compliance proof blockchains. The ability of these entities to be fully compliant globally will be a key part of their inherent value proposition.

The data captured on the blockchain also enables tax administrations to overcome some of their capacity constraints and to limit opportunities for corruption. The Belt and Road Initiative Tax Administration Cooperation Mechanism (BRITACOM) may engage in this discussion and develop a BRI DIGITAL ROAD MAP.

3. Moving away from a Cash Economy and IFF

Many forms of illicit financial flows (IFF) (e.g. money laundering, bribery, tax evasion, etc.) thrive when cash transactions are the main means of exchange. If governments can gradually move towards a cashless society, this will help move citizens out of the informal to the formal economy, reducing the opportunities for money laundering, bribery, corruption and tax evasion. This can be achieved as can be seen from the examples of BRI jurisdictions as diverse as China and Kenya. China is well on the way to become a cash free society. BRI tax administrations need to be at the forefront of this trend, especially when dealing with the shared economy. We should see Uber, Airbnb and the BRI equivalents as an opportunity to move sectors where cash has been king to electronic payment methods. Since if tax administrations can get access to these accounts, they can tax the income and sales of those undertaking these activities. Russia is leading in this area. Ideally there should be a coordinated approach between BRI tax administrations to the main platforms.

At the same time, technology can help facilitate cooperation between the different governments deeply engaged in countering all forms of IFF: Customs, Tax, Social Security, Financial Intelligence Unit (FIU), Justice and Ministry of Finance (MOF). A joint of World Bank (WB), United Nations Office on Drugs and Crime (UNODC) and WU Global Tax Policy Center at Vienna University of Economics and Business shows how this can be done in practice. But one issue remains[1]: the technical platforms used by

1 Michael Lang & Jeffrey Owens. (2018). *Removing Tax Barriers to China's Belt and Road Initiative*. Wolters Kluwer.

these departments are often incompatible, making information sharing difficult. So, when these departments are upgrading their technology, they need to do so in a coordinate fashion.

Technology, especially blockchain, may also offer us the opportunity to create more open and more comprehensive registries of the owners of business, including the physical owners of such opaque offshore vehicles as trusts, foundations, limited liability partnership and holding companies. The Financial Action Task Force (FATF) recommendations[2] are not bad, but the enforcement is weak. Blockchain can perhaps help us move towards registries that are updated regularly and where the data are verified, first at the national level but also we need to explore how we could use technology to link up these national registries. Again, it's a task that perhaps BRITACOM is well placed to take on. Here government and business have a common interest.

4. What Governments Need to Do to Fully Exploit Blockchain and Other New Technologies

Here are some broad principles from my perspective that could guide BRI tax administrations. It's not a complete list, but it may be a good starting point for a debate at the next Belt and Road Initiative Tax Administration Cooperation Forum (BRITACOF):

- Be clear about the problems you want the new technologies to resolve.
- Recognize that the new technologies by themselves will not turn a poor tax administration into a good tax administration. Review your existing regulations and procedures and ask, do we really need all of these regulations? Which can we eliminate as we digitalize?
- Review legislation written in an analogue age to see if it works in a digital age, especially on data security and confidentiality.
- Determine the profile of the officials you will need and put in place a change management program. Recognize that cultural factors are a key to success.
- Ensure you have a budget not just for setting up the system but also for maintaining it.
- Set up a public information campaign to inform taxpayers of how the changes will impact them.
- Engage with the private sectors — MNEs, SMEs, technology companies and advisors — to get them on your side.
- Coordinate with other law enforcement agencies, including customs, FIU and social security, to get interoperability between technical platforms and ideally encourage your government to commit to shifting towards a digital government, where a digital tax administration is much easier to be achieved.
- Don't get distracted by the international tax agenda. Set your own priorities.
- Encourage universities to put on degree courses covering both tax and technology.

5. Conclusion

To sum up, technologies — those which we know today and those which will inevitablely appear over the next decade — offer exciting opportunities for BRI tax administrations to provide a business friendly environment which stimulates growth, increases revenue, reduces the deadweight loss associated with tax and helps countries to counter all forms of IFF. To succeed in this transformation requires a high-level political commitment, unprecedented cooperation between businesses and the governments within the BRI and providing neutral platforms where technologists and tax experts can learn from each other. BRITACOM may provide such a forum and develop a BRI digital tax road map.

References

[1] Michael Lang & Jeffrey Owens (2018). *Removing Tax Barriers to China's Belt and Road Initiative*. Wolters Kluwer.

2 http://www.fatf-gafi.org/publications/fatfrecommendations/?hf=10&b=0&s=desc(fatf_releasedate).

Digitalization and International Tax Dispute Resolution: A Window of Opportunity for BRITACOM

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Abstract: Digital technologies are capable of facilitating and transforming tax administration and dispute resolution in various ways. This paper presents some existing and emerging best practices and suggests that there is an opportunity for BRITACOM to take advantage of these technologies in enhancing tax dispute resolution among Belt and Road jurisdictions.

Keywords: Digitalization; Tax dispute; Arbitration; Online ADR; Mutual Agreement Procedure; BRITACOM; Belt and Road Initiative

1. Introduction

Digital technologies affect the business of taxpayers and tax administrations by enhancing or transforming how business is done.[1] They are reshaping or creating new ways of communicating, working and transacting, thereby resulting in new business models and new ways of doing things. While the new business models challenge the application of existing international tax rules, resulting in more international tax disputes, they also prompt more global efforts on re-designing the century-old international tax system to reallocate tax base and minimize base erosion and profit shifting (BEPS).[2] Digital technologies have shown their potential in helping reduce the costs of tax compli-

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1 OECD (2019). *Tax Administration 2019: Comparative Information on OECD and Other Advanced and Emerging Economies*, http://doi.org/10.1787/74d162b6-en (OECD, Tax Administration 2019).

2 See, for example, the proposed Pillar One and Pillar Two by the OECD/G20 Inclusive Framework on BEPS: http://www.oecd.org/tax/beps/tax-challenges-arising-from-digitalisation-report-on-pillar-one-blueprint-beba0634-en.htm.

ance and administration and expedite tax dispute resolution. As a newly-established organization, the Belt and Road Initiative Tax Administration Cooperation Mechanism (BRITACOM)[3] is likely in a good position to coordinate and promote the use of these technologies in order to enhance tax certainty and effective resolution of cross-border tax disputes.

This paper aims to provide readers with an overview of the main existing and emerging practices in digitalized tax administration and tax dispute resolution. It also makes suggestions about taking advantage of these practices by BRITACOM. Following this Introduction, Part 2 of the paper highlights the point that some developing countries are leaders in the digitalization movement and the speed of digitalization is getting faster. It also notes the increasing level of standardization in technologies used by taxpayers and tax administrations across jurisdictions. Part 3 briefly presents some best practices in utilizing digital technologies to resolve general commercial disputes and the current lack of practices in resolving international tax disputes. Part 4 suggests BRITACOM be innovative in creating a dispute management mechanism in order to expedite resolution of cross-border tax disputes while enhancing the capacity of tax administrations and improving taxpayer service. Part 5 concludes the paper.

2. Digitalizing Tax Administration

2.1 The Trend of Digitalization

Digitalization refers to the conversion of text, pictures, or sound into a digital form that can be processed by a computer. Business enterprises, institutions and government agencies have been going through a digital transformation, turning digitization into new processes, activities, and transactions. Some recent technologies, such as Big Data, Blockchain, and Artificial Intelligence (AI) (such as deep machine learning) are regarded as disruptive as they significantly affect the way that consumers, businesses and government agencies operate.

Disruptive technologies challenge the adequacy of the existing international tax rules and traditional tax administration procedures and practices while generating new opportunities for policymakers and tax administrations. Technologies also disrupt how international commercial disputes are generated, managed and resolved. More and more commercial arbitration and litigation take place primarily by means of electronic communication, and e-filing in courts around the world has become more commonplace in recent years. There are some pilot projects that experiment with "smart" or "automatic" resolution by using AI technologies. This trend has intensified owing to the COVID-19 pandemic that "forced" people to keep physical distancing while working together virtually.

2.2 Addressing the Problem of Imperfect Information

"At the core, modern revenue bodies are data processing organizations and, as such, they are vulnerable to disruptive information and communication technology (ICT) innovations."[4] At the same time, digital technologies offer the promise of addressing the problem of imperfect information facing tax administrations.[5] Taxpayer information can be imperfect because taxpayers may misrepresent their incomes, consumption or other taxable events to avoid or even evade paying taxes. Tax administrations are often constrained from obtaining information or have to use resource-heavy tax audit processes to verify information. Digitalization can help alleviate these constraints in

3 *Wuzhen Statement: The First Conference of the Belt and Road Initiative Tax Administration Cooperation Forum,* http://www.britacom.org/zchj/qwfb/202002/t20200228_1098051.html.

4 OECD, Tax Administration 2019, supra note 1, pp. 201.

5 Bas Jacobs, "Chapter 2: Digitalization and Taxation", in Sanjeev Gupta, Michael Keen, Alpa Shah & Genevieve Verdier eds (2017). *Digital Revolutions in Public Finance* (IMF Report), https://www.elibrary.imf.org/view/IMF071/24304-9781484315224/24304-9781484315224/ch02.xml?language=en&redirect=true.

several ways:

- Better ways of verifying taxpayer information. Tax authorities are using real-time or near real-time data analytics engines to validate invoices and lag discrepancies, verify sales and purchase declarations, verify payroll and withholding declarations and compare data across jurisdictions and taxpayers.
- Obtaining taxpayer information from third parties (such as users of platforms) as well as tax administrations in other countries/regions (such as through automatic information exchange mechanism). With data being collected in more standardized formats, increased processing capabilities have allowed tax authorities to assess taxpayer risks by analyzing large data sets and by combining different sources of data. Tax administrations can draw on information from a wide range of government and corporate sources, as well as individual digital footprints, to create a profile of each taxpayer's total income.
- Enhancing the accuracy of information through using Blockchain technology. When the risk of providing inaccurate information is exposed, taxpayers' compliance in reporting and filing is expected to improve.

As such, digital technologies enable tax administrations to have a clearer window into a taxpayer's tax operations, to use smarter tools (such as advanced analytics and AI) to monitor consistency, track compliance and more precisely choose audit targets. Such enhanced scrutiny and unprecedented visibility will likely lead to more effective tax administration, higher tax assessments, and more tax controversies.[6]

Many countries have implemented some forms of digital tax reporting or collection requirements — and many of those early movers are developing nations.[7] In 2008, Brazil introduced real-time e-invoicing and e-reporting. Mexico introduced requirement in 2011 to integrate taxpayers' financial systems with the host tax authority in order to share value-added tax (VAT) activity in real time. In Estonia, digital tax administration is part of constructing a digital society that is built on electronic identity system (e-ID) and a data exchange layer called the X road.[8] All residents have ID cards that serve as mandatory identity documents and used for authentication for different digital services and digital signatures. The X road is a form of digital infrastructure, a secure data exchange layer for residents, public institutions, and private companies. It enables a secure Internet-based data exchange between information systems. The government offers e-services to its residents, including filing tax returns. In 2016, Estonia introduced VAT Appendix process, under which all businesses must submit data of all transactions starting from €1,000. The tax administration thus gets data from both parties of a transaction. Data is submitted with the monthly VAT return either through user interface (e-tax IT system) or by machine-to-machine interface between the tax administration IT system and businesses' systems.

2.3 E-filing and Pre-populated Tax Returns

Digitalization occurs at various stages of tax compliance and administration, which is shown

6 Forbes insights (2019). *Digital Taxation: How Businesses Are Responding to the New Wave in Global Tax Compliance*, http://info.forbes.com/rs/790-SNV-353/images/Sovos_eBook_FINAL-WEB.pdf.

7 See OECD, Tax Administration 2019, supra note 1; Intra-European Organisation of Tax Administrations (2017). *Disruptive Business Models: Challenges and Opportunities for Tax Administrations*, https://www.iota-tax.org/sites/default/files/publications/public_files/disruptive-business-models.pdf (IOTA Report); Forbes (2019). *Global Taxation is Going Digital: Here's How to Prepare*, https://www.forbes.com/sites/insights-sovos/2019/04/18/global-taxation-is-going-digital-heres-how-to-prepare/#10a3b46d4fd3; and Forbes insights, ibid.

8 Gerli Jõgi, "Digitalisation and Organisational Changes in Estonian Tax and Customs Board" in IOTA Report, ibid., pp. 56-58.

Table 1: Technology and tax administration in Latin America

Parameters	Argentina	Brazil	Chile	Colombia	Costa Rica	Mexico	Panama	Peru	Uruguay
1. Level of digitalization									
1. E-invoicing	x	x	x	x	x	x		x	x
2. Electronic filing of tax returns	x	x	x	x	x	x	x	x	x
3. Electronic filing of TP documentation/TP returns	x	x	x	x		x	x	x	x
4. Electronic communication with tax authorities	x	x	x	x	x	x	x	x	x
5. Exchange of information between tax authorities (local, regional, federal)	x	x	x	x	x	x	x	x	x
2. Functionalities of softwares/tools implemented by Tax Authorities									
1. Data collection and standardization of formats	x	x	x	x	x	x	x	x	x
2. Audit trails with external data	x	x	x	x		x			x
3. Audit trails with internal data	x	x	x	x		x	x	x	x
4. Generation of outliers	x	x		x		x		x	x
5. Electronic interaction with taxpayers	x	x	x	x	x	x	x	x	x
3. Data Analytics									
1. Standardization of data gathering (i.e. Xml-schema)	x	x	x	x	x	x	x	x	x
2. Automatic generation of calculations and/or penalties	x	x	x	x		x	x	x	
3. Reconciliation with historical data	x	x	x	x		x		x	x
4. Generation of outliers cross-checked with tax returns	x	x	x	x		x		x	x
5. Exchange of information regarding data analytics with taxpayers		x		x					
4. Exchange of information at the international level									
1. Country-by-Country reports (MCAA)	x	x	x	x		x	x	x	x
2. Financial information (CRS, FATCA)	x	x	x	x		x		x	
3. Rulings and APAs	x					x			x
4. Mutual Agreements for cooperation in Tax matters	x	x	x	x	x	x	x	x	
5. Mutual Agreements for Criminal purposes		x				x		x	

in table 1 regarding Latin American countries.[9]

Some countries have experimented with pre-filing of tax returns. Denmark pioneered this initiative in 1988. Pre-populating tax returns simplifies tax filing and payment for taxpayers as tax return is pre-filled with information obtained by tax administration from third parties. This may ultimately lead to real-time taxation, eliminating the need for annual tax returns.[10]

Mobile App has been used in some countries to facilitate taxpayer service and tax payment. For example, the State Taxation Administration (STA) of China released an Individual Income Tax App in 2019 to enable taxpayers to file their tax returns with pre-populated forms on the App.[11] The e-Renta (electronic income tax) application in Chile allows taxpayers to view and accept their proposed income tax statement, including refund information. It also allows taxpayers to check the status of the in-

9 Steef Hubregtse, et al. *How Technology is Changing Taxation in Latin America*. 73 Bulletin for International Taxation 3, pp. 146 (2019).

10 Jingnan Chen, et al, "Chapter 5: Testing and Implementing Digital Tax Administration" in IMF Report, supra note 5.

11 Chen Jia (2019). *Tax Deduction App Goes Online*, https://www.chinadaily.com.cn/a/201901/02/WS5c2c04ffa310d91214051f69.html.

come statement and to know if refund requests have been accepted.[12]

2.4 E-invoicing

E-invoicing has also been widely adopted. Some tax administrations are exploring the potential advantages of Blockchain technology. This technology offers transparency and confidentiality that could equip tax administrations with the necessary tools to tackle the problems of international tax compliance through sharing sensitive information between tax administrations. Shenzhen Tax service, STA introduced a pilot Blockchain electronic invoice system in 2018. Since then, Blockchain invoices have been widely used in finance, retailing, hotel catering, and parking services by over 7,000 companies.[13] E-invoicing has also been implemented in other countries, such as Chile, Italy, Peru and Russia.[14]

2.5 E-withholding of Taxes

The Netherlands tax administration created a design for a new payroll tax platform by applying Blockchain technology to payroll tax.[15] Under this design, the employer (who used to act as withholding agent) is removed as an intermediary by embedding smart contracts between the employer and employee. These smart contracts are registered in a decentralized Blockchain in which the tax administration is present. The employer makes gross payments into the system; the system tax data is matched with the payment using smart contract technology to calculate the correct payroll taxes due; and only the net payment goes to the employee, whilst taxes are automatically paid to the government.

The platform or sharing economy generates and records large volumes of consumption and income data that can be accessed by tax administrations to improve tax collection. For example, Estonia uses the platform technology to connect Uber drivers directly with the tax office, adding income from rides directly to their tax return.[16]

2.6 E-detection of Tax Fraud and Audit Risks

As more and more data from different sources can be integrated, it has become easier for tax administrations to use AI, data analytics and data mining technologies to detect tax fraud. Singapore uses vehicle records and employee Central Provident Fund contribution data to help determine whether a company has a business presence, thus indicating if it is active or dormant.[17]

Increasingly sophisticated use of analytics on expanding data sets is leading to a sharpening of risk management and the selection of a range of intervention actions, including through automated processes. For example, the STA has introduced a cloud-based big data platform. The platform has so far collected four main types of core business data covering: individual income tax administration; VAT invoices; export tax rebates; external data and historical data.[18]

In the case of large taxpayers, cooperative compliance approaches are hugely enhanced by technology. For example, the STA conducts risk management of large business taxpayers through the use of big data, risk analysis, risk response and feedback. It has designed a series of risk identification indicators and models for

12 OECD, Tax Administration 2019, supra note 1, pp. 43-44.

13 Sam Webb. *Blockchain Invoices Hit 10 Million in China Tech Hub*. https://finance.yahoo.com/news/blockchain-invoices-hit-10-million-210032961.html (Accessed 12 Feb 2020).

14 Sanjeev Gupta, et al, "Chapter 1: Introduction Reshaping Public Finance" in IMF Report, supra note 5, pp. 4; OECD, Tax Administration 2019, supra note 1, pp. 63.

15 Gerard Blankestijn, "Blockchain — New Roles and Ways of Interaction: A Proof of Concept on Payroll Tax" in IOTA Report, supra note 7, pp. 41-43.

16 Aqib Aslam & Alpa Shah, "Chapter 3: Taxation and the Peer-to-Peer Economy" in IMF Report, supra note 5, pp. 86.

17 OECD, Tax Administration 2019, supra note 1, pp. 48.

18 Ibid., pp. 50.

computers to rate and identify risks and draft risk identification reports automatically, with the models updated based on experience.[19] The Estonian Tax and Customs Board developed a new e-service — Tax Behaviour Information, which uses risk factors such as data on turnover, number of employees, average salary, tax debts, shortcomings in complying with tax law and background of the management, and calculates a tax compliance rating and the risk of tax audit for each legal person registered in Estonia.[20]

2.7 Global Automatic Exchange of Information

Digital technologies and newly-developed international frameworks enable enhanced international exchanges of tax information.[21] Examples are the Country-by-Country Reporting (CbCR), Common Reporting Standard (CRS), and the Automatic Exchange of Information (AEOI) standard, which combines the CRS and reporting under the United States Foreign Account Tax Compliance Act (FATCA). Since the first exchanges taking place in September 2017 involving around 50 jurisdictions, more than 100 jurisdictions now exchange information on financial accounts under the CRS annually. CbCR applies to large multinational corporations and covers aggregate data on the global allocation of income, profit, taxes paid and economic activity among tax jurisdictions in which they operate. The CbCR data collected by the country of residence of the reporting entity for the corporate group are electronically transmitted between competent authorities in accordance with the CbC XML Schema. The data are used by tax administrations in transfer pricing and base erosion and profit shifting risk assessments. Over 90 jurisdictions have introduced CbCR and more jurisdictions are using the information to assess taxpayers, hence, tax disputes have been rising.[22]

3. Digitalization and Dispute Resolution

While evidence on the application of digital technologies in resolving tax disputes is limited at the moment, there is growing evidence on the use of these technologies in resolving commercial disputes. Experience from the latter may shed light on the potential of digitalized tax dispute resolution.

3.1 General Dispute Resolution

Digitalization is streamlining the process of dispute resolution (litigation or alternative dispute resolution, ADR) at different stages, ranging from evidence-gathering, written proceedings, oral hearings and award. During COVID-19 pandemic, this is the only way the dispute resolution system could operate in many countries.

Unlike the CRS and CbCR systems, however, there is no global standard for the technologies facilitating the digitalized dispute resolution processes. The level of digitalization is greater for ADR than court proceedings. Online dispute resolution in the form of robot mediator or machine-mediated communication is emerging. Below are some selected practices.

3.1.1 E-courts

Courts are much slower in implementing digital technologies. Prior to the outbreak of COVID-19, the general level of digitalization

19 Ibid., pp. 55.

20 Ibid., pp. 55.

21 For more information, see Global Forum on Transparency and Exchange of Information for Tax Purposes, https://www.oecd.org/tax/transparency/technical-assistance/aeoi/whatisthemultilateralcompetentauthorityagreement.htm; OECD. Automatic Exchange Portal, https://www.oecd.org/tax/automatic-exchange/common-reporting-standard/schema-and-user-guide/; and OECD (2019). *Country-by-Country Reporting XML Schema: User Guide for Tax Administrations*. Paris: OECD.

22 Jefferey Owens remarked that a "tax disputes tsunami" may be coming; see J. Kollman, P. Koch, A. Majdanska & L. Turcan. *Arbitration in International Tax Matters*. Tax Notes International 77, pp. 1189-1195.

was electronic filing, sharing of documents and scheduling court hearings. Since the outbreak, digitalization has been extended to the hearing stage. In Brazil, for instance, the Supreme Court has been trying cases virtually since March 2020. Parties are given access to a system called "Virtual Plenary", which enables Justices to vote in safety from their cabinets and lawyers to perform oral statements from their firms. The hearings are broadcasted live through the Supreme Court's channel on YouTube.

As a pre-COVID-19 example, the eLitigation system was launched by the Singapore Supreme Court in 2013 to move a document-centric filing system to a case-centric litigation system, facilitated by a convenient and secure web-based service via Singpass.[23] Another example is the Constitutional Court in Indonesia, which held online proceedings to determine whether a statute was constitutional.[24] The Supreme Court of Indonesia issued Regulation 1/2019 to envisage the eventual development of a full-blown electronic court system (including all courts), that is, proceedings can be commenced, court fees paid, documents and pleadings submitted, hearings conducted and judgments pronounced electronically.[25]

Using robots as judges is perhaps the most ambitious application of digital technologies in dispute resolution. Estonia initiated a "robot judge" pilot project in 2019 to give algorithm authority to adjudicate small claims disputes.[26]

3.1.2 Online alternative dispute resolution

International commercial and investor-state arbitrations and other forms of ADR are migrating to online. Earlier online arbitration/mediation procedures were applied to resolve disputes arising from e-commerce transactions. Online dispute resolution (ODR) processes simply replicated face-to-face dispute resolution approaches online. For example, the Stockholm Chamber of Commerce (SCC) Platform launched by the Arbitration Institute of the SCC in September 2019 enables file sharing, organization of materials based on the preference of the arbitrator and parties, and searching for keywords or phrases. It also contains a case calendar, overview of all participants in the case, a notice board for tribunal and SCC notices, and a page containing a general overview of the proceedings. All new arbitrations registered with the SCC are assigned a site on the SCC Platform and all communication with the SCC takes place on the platform.[27]

The use of AI or Robots as arbitrators or mediators is increasing. Originally used by digital companies such as eBay and PayPal to resolve online disputes, it has been recently used to resolve disputes that tend to be numeric-based and with minimal emotional complexity. UNCITRAL Arbitration Rules[28] and the International Chamber of Commerce (ICC) Rules

23 Supreme Court, Singapore. *eLitigation*, https://www.supremecourt.gov.sg/services/services-for-the-legal-profession/elitigation. SingPass (Singapore Personal Access) is managed by the Government Technology Agency of Singapore. Through the SingPass, residents get secure access to government and private sector services online: www.singpass.gov.sg.

24 https://mkri.id/.

25 Supreme Court Regulation 1/2019 on Electronic Administration of Cases and Hearings in the Court System and Chief Justice's Directive 129/KMA/VIII/2019 on Technical Guidelines for Electronic Administration of Court Cases and Hearings.

26 For further, see https://www.kratid.ee/in-english; https://www.wired.com/story/can-ai-be-fair-judge-court-estonia-thinks-so/; https://www.thelawyersdaily.ca/articles/12997/from-estonian-ai-judges-to-robot-mediators-in-canada-u- k-?article_related_content=1.

27 Lise Alm (2020). *The SCC Platform*, https://journal.arbitration.ru/analytics/the-scc-platform/.

28 According to the United Nations Commission on International Trade Law, "UNCITRAL Arbitration Rules provide a comprehensive set of procedural rules upon which parties may agree for the conduct of arbitral proceedings arising out of their commercial relationship and are widely used in ad hoc arbitrations as well as administered arbitrations"; https://uncitral.un.org/en/texts/arbitration/contractualtexts/arbitration.

of Arbitration[29] have no stipulation that the arbitrator should be human, which theoretically makes it possible for the parties to nominate a machine arbitrator. An online dispute resolution framework endorsed by Asia-Pacific Economic Cooperation (APEC) in 2019 aims at providing technology-assisted dispute resolution through negotiation, mediation, and arbitration for business-to-business claims.[30]

Robot mediators are already at work. In 2019, a court case was settled in the United Kingdom by using Smartsettle ONE.[31] The underlying dispute concerned unpaid fees of approximately 2,000 British pounds. Smartsettle ONE employs algorithms that learn the bidding tactics and priorities of the parties to a dispute and help move them towards a settlement. In this particular case, each side assesses what they hope to settle for, as well as what they are willing to settle for and submit their hoped-for resolution as well as a blind bid of their best alternative to non-agreement. Based on each party's input of the range of settlement, the system generates a dollar amount, while favouring the first party to submit a compromise. The system allows both parties to privately make offers and counteroffers by moving flags along sliders — showing the other side a green flag, which represents their hoped-for figure, all the while a yellow flag remains hidden (the blind bid). In this particular case, the system allowed the parties to settle their dispute in less than one hour. Where there are quantifiable issues to resolve and the question is simply "how much are you willing to settle for", this is a helpful tool.

3.2 International Tax Disputes

International tax disputes are resolved through MAP. The MAP provision in tax treaties between the Belt and Road Initiative (BRI) jurisdictions is typically based on the pre-2018 version of Article 25 of the OECD Model Tax Convention or the UN Model Tax Convention.[32] Under Article 25, the competent authorities "shall endeavour" to reach an agreement to settle the "specific-case" disputes as well as "interpretive disputes" (i.e., difficulties or doubts arising as to the interpretation or application of the Convention). Further, the competent authorities may consult together for the elimination of double taxation in cases not provided for in the Convention (i.e., disputes that are of interpretive or even "legislative" nature). Article 25 permits the competent authorities to "communicate with each other directly", including through a joint commission consisting of themselves or their representatives, for the purpose of reaching an agreement.

Arbitration can be used to deal with specific-case disputes, but not interpretive disputes or legislative issues. It is part of MAP. There are two types of arbitration at the moment: "independent opinion" style arbitration (that is, the arbitration panel will issue an independent decision) and a "last best offer" or "final offer" approach (commonly referred to as "baseball arbitration"). Baseball arbitration is preferred as it is simpler and less costly, and is used in US tax treaties. However, the arbitration procedure is not generally found in tax treaties between BRI jurisdictions.

29 ICC claims that the 2017 "ICC Rules of Arbitration are used all around the world to resolve disputes", https://iccwbo.org/dispute-resolution-services/arbitration/rules-of-arbitration/; 2021 Arbitration Rules will enter into force on 1 January 2021, https://iccwbo.org/dispute-resolution-services/arbitration/rules-of-arbitration/rules-of-arbitration-2021/.

30 APEC (2019). *APEC Collaborative Framework for Online Dispute Resolution of Cross-Border Business-to-Business Disputes — Endorsed*, http://mddb.apec.org/Documents/2019/EC/EC2/19_ec2_022.pdf.

31 https://go.smartsettle.com/. For more on this particular case, see Graham Ross (2019). *Smart Settlement: An Opportunity for Mediators*, https://www.infolaw.co.uk/newsletter/2019/03/smart-settlement-opportunity- mediators/.

32 The current Article 25 of the UN Model has two alternatives: Alternative A reproduces Article 25 of the OECD Model without paragraph 5 regarding arbitration and Alternative B includes the arbitration clause with some modifications. The arbitration clause is rarely included in treaties between BRI jurisdictions.

Neither the standard MAP process nor arbitration process has been highly digitalized. Digitalization seems to be limited to using emails and video conferencing. In fact, "the use of technology has not yet been embraced with respect to international tax dispute resolution."[33]

4. A Window of Opportunity for BRITACOM

4.1 Unprecedented Opportunity

BRITACOM has identified expediting tax dispute resolution and digitalizing tax administration as two of its main objectives. Digitalizing dispute resolution can not only expedite dispute resolution, but also help raise tax certainty, enhance tax administration capacity and streamline tax compliance. In light of the recent developments canvassed above and the potential benefits of digitalization summarized below, a strong case can be made for BRITACOM to take advantage of the opportunities presented by technology to achieve its objectives. As a new organization, starting a new mechanism in digital format is arguably easier than transforming an existing one. As such, there is an advantage in being new.

With the benefit of global standards for CRS and CbCR and the accelerated digitalization process to address challenges arising from COVID-19, BRITACOM is in a good position to be innovative in creating a platform or mechanism to resolve tax disputes among BRI jurisdictions. More importantly, perhaps, BRITACOM can bring about the economies of scale through pooling and sharing resources through adopting common technical and administrative standards and purchasing the necessary technologies. There are different models for sharing the cost of digitalization: one can be based on the benefit principle (members that benefit more will pay more);[34] another can be based on the extent of use (or user fee model);[35] or a private/public partnership model (as the digitalized mechanism will benefit taxpayers as well as tax administrations).

4.2 The Issue of Tax Disputes

Cross-border tax disputes in BRI jurisdictions are an issue of concern for tax administrations and taxpayers.[36] The types of disputes include: transfer pricing (over 20% of total disputes), withholding taxes (close to 20% for large corporations), deductions (over 10% of total disputes), and other issues (such as general anti-avoidance rule, tax residency, and tax trea-

33 Christina Dimitropoulou, Sriram Govind & Laura Turcan. *Applying Modern, Disruptive Technologies to Improve the Effectiveness of Tax Treaty Dispute Resolution*. eJournal of Tax Research, pp. 287 (2018).

34 This is similar to the World Trade Organisation (WTO) model. The WTO derives its income from annual contributions from its 164 members and miscellaneous income. These contributions are based on a formula that takes into account each member's share of international trade. Miscellaneous income mainly consists of contributions from observer countries, income from the sale of publications and rental of meeting rooms. WTO (2019). *Annual Report 2019*, https://www.wto.org/english/res_e/booksp_e/anrep_e/anrep19_chap9_e.pdf, pp. 172-180.

35 This is similar to the International Centre for Settlement of Investment Disputes (ICSID) model. ICSID's administrative expenditures in FY2019 were covered by fee income and by the International Bank for Reconstruction and Development (IBRD) pursuant to the Memorandum of Administrative Arrangements concluded between the IBRD and ICSID. Expenditures relating to pending arbitration proceedings are borne by the parties in accordance with ICSID's Administrative and Financial Regulations. ICSID (2019). *2019 ICSID Annual Report*, https://icsid.worldbank.org/sites/default/files/publications/annual-report/en/ICSID_AR19_CRA_Web_Low_DD.pdf.

36 See, for example, Rob Thomas, Becky Lai & Justin Kyte. *Discussion Paper on Improving Dispute Settlement among "Belt and Road" Jurisdictions*. BRITACOM Special Edition, pp. 80-91 (2019); Cui Xiaojing. *Research on Preferential Arrangement and Dispute Resolution under Tax Treaties between China and the "Belt and Road" Countries*. China Legal Science 2, pp. 194-214 (2017); Xu Diheng. *A Step Forward for Tax Dispute Resolution between China and ASEAN Countries under the Belt and Road Initiative*. 7 Singapore Management University School of Accountancy Research Paper 1, No. 2019-S-93 (2019), https://ssrn.com/abstract=3349398.

ty interpretation, each of which accounts for less than 5% of total disputes). Transfer pricing disputes are the most significant, accounting for 20% of total disputes. In comparison, about 55% of MAP cases reported by the OECD are transfer pricing cases.[37] Transfer pricing disputes are largely numerical or quantitative as the heart of the dispute lies in the arm's length price. Other disputes generally involve interpretative issues regarding the characterization of income for withholding tax purposes, deductibility of expenses, and meaning of permanent establishment and residency.

The main causes of tax disputes include: "inconsistent application or interpretations, unclear tax policies and rules, resource constraint, complex administration procedures, insufficient understanding of international tax law, enforcement not in accordance with tax treaties, unintended consequence of domestic practice, inadequate transparency, and others, including non-tax factors."[38]

4.3 Digitalization as Potential Aid and Equalizer for BRI Jurisdictions

BRI jurisdictions have different levels of digitalization in tax administration (or digital maturity) and may have different standards and regulations for protecting data security and privacy. Such divergence affects the use of technology in resolving international tax disputes. Fortunately, there seem to be favourable conditions and significant scope for technology to play a greater role in improving tax administration and dispute resolution.

As mentioned in Part 2 of this paper, some of the leaders in digital tax administration and dispute resolution are developing or emerging economies. The absence of legacy problems attributable to older technologies makes it easier (and less costly) to establish new digital infrastructure. The deepening penetration of digital technologies in people's daily activities and business models in these jurisdictions makes it imperative for tax administrations to provide services for taxpayers digitally. Perhaps a more important reason for developing countries to adopt digital technologies is to detect and prevent tax fraud. E-invoicing, digital payments, and cross-checking taxpayer information enabled by technology help reduce tax leakages as well as minimize corruption.[39] For developing countries, digitalization may generate additional revenue. One study found that digitalizing government payments in developing countries could save roughly 1% of GDP, equivalent to $220–$320 billion in value annually.[40]

Technology can also function as an "equalizer" in international tax administration. By participating in the global CRS and CbCR programs, developing countries can benefit from obtaining data that may not be otherwise accessible. With the technical assistance provided by BRITACOM, BRI jurisdictions can expedite their digitalization process and upgrade the capacity for administering international tax issues. Some potential scenarios are canvassed below.

4.3.1 Expediting tax settlement and MAP processes

Settling tax disputes with the tax administration and using the MAP are the main ways of resolving international tax disputes. Larger corporations tend to settle more tax disputes while smaller corporations tend to opt for MAP.[41] Large corporations settled about 60% of disputes and submitted only 11% of disputes to MAP, while smaller corporations submitted 40% of disputes to MAP. The main reasons why a taxpayer opts for settlement as opposed to seeking an appeal (both domestic and MAP)

37 OECD. *MAP Statistics for 2018*, https://www.oecd.org/tax/dispute/mutual-agreement-procedure-statistics.htm.

38 Thomas, Lai & Kyte, supra note 36.

39 Sanjeev Gupta, et al. "Chapter 1: Introduction Reshaping Public Finance" in IMF Report, supra note 5.

40 Susan Lund, et al, "Chapter 13: The Value of Digitalizing Government Payments in Developing Economics" in IMF Report, supra note 5, pp. 305.

41 Thomas, Lai & Kyte, supra note 36.

are lengthy process, costs and resource concerns, as well as low confidence in the effectiveness of the appeal processes. For example, more than half of all disputes took more than two years to complete or simply failed to pass the appeal procedure. Taxpayers reported negative experiences in dealing with disputes, including that the tax authority lacked technical knowledge and made unreasonable requests.

Digital technologies can potentially expedite dispute resolution by improving the quality of data and documentation (such as using standardized mechanism for sharing data), reducing the time of communications or the need for face-to-face meetings through video conferencing, improving transparency through using Blockchain, or prioritizing "high risk" files through using Big Data or AI. Some settlement or MAP may even be facilitated by AI.

4.3.2 Solving transfer pricing and quantifiable disputes

Transfer pricing disputes top the list of international tax disputes. The main causes of transfer pricing disputes include information asymmetry, insufficient information, different approaches to interpreting the arm's length principle (e.g., some countries take a more holistic approach and favour profit-based methods while others take a more transactional approach or favour safe harbour), and challenges in establishing comparable arm's length prices to the impugned transfer pricing transaction. Even though transfer pricing disputes involve interpretative issues and their outcome affects the allocation of taxing rights between two countries, these disputes ultimately are of numerical or quantitative nature — establishing the arm's length price. Transfer pricing analysis requires a huge amount of data. Data can come to the aid of dispute prevention and resolution.

From a taxpayer's perspective, technology is not only the key element to improving transparency at a global level, as intended by the OECD/G20 BEPS initiative, but also a mechanism for self-assessment in respect of the information regarding the OECD project to be provided for tax authorities. From the viewpoint of the tax authorities, information gathering as well as data analytics on tax and transfer pricing risks depends greatly on technology.[42] For example, at the level of identifying the commercial and financial relations, machine learning and deep learning systems can assist MNEs in careful identification of assets, functions, and risk, optimization of the transaction cost, automated characterization of the parties (distributors, manufacturers, service providers, property owners, etc.). At the stage of selection and application of the most appropriate transfer pricing method, machine learning and AI technologies can collect the profit level indicators information. At the stage of transfer pricing monitoring and tax compliance, AI will enable flexible mapping and simulation of CbCR data, extraction and analysis of that data and XML conversion of the data. If a taxpayer is interested in negotiating an advance pricing agreement, AI may be used to perform automated consideration of critical assumptions, as well as predictive and probabilistic analytics. Blockchain can accompany the application of AI technologies to provide a strong two-edged alliance offering efficiency and security. AI provides high efficiency with the decision-making power, while Blockchain provides utmost security.

Tax administrations can use AI and data analytics to assess compliance risks and determine audit targets. For example, the STA uses desktop analytics — the China Tax Administration Information System to select and target taxpayers for scrutiny and audit. The STA relies on transfer pricing disclosure forms and documentation, as well as industry-wide or sector-specific financial data to perform the screening for red flag risk indicators.[43]

In addition to facilitating better transfer pricing compliance and audits, technology is being used in some countries to move towards

42 Hubregtse et. al., supra note 9, pp. 142.

43 Ibid., pp. 147.

a new paradigm — real-time and multilateral transfer pricing assessments. The International Compliance Assurance Programme (ICAP) proposes to use CbCRs and other information such as the Master File, the Local File, value-chain analysis and financial data in respect of reported permanent establishments to enable open and cooperative multilateral engagements between MNE groups and tax administrations in various jurisdictions in performing a multi-jurisdictional risk assessments before any audit is started. Many tax administrations are reportedly adopting this paradigm shift, replacing traditional post-transactional tax returns and contemporaneous transfer pricing documentation at the year-end with real-time audits. As a result, this new paradigm will likely reduce the relevance of advance pricing agreements or MAP, which occur either before or after the transactions.

With respect to settling transfer pricing disputes between a taxpayer and tax administrations or between competent authorities under the MAP provision, AI/robot-mediated processes can be considered. Since transfer pricing disputes are numerical, Smartsettle ONE type of programs may be used to expedite the process and overcome the problem of lacking expertise or human resources.

Formulary apportionment of global profit has been proposed by the OECD to allocate profits arising from digital businesses. As of October 2020, close to 140 jurisdictions had agreed to participate in the negotiations about the OECD proposals.[44] If this approach is eventually adopted, one can imagine the critical role of technology in ensuring accuracy and security of data for all countries to rely on in assessing their share of the global profit of an MNE.

4.3.3 Reducing "measurable" tax disputes

Digital technologies can potentially reduce or prevent measurable tax disputes. Some tax disputes involve "measurable" issues, such as the temporal test in defining a service permanent establishment (e.g., a permanent establishment is deemed to exist if the service activity lasts for more than six months) or an exemption from source country taxation if an employee stays in the source country for less than 183 days. Presumably, with more reliable data obtained from the taxpayer, third parties (customers or suppliers) and other government agencies (regulatory bodies, border and immigration administration, banks, etc.) can assist the application of the temporal test, thereby reducing tax dispute.

Dual residence disputes can also be potentially measurable. The number of social and economic ties an individual has in both jurisdictions can be quantified and compared by using data available to tax administrations, including information from CRS, Big Data, etc. Withholding tax disputes may also be measurable and reduced through using Blockchain technology by the payer of amounts subject to withholding tax in the source country.

4.3.4 Assisting the management of interpretative tax disputes

Improved data transparency and accuracy as well as effective means of communication may help reduce disputes in respect of interpreting tax treaty provisions, such as Article 5 on permanent establishment, the characterization of payments as royalties for withholding tax purposes, the meaning of beneficial ownership or denying treaty benefits by applying anti-abuse rules. However, when human wisdom and decision-making is required to address case-specific issues, the benefit of using technology is likely more limited. Interpretation of tax laws and treaties cannot be mere formalistic. As such, AI is unlikely to replace humans in resolving interpretive issues, even though it can aid tax administrations in reaching effective decisions.

44 OECD (2020). *OECD/G20 Inclusive Framework on BEPS Invites Public Input on the Reports on Pillar One and Pillar Two Blueprints*, https://www.oecd.org/tax/beps/oecd-g20-inclusive-framework-on-beps-invites-public-input-on-the-reports-on-pillar-one-and-pillar-two-blueprints.htm.

4.4 Creating a Digitalized Dispute Management Mechanism

Creating a digitalized dispute management mechanism (DDMM) within BRITACOM may be an effective way of assisting BRI jurisdictions to reap the potential benefits of digital technologies. This DDMM can work with other bodies of BRITACOM, such as the Advisory Board and the Belt and Road Initiative Tax Administration Capacity Enhancement Group (BRITACEG). The scope of work for DDMM can include dispute prevention and dispute resolution. DDMM can take advantage of technologies to create online portals, platforms, registry of tax disputes, and others to assist BRITACOM Member Tax Administrations and taxpayers.

More specifically, the proposed DDMM can help reduce tax disputes in a number of ways, such as enhancing the capacity of tax administrations in utilizing the available data obtained through taxpayer reporting, big data mining, CRS and CbCR through online training; making tax laws and treaties accessible to taxpayers; sharing best practices or templates for reaching advance pricing agreements; using AI to answer frequent treaty interpretation questions; and adopting cooperative compliance practices with respect to large taxpayers.

To expedite tax dispute resolution, the proposed DDMM can consider recommending the use of robot-mediators in settling tax disputes or reaching agreement by the competent authorities through the MAP process. It can facilitate dispute resolution through creating online portals (similar to eLitigation in Singapore) to aid competent tax authorities in MAP negotiations. If BRITACOM were to establish a dispute resolution board to function as independent arbitration panel or advisory to tax administrations,[45] the DDMM could support the work of this board.

5. Conclusion

The trend of digitalization in tax administration is expected to speed up in BRI jurisdictions. This process may generate more tax disputes when more information is available to tax administrations to assess taxpayers. While the substantive tax rules (domestic and tax treaty) are likely to remain unchanged in the near future because developing a consensus on tax reform is critical but time-consuming, technology may come to the aid of taxpayers and tax administrations to expedite dispute resolution and reduce the number of tax disputes. As a new organization, BRITACOM is uniquely situated to take advantage of the recent developments and create digital solutions. It is hoped that the emerging best practices and the potential of digitalized tax dispute resolution presented in this paper can generate some debates about the necessity and feasibility of creating a dispute management mechanism under BRITACOM.

45 Jinyan Li, Jin Bao, Shanghua Hu & Wei Hu. *Arbitration of International Tax Disputes and "Belt & Road Initiative": the Limitation of Baseball Arbitration*. International Taxation in China 5, pp.3-12 (2020).

Building Digital Revenue Agency of the Future: Seven Keys to Transformation

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Abstract: Changes in technology have dramatically changed the tax administration landscape and challenged the way the revenue agencies go about their work by gathering and analyzing information, supporting taxpayers and encouraging their participation. Revenue agencies need to keep pace with rapid changes in technology and the industries, and lay a strong foundation for future innovation. This article focuses on seven key strategies that help bring a new mindset to tax administration, workforce management and the customer experience, namely: (i) get digital to the core, (ii) unlock the power of data, (iii) reimagine the workforce, (iv) improve the tax experience, (v) tax new stuff fast, (vi) embrace the end-to-end tax community, and (vii) balance competing priorities. The seven keys to transformation include three internal shifts, three external shifts, and one strategic mindset shift. Internally, agencies will need to transform by rethinking digital workflows, data management and the workforce. Externally, agencies will need to become nimbler in order to enhance the taxpayer experience, develop processes to keep pace with economic reality, and deepen relationships with stakeholders in the taxation ecosystem. Finally, agencies will have to address head-on the paradoxical demands of the digital ecosystem they occupy.

Keywords: Digital revenue agency; Digital transformation; Digital workflows; Data management; Workforce innovation

1. Challenges for Revenue Agencies in Today's Digital World

Revenue agencies, perhaps more than any other part of government, must keep pace with the technology revolution reshaping our world. To be successful, revenue agencies need to be as nimble, adaptive and digitally savvy as the economies they tax. After all, it is revenue agency that provides the fuel that powers government, allowing the public sector to deal with is-

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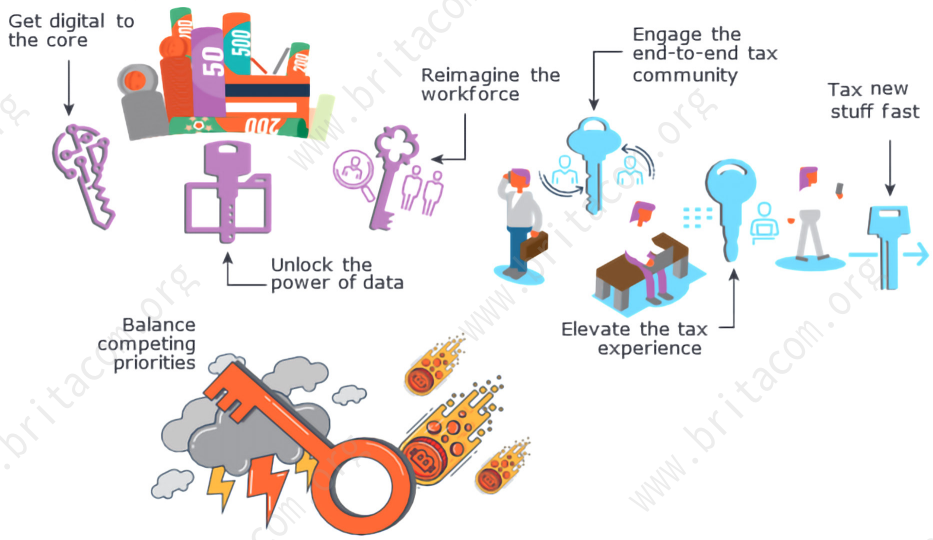

Figure 1. Seven key flowchart
Source: Deloitte analysis

sues from health services to infrastructure investment to national security.

This paper will share seven key strategies to help revenue agencies thrive in the new digital economy. It's about much more than merely embracing digital technology; it's about bringing a new mindset to tax administration, workforce management, and customer experience.

The rate of technological change is accelerating, creating a rapidly shifting economic landscape. From newspapers to taxicabs, from hotels to travel agents, it's not just companies that are being disrupted, but entire industries. Revenue agencies are no exception.

In this world of digital and economic disruption, revenue agencies are increasingly recognizing that yesterday's taxation models and the systems that support them can no longer keep pace. New forms of economic activity — such as the knowledge economy, the sharing economy, and the gig economy — represent a decoupling of economic activity from traditional models of value creation. "Where" did that virtual transaction occur? Is that person posting videos online a worker, an owner, or an employee? And how exactly should cryptocurrency transactions be taxed? Revenue agencies will have to do more than just modernize systems to ensure success in a future of fast-paced disruptive innovation.

What future success will look like for revenue agencies will differ across countries, segments, and tax types, but one thing is clear: revenue agencies must shift from "doing digital" to "being digital".

Through conversations with current and past tax agency leaders and other members of the larger government revenue ecosystem, as well as studying recent agency actions around the world, we've identified seven keys to success for revenue agencies in the process of digital transformation as shown in figure 1.

The seven keys to transformation include three internal shifts, three external shifts and one strategic mindset shift. Internally, agencies will need to transform by rethinking digital workflows, data management and the workforce. Externally, agencies will need to become nimbler in order to improve the taxpayer experience, develop processes to keep pace with economic reality, and deepen relationships with stakeholders in the taxation ecosystem. Finally, agencies will have to address head-on the paradoxical demands of the digital ecosystem they occupy.

The technology revolution has brought challenges, but it also has provided incredible opportunities for agencies to fulfil their mission better than ever before. Many revenue agency leaders understand what this opportunity means, but few have cracked the code to unlock a "future-proof" model for mission success. What specific steps do revenue agencies need to take?

2. Looking Inward

Transforming the core functions of tax administration — calculating tax liabilities, collecting revenue and enforcing compliance — will require revenue agencies to adopt a digital-first mindset, rethink how they capture and manage data and reimagine their workforces. Investing in these capabilities has a clear return for agencies: Internal digital transformation will ultimately reduce the effort required to capture each incremental unit of revenue. In an era of constrained public budgets, relying on quick internal fixes can be more expensive over the long term; holistic transformation is likely to be the most cost-effective long-term solution. The first three keys provide a framework that revenue agencies can use to unlock their internal transformation goals.

2.1 Key No. 1: Get Digital to the Core

2.1.1 The challenge

While economic innovators are pushing the boundaries of digital-based operations and taxation, revenue agencies are struggling with outdated systems and legacy business practices. Revenue agencies risk failing to meet their most basic mission requirements if they do not get digital to the core.

2.1.2 Our perspective

Most revenue agencies were not born digital. While some governments have made holistic strides towards comprehensive digitization of workflows, communication channels, and infrastructure, many revenue agencies have instead taken a piecemeal approach, building stand-alone digital products atop legacy foundations. Too often, this has resulted in digital front ends grafted onto analog back-office processes and outdated mainframe systems.[1] The technical inadequacies at the core of most revenue agencies are not only financially burdensome, they also create outcomes that are unfriendly to citizens and revenue agency employees. Poorly documented processes supported by poorly documented systems programmed in extinct languages will constrain agencies' ability to manage risks, and they will produce risks in their own right. When the backbone of a revenue agency relies upon decades-old machine languages, it is virtually impossible for the agency to leverage emerging technologies such as artificial intelligence (AI), machine learning, the Internet of Things, mobile interfaces, and cloud computing.[2]

Estonia's Digital DNA

Estonia's revenue agency isn't totally digital — but it is close enough. More than 99% of Estonia's tax reporting occurs digitally, making it easy for Estonian taxpayers to file returns with just a few clicks. The country of 1.3 million people is one of the most digitally advanced societies worldwide.[3]

Estonia's commitment to digitalization is strategic. "Our citizens will be global soon," said Kersti Kaljulaid, the president of Estonia, in the remarks to European leaders at the EU Digital Summit on 29 September 2017. "I am president to a digital society … We have to fly like bees from flower to flower to gather those taxes from citizens working in the morning in France, in the evening in the UK, living half a year in Estonia, and then going to Australia."[4]

The revenue agency's commitment to digital reflects Estonia's overall digital emphasis, which includes an ID card for nationwide digital authentication and digital signing of documents. The backbone of this digital-first reality is X-Road, a government-to-business digital interchange that

1 William D. Eggers & Steve Hurst (2017). *Delivering the Digital State: What if State Government Services Worked Like Amazon?*, https://www2.deloitte.com/us/en/insights/industry/public-sector/state-government-digital-transformation.html.

2 Joe Mariani & Doug Bourgeois (2019). *Cloud as Innovation Driver: The Foundation for Employing Emerging Technologies in Government*, https://www2.deloitte.com/us/en/insights/industry/public-sector/government-trends/2020/government-cloud-innovation.html.

3 Mari Roonemaa (2017). *Global Lessons from Estonia's Tech-savvy Government*, https://en.unesco.org/courier/2017-april-june/global-lessons-estonia-s-tech-savvy-government?language=fr.

4 Nathan Heller. *Estonia, the Digital Republic*, New Yorker (2017), December 11, 2017.

allows Estonia to uphold its core digital principle: give us your data once, and we have you covered.[5]

Estonia's revenue agency arose in the aftermath of the Cold War, when the country gained independence from the Soviet Union. This enabled it to "start fresh" in a way that will be difficult for many more-established revenue agencies. Nevertheless, it illustrates the significance of rethinking the role of digitalization from the ground up and exploring new models of operation that are digital to the core.

Revenue agency leaders have spent years asking themselves, "What do we need to modernize?" We recommend that leaders begin asking themselves, "What do we not need to modernize?" While legislation and political trends may pose constraints to how creatively revenue agencies answer this question, there are successful models in this arena. Some revenue agencies have championed broader governmentwide digitization initiatives that enable their own internal transformation journeys. Partnering with policymakers on legislative reform can accelerate progress towards core digitization.

Building a truly digital core will require implementing holistic digital case management systems; developing intelligently automated tax submission review workflows; creating secure, cloud-based business-to-government data exchanges; and adopting modular, flexible approaches to systems architecture that can facilitate rapid adaptations to changing policy mandates. Taxable economic activity is increasingly flowing through digital channels. Only revenue agencies that are digital to the core will be able to meet these flows head-on and capture public's fair share of digitally native economic value.

2.2 Key No. 2: Unlock the Power of Data

2.2.1 The challenge

Data provides important insights, but bad or inadequate data can lead to bad taxation. Citizens and businesses are generating data at unprecedented rates, but many revenue agencies are unequipped to unlock its value. Moreover, the vast volumes of new types of data that revenue agencies must consume pose severe challenges to the very foundation of tax data infrastructures. New tools and mindsets can help revenue agencies fully harness the value of this data.

2.2.2 Our perspective

Data is a revenue agency's most valuable asset but is also potentially its biggest burden. The sheer volume of data generated by digital economic transactions — salaries, sales documentation, payments, natural language, and much more — is dizzying, and many revenue agencies are ill-equipped to fully grasp these vast data flows. Getting data right is essential and it requires leaders to understand how to unlock the power of new types of data, while protecting the privacy of constituents and serving the public interest.

Revenue agencies worldwide are already starting to use digital methods to collect and analyze taxpayer data. Some revenue agencies, such as the US Internal Revenue Service (IRS), are spending accordingly: the IRS's 2020 budget justification to the US Congress indicates that advancing "data access, usability, and analytics to inform decision-making" is a primary goal. These priorities are a recognition of the rapid increase not only in the amount of data available but also in the new types of data that are now at an agency's fingertips, if it can reach out to grasp it. In the best scenario, these new data sets can help facilitate more accurate collection and audits, while at the same time making it easier for businesses to provide needed information. In many cases, however, revenue agency data remains trapped in silos of limited value.

In addition, legacy systems, including paper

5 Intra-European Organisation of Tax Administrations, *Impact of Digitalisation on the Transformation of Tax Administrations*, https://www.iota-tax.org/event/22nd-general-assembly-iota-impact-of-digitalisation-on-the-transformation-of-tax-administrations (Accessed 12 December 2019).

forms, mean that the potential for erroneous data remains very real.[6]

Big Data at IRS

The IRS is a leader in the use of data. The data analytical techniques driven by the IRS's Research, Applied Analytics, and Statistics (RAAS) organization helped to identify approximately 400% more tax fraud and recover 10 times the proceeds from other financial crimes compared with the prior year.[7] To achieve these results, the IRS is cross-referencing numerous data sets — such as the *Offshore Voluntary Disclosure Program* and high-profile data leaks such as the *Panama Papers* — and applying advanced methods such as anomaly detection, clustering, and neural networks.[8]

The IRS also combines data with behavioral techniques to "nudge" taxpayers towards greater tax compliance. Taking a step further, the IRS has developed a "behavioral insights toolkit," which it describes as "a guide for integrating behavioral approaches into tax administration," including the role of data analytics.[9] As Jeff Butler, associate director of data management at RAAS, stated, "In an era of persistently reduced budgets, the use of data analytics has become more important than ever to drive innovation, risk management, and decision-making across the agency."[10] Big data techniques can yield value for revenue agencies and society at large, but those benefits require the type of modern information architecture that can be implemented only through wholesale infrastructure transformation.

Revenue authorities across the globe are ramping up their data analytics capabilities. The potential to automate compliance and service activities opens the door to significant streamlining of revenue agencies' core tax functions. However, as the amount of data increases, so does the risk of theft and exploitation by malicious actors. A recent survey found that 88% of public sector organizations had experienced at least one damaging cyberattack during the past two years, with 62% of organizations having experienced two or more.[11] The growing value of the data collected by revenue agencies, coupled with the growing sophistication of cyber criminals, means that data security must be a paramount concern.[12]

2.3 Key No. 3: Reimagine the Workforce

2.3.1 The challenge

Nothing is more important than people. Ironically, this is truer than ever in the digital age. Sourcing talented employees adept at leveraging complex data, managing digital platforms, and leading effective teams are becoming increasingly difficult in light of fierce competition with the private sector. Taking a holistic approach to combining innovative talent development models with a machine-augmented workforce is likely to allow revenue agencies to thrive in the midst of digital disruption.

2.3.2 Our perspective

Core digitization and advances in data management will not happen at the flip of a switch. To be successful in the future, revenue agencies need a workforce that is both ready to tackle these complex technical challenges and able to

6 US Department of the Treasury & Internal Revenue Service. *Congressional Budget Justification and Annual Performance Report and Plan*, Fiscal Year 2020 (Accessed 9 December 2019).

7 Jason B. Freeman (2019). *The IRS and Big Data: The Future of Fighting Tax Fraud*, https://freemanlaw.com/the-irs-and-big-data-the-future-of-fighting-tax-fraud/.

8 Ibid.

9 Internal Revenue Service & Deloitte (2016), *Behavioral Insights Toolkit*, https://www.researchgate.net/publication/317586180_IRS_Behavioral_Insights_Toolkit.

10 Sean Robinson (2015). *Wise practitioner—Predictive Analytics Interview Series: Jeff Butler at IRS Research, Analysis, and Statistics Organization*, Predictive Analytics Times.

11 Ponemon Institute LLC and Tenable (2019). *Cybersecurity in Public Sector: 5 Insights You Need to Know*.

12 David Schatsky, Jonathan Camhi & Craig Muraskin, *Data Ecosystems: How Third-party Information Can Enhance Data Analytics*, https://www2.deloitte.com/us/en/insights/focus/signals-for-strategists/smart-analytics-with-external-data.html.

rapidly adapt to shifting policy mandates and operational priorities. Revenue agencies must widen their aperture on talent, both on the type of talent they are looking for and how they are sourcing and retaining that talent. People represent the greatest asset and the greatest cost to revenue administrations, with salary costs averaging 73% of budgets for more than 50 administrations that provided data for the Organisation for Economic Co-operation and Development (OECD) Tax Administration Series 2019, with salary costs approaching or exceeding 80% in about a third of these.[13] Revenue agencies have a major opportunity to restructure their workforce, as experienced staff will be retiring in large numbers in the coming years.

As revenue agencies increase the use of digital tools and the integration of data into daily operations, demands of their workforce will shift from data entry, manual calculations, and "paper pushing" to innovation, interpretation, and design. To adapt to digital disruption, revenue authorities worldwide must build workforces that not only combine legacy tax experts with tech-savvy newcomers equipped to take advantage of new technologies, but also best use uniquely human capabilities such as curiosity, empathy, and imagination. Revenue agencies are not alone in this shift. Deloitte's *Global Human Capital Trends 2019*, which surveyed leaders across global commercial and public sector organizations, indicated that more than 80% of respondents are making investments in reskilling and retooling their workforce in response to digital labor and machine capabilities, with 36% "reimagining work" altogether.[14] Even today, revenue agencies have difficulty attracting, training, and retaining top talent. That challenge will only grow as revenue agencies try to attract talent in high-impact, high-demand fields such as data science, cybersecurity, and AI. To be successful, revenue agencies will need to reconsider how competitive their value proposition is to prospective and current employees and reimagine every aspect of talent management, including recruitment, hiring, skills development, advancement, and career transitions. Revenue agencies may create ways to tap into human resources from outside the traditional employee base. This could include gig workers, contractors, crowdsourced solutions, creative partnerships with other players in the tax ecosystem and digital labor.

Leaders of revenue agencies must also recognize that a machine-augmented workforce will provide the clearest path to building a solid talent foundation. Digital labor — ranging from routine process automation to the more advanced forms of AI — does not replace human labor but can actually extend the capabilities of human workers, enabling revenue agency employees to shift from lower-value repetitive tasks to higher-value intellectual, interpersonal, and technical challenges. It also enables the transfer of knowledge and responsibilities from retirees to the next generation of revenue agency staff, supporting uniform and measurable processes that can be sustained with transparency and accountability.

Revenue agencies can use technology to augment their workers to handle a more complex set of tax, technical, and human skills.[15] In this way, digital transformation and workforce transformation work hand in hand. Technology will revolutionize the way in which revenue agencies manage operations, while simultaneously supporting an even more impressive goal: enabling humans to be what they are meant to be — thinkers, talkers, and doers.[16]

13 OECD (2019). *Tax Administration 2019*, http://www.oecd.org/ctp/administration/tax-administration-23077727.htm.

14 Erica Volini et al. (2019). *2019 Global Human Capital Trends*, https://www2.deloitte.com/us/en/insights/focus/human-capital-trends.html.

15 Erica Volini et al. (2019). *From Jobs to Superjobs, 2019 Global Human Capital Trends*, https://www2.deloitte.com/us/en/insights/focus/human-capital-trends.html.

16 Amazon (2019). *Upskilling 2025*, https://www.aboutamazon.com/working-at-amazon/upskilling-2025.

The United Kingdom's Innovative Tax Talent

By modernizing digital workflows, Her Majesty's Revenue and Customs (HMRC) provides its workforce of 63,000 professionals the right tools to deliver customer service support, investigation services, and other critical tax administration functions. HMRC has implemented more than 50 robotic process automations, enabling its staff to focus less on repetitive tasks and more on customer-facing activities, totaling more than 14 million transactions. After a team of just 20 people built their first three digital exemplar services, HMRC's digital services team has grown to more than 1,000 specialists working across seven facilities around the United Kingdom. One of HMRC's priority areas, the individualized Personal Tax Account, has over 16 million users and an 82 percent customer satisfaction score.[17]

3. Looking Outward

Shifting internal operations will take revenue agencies far. Revenue agencies need to look outward to deal with an increasingly interconnected, fast-moving economy. The success of the agency increasingly depends on interactions with taxpayers, small businesses, and multinationals, as well as revenue agencies from other jurisdictions. Taxation strategies designed for the early 20th century's brick-and-mortar economy are being continuously challenged by cross-border data flows, agile supply chains, and mass digitization.[18] The next three keys can help revenue agencies expand their horizons to interact with the overall tax ecosystem and meet the demands of the 21st century economy.

3.1 Key No. 4: Improve the Tax Experience

3.1.1 The challenge

Estonia has a law that the state is only allowed to ask for the same information once, the Inland Revenue Authority of Singapore operates by the mantra that "no need for service is the best service", and the Australian Taxation Office aspires to a future where "tax just happens".[19] While some revenue agencies have committed to moving most of their customer interaction to digital channels, implementing commercial-grade taxpayer experiences will challenge every revenue agency's user-centricity and digital design acumen.

3.1.2 Our perspective

Taxation may never become citizens' favorite interaction with government, but it is essential and one of the most universal set of interactions that any government will have with its citizens, and it's important to get it right.

Spending and making money on digital platforms is easy. Paying taxes on purchases and income should be easy, too — not only because it is an experience taxpayers expect, but because it is an experience agencies need them to have. Fair and efficient taxation builds trust and helps citizens feel invested in the broader functioning of their community, boosting voluntary compliance.

Understanding tax obligations can be hard. The easier it is for citizens to have this experience, the more positive their experience will be, and the better their compliance will be, by reducing manual computation, increasing available data, user-friendly design interfaces, and real-time access. The clearest path towards improving the tax experience for citizens is by using human-centered design techniques to meet them where they are: on their mobile phones, in their email inboxes, or via smart home devices. Putting these ambitions into action will have a significant impact on tax compliance, but will also require strong digital capabilities that can only be achieved through deliberate investment and cocreation with ecosystem partners.

Revenue agencies around the globe recog-

17 IOTA. *Impact of Digitalisation on the Transformation of Tax Administrations*, https://www.iota-tax.org/publication/impact-digitalisation-transformation-tax-administrations-0.

18 Gianmarco Monsellato et al. (2018). *Tax Governance in the World of Industry 4.0: Adapting Global Tax Regulation for Connected Enterprises,* https://www2.deloitte.com/global/en/insights/focus/industry-4-0/why-global-tax-governance-is-critical-for-industry-4-0.html.

19 Andrew Mills (2019). *Tax in a Changing World — Change is the New Black*, Australian Taxation Office.

nize the importance of the citizen experience, and many are devoting resources to making it better, as well as the experience of businesses and their own employees. In a Deloitte survey of 1,200 government officials from more than 70 countries, 78% said digital capabilities allow their employees to be more responsive to the needs of citizens and foster trust in government and public services.[20]

To meet the growing expectations of citizens, revenue agencies should work to improve the tax experience, which will enable them to build trust, drive higher compliance and strengthen the overall tax base.

Mobile-Centric Tax in Australia

The Australian Taxation Office (ATO) is providing enhanced service by connecting tax services to their customers' lives. "We envisage a future where digital services will be integrated into the systems and practices used by the community in their everyday lives and businesses," wrote Fiona Dillon, deputy commissioner of ATO. The ATO has a bold digital vision in which Australians have a "real-time, contextual, and complete view of their interactions within the economy in a transparent and secure way ... Essentially, tax just happens."[21]

In part, this means meeting citizens where they are — which, it turns out, is on their phones. ATO's analysis of taxpayer behavior indicated that many Australians were interacting with ATO via their mobile devices, but ATO's Web content was not mobile-optimized. This resulted in a poor customer experience, placing ATO behind the digital experience curve.

To improve the tax experience for all Australians, ATO combined cutting-edge human-centered design techniques with mobile accessibility. One result of this initiative was the ATO application, which enables citizens to understand their tax rates, calculate tax and deductions, and interact with ATO support services. The ATO application, one of the primary channels through which ATO interacts with taxpayers, was designed, built, and delivered in just eight weeks, and is now continuously enhanced on an iterative basis.[22]

3.2 Key No. 5: Tax New Stuff Fast

3.2.1 The challenge

Borderless transactions, monetizing virtual assets, electric cars as well as the decline of gas taxes have brought challenges to the existing tax system. It is no longer enough for revenue agencies to accommodate the latest legislative mandates on annual cycles. Taxation must be approached with the same focus on dynamic agility that drives software development and systems engineering, addressing emerging patterns of risk by implementing systemic, responsive cultures and operating models.

3.2.2 Our perspective

Today's economy changes at head-spinning speeds. Revenue agencies are being asked to hit a fast-moving target, guided by laws and regulations that were not designed with this reality in mind. Agencies must enhance their capacity to understand, track and tax new stuff properly. This stuff ranges from jewelry sales via Instagram, to apartment rentals via Airbnb, to various forms of short-term "gig work" offered via virtual global platforms. The most successful revenue agencies will narrow the revenue gap and achieve tax equity in a way that adapts to new business models. They will also leverage global, cross-border approaches — such as OECD policies and holistic digital service tax frameworks — to keep pace with rapid economic shifts. Agencies that are able to understand and engage with those driving and affected by changing business models and then respond as a revenue agency in an agile, adaptable, and forward-thinking manner are likely to succeed in taxing at the speed of business.

Taxing new areas of the economy has been a challenge to government for centuries. To-

20 Bruce Chew et al. (2019). *Citizen Experience in Government Takes Center Stage: Treating Citizens like Customers to Drive Triple Value Impact*, Deloitte Insights.

21 IOTA, *Impact of Digitalisation on the Transformation of Tax Administrations*, https://www.iota-tax.org/publication/impact-digitalisation-transformation-tax-administrations-0.

22 Ibid.

day's challenges are greater because the stakes are much higher. The global sharing economy, which arose in the early years of the 21st century, is predicted to hit US$335 billion by 2025. But taxation practices for sharing economy transactions remain unclear.[23] Tax compliance among gig workers and sharing economy marketplaces is lagging. A recent report from Rice University indicated that "a significant number of taxpayers who receive income from the sharing economy are not aware of their filing and reporting obligations and therefore fail to make … estimated tax payments or pay self-employment taxes".[24]

There is general agreement that the emergence of new business models and the continued digitalization of existing business models may exacerbate the "tax gap", i.e., the difference between taxes collected and the theoretical amount actually owed.[25] Such a gap cannot be measured precisely, but estimates across 35 nations average just over 7% of GDP, representing nearly US$2.5 trillion for those countries in 2015.[26] Even small increases in this amount represent significant amounts of money.

Responding quickly and effectively to new business models, along with continuing efforts to increase tax reporting, transparency initiatives, and global coordination of revenue agencies, can help to avoid any exacerbation of the tax gap while also enabling individuals, small businesses, and disadvantaged communities to participate effectively in the economy in new ways that were previously impossible. Failure to integrate the sharing economy — and the multisided platforms that support it — into the formal economy could mean a continued erosion of governments' tax base at a time when public budgets are under constant pressure.

There is one proven strategy for taxing new stuff fast: revenue agencies should get as close to the source as possible. Revenue agencies can stay on top of the newest "stuff" in the digital economy — whether it's an e-sports tournament prize, a non-monetary gift to an "influencer" for a product promotion, or short-term apartment rental payments — by sourcing data from the transactions themselves or from systems that can be trusted to reflect them. Like any effective tax policy that encourages voluntary participation, requiring source-based information reporting needs to be balanced against the compliance cost and burdens of the stakeholders participating in the economy.

The Danish Response to Disruption

Like many of its peers, the Danish Tax Agency was vexed by how to align traditional tax processes — which rely on extensive withholding and third-party data — with the growth of sharing and gig economy transactions that are difficult to track and assess. Audits based on data provided under international exchange of information arrangements found low levels of compliance. Parliament responded by enacting a bill incentivizing sharing economy platforms to provide third-party data on rentals of assets such as homes, vacation homes, cars and boats by offering raised taxation thresholds and simplified rules for asset rentals covered by third-party data. This is a model that was already successful in migrating vacation home rentals from the underground economy to rental agencies.

While participation is voluntary — except for domestic sharing economy platforms, which are required to participate — the generous tax breaks involved offer a strong competitive advantage to participating platforms.

The bill was enacted in May 2018, and reve-

23 Niam Yaraghi and Shamika Ravi (2016). *The Current and Future State of the Sharing Economy*, https://www.researchgate.net/publication/320220118_The_Current_and_Future_State_of_the_Sharing_Economy.

24 Joyce Beebe (2018). *How Should We Tax the Sharing Economy?* Rice University's Baker Institute for Public Policy.

25 OECD (2018). *Tax Challenges Arising from Digitalisation-Interim Report 2018*, http://www.oecd.org/tax/beps/tax-challenges-arising-from-digitalisation-interim-report-9789264293083-en.htm.

26 Deloitte (2019). *Tax News & Views, Capitol Hill briefing,* https://www2.deloitte.com/nl/nl/pages/tax/articles/the-future-of-tax-and-legal.html.

nue agency leaders in Copenhagen quickly followed up by formalizing a partnership with a major sharing economy platform to develop an application programming interface (API) facilitating the transfer of data from sharing economy platforms to the tax administration, which is expected to be effective from 2021.[27]

The solution — which was intended to address the urgent tax issues related to the sharing and gig economy while maintaining a climate friendly to innovation and growth — illustrates how innovative revenue agencies may collaborate with ecosystem partners to turn disruption to their advantage. It was welcomed by sharing and gig economy platforms acknowledging that "taxation has long been the Achilles' heel of the sharing economy."[28]

3.3 Key No. 6: Embrace the End-to-end Tax Community

3.3.1 The challenge

Disruption is shaking up the entire revenue loop. As instability becomes the norm throughout the revenue agencies' ecosystems, revenue agency leaders must extend their focus beyond their physical walls, building partnerships with private and public entities to improve efficiencies, access data, anticipate issues, and tackle complex problems.

3.3.2 Our perspective

Regardless of the national flag that they fly, revenue agencies sit at the crossroads between citizens, government agencies, private corporations, and members of civic society. They also coordinate with revenue agencies of different jurisdictions, locally, regionally, and globally. No revenue agency operates in isolation.

Understanding and embracing this ecosystem, which we call the end-to-end tax community, is critical to mission success. In today's world of integrated product, information, and financial flows, the ecosystem represented by the end-to-end tax community are not limited by city, state, or even national borders. To prevent tax base erosion, identify evasive economic actors, and track down international fraud, revenue agencies must have a deep grasp of how their priorities impact, and are impacted by globalized markets.

Individual and business taxpayers are changing how they create value, spend money, and pay taxes. Cross-border monetary transactions and Web-based economic activity make it difficult for revenue agencies to align their geographic footprint with their digital posture. Because an increasing percentage of market-based transactions leave electronic trails, revenue agencies with robust ties to the end-to-end tax community should be able to maintain visibility into economic activity without building a new records management framework from the ground up. By mapping the economic processes driven by members of the end-to-end tax community, revenue agencies can become more adept at taxing close to the source.

Governments look to revenue agencies to provide a stable base for public investments and critical policy priorities. Revenue agencies are not just the middleman in this revenue loop; they are an essential community integrator. By partnering with private industry, government agencies, and international organizations, revenue agencies can mitigate risk and drive collaboration.

Engaging Finland's Tax Ecosystem

Corporations are one of the essential components of any country's revenue loop, and revenue agencies should view these private entities as critical partners within the tax community. Embracing the end-to-end tax community means finding novel ways to infuse collaboration into revenue agencies' relationships with these engines of the global economy.

In Finland, the Finnish Tax Administration closely integrates with the back-end data systems of corporations and other commercial partners.

27 Ritzau/The Local (2018). *In world first, AirBnB to Report Income Directly to Danish Authorities*.

28 Politiken.dk (2018). *An Airbnb Deal Gives Uber Hope for Danish Comeback: The Driving Service Uber Would Like to Commit to Reporting Drivers' Revenue to Tax*.

Through this embrace of public-private data-sharing, the Finnish government can pull VAT and other self-assessed tax data directly from corporate systems. This reduces the administrative burden on private companies and public administrations while enabling the Finnish government to capture revenues that previously may have been lost.

APIs are the core technical element of this approach to integrating the tax ecosystem. These APIs allow third parties to develop secure, real-time solutions to tough tax challenges, building trust in public institutions and strengthening the ties between key members of the global tax community.

Finland isn't the only country whose revenue agency focused on implementing APIs. A recent report from the OECD examined in detail leading practices for APIs that serve the public good.[29]

4. Shifting Mindsets: Bridging the Gap

Revenue agencies can take a hard look at their internal operations and their external relationships, but if they are still gazing through a traditional lens, the picture will remain the same — and may look confusing. Digital evolution can place paradoxical demands on revenue agencies. The seventh and final key to revenue agency digital transformation explores how revenue agencies can balance these competing priorities.

4.1 Key No. 7: Balance Competing Priorities

4.1.1 The challenge

Revenue agencies are often being pulled in two directions at once — being asked to catch up with innovation or maintain a risk-averse mindset, or to find a balance between sharing data and keeping it safe. To find that balance, agencies need to shift from an "either/or" mindset to a "yes, and" mindset. This challenge is perhaps the most complex to address but carries the greatest imperative. Inaction and indecision here could lead to stagnation, leaving revenue agencies vulnerable to persistent tax base erosion, burdened with legacy infrastructure, and increasingly challenged in recruiting and retaining talent.

4.1.2 Our perspective

Successful revenue agencies pursue seemingly opposite objectives by viewing technology as an opportunity instead of a challenge. Take a non-revenue example from history: manufactured goods. In the 20th century, technological constraints meant that firms could make customized, but expensive, hand-crafted products, or they could make inexpensive, one-size-fits-all, mass-produced products. The 21st century advent of "mass customization", fueled by technology and a new mindset, synthesized this paradox to create customized, low-cost solutions. From modular furniture to bicycles with interchangeable parts, many producers have used technology to deliver bespoke products at assembly-line prices.

The paradoxical imperatives facing revenue agencies are not as mutually exclusive as they might first appear. The cloud, for example, can provide a highly secure data environment that can also support data-sharing. Digital trust can be fostered through inclusion, privacy and security, all of which are facilitated by cloud technologies. In this way, cloud adoption — which to this day is viewed with apprehension by many revenue agency leaders — can in fact minimize the very risks to security and privacy that it previously may have posed.

The digital revenue agency should seek to synthesize the paradoxes it faces by using technology to break traditional constraints. It will not be easy, and it might be confusing. But we need to recognize that new technologies are simultaneously the source of the tensions faced by revenue agencies as well as the potential solutions. We believe that revenue agencies can embrace change while respecting their legacy by synthesizing opposing demands rather than choosing one over the other.

29 OECD (2019). *Unlocking the Digital Economy – A Guide to Implementing Application Programming Interfaces in Government*, http://www.oecd.org/tax/administration/unlocking-the-digital-economy-guide-to-implementing-application-programming-interfaces-in-government.htm.

The United States, The United Kingdom and Ireland Find a Balanced Path Forward

Revenue agencies around the world are already adopting practices that enable them to capture the value offered by digital transformation opportunities, while also protecting their legacies.

In the United States, traditional procurement regulations made it difficult for leaders to invest in next-generation technologies. To address this tension — how to push the boundaries of innovation while using procurement practices that were designed for a previous era — the IRS recently created a phased, incremental contracting platform that will enable it to try out new technologies while mitigating the risk of expensive project failures and highly visible implementation delays. The initiative, called Pilot IRS, borrows leading practices from private industry and remains within the statutory boundaries of the US Federal Acquisition Regulations. The first Pilot IRS proposal requests were released in August 2019, kicking off a program that represents a substantive step towards procurement innovation.[30]

In Ireland, the revenue agency faced a different challenge: How to pivot towards analytics-driven decision-making process while remaining true to its collaborative institutional culture. To address this paradox, the Irish revenue authorities established a senior management group, the Revenue Analytics Group (RAG), to manage all analytics work across the agency. The RAG consists of representatives from the business, analytics, and IT functions. It also has a direct link to the key operational and IT governance bodies. By using advanced analytics, Irish revenue authorities can identify cases for intervention, forecast revenue collections, and evaluate the impact of actions and interventions.[31] By integrating key stakeholders from across their operating units, the RAG enabled Irish revenue leaders to innovate within existing administrative channels, ensuring that decisions were consistent with traditional agency values.[32]

By taking a bold digital posture, HMRC in the United Kingdom provided its constituents with the opportunity to interact with revenue agencies in a more citizen-centric, convenient manner. A downside to this high visibility was the opportunities for malicious fraud that it created: HMRC is the most "spoofed" UK government brand. Through fake phone calls and fake websites, criminals scam taxpayers into handing over sensitive personal data or erroneous tax remittances. This paradox — how to foster accessibility while minimizing scam risks — has led HMRC to adopt a robust approach to cybersecurity and scam detection. It has implemented technical controls that blocked 450 million phishing emails and text messages, proactively removed more than 16,000 malicious websites, and deployed transaction monitoring tools that sense when online interactions are potentially fraudulent.[33]

Revenue agency leaders are already finding ways to synthesize these perceived paradoxes into a new path forward. As illustrated by the Ireland, US, and UK examples, instead of choosing between two desired but apparently mutually exclusive options, agencies forge new paths to fully achieve both goals.

5. The Future Is within Reach

Revenue agency leaders should expect the disruption to continue. After all, the future is a journey, not a destination. Embracing the seven keys will give digital revenue agencies a platform to keep pace with the dynamic economy and lay a solid foundation for future innovation. A more agile, digital organization with deeper connections to the external tax ecosystem would be in a better position to both influence and adapt to the future.

No one can predict the future precisely, but experience provides strong indications about fu-

30 Derek B. Johnson (2019). *IRS Tries Agile Acquisition for Data Tools*, https://fcw.com/articles/2019/08/13/irs-rapid-acquisition-data.aspx.

31 Kuralay Baisalbayeva et al. (2018). *The Data Intelligent Tax Administration, Microsoft and PWC.*

32 OECD (2016). *Advanced Analytics for Better Tax Administration*, http://www.oecd.org/tax/advanced-analytics-for-better-tax-administration-9789264256453-en.htm.

33 IOTA. *Impact of Digitalisation on the Transformation of Tax Administrations*, https://www.iota-tax.org/publication/impact-digitalisation-transformation-tax-administrations-0.

ture trends. On the economic side, business will leverage technology to develop new forms of commerce, posing challenges for legislators, regulators and revenue agencies seeking to tax these new forms of economic activity appropriately. Ensuring a reliable source of revenue without constraining economic innovation is likely be an ongoing challenge — but the digital "seven-key" agencies will be well placed to meet it.

From the consumer perspective, the retail experience will continue to elevate the demand for a hassle-free customer experience. Customers will want everything: anticipatory, automatic, intuitive service, and digital technology makes that possible. It may be hard to imagine a future where people enjoy paying taxes, but one can imagine a future in which the experience of paying taxes will be virtually painless.

Until recently, the notion of a government agency as a "one-stop shop" becomes the gold standard of customer service. This vision is being disrupted by providers of a "no-stop shop" which seamlessly identifies and delivers needed services proactively.[34] Observers of government trends have noted that while much remains to be done, "all signs point towards the adoption of a no-stop shop model in government. The forces pushing in that direction are simply too powerful to ignore."[35]

The "no-stop shop" revenue agency of future would look to make common tax events "just happen", without requiring individuals or businesses to do any more than review the result. In the same way, a "no-stop shop" agency would look to apply AI and data analytics to deliver services proactively, as payroll deductions facilitate tax payments. New technology makes more seamless, proactive, and intelligent tax collection processes a realistic goal. It is believed that within five years, most tax administrations will require fuller data sets to be filed or made available in real time, or close to it. Many are likely to go beyond this standard: they may simply run algorithms across data sets and then view the results, rather than collating the data and managing the transfer and storage of large amounts of data.[36]

The specific structure of a no-stop revenue shop will depend on local preferences, laws and regulations. More important than the specifics is the aspirational goal of making the tax collection process as painless, transparent and accurate as possible. It means going beyond merely digitizing existing processes to fundamentally rethinking how revenue agency interacts with individuals and businesses.

The prospect of transformational change is sometimes daunting, but it obscures an important fact: there will be remarkable opportunities to use technology to improve tax collections.

6. Taking the Next Step towards a Better Future

Digital disruption can be threatening. But the tech revolution reshaping our world can offer opportunities for revenue agency leaders to take their organizations to a higher level. Emerging technologies can create new efficiencies, help forge deeper relationships with taxpayers and ecosystem partners, and deliver unparalleled customer service. Each of the seven keys represents a foundational change in how revenue agencies deliver on their core mission. When taken together, they outline a long-term journey of self-assessment and strategic decision-making: bold shifts in approach that yield transformational results. The impetus for change is clear: without effective tax collection and enforcement, government won't be able to deliver essential services. That's why governments around the world are adapting to meet the new age of revenue collection, to match the innovations taking place in the global economy.

34 Hendrik Scholta et al., *From One-stop Shop to No-stop Shop: An E-government Stage Model,* Government Information Quarterly 36, pp. 11-26(2019).

35 Stephen Goldsmith (2019). *The Problem with One-stop Government*, https://www.governing.com/blogs/bfc/col-new-goal-no-stop-shop-government.html.

36 Deloitte (2018). *Our Digital Future: A Perspective for Tax Professionals*, https://www2.deloitte.com/us/en/pages/deloitte-analytics/articles/our-digital-future.html.

BRITACOM and the Digitalization of Tax Administration

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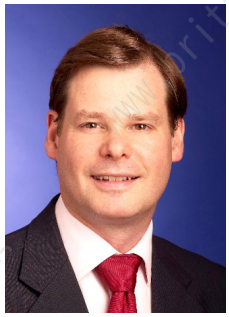

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Abstract: This article looks at how enhanced digitalization of tax administration can raise both taxpayer service and enforcement effectiveness and address potential bottlenecks and barriers to BRI trade and investment. The article also draws on the extensive experiences from BRI jurisdictions and elsewhere in the world, points to potential learning points for BRI tax administrations.

Keywords: Digitalization; BRI; BRITACOM; Compliance by design; Digital taxpayer interface; Real-time information

The Belt and Road Initiative (BRI) is a platform open to all countries, regions and international organizations which are willing to cooperate to pursue open and inclusive development. BRI jurisdictions strive together to foster mutual learning, drive shared benefit and build a prosperous and peaceful community of shared future. The establishment of the Belt and Road Initiative Tax Administration Cooperation Mechanism (BRITACOM) in 2019, together with its related bodies, is facilitating to make joint efforts to address existing BRI challenges with tax certainty, tax compliance, rule of law, tax dispute resolution, and digitalization of tax administration.

In this article, in line with the theme of upcoming Belt and Road Initiative Tax Administration Cooperation Forum (BRITACOF), we

look at the contribution that can be made to these efforts through enhanced digitalization of tax administration. The drive to digitalization has of course been further accelerated in this year of COVID-19 pandemic, which significantly heightened the need for "non-contact" tax administration in a physical sense. The authors, as partners at KPMG, draw on the extensive experience within the KPMG network of assisting taxpayers and tax administrations, maximizing the advantages, and dealing with the challenges, of implementing both incremental and fundamental changes to tax administration through digitalization. We point to potential learning points for BRI tax administrations and taxpayers, from experiences in other BRI jurisdictions and elsewhere in the world, and hopefully contributes to BRITACOM decision-making on the best paths forward.

1. The Potential for BRI Tax Administration Improvement

1.1. Tax Administration Challenges

We highlight below the key tax administration challenges identified,[1] which could potentially be addressed or ameliorated through moves towards greater digitalization.

1.1.1. Taxpayer status information and basic filings

The enterprises investing cross-border between BRI jurisdictions ("BRI enterprises") reported that, in some BRI jurisdictions, it was not possible to file tax returns online, check tax payment receipt acknowledgement status, or to edit taxpayer standing data, and thus necessitated in-person visits to the tax office. BRI enterprises indicated that this became particularly problematic where tax payments or filings need to be made frequently, or where the BRI enterprises had no local physical presence, raising challenges for handling arrangements through authorized local agents.

1.1.2. Tax authority system reliability

Some BRI enterprises reported that, in cases where tax procedures could (in concept) be conducted online, tax authority websites may occasionally be down, or connections could "drop" mid-action by the taxpayer.

1.1.3. Knowing the tax rules

A concern raised by certain BRI enterprises was that, in some BRI jurisdictions, tax law guidance was limited, could be unclear, and needed to be sourced from several locations. They suggested that centralized registers of tax law, and disclosure of details on enforcement cases for better understanding of local tax law implementation practices, would be very helpful.

1.1.4. Taxpayer awareness and engagement

In several BRI jurisdictions, BRI enterprises faced frequent or sudden changes in tax rules, without advance warning or consultation. They observed that digital consultations, advance warning alerts, and mechanisms for taxpayers to highlight such issues for which there is insufficient guidance or uncertainty in tax rules, would all be of assistance.

1.1.5. Tax administration inconsistencies

BRI enterprises observed that there could be inconsistencies in tax administrative approaches, at different times, with the same local tax authority. These could be different interpretations of substantive tax rules. The inconsistencies could also relate to administrative matters. For example, tax collection departments might be unaware of special arrangements earlier reached between tax assessment departments and taxpayers, leading to complications at collection stage. There could also be inconsistencies across separate local tax authorities in the same tax jurisdiction.

1.1.6. Obtaining tax documents

Some instances were highlighted by BRI enterprises in which they faced challenges in obtaining tax documents needed to support their

1 KPMG collated the experiences shared by BRI enterprises on the tax certainty challenges they face when preparing the 2019 BRITACOM Special Edition article, "*The Need for BRI Tax Certainty*".

tax positions and commercial operations. For example, in some BRI jurisdictions there could be difficulties in getting receipts for tax paid from the tax authorities, leading payment of the tax to be disputed in later audits. Furthermore, as several BRI jurisdictions rely on generalized domestic use of withholding tax (WHT) for the collection of a wide array of taxes, inability to obtain evidentiary tax documents could lead to tax leakages. BRI enterprises saw tax documents as a key area requiring rationalization and simplification.

1.1.7. Underdeveloped tax administrative processes for foreign businesses

Many BRI enterprises raised the issue of various BRI tax authorities lacking clear standard administrative procedures for foreign taxpayers. One example was that their new contract entered into (e.g. for lease or service arrangements) needed to be separately presented physically at the tax office to obtain a concrete response on its appropriate tax treatment. Another area was treaty WHT refund procedures. In several BRI jurisdictions, the WHT refund procedures were not sufficiently detailed to enable taxpayers to initiate the refund application, or for the tax officials to know how to handle one and give effect to the treaty relief.

In view of these issues, BRI enterprises have called for clear tax administrative procedures for foreign businesses, covering tax filings and payment, treaty WHT relief, VAT refunds and other matters, supported where possible with streamlined and automated processes.

Tax administration digitalization provides the means to address many of these issues. Clearly, upgrades to tax authority systems and processes would not be done solely to facilitate BRI enterprises, but rather for all taxpayers.

1.2. The Goals of Digitalization

At its most comprehensive and developed level, digitalization of governance, including tax administration, accompanies a broader overhaul of general governance processes, including tax administrative processes. The OECD FTA report, *Tax Administration 2019*,[2] identifies three intertwined elements in this regard:

- **Fostering positive compliance attitudes**: This includes taxpayer education and services, and nudges to taxpayer compliance drawing on behavioral insights. The most efficient approach to such enhanced education and services, and the ability to deliver "nudges", all rely on digitalized taxpayer interaction.
- **Tax compliance risk management**: This includes data collection from increasing number of sources, to drive analytics and the effective targeting of "nudge" and audit efforts. Clearly, digitalization, including vast tax authority computing power, is needed for the big data pattern recognition and transaction matching underpinning these efforts.
- **Compliance by design**: This is described as the "end point" of the other efforts described above; the former may be considered as "stages on the pathway" to compliance by design. Tax compliance is restructured to "design out" non-compliance. Voluntary compliance shrinks as data is drawn "from the source" in business systems for tax authorities to calculate and assess tax. Tax compliance "interventions" by tax authorities with taxpayers are "up-streamed", with action taken at the time at which transactions occur, or even beforehand, as tax requirements become "embedded" in the processes and applications that taxpayers use on a day-to-day basis. It should be noted, though, that there are some concerns that such a shift could lessen "tax morale" amongst taxpayers, as the operation of the tax rules would not require them to actively consider their tax behavior.

2 OECD(2019). *Tax Administration 2019: Comparative Information on OECD and other Advanced and Emerging Economies* [herein after *Tax Administration 2019*], pp.32-33.

1.3. Assessing BRI Jurisdiction Readiness for Tax Administrative Digitalization at Basic and Advanced Levels

Such holistic and comprehensive approaches to digitizing records and interactions with taxpayers, and overhauling tax administration, are the avowed "direction of travel" for many governments around the world. However, the extent to which it is a priority, or indeed currently possible, for individual BRI jurisdictions will likely depend on several key factors.

1.3.1. Internet penetration and speed

At the most basic level is the question of Internet access. Some BRI jurisdictions have saturation Internet penetration (i.e. percentage of population with access to and using the Internet) and there would be no issues in terms of breadth of access by taxpayers to digital services, or the speed of connections. As such, the extent to which some BRI jurisdictions can reasonably aspire to digitalize their tax administration is subject to constraints, at least in the medium term.

The facts on the ground will be key. It could be that in some BRI jurisdictions with low levels of Internet penetration and low average Internet speeds, the main taxpayers (e.g. large businesses) have reliable and fast Internet connections. In some BRI jurisdictions it may be the case that a large proportion of the taxpaying population (or most significant taxpayers) use tax advisors or intermediaries who can handle tax matters over the Internet for them. However, even if a more "limited focus" approach is feasible, the Internet stability and quality may simply suffice for more basic tax authority interactions (e.g. online filings, emailed tax authority submissions and correspondence), and not support more ambitious "real-time" data feeds to the authorities, as detailed in Part 3 below.

The takeaway is that digitalization of tax administration is constrained by the existing ICT infrastructure in many BRI jurisdictions. Digitalization efforts will need to be tailored to reflect the extent of Internet access, stability, and speeds (i.e. the level of "digital exclusion"). There is no one-size-fits-all approach for the tax administration digitalization in the BRI.

1.3.2. Integration of digital technologies into business management and processes

If tax authorities wish to put in place the most sophisticated of digitalized tax processes (e.g. where the tax authority computer systems and enterprise accounting systems "speak" to each other in real time via APIs) then this requires that business taxpayers have thoroughly digitalized many aspects of their business management and operations, and have the intent and capability to push further down this road. Various surveys (e.g. the IMD World Digital Competitiveness Ranking) have sought to measure the capacity and readiness of different economies to adopt digital technologies as a key driver for business, government, and societal transformation. Some BRI jurisdictions rank very highly in this regard, such as Singapore and Israel.[3] However, in many BRI jurisdictions digital transformation of business and society is at a much earlier stage of development. As such, for these jurisdictions, any notion of fully integrating enterprise and tax authority systems must necessarily be deferred to a later point in time.

1.3.3. Existing level of digitalization of governance and tax administration

To the extent that certain BRI jurisdictions governments and tax administrations have already achieved a high level of digitalization, this gives them a platform to build upon, for their latest digitalization steps. Per the UN 2018 E-Government Development Index (EGDI) certain BRI jurisdictions rank highly, with Estonia and Singapore both in the Top 20 leading jurisdictions in e-government.[4] At the same time, many BRI jurisdictions come in at

3 IMD World Competitiveness Center. https://www.imd.org/wcc/world-competitiveness-center-rankings/world-digital-competitiveness-rankings-2019/.

4 United Nations. *E-Government Survey 2018*, https://publicadministration.un.org/Portals/1/Images/E-Government%20Survey%202018_FINAL%20for%20web.pdf

a lower level in the rankings. This being said, it is also conceivable that this provides certain advantages. Lower ranking BRI jurisdictions have not locked themselves into certain "legacy" technologies and systems in the way that some developed countries have. As such, they could potentially "leapfrog" to more promising technologies.

1.3.4. Size of the informal economy and tax administration effectiveness

The significance of the informal (or "shadow") economy for efforts on tax administration digitalization can be mixed. In one sense, the fact that a lot of economic activity in a given country may be conducted in cash, and not recorded in formal records available to the tax authorities, may frustrate efforts to transition to handling taxpayer interactions digitally. At the same time, the existence of a large informal sector may provide an even greater "spur" to tax administration digitalization efforts, if it is considered that new technologies may be better at capturing the requisite data for a "step change" in enforcement.[5] The Russian Federal Tax Service prepared a paper for the FTA, describing their roll out of online cash registers (OCR), in which they acknowledged the existence of extensive informality in the Russian retail sector as a key motivation for this tax administrative digitalization effort.[6]

Furthermore, where some BRI jurisdictions are looking at limiting the potential for misconduct in tax administration, the remote interaction facilitated by digitalized tax administration interfaces, coupled with other innovations (e.g. "faceless audits", such as introduced in the 2020 India budget), have significant potential.

2. Digitization and Digitalization of Tax Administration

Digitization has been defined as something that happens to information, changing from analog to digital form, whereas digitalization happens to processes.

2.1. Selecting Beneficial Tax Administrative Digitalization Measures for BRI Jurisdictions

Individual BRI jurisdictions, when considering which areas of tax administration they wish to focus on with their digitization and digitalization efforts, will clearly take on board the above factors and constraints, as well as the issues that BRI enterprises have highlighted (detailed in Part 1). Notable measures that might be taken in this space, and which may be considered "low hanging fruit" for certain BRI jurisdictions, include the following.

2.1.1. Tax authority online portals

BRI jurisdictions which do not yet have comprehensive taxpayer portals in place (for tax filing, payment status, editing of taxpayer standing data) can clearly draw on the wealth of experience and expertise that other BRI jurisdictions have in this space. BRITACOM provides an excellent framework for experience to be shared, as well as for directly capacity building support for systems to be provided between BRITACOM jurisdictions. Handling tax matters digitally can be much more cost efficient than use of traditional means.[7]

Notable in this regard are the mobile interfaces developed by many tax authorities. The more advanced of these allow the submission of returns, the making of tax payments, and the

5 ICAEW (2019). *Digitalisation of tax: international perspectives*, pp.3.

6 OECD (2019). *Implementing Online Cash Registers: Benefits, Considerations and Guidance*, pp.20. Russia's introduction of OCRs for a selection of retailers in 2017 saw a 38% increase in VAT collection for the retail sector over 2016. This was then expanded to all retailers from July 2018. Enlisting the support of customers was crucial to this effort at shrinking the informal economy. Customers can scan receipt QR codes on their phone, and violations are automatically reported to the tax authorities.

7 It is estimated for every Australian dollar spent on digital service provision, the same service would cost AUD16 to process over the phone, AUD32 to deal with by post and AUD42 in person. OECD (2019). *Tax Administration 2019*, supra n.2, pp.6.

direct upload of receipts and invoices documenting deductible expenses. For example, the Australian myDeductions Tool uploads and reads mobile phone photos of receipts.[8] China has also made great strides in integrating tax compliance services and payments with the leading mobile platforms (e.g. Alipay and WeChat), in line with the massive expansion of the mobile-based Internet economy in China.

Another key area, in which BRI jurisdictions can draw on the expertise of others within the BRI, is the centralized pooling of taxpayer documents and data from various government authorities, as well as from third parties (e.g. banks, employers, insurance companies). This can spare taxpayers the hassle of resubmitting documents multiple times, as well as fueling tax authority data analytics. Going further, third-party data can be used to pre-populate tax returns, both in terms of income and deductions (e.g. in Italy this has gone so far that even details of deductible nursery school fees and charitable donations are automatically filled). This reduces taxpayer compliance workload, who may simply have to confirm the data in the return, or it may be deemed accepted after a notice period.[9] It also potentially changes the dynamic of the taxpayer-tax authority relationship and the "direction" of review (see Part 3).

Many countries have a formal government program focused on achieving effective sharing of information across government agencies, such as the Canadian government's "Tell Us Once" initiative, and Finland's "Incomes Register".[10] The latter contains income data for each citizen, relevant for social security, tax, unemployment and pensions benefits, are updated in real time. Different societies will have different views and expectations on the extent to which government collects and centralizes data on citizens, and BRI jurisdictions will necessarily have cultural differences in this regard. To the extent that a given BRI jurisdiction's citizens are accepting of such collection and pooling, there can be additional benefits. In Norway, banks are permitted to access tax authority information on taxpayers to facilitate loans.[11] This is inputted into bank credit rating processes and can allow loan applications to be processed in minutes. Another example is where a citizen, looking to renew and pay their car tax, could have their address, vehicle registration, and other details automatically pulled through allowing instantaneous application and payment after log in.[12] In addition to the above, it has been suggested by many commentators that enhanced data should, in addition to better targeting non-compliant taxpayers for audits, be leveraged to reduce the rate of "false positives" and reduce the hassle of audits on compliant taxpayers.

2.1.2. Enhancing tax authority systems

For those BRI jurisdictions with less developed Internet penetration, stability and speed, consideration needs to be given to the facts on the ground. Perhaps work on tax portal development would be most meaningful if, in such cases, it focused on serving the most significant taxpayers, and those with likely Internet access, and included design features to handle network instability (e.g. input progress saving features). It stands to reason that, in many BRI jurisdictions, cross-border BRI investors may be among the largest taxpayers, and so attention to their needs makes sense.

Looking to the future, however, measures to improve tax administration at a general level would seem to necessitate improvements in Internet penetration, stability and speed for those BRI jurisdictions currently lagging on these metrics. Where individual BRI jurisdictions put a focus on tackling tax collection issues arising from the informal economy, or from miscon-

8 OECD (2019). *Tax Administration 2019*, supra n. 2, pp. 43.
9 OECD (2019). *Tax Administration 2019*, supra n. 2, pp. 82.
10 OECD (2019). *Tax Administration 2019*, supra n. 2, pp. 45.
11 OECD (2019). *Tax Administration 2019*, supra n. 2, pp. 45.
12 ICAEW, supra n.5, p.7.

duct in tax administration, digital solutions (e.g. OCR, remote tax handling, faceless audits) are proving themselves as key tools in many jurisdictions. As such, wider BRI collaboration efforts might look at the alignment of strategies on building Internet infrastructure in BRI jurisdictions, with the BRITACOM tax administrative coordination and capacity building efforts. As some of the leading enterprises in the world in building Internet infrastructure are based in BRI jurisdictions, there may be considerable potential for progress in this regard.

A connected area in which intra-BRI best practice exchange could make sense is in relation to "application programming interfaces" (APIs). These are programs, developed by third party software companies in collaboration with tax authorities, that allow tax authority and taxpayer systems to "interact" (as well as with the systems of organizations with extensive third-party data, such as banks). APIs are seen to be a key area for the future in tax administrative digitalization, and they allow both sides to send and receive information, and for the tax authorities to validate activities, facilitate transactions and impose behavioral nudges. BRI jurisdictions such as Singapore lead in the API space (e.g. taxi drivers directly passing fare information to tax authorities via an API), alongside other countries such as Australia and the UK (which has APIs at the core of its "Making Tax Digital" program). As such, the potential exists for sharing advanced knowledge in this space, assuming the recipient of BRI jurisdictions satisfies the preconditions (e.g. ICT infrastructure, corporate digitalization) to be able to use them effectively. APIs are discussed further in Part 3.

2.1.3. Knowing the tax rules

It was noted in Part 1 that BRI enterprises are often faced with issues in knowing the tax rules in some BRI jurisdictions, and how to apply them appropriately, given the absence of centralized registers of tax rules, and lack of understanding on how the rules would be applied in practice. Clearly, many BRI jurisdiction tax administrations have developed very clear, well laid out databases of law and regulations on their websites, presented and searchable in an intuitive manner. Many have made these resources available through mobile interfaces. This expertise could be shared through BRITACOM.

Going further, many tax authorities in the BRI jurisdictions and elsewhere have invested significant resources in chatbots, allowing for direct resolution of taxpayer queries. These not only provide details of the law and regulations in a manner that is more accessible, for many taxpayers, than searching through a database, but they may also allow for tax authority call center staff to shift their efforts to dealing with more complex and value-adding matters.

As a further example, tax authority website-based tax calculators can assist taxpayers to better evaluate their tax outcomes under different scenarios. This is the case in Norway, where taxpayers can determine the tax outcomes from toggling their income, deductions and other items.[13]

These digital tools for taxpayer education and service allow for the "fostering of positive compliance attitudes" and would also address the challenges facing BRI enterprises in this space.

2.1.4. Taxpayer awareness and engagement

As noted in Part 1, BRI enterprises have encountered, in some BRI jurisdictions, challenges in dealing with frequent and sudden changes in tax rules, without advance warning or consultation. Clearly digitalized taxpayer interfaces, including through mobile, allow for significant improvement in this regard. Alerts can be tailored to specific taxpayer circumstances, such as notifications on new rules relevant to the taxpayer's industry, and consultations on proposed new rules can be conducted through digital channels. Communications from taxpayers to tax authorities can also be more effectively handled through digitalization. For example, in the Netherlands the tax authority's systems can automatically "read" emails from taxpayers, and either auto-

13 OECD (2019). *Tax Administration 2019*, supra n. 2, pp. 42.

matically respond or at least direct them to the correct department.[14]

Going further, digitalized tax authority systems can also prompt taxpayers with reference to their specific compliance circumstances, such as pending filing deadlines. In Australia, in the income tax context, taxpayers can be prompted, in the course of filling out details of their work-related expenses, that the level of their expense claim is relatively high, compared with similar businesses in the same area ("Nearest Neighbor" analysis function in the MyTax taxpayer portal). The key is that the analytics are run in 20 milliseconds and the message sent to the taxpayer.[15] Taxpayers are informed that they would likely to be flagged for audit if they continue. Many taxpayers, in practice, react to this by reconsidering the quantum of their claim, and the documentary evidence they have on hand to support it. This "nudge" approach to compliance "up-streams" tax authority review and intervention, drawing together behavioral insights with the enhanced ability of digitalized tax administrations to collate and analyze large bodies of data from different sources.

Digitalized tax administrations are also looking at other ways to co-opt taxpayers into tax enforcement processes. For VAT enforcement in the retail sector, numerous countries have found it useful to assign unique QR codes for printing on customer invoices. Customers can be induced to scan these through lotteries, helping the tax authorities to cross-check the issuance of valid tax invoices. Taxpayer mobile interfaces have also been designed to include a feature to report businesses that do not issue tax invoices or issue incorrect ones, for example in Thailand.[16]

2.1.5. Adapting tax documents and processes to digitalization

Digitalization allows for the role of tax documents to be re-evaluated. Various countries around the world have been moving towards the use of e-invoicing systems which require pre-clearance by tax authority systems (e.g. a tax authority digital stamp, or unique code). Without this pre-clearance the VAT invoice will be invalid for claiming a VAT input credit. The tax authorities have real-time data on the sales, and a means to induce VAT compliance, through the customer demanding a valid invoice. These systems are discussed further in Part 3. Taking these lessons to the BRI context mentioned above, jurisdictions that rely on domestic use of WHT for the collection of various taxes could consider whether digitalization of processes and document trails could facilitate them to move away from such approaches.

Turning to the case of tax residence certificates, the qualification criteria could be streamlined and requisite supporting data for a taxpayer's assertion of tax residence drawn from the taxpayer's digital tax profile. In some countries with older tax systems, tax residence determinations are complex and ambiguous matters, with a variety of not always entirely consistent precedents. In an era of digitalizing tax administration there are compelling arguments for adapting tax rules to be "codable", and applicable by the algorithms in tax authority information systems, operating on the taxpayer data available. In a sense, many BRI jurisdictions, with newer tax systems, may be better placed to make this transition, as they are not as burdened with the "sediment" of tax precedents accumulated over many decades.

Adapting tax rules in the direction of "coded" instructions also provides a path to dealing with many of the matters identified as priority issues by BRI enterprises, such as efficient, streamlined, automated approaches to granting treaty WHT relief and VAT refunds. These could draw on approaches adopted in countries like Austria, which since 2017 automatically processes employee tax assessments, based on third-party data, with excess tax paid automatically refunded to taxpayer accounts, without need for action on

14 OECD (2019). *Tax Administration 2019*, supra n. 2, pp. 58.

15 Speech by Neil Olesen, ATO Second Commissioner, Tax Administration in a Digital Age: The Australian Experience. https://www.ato.gov.au/Media-centre/Speeches/Other/Tax-Administration-in-a-Digital-Age--The-Australian-experience/.

16 OECD (2019). *Tax Administration 2019*, supra n. 2, pp. 44.

their part.[17]

Alongside considering specific digitizalation measures that might be adopted in BRI jurisdictions, there is also the key matter of the manner of adoption. Again, BRI jurisdictions could share insights from their experience in this regard. For example, some digitalization initiatives might best be rolled out starting with the largest businesses — these may be better resourced to cope with changes before rollout to smaller firms. Alternatives might be to pilot with particular industries, or regions, or by tax types. A further approach may be to start by making adoption of a new system optional (perhaps with incentives to use, e.g. extended filing deadlines), and steadily reduce the optionality until the new system is wholly mandatory. BRITACOM provides an excellent channel for the communication of this experience, in particular on which approaches have been proven to minimize the cost burdens and hassle for taxpayers, while maximizing the effectiveness of the rollout.

3. Compliance by Design

Moving beyond the baseline tasks of digitizing taxpayer records and interfaces, and tax-related documents, some of the more advanced jurisdictions in this space are considering more fundamentally revamped approaches to tax administration. These are built on real-time flows of data and on "compliance by design", which involves the integration of enterprise accounting systems and the operation of tax rules, e.g. through APIs.

3.1. Going "Upstream"

One way to conceive of the change being contemplated is set out in the Figure 1. Existing tax systems rely on the taxpayer to record their transactions, compile these transactions into accounts representing their economic performance and wealth accumulation, and then adjust these further for the purposes of tax calculation and filing. The tax authorities then levy an assessment on the taxpayer, along with conducting necessary review and audit processes. With the digitalization of business management and operations, and parallel digitalization of tax administration, tax administrations are exploring whether they can "step in" at an earlier point of the taxpayer's internal processes.

At its most advanced stage, some tax authorities conceive of tapping straight into enterprise transactional data (i.e. at Step 1 above) and imposing tax on this basis. In the VAT/GST space, some countries have already gone some distance in this direction. Brazil, Chile, China, Colombia, Mexico, India and Italy have all moved towards the use of e-invoicing systems which require pre-clearance by tax authority systems (e.g. a tax authority digital stamp, or unique code) before an enterprise can issue a valid B2B VAT invoice.[18] Steadily more countries are adopting these requirements (e.g. Kenya from 2020). This real-time information on sales can be paralleled by the automated uploading of VAT invoices for enterprise purchases, to the matching customer enterprise's taxpayer account, to allow for claims of input VAT credits. The tax authority can thus conceivably levy a

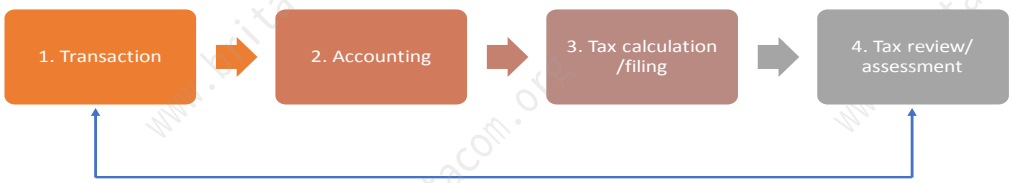

Figure 1. Direct use of transaction data

17 OECD (2019). *Tax Administration 2019*, supra n. 2, pp. 79.

18 A number of other countries have pre-clearance e-invoicing requirements for business-to-government supplies (B2G), including France, Czech Republic and Portugal, with plans to move to generalized e-invoicing in due course. This was the transition made by Italy in 2019.

tax assessment based solely on transactional data, without the need for the enterprise to compile transactional data into accounts or adjust it for the preparation and submission of a VAT filing.[19] The integrity of the data can conceivably be further reinforced through use of blockchain, and other technologies. With all transaction data being supplied to the tax authorities, such that these can maintain VAT books in relation to a given taxpayer, taxpayers can be exempted from maintaining their own separate VAT books, such as in Italy from July 2020.

Countries are also trying to modify their application of tax law in order to facilitate their move "upstream". Corporate income tax (CIT) calculations frequently start with accounting data and then make complex adjustments to arrive at the CIT base. Some countries have looked to surmount this by directly using accounts income as a basis for provisional CIT; in New Zealand the accounting software of builders, plumbers, electricians, cafes, etc. can be set up to transmit the accounts basis tax burden directly and automatically to the tax authorities. The Netherlands has also developed a similar system for freelancers (i.e. self-employed persons without employees).[20] The UK's Making Tax Digital also plans, from 2022, to expand to cover CIT.

Taking all these trends and developments together, some authorities also conceive of a future time when there will be no separate submission of a return by the taxpayer, and so the tax administration process will have moved entirely upstream to stage 1 (transactions) or stage 2 (accounts), as depicted above.

Perhaps the most consequential changes for business activities, and the deepest integration of business systems and tax rules, are that envisaged in connection with APIs (which were discussed briefly earlier). Australia is one of the most advanced countries in the API space, and ATO documents talk of APIs as "embedding" tax compliance processes within the "natural systems" of taxpayers. An ATO paper prepared for the FTA on APIs gives an example where a company's business and accounting system automatically processes, on a periodic basis, payments to a vendor.[21] The company's system sends communications to the bank automatically to process the payment. Prior to payment, the company's system "confers", via APIs, with the government agencies for company registration and industry licensing, as well as the tax authorities. As it is confirmed that the vendor's company registration is invalid, the taxpayer system automatically acts upon this, by cancelling the payment to the supplier. The matter is presumably elevated at this stage for "human consideration". Clearly, the API interface with the tax authority's system could equally, if so desired, trigger the suspension of the payment if it is confirmed with the tax authority that the vendor has become tax non-compliant.

3.2. How Far "Upstream"?

Taking this back to considerations of relevance to BRI jurisdictions, it should be observed that the directions in which different countries are taking their tax systems branch off from the advanced "end state outcome" depicted above in various ways:

3.2.1. Tax returns still exist

Very few countries are at the stage of abolishing tax returns.[22] Most countries are still primarily using the tax profiles they build, on individual or sector-wide taxpayer activity, to cross-check tax filings and target their audits.

3.2.2. Tax authorities go varying distances "upstream"

Very different approaches are being taken across countries in the (near) real-time reporting space. Spain has been seeking, under its SII

19 For Chile, it is reported that more than 90% of taxpayers who declare VAT credits or debits are using the prefilled tax returns, representing 90% of the total amount declared. OECD (2019). *Tax Administration 2019*, supra n. 2, pp. 62.

20 OECD (2019). *Tax Administration 2019*, supra n. 2, pp. 61, 203.

21 OECD (2019). *Unlocking the Digital Economy*, supra n. 2, pp. 52-54.

22 Poland is aiming to abolish VAT returns, instead relying on SAF-T data to directly determine VAT liabilities, with implementation planned for later in 2020; https://www.avalara.com/vatlive/en/vat-news/poland-vat-payment-delays-for-coronavirus-crisis--delays-saf-t-r.html.

system, transmission to the authorities of records of transactions within four days of occurrence. Taxpayers consequently need to prepare initial accounting records for sending to the authorities. This might be viewed as the Spanish tax administration "stepping in" at the second stage in the diagram above ("2. Accounting"), rather than at the first stage ("1. Transaction"), under which they would approve of transactional tax treatment as the transaction occurs. As SII data is used to cross-check VAT filings, rather than replace them, one might say that they are still at the third stage ("3. Tax calculation/filing"). However, the next planned step for the Spanish authorities, later in 2020,[23] is to impose VAT with reference to SII data (i.e. VAT pre-filing based on SII data). This illustrates how countries are moving dynamically "upstream", though in different ways and at different speeds.

3.2.3. Going "upstream" with different tax types

A different set of considerations present themselves in the case of different taxes:

- Much of the focus so far, in the use of "real-time" data to move tax processes "upstream", has been on VAT/GST. These are transactional taxes and so might be thought of as good candidates for new digitalized enforcement approaches that seek to go "back to the source" and the underlying transactions. VAT/GST also generates a very substantial proportion of revenue in other countries and has historic issues with revenue loss through evasion in many countries.
- For CIT the case is less clear-cut. Some countries are apparently looking at using the real-time data, which they are getting through their new VAT reporting, as a basis for preliminary CIT assessments. However, it is not yet clear how transactional data could be collated and adjusted by tax authority systems to arrive at even an approximation of the final CIT liability. Tax authority systems would need to deal with complex classification and timing recognition issues. It is also not clear how the systems could capture the interplay of accounting conventions with CIT determinations. As noted above, some countries (e.g. New Zealand, Netherlands) are looking to get around these challenges by directly using accounts income, at least for preliminary CIT and for freelancers and small businesses.
- As noted above, for Individual Income Tax (IIT) many tax authorities have already gone "upstream" the pre-population of returns with income details received from third parties. However, as with CIT, it is hard to see how tax authority systems could deal effectively with some of the more complex determinations by simply drawing on raw data (e.g. diffuse formats of sharing and gig economy data from platforms). In addition, in practice countries have run into limitations in capturing all types of income for pre-population, e.g. capital gains on asset disposals, dividends, rental income, attribution of foreign income arising through complex investment structures, medical expense deductions, etc. Countries wishing to push pre-population may face a trade-off between expanding their sources of information, or "streamlining" their tax code with regard to deductions for which data is not readily obtainable.

3.2.4. Not yet past reliance on voluntary compliance

The FTA's 2019 report, referred to in Part 1, notes how the current focus of digitalization efforts, on fostering positive compliance attitudes and supporting tax risk management, is anticipated to later give way to a reduction in the reliance on voluntary compliance, as "compliance by design" moves center stage. However, the current efforts by tax administrations in this field are still largely in the pre-"compliance by design" stage. For example:

- While OCRs are seen to be a highly effective tool for real-time reporting of retail sales in relation to B2C VAT enforcement, the overriding focus of the use of OCRs is on pushing the retailers towards better vol-

23 https://www.avalara.com/vatlive/en/vat-news/spain-pre-filled-vat-returns-pilot-2020.html.

untary compliance. Retailers will continue to file tax returns, and the real-time data feed through the OCRs, and allied measures such as incentivizing customers to scan receipt QR codes, are meant to encourage retailer's voluntary compliance.

- Similarly, in the B2B VAT space, the use of tax authority pre-clearance (e.g. unique codes) before an enterprise can issue a valid VAT invoice is not (yet) a completely "closed loop" leading to "compliance by design" outcomes. In India, for example, solely larger companies are initially within the scope of the new mandatory system of e-invoice pre-clearance. VAT input credit claims by purchasers from such companies will be matched to paid output VAT, but many input VAT claims will be in respect of invoices issued by suppliers that did not fall within the system.
- The increasingly large pools of data being collated, directly from taxpayers, from other government agencies, and from third parties are not necessarily seeing their primary use, in all countries, in pre-population. A more typical use is to cross-check filings, targeting inconsistent or suspicious filings for audit. Much effort is going into obtaining so-called "unstructured data", collected by tax authority "web crawlers" from social media and the broader Internet, which may raise unusual circumstances for follow up (e.g. individual filing IIT based on a low income, but exhibiting a more luxurious lifestyle). Unstructured data is not really amenable to being used for pre-population purposes. Furthermore, there are some concerns that some of the data coming from third parties (e.g. sharing/gig economy, e-commerce platforms, CRS) may have certain quality or formatting defects, which make it less appropriate for direct use in pre-population.

Pooled data sources can also be used to feed automated (i.e. robotic) machine actions. For example, the Irish tax authority systems cross-check marriage records when taxpayers are claiming IIT marriage credits online.[24] The Italian tax authority systems collated CRS data, invoice data and data from other third parties to automatically send 1.5 million email prompters to taxpayers in 2017; this resulted in the spontaneous payment of EUR1.3 billion in additional tax.[25] Such uses of data are still in the realm of inducing voluntary compliance, rather than replacing it.

As such, even in countries that have made significant strides, the coverage of new systems will need to go much wider before "compliance by design" becomes a reality.

It is apparent from the above is that an increasingly complex vista is presenting itself, as countries grapple with the possibilities of real-time interaction of tax authority systems with those of taxpayers. From the perspective of BRI jurisdictions the best takeaway may be "look before you leap". There is potential for real improvements in tax enforcement effectiveness and taxpayer experience through the new technologies and approaches, but also many potential pitfalls. Clearly, BRITACOM will be serving its role if it facilitates exchanges of experience, expertise and views among its parties and, through this, helps build a common understanding on the better approaches, having full regard to the state of development and special circumstances of different BRI jurisdictions. On that basis, solid plans can be developed in the fields of BRI tax capacity building and tax administrative coordination.

3.3. BRI Considerations on "Going Upstream"

Notable challenges may be highlighted from experience with the above approaches, with lessons for BRI jurisdictions:

3.3.1. Diversity of requirements

The diversified approaches to real-time reporting adopted by different countries mean that businesses must make substantial investment to build tailored systems for satisfying the unique demands of each regime. For larger, more complex businesses, the system costs

24 OECD (2019). *Tax Administration 2019*, supra n. 2, pp. 57.

25 OECD (2019). *Tax Administration 2019*, supra n. 2, pp. 48.

to comply with the various EU regimes, such as SII, can be millions of euro per country. The outlays and complexity are set to increase as further countries around the world roll out such regimes. In addition, this is hardly the "end of the journey" for those countries that have already adopted real-time reporting, as they continue to modify requirements and expand scope, necessitating additional expense for businesses. For BRI jurisdictions which have an Internet infrastructure robust enough to support real-time (or near real-time) reporting, and which would be considering the adoption of such requirements, the concern might be whether the approach adopted is (i) "future-proof" or likely to need alteration/replacement in future, and (ii) bears some consistency across BRI and other jurisdictions.

3.3.2. Business readiness

The move to real-time (or near real-time) reporting throws up a lot of challenges, given that digitalization of enterprise management and record keeping are frequently not quite as "advanced" as tax authority real-time demands imagine (and need) them to be. Going further, even many larger companies do not always "tax tag" their recorded transactional data (e.g. VAT classification, origin of purchase) on entry into their systems, and may still use manual processes to prepare this data in a tax-relevant format. Such internal procedures are not conducive to complying with a rash of new real-time reporting requirements. While enterprise technology solutions are being developed to help with the categorization and cross-checking of accounting data, companies face challenges for making investments where tax authority system requirements are constantly changing, and vary much across countries.

3.3.3. Usage of data

As set out above, countries are far from the end of their journey towards "compliance by design", and the reduction of reliance on voluntary compliance. Real-time data transmissions, and pooled data from other government agencies and third parties, are still largely being used to bolster voluntary compliance, by driving audit targeting through data analytics, and by feeding "nudge" approaches to tax compliance.

In relation to return pre-population, the OECD has observed that four key ingredients that are necessary for this to be a success. This includes (i) comprehensive third-party reporting systems; (ii) high-integrity taxpayer identifiers (e.g. single universal ID system for taxpayers); (iii) effective use of technology; and (iv) a compatible legislative framework (e.g. absence of complicated deductions/elections that are not amenable to pre-population).[26]

It has been noted that the quantities of data being channeled to authorities are now becoming immense, and that authorities may not have always fully thought through what they plan to do with all this data. There is risk of overcollection, including sensitive commercial data, with associated risks if data security measures are not entirely robust. There are also necessary questions around the security of interfaces between tax authority and enterprise systems, such as those for real-time data transmission and APIs, and the need for a robust legal basis for the collection of different data types.

4. BRITACOM and Its Way Forward

BRITACOM provides an excellent forum for discussion of these issues. Jurisdictions can share their experiences, good and bad, with different approaches. Common understandings can emerge on best practices, and the suitability for jurisdictions at different stages of development and facing different economic, legal and cultural constraints. For individual BRI jurisdictions they will need to:

a. Assess where they are at with their current approaches, and taxpayer needs and issues;

b. Decide where they want to be; and

c. Decide how far they need to go down the digitization/digitalization route depending on their circumstances.

It is hoped that this article provides a useful contribution to these discussions and debate.

26 ICAEW, supra n.5, p.7.

Global E-commerce Marketplaces and Consequent Challenges to Indirect Taxation

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Abstract: The digital economy poses challenges for collection of Value Added Tax (VAT) / Goods and Services Tax (GST), jointly as VAT, particularly when goods, services and intangibles are acquired by private consumers from suppliers abroad. Currently, most jurisdictions exempt import of low-value goods because the cost of collecting VAT on this may exceed the actual revenue. As this could have been perceived as a sound tax policy when digital economy was still in its infancy, it may no longer be a reasonable solution in light of dramatic volume and value rise of purchase online, and particular cross-border flow of goods. Recent international discussions have focused on the roles of the e-commerce marketplaces (digital platforms) that can play in the collection of VAT from transactions they facilitate in their capacity as "digital intermediaries". The development of the OECD tax framework, in particular the European Union (EU), could offer valuable inspiration for jurisdictions in other regional blocks or initiatives, such as Belt and Road Initiative (BRI), wishing in future to implement mechanisms engaging digital platforms in VAT collection. Based on the current experience, any such mechanism should be consistent with the requisite principles of the sustainable tax regime, namely rule of law in taxation and tax certainty.

Keywords: Digital economy; VAT; Indirect taxation; OECD; EU; Belt and Road Initiative

1. Introduction — Digital Platform Economy

Over the past three decades, we have experienced a wave of almost continuous innovation in information technology that has not only generated tremendous economic growth, but also "creatively" destroyed jobs in traditional industries. In the past, terms such as "website", "Internet", "electronic commerce", "online shopping" and "digital platform" were largely unknown to the public.[1] Nowadays, these words represent the daily lexicon of many people throughout the world. In particular, the Internet has revolutionized the way people work, com-

1 M. Butler et al (2000). *Taxation of Global E-Commerce*. Asia-Pacific Tax Bulletin 7, pp. 200.

municate and share information. Electronic commerce (e-commerce) refers to trade in goods and services conducted over a network that uses computers and telecommunication. It covers business-to-business (B2B) transactions, business-to-consumer (B2C) trade, as well as dealings between private consumers (C2C). The objects of electronic commerce transactions may be both tangible goods and intangible products (digital goods).[2] The Internet has evolved from a communication tool to a global trading platform.[3] It has increased the ease with which businesses can be formed and trade conducted.

Parallel to the rise of e-commerce itself is the growth of commerce performed through digital platforms. These platforms have developed over time from software that enables transactions via the Internet into comprehensive, online retail solutions that allow retailers to target, capture, engage and retain customers, through the traditional web store as well as via mobile and social media channels.[4] They are an increasingly important feature of both domestic and global economies. "Digital platform" is a generic term referring to the actors in online sales that carry out the functions deemed essential by tax authorities in the collection of VAT on online sales. These can generally be described as the platforms, portals or similar means that enable, by electronic means, direct interactions between two or more customers or participant groups, typically buyers and sellers, with two key characteristics: (i) each group of participants ("side") are customers of the platforms, and (ii) the platform enables a direct interaction between the sides.[5] Other available definition of the digital platform focuses more on the type of service provided, stipulating that online platform could be defined as a digital service that facilitates interactions between two or more distinct but interdependent sets of users, whether firms or individuals, who interact through the service via the Internet.[6]

The emergence of e-commerce through digital platforms has important impact on consumption taxation. Concepts and assumptions designed for a pre-digital world may need to be modified or even abandoned, including the distinction between tangible and intangible products, or a requirement of sufficient degree of permanence and a suitable structure for creation of fixed establishment. E-commerce limits the ability of governments to administer the taxes and forces a re-examination of tax policies.

One of the blatant examples of the mismatch between the current tax provisions and the business reality induced by digital platforms are rules governing VAT on imported low-value goods acquired over the Internet. Many jurisdictions implement VAT exemption thresholds for import of such goods. When they do so, they would normally try to discover the appropriate balance between the administrative and compliance costs of taxing low-value imports and the revenue loss and potential competitive distortions that the exemptions may create. Such an exemption next to creating a competitive advantage for out-of-state businesses leads to risk of fraud by incorrectly declaring the value

2 OECD defines e-commerce as "An e-commerce transaction is the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders. The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online. An e-commerce transaction can be between enterprises, households, individuals, governments, and other public or private organizations. To be included are orders made over the web, extranet or electronic data interchange. The type is defined by the method of placing the order. To be excluded are orders made by telephone calls, facsimile or manually typed e-mail." See: https://stats.oecd.org/glossary/detail.asp?ID=4721.

3 A. Bal, & C. Gutiérrez. *Taxation of the Digital Economy* [in:] M. Cotrut et al(2015)., *International Tax Structures in The BEPS Era: An Analysis of Anti-Abuse Measures*, IBFD online book, pp. 3.

4 OECD (2015). *BEPS Action 1 — Addressing the Tax Challenges of the Digital Economy*, pp. 187.

5 OECD (2019). *The Role of Digital Platforms in the Collection of VAT/GST on Online Sales*, pp. 6.

6 OECD (2019). *An Introduction to Online Platforms and their Role in the Digital Transformation*, pp. 20.

of goods on importation. It should not be forgotten though that these exemption thresholds were generally established before the growth of the digital economy and consequently their review may be required to ensure that they are still appropriate. As a result, although many jurisdictions contemplate rolling such exemption back, the question is posed how to design the new system of VAT collection while not impeding the cross-border flow of goods. Developing tax policy to this "digital platform economy" remains perhaps one of the most important challenges faced by tax policymakers worldwide.

Against this backdrop, it is worth exploring whether BRI jurisdictions could leverage on the experience gained so far in the area of regulating digital platform economy from the perspective of streamlining VAT compliance, while respecting the fundamental tax principles, such as rule of law and tax certainty. This topic may only increase its importance in the future as the stated objective of the BRI is to stimulate investment and trade along the trade routes, such as land-based Silk Road Economic Belt and the 21st Century Maritime Silk Road,[7] which eventually might also translate in boosted cross-border flow of goods acquired over the Internet by customers located in the jurisdictions situated along these routes.

2. The OECD Developments

2.1 Pre-2015 Base Erosion and Profit Shifting (BEPS) Work

The OECD traditionally would promote reform efforts in the international income arena primarily through its model tax convention and the accompanying commentary. Although majority of the OECD members apply some sort of consumption taxes (VAT/GST), there are generally no model treaties or bilateral international agreements covering indirect taxation. Consequently, prior to the rise of e-commerce, the organization had never pursued any meaningful reform in this area.

In 1998, however, the OECD members agreed through the Ottawa Taxation Framework to consider VAT reform in the context of global e-commerce.[8] The main conclusions of the report published in this respect are as follows: (i) the generally accepted tax principles that guide governments in relation to traditional commerce should also guide them in relation to electronic commerce; (ii) any new tax rules should accommodate these tax principles, namely neutrality, efficiency, certainty and simplicity, effectiveness and fairness, and flexibility; and (iii) any new measures shall be acceptable under the condition that they reinforce the application of the existing principles. That is to say, the existing fundamental international tax principles at the time were considered adequate to deal with the coming digital challenges.

Following the Ottawa conference, the OECD established a work program producing two sets of implementing guidelines for the Ottawa Taxation Framework which were released in 2001 and 2003 respectively.[9] Additionally, in 2003, a report on automating collection's mechanism was released together with some further guidelines, i.e. three papers forming part of a Consumption Tax Guidance Series.[10] The Ottawa Framework and subsequent implementing guidelines became an international standard

7 National Development and Reform Commission of China (2015). *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk Road*, http://english.www.gov.cn/archive/publications/2017/06/20/content_281475691873460.htm.

8 OECD (1998). *Electronic Commerce: Taxation Framework Conditions*.

9 OECD (2001). *Consumption Tax Aspects of Electronic Commerce*1; OECD (2003). *Implementation of the Ottawa Taxation Framework Conditions*.

10 OECD (2003). *Electronic Commerce — Commentary on the Place of Consumption for Business to Business Supplies (Business presence)*; OECD (2003), *Electronic Commerce — Simplified Registration Guidance*; OECD (2003). *Verification of Customer Status and Jurisdiction*.

for the taxation of online supplies trying to reach a consensus on some crucial elements of effective consumption taxation, such as verification of the jurisdiction and status of customers, contemplate registration thresholds whereby companies with below-threshold sales would not need to register for VAT purposes, deploy technology-based collection mechanisms, develop international administrative cooperation and explore potential simplification options.[11]

2.2 The 2015 BEPS and Post-BEPS Work

It was only in the next decade that we had to wait for additional recommendations of OECD with respect to taxation of the e-commerce. Between 2004 and 2013, the e-commerce issue was rather treated as part of broader discussion on modernization of consumption taxation of the cross-border transaction for goods, services and intangibles.

The 2013 BEPS Action Plan could not however ignore the tax challenges arising from the digital economy calling for work exploring how to ensure the effective collection of VAT with respect to the cross-border supply of digital goods and services.[12] The final report published in 2015 on BEPS Action 1 contained an extensive analysis of new information and communication technologies, their impact on economic activities and new ways and models of doing business in the digital economy. The report reiterated the 1998 Ottawa Taxation Framework for evaluating regulatory paths. It identified the main problems in consumption taxation as collection issue, particularly where goods, services and intangibles are acquired by private consumers from suppliers abroad.[13]

The concrete proposals, however, were rather modest. They are widely referred to as the international VAT/GST guidelines, in particular the destination principles that determine the cross-border supply of local taxes, i.e. the general application of reverse charge in B2B situations, and the obligation of major non-resident digital service suppliers to register in the state where their consumers are located. It did not propose any specific guidance with respect to the e-commerce. However, it also discussed possible options to facilitate the collection and enforcement of VAT on digital commerce supplies of low-value goods. Six options were analyzed, namely collection by: (i) the purchasers, (ii) the vendors, (iii) the e-commerce platforms, (iv) the transporters, (v) the financial intermediaries, and (vi) the customs/tax administrations. With respect to the platforms, the report suggested that they might have access to most relevant information, such as the vendor account information, including name, address, VAT registration details, bank details, the purchaser account information, including shipping and billing information and payment instrument details, each vendor's product catalogues together with the record of each transaction. The report also admitted that digital platforms might need to implement internal changes to collect and remit VAT.

More recently, the OECD has published a new report on the role of digital platforms in the collection of VAT on online sales (the 2019 OECD Report).[14] This report regarding specifically e-commerce was developed by the OECD to complement its other more general report dedicated to situations where supplier is not located in the jurisdiction of taxation.[15] The 2019 OECD Report deals specifically with the growing role of digital platforms in the explosive expansion of online sales to private consumers. According to the OECD, changing tax rules to

11 M. Lamensch (2015). *European Value Added Tax in the Digital Era: A Critical Analysis and Proposals for Reform*. IBFD online book, pp. 3.

12 OECD (2013). *Action Plan on Base Erosion and Profit Shifting*, pp. 29.

13 OECD (2015). *BEPS Action 1 — Addressing the Tax Challenges of the Digital Economy*, pp. 13.

14 OECD (2019). *The Role of Digital Platforms in the Collection of VAT/GST on Online Sales*.

15 OECD (2017). *Mechanisms for the Effective Collection of VAT/GST — Where the Supplier Is Not Located In The Jurisdiction of Taxation*.

make e-commerce markets subject to VAT on sales made by online traders through their platforms will allow tax authorities to focus their compliance efforts on the relatively small number of markets, rather than on the millions of small traders operating through them.

The 2019 OECD Report seeks to suggest a range of possible approaches in determining what functions may result in a digital platform becoming liable for the collection of VAT. The OECD suggests that for digital platforms subject to VAT, they need to hold or have access to sufficient and accurate information as required to make the appropriate VAT determination and have the means to collect the VAT on the supply.

3. The EU Developments

3.1 The VAT E-commerce Directive

As of July 2003, the EU's directive on electronic communications (the VAT E-commerce Directive) requires non-EU businesses selling digital goods and services online to consumers within the EU to register in the EU and charge, collect and remit VAT. Non-resident businesses can register under a "special scheme" arrangement in one EU member state (relying on so-called one-stop-shop mechanism), which operates a form of clearing house to ensure that each EU member state receives its appropriate amount of VAT. After remittance of VAT due, the recipient member state shall redistribute the VAT to the appropriate EU countries in which the digital goods and services were sold (member states of consumption).[16]

The VAT E-commerce Directive was designed in part to address problems associated with online business-to-consumer (B2C) sales which were considered to bring the greatest challenge to the EU VAT system as consumers rarely comply with self-assessment obligations. The EU legislation took the first step in the process of aligning the treatment of chosen electronic services with the Ottawa Taxation Framework.[17]

3.2 The VAT Digital Package

In 2016 the European Commission launched a VAT action plan towards a single EU VAT area. Under the section e-commerce, it proposed extending the one-stop-shop mechanism to online sales of EU and non-EU tangible goods to final non-business consumers and removing the VAT exemption for non-EU suppliers' imports of low-value goods.[18]

The VAT Digital Package was announced by the European Commission on 1 December 2016 and covers a wide range of e-commerce transactions in B2C settings. It seeks, among others, to amend the VAT rules applicable not only to supplies of electronic services but also distance sales of goods and importation of goods. The VAT Digital Package consists of one directive and two regulations.[19] The package was adopted on 5 December 2017. Two years later, on 21 November 2019, additional clarifications and implementation provisions were

16 D. Raponi, & D. O'Sullivan(2016). *VAT and Taxation of the Digital Economy from the Perspective of the EU Policy Maker* . M. Lamensch, E. Traversa, S. van Thiel (eds.), *Value Added Tax and the Digital Economy. The 2015 EU rules and Broader Issues*, Kluwer Law International, pp. 12.

17 M. Lamensch (2017). *European Commission's New Package of Proposals on E-Commerce: A Critical Assessment*, International VAT Monitor 3-4, pp. 137.

18 European Commission (2016). *Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee on an Action Plan on VAT — Towards a single EU VAT area — Time to decide*, 148 final, pp. 5.

19 Council Directive (EU) 2017/2455 of 5 December 2017 amending Directive 2006/112/EC and Directive 2009/132/EC as regards certain value added tax obligations for supplies of services and distance sales of goods; Council Implementing Regulation (EU) 2017/2459 of 5 December 2017 amending Implementing Regulation (EU) No 282/2011 laying down implementing measures for Directive 2006/112/EC on the common system of value added tax; Council Regulation (EU) 2017/2454 of 5 December 2017 amending Regulation (EU) No 904/2010 on administrative cooperation and combating fraud in the field of value added tax.

agreed,[20] but due to the COVID-19 pandemic, the entrance into force of the package was deferred until 1 July 2021.[21]

The VAT Digital Package assumes staggered two-phase approach, i.e. of changes implemented in 2019 and changes scheduled to become effective as from mid-2021. The basic structure of EU VAT shall remain unaltered, with a number of changes, such as those regarding a new simplification measure for EU suppliers with a low volume of EU cross-border supplies of electronic services, relaxation of the identification requirements in respect of intra-EU B2C situations (location of customer) or an extension of the mini one-stop-shop (MOSS) mechanism to intra-EU distance sales of goods and all supplies of services to non-taxable customers. Two key changes that are critical to the topic of this article are new rules for low-value shipping and new rules for digital platform liability. The purpose of the new rules, as announced by the Commission, has been to level the playing field between traditional commerce and e-commerce, eliminate the distortions that currently exist in favor of non-EU businesses, reduce compliance costs and the complexity of VAT obligations for business and minimize the risk of VAT fraud and non-compliance leading to VAT revenue losses.[22]

3.2.1 New rules for low-value consignments

Goods transported to the EU are generally subject to the rules on importation, irrespective of the status of the recipient. Import VAT must be transferred to the tax authorities at the rate of the member state of importation where goods enter the EU territory. In order to reduce the cost of VAT collection, importation of goods of a total value not exceeding EUR10 (or EUR22, if a member state decides so) is exempt from VAT (low-value consignment exemption). Such exemption has been abused by many sellers mistakenly or deliberately under-declaring the import values of goods to avoid VAT. It is worth noting that such an exemption does not apply where the same goods are supplied within the EU.

The VAT Digital Package seeks to abolish the VAT exemption for the importation of low-value consignments and introduces three different options to account for VAT on imported goods with the intrinsic value not exceeding EUR150, namely:

- non-EU suppliers selling goods to EU non-taxable customers will have the possibility of applying the one-stop-shop mechanism and to declare and pay VAT on a monthly basis. In such a scenario, no VAT will be due upon importation;
- if the supply of goods is facilitated through a platform, the platform will be responsible for VAT remittance, as it will be deemed to have purchased and then sold the goods in question. The platform will be able to register for the one-stop-shop mechanism and pay VAT on a monthly basis; and
- if no platform is involved and the supplier does not elect to use the one-stop-shop,

20 Council Directive (EU) 2019/1995 of 21 November 2019 amending Directive 2006/112/EC as regards provisions relating to distance sales of goods and certain domestic supplies of goods; Council Implementing Regulation (EU) 2019/2026 of 21 November 2019 amending Implementing Regulation (EU) No 282/2011 as regards supplies of goods or services facilitated by electronic interfaces and the special schemes for taxable persons supplying services to non-taxable persons, making distance sales of goods and certain domestic supplies of goods.

21 Council Decision (EU) 2020/1109 of 20 July 2020 amending Directives (EU) 2017/2455 and (EU) 2019/1995 as regards the dates of transposition and application in response to the COVID-19 pandemic; Council Regulation (EU) 2020/1108 of 20 July 2020 amending Regulation (EU) 2017/2454 as regards the dates of application in response to the COVID-19 pandemic; Council Implementing Regulation (EU) 2020/1112 of 20 July 2020 amending Implementing Regulation (EU) 2019/2026 as regards the dates of application in response to the COVID-19 pandemic.

22 M. Papis-Almansa (2019). *VAT and Electronic Commerce: The New Rules as a Means for Simplification, Combatting Fraud and Creating a more Level Playing field?*, Era Forum, pp. 3.

the transporter of the goods, for example, postal service, will be liable to collect and remit VAT.[23]

3.2.2 VAT liability of digital platforms

The fundamental elements of the VAT Digital Package are new provisions establishing the liability of digital platforms that intermediate and facilitate certain transactions. Because a significant part of distance sales of goods, supplied both from other member states and from third countries, occurs through the use of online marketplaces, the EU has found it is necessary to involve businesses who facilitate sales of such goods in the collection of VAT on those sales by providing that they are the persons who are deemed to make those sales.[24]

Two important changes on imports, called "deeming provisions" are:

- Art. 14a(1) VAT Directive [import to the EU]: Where a taxable person facilitates, through the use of an electronic interface the distance sales of goods imported from third countries in small consignments with a value not exceeding EUR150, the electronic facilitator shall be deemed to have received and supplied the goods himself.
- Art. 14a(2) VAT Directive [delivery within the EU]: Where a taxable person facilitates, through the use of an electronic interface the supply of goods within the EU for a taxable person not established in the EU to a non-taxable person (final customer), the electronic facilitator shall be deemed to have received and supplied the goods himself.

Under the new article 14a(1) of the VAT Directive, platforms that facilitate B2C imports of goods into the EU of a value below EUR150 will be deemed to have received the supply from the initial seller, irrespective whether EU or non-EU, (deemed B2B supply) and next sell to the onward consumer (deemed B2C supply). The new article 14a(2) of the VAT Directive provides analogical outcome for platforms facilitating intra-EU sales of goods made by non-EU businesses. It will apply to both domestic sales (i.e. if goods are already located in the member state of the customer at the time of sale) and sales from one member state to another one. Importantly, the deeming provisions do not apply in C2C supplies and apply irrespective whether platform is established in the EU or not and irrespective of the registration of the platform in the one-stop-shop mechanism. The consequence of both provisions is that the online platform is liable for the collection of VAT on the supplies to final consumers and for the remittance of this VAT to the relevant tax administration. Importantly though the new EU VAT provisions envisage also a safe-harbor clause, according to which the digital platform shall not be held liable for the payment of any amount of VAT in excess of the VAT which it declared and paid on sales made through it. Such a provision is required to release digital platform from additional VAT payments where the platform depends on information provided by the supplier selling goods through it and can prove that it acted in good faith.[25]

The EU model of digital platform's liability is implementation of the so-called "full liability regime" as prescribed by the OECD in its 2019 Report.[26] In addition to the liability to collect VAT in certain situations, digital platforms will be subject to extensive data collection and record-keeping obligations with respect to all

23 A. Bal (2019). *The Changing Landscape of the EU VAT: Digital VAT Package and Definitive VAT System*, European Taxation 2-3, pp. 77.

24 Ibid.

25 See Explanatory Memorandum to art. 5c of Council Implementing Regulation (EU) 2019/2026 of 21 November 2019 amending Implementing Regulation (EU) No 282/2011 as regards supplies of goods or services facilitated by electronic interfaces and the special schemes for taxable persons supplying services to non-taxable persons, making distance sales of goods and certain domestic supplies of goods, L 313/14.

26 OECD (2019). *The Role of Digital Platforms in the Collection of VAT/GST on Online Sales*, pp. 24.

supplies executed through them.

3.2.3 Key implementation challenges of VAT liability of digital platforms

The new EU "deeming provisions" create a fiction of two ensuing supplies of goods, first one between the actual supplier and the platform, and second one between the platform and consumer. The scope of these provisions requires a significant amount of additional guidance as it is not just a practical conundrum but also raises some fundamental questions.[27] Three areas of particular attention should be borne in mind: (i) identifying platform business models in scope of new obligations, (ii) tax collection when the platform does not mediate in payment, (iii) returns of goods (up to 30% of online sales) and VAT reimbursement.[28]

The proposed legislation does not provide a direct definition of a marketplace, platform or portal, nor does it explain exhaustively what "facilitate" means.[29] Some platforms exercise strict control over transactions executed through them and are also responsible for payment processing. Others merely make available the infrastructure with little interference in the transaction processing. The broad term "facilitate" could imply that any activity by digital platform might fall within the scope of the new provisions. To better determine the scope, an additional guidance was approved in 2019, which aims at setting the minimum level of intervention required for a platform to be considered as facilitating the underlying transaction among the supplier and the consumer.[30] Following this guidance, the term "facilitate" shall not cover a situation where the platform is not involved, directly or indirectly, in (i) setting any of the terms and conditions under which the supply of goods is made, (ii) authorizing the charge to the customer in respect of the payment made, and (iii) ordering or delivering the goods.[31] Furthermore, the deeming provision shall not apply to digital platform which only provides any of the following: (a) the processing of payments in relation to the supply of goods; (b) the listing or advertising of goods; and (c) the redirecting or transferring of customers to other digital platforms where goods are offered for sale, without any further intervention in the supply (e.g. aggregator websites, comparison websites, and search engines).

When it comes to tax collection, digital platforms may need to change their business model once the new legislation takes effect. Generally speaking, under the new rules, platforms that does not intervene in the payment process but meets other criteria will be expected to collect and remit VAT. To fulfill the latter obligations, the platforms may either have to build a new infrastructure to collect VAT from sellers or will have to rely on payment intermediaries to receive the amounts of VAT collected from transactions it facilitates.

Another practical issue concerns returned goods. If VAT is collected by the platforms rather than the seller, it will have to be refunded by the platform as well. Managing the reimbursements may require some adjusting actions on part of the digital platforms.

27 I. Lejeune, & Ch. Herbain (2018). *Recent Developments on EU VAT: VAT Digital Single Market package*. British Tax Review 1, pp. 4.

28 G. Beretta (2019). *European VAT and the Sharing Economy*, Kluwer Law International, pp. 285; M. Lamensch (2018), *Adoption of the E-commerce VAT Package: The Road Ahead Is Still a Rocky One*, EC Tax Review 4, pp. 191.

29 M. Lamensch (2018). *Rendering Platforms Liable to Collect and Pay VAT on B2C Imports: A Silver Bullet?*. International VAT Monitor 3-4, pp. 48.

30 See art. 5b of Council Implementing Regulation (EU) 2019/2026 of 21 November 2019 amending Implementing Regulation (EU) No 282/2011 as regards supplies of goods or services facilitated by electronic interfaces and the special schemes for taxable persons supplying services to non-taxable persons, making distance sales of goods and certain domestic supplies of goods, L 313/14.

31 Ibid

4. Suggestions for BRI Jurisdictions

With the advent of globalization, governments around the world are facing great challenges brought by e-commerce. The huge growth in online sales of goods has challenged the existing structure of consumption taxation. Taxation of e-commerce is currently high on the political agenda with importation of low-value goods acquired through digital platforms increasingly becoming a hot topic for global taxation. The area where e-commerce presents the greatest tax challenges is cross-border B2C sales which until recently has not presented significant problems. As regards cross-border B2B e-commerce, businesses, unlike consumers, have incentives to report incoming sales to justify the expensing of inputs for tax purposes or to receive credit for these inputs against other VAT liabilities.[32]

On the basis of respecting sovereignty, territorial integrity and independence of participating jurisdictions, BRITACOM should be guided by the principle of rule of law and tax certainty, and the implementation of VAT regulations for e-commerce should be reconstructed. Such rules should be applied in evaluation of tax provisions governing VAT liability of digital platforms arising in the e-commerce. Specifically, such rules should strive to produce tax outcomes that are accessible, precise and foreseeable.

Newly adopted laws in the EU envisage platforms' liability for the collection of VAT on the supply of certain goods. Streamlining the collection of VAT through such marketplaces significantly should facilitate the enforcement of compliance and the effective collection of VAT. Unsurprisingly, some countries, in parallel to the EU action, have relied on online marketplace platforms to impose VAT on foreign sellers in the form of joint and several liabilities. However, in contrast to the full liability model, the latter solution can be categorized as an intermediate model.

BRI jurisdictions should be encouraged to investigate available policy options to the challenges raised by electronic commerce and accordingly tailor legislation to their needs. From the perspective of digital platforms, risks associated with deeming provisions should be counterbalanced with advantages of the new system, such as ease with which goods can pass through border process and improved customer experience resulting from VAT inclusive prices.[33] Taking into account the experience of the EU bloc with the deeming provisions some pressure points could be identified with two crucial elements, such as exact scoping of the digital platforms liability regime and VAT payment process, covering both tax collection and potential reimbursement. Leaving aside though technical aspects, any reform to improve the efficiency of the collection of VAT under the digital platform liability model would need to be complemented with enhanced administrative cooperation between tax authorities of different jurisdictions to enforce compliance. Such cooperation may include the exchange of information to identify parties to the underlying supplies, and monitoring the value of sales and assessment of an appropriate amount of VAT collected and remitted to the tax authorities of the appropriate taxing jurisdiction. Lack of enforcement may be a fundamental and inherent weakness of any collection model. In cross-border situations this becomes even more grave, which invites close cooperation between tax administrations, including which among the BRI jurisdictions.

32 A. Cockfield (2006). *The Rise of the OECD as Informal "World Tax Organization" through National Responses to E-commerce Tax Challenges*, Yale Journal of Law and Technology 1, pp. 163.

33 M. Lamensch, & R. Millar (2019). *The Roles of Marketplace in Taxing B2C Supplies* [in:] M. Lang et al. (eds.), *CJEU — Recent Developments in Value Added Tax 2018*, Linde, pp. 73.

Tax Challenges and Opportunities of Post-COVID-19 Economic Recovery

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Abstract: Governments around the world have taken urgent measures including both fiscal and monetary policies, to address the severe economic effects of the COVID-19 pandemic. Initially measures were taken to support businesses and individuals during the pandemic, to support unemployed people and reduce insolvencies resulting from the crisis; however, as the health situation around the world begins to improve, countries affected by the pandemic should take measures to stimulate growth and employment. This article argues that countries should act to promote investment and economic growth, in support of green energy and future technologies. Policy measures could include tax and non-tax incentives. Stimulus measures should be carefully targeted to achieve the intended result and their effects should be monitored through the collection of relevant statistics. The BRITACOM can be a platform to establish standards and exchange experiences.

Keywords: COVID-19; Tax policy; Tax incentives; Tax relief; Tax administration; BRITACOM

1. Introduction

1.1 A Retrospective on COVID-19 Related Tax Measures

Since the outbreak of COVID-19, various intensive policies and measures, including both fiscal and monetary policies, have been taken to address the severe economic impact of the pandemic. The IMF estimates that countries around the world have taken fiscal actions amounting to about USD8 trillion.[1] Tax measures have been a central component of the policy package in most countries; an earlier paper provided an analysis of measures in key BRI jurisdictions.[2] Details of the measures taken have been compiled by both the IMF and Regfollower.[3]

This paper undertakes a retrospective of measures taken in key BRI jurisdictions; it also looks ahead on possible tax policies and administrative measures as countries plan for a transition period after the initial impact of the pandemic has been managed. Government actions around the world have naturally raised financing challenges, especially for developing countries. These financing needs have largely been funded by borrowing; reversals of capital flows have helped finance fiscal packages in developed countries but have raised challenges for most BRI jurisdictions which are largely emerging and frontier markets. The World Bank estimates that additional financing needs for developing countries will remain high and persist over the medium term, with estimates of pandemic-related external financing gaps ranging from USD150 to USD600 billion annually.[4]

While increased debt will of course be important in bridging the gap, such debt will ultimately need to be repaid and enhanced domestic resource mobilization will be an essential factor in both meeting current expenditure and future servicing and retiring of debt. This retrospective thus considers measures taken to adjust to current circumstances in six months since the start of the pandemic. It examines measures in a sample of OECD countries[5] and compares these with trends in key BRI jurisdictions.[6]

1.2 Analysis of Ongoing Measures in Selected Countries

Many countries are facing decisions on when and how to phase out emergency loans and grants to businesses and individuals, and when to end the tax relief and deferrals. Some schemes have been extended for a longer period, while some countries such as Canada are phasing out the main emergency measures and replacing them with enhanced benefits for certain categories. Some of the tax deferrals in OECD countries are continuing until the end of 2020 and measures targeted at helping certain industries, such as tourism, airports, airlines and automobiles, could last even longer. BRI jurisdictions including Turkey and Uzbekistan have also introduced tax relief measures to help

1 IMF. *Confronting the Crisis: Priorities for the Global Economy*, https://www.imf.org/en/News/Articles/2020/04/07/sp040920-SMs2020-Curtain-Raiser.

2 Hafiz Choudhury, & Daniel A. Witt. *Fiscal Stimulus Measures in Response to COVID-19: A Comparative Analysis and Future Approaches for Key BRI Jurisdictions*. Belt and Road Initiative Tax Journal 1, pp.85-92.

3 IMF (2020). *Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic*. https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19; Regfollower. *COVID-19: Tax Relief Measures around the World*, https://regfollower.com/2020/08/28/covid-19-tax-relief-measures-around-the-world/.

4 The World Bank (2020). *Saving Lives, Scaling-up Impact and Getting Back on Track*, World Bank Group COVID-19 Crisis Response Approach Paper, https://www.worldbank.org/en/news/infographic/2020/11/17/world-bank-group-covid-19-crisis-response.

5 Sample countries include Germany, France, UK, US, Canada, Korea (Rep), Japan, and Australia.

6 Selected key BRI jurisdictions include People's Republic of China, Indonesia, Vietnam, Malaysia, Singapore, Pakistan, Kazakhstan, Uzbekistan, UAE, Turkey, Egypt, Kenya, and Mozambique.

tourism and other industries hit by the crisis.

BRI jurisdictions are also faced with the issue of raising government revenue. Singapore is planning to increase the consumption tax rate from 2021. Kazakhstan has proposed to introduce a tax on crypto-mining and will extend VAT to non-resident providers of digital services from 1 January 2021. Indonesia is planning to impose VAT on digital supplies by foreign companies to Indonesian customers.

There are signs that some countries are considering incentives to relocate their manufacturing to the home country. Korea announced a re-shoring programme on 1 June 2020. France is considering incentives for companies to relocate the production of a range of goods back to France. Some OECD countries are now considering how to raise more tax revenue. Japan is planning to raise the rate of consumption tax, but not immediately. Other OECD countries such as the UK are engaged in debate as to the best way to boost government revenues, with announcements expected later in the year. Others such as Italy are considering tax reductions next year to help the recovery.

Tax administration reform may also become a priority. The UK has referred to the experience of the COVID-19 crisis as one of the reasons for drawing up a new timetable for more frequent, digital submission of tax returns for companies, self-employed individuals and landlords. China is also moving to ensure that corporations can do more of their tax compliance online. BRI tax administrations are moving to enhance tax administration through digital upgrades. Egypt had already begun its national digital Egypt reforms before the crisis, but the government has commented on the advantages of digital communication in the crisis. Egypt's Finance Ministry is to integrate its electronic systems by June 2021.

2. Consequences of the Crisis on Tax Revenue, Spending and Debt

2.1 Falls in Tax Revenue

Drops in employment have affected tax revenues, as governments are not collecting the same level of tax and the tax deducted at source from wages and social security contributions are also likely to be down. Corporate income tax returns and in some cases payments in advance have been deferred, leading to further falls in tax collected. Business profits are likely to be reduced, resulting in lower final corporate income tax liabilities. Many businesses will be making losses, which will lead to falls in tax collected in coming years as those taxes offset the future profits. In some industries, such as tourism and transport, the effects on profits and tax will be felt for some time.

During the crisis, consumption by individuals has been reduced, leading to a fall in consumption tax collection; and excise duties are also likely to be down. Many BRI jurisdictions rely more on revenues from trade taxes. With global and domestic trade declining, this may result in a heavier impact from the crisis. To the extent that VAT revenues are collected at the border, it will also have declined during the crisis.

Developing countries that gain a large share of their tax revenues from commodities and natural resources are always more vulnerable to the fluctuations in global demand and the resulting fluctuations in prices. Low oil prices are also having an important revenue impact on many developing countries, including BRI jurisdictions. The sharp decline in global tourist trade has also hit tax revenues hard in many countries, especially those where tourism accounts for a significant proportion of the economy.

2.2 Impact of Increased Debt

Where public debt has increased owing to measures taken to help business during the crisis there will likely be increased budgetary problems owing to the need to service the increased debt in addition to the demands on government spending in the attempt to stimulate the post-crisis economy. This problem may be somewhat alleviated by a low-interest environment, but high levels of public debt cannot be ignored. This will place pressure on governments to raise more tax revenue to improve public finances.

2.3 Impact on Employment

Globally, the crisis has put pressure on em-

ployers and has resulted not only in employees being temporarily laid off but in large numbers of people becoming permanently unemployed. This, in turn, leads to falls in the amount of tax collected from wages and further decreases government revenues.

3. Metrics to Assess the Impact of the Crisis and of Stimulus Measures

In view of the limited fiscal space available to most countries, and in particular BRI jurisdictions that are facing pressures from limited international trade, lower indirect taxes, dramatically lower resource revenues and tourism revenues, it is essential countries have accurate metrics in place to evaluate the impact of policy. Such metrics will help shape better policy and more targeted use of scarce resources.

The impact of the crisis on tax revenue and on the ability of the tax administration to effectively administer the tax system can be measured by statistics available to the tax administration. Many countries have made available the possibility for taxpayers to defer their tax payments for a certain length of time. The number of applications to defer payments may give some idea of the impact of the crisis on taxpayers and the likely impact on tax payments going forward. A similar metric would be the statistics on the requests for the suspension or extension of debt repayment plans where these exist in the tax system.

Tax or other incentives are often cited as necessary to promote investment, or to influence economic behaviour. Similarly, additional concessions have been announced in many BRI jurisdictions in response to the crisis. Such tax and non-tax expenditure can complicate the tax system and become very costly. However, there is no guarantee that incentive measures will meet their intended impact and monitoring is required. The immediate post-crisis period can be an opportunity to develop and implement processes to measure the impact of concessions.

At a time when the economy is going through a difficult period there will be legitimate concerns about value for money. Government departments in BRI jurisdictions should consider accountability for tax expenditures and increase the amount of transparency. The relevant government departments should thus monitor and evaluate the incentives and tax relief using appropriate metrics to measure the cost of the reliefs and the effect on the economy. The monitoring process should be used to evaluate the effect of the incentives on an ongoing basis and to improve the design and targeting of the concessions to ensure that they are as cost effective as possible. A framework will need to be set up, drawing where possible on international best practices and on input from stakeholders. A strong methodology should be devised to assess the value for money of tax expenditures and reviews should take place at specified time periods for each incentive. An annual review should be conducted to determine whether the expenditures are still fulfilling the government's objectives; and there should be a clear process for stakeholders to voice their concerns.

The ability of the tax administration to continue assessing and reviewing tax liabilities and dealing with taxpayer enquiries is another indicator. The tax administration can review the number of people contacting them using the various channels of communication such as by mail, phone, and email. They can collect information on the types of difficulties taxpayers are facing, the amount of time they have to wait or the amount of time taken to deal with enquiries by post or email. The tax administration is likely to have some staff absent through illness or some working from home where possible. Existing staff resources need to be monitored and redeployed to perform critical taxpayer duties, even though this may mean that some routine services are not performed well. The tax administration will need make full use of its digital capability and must deploy appropriate personnel to allow these services to continue.

4. Raising Tax Revenue during the Recovery Period

4.1 Balancing Tax Collection and Stimulus Measures

BRI jurisdictions will need to restore pub-

lic finances and taxation policy will be critical to raising required levels of revenue. The tax rate must be high enough to raise the required revenue, and taking into account that businesses and individuals may need some time to recover their pre-crisis levels of income. The tax structure is also important and may need to be adjusted in the post-crisis period.

Ultimately, the best way to increase tax revenue is to ensure economic growth. Governments in BRI jurisdictions will therefore need to balance the need for revenue with the need to encourage growth.

In the longer term, governments may need to consider a change to the tax mix or the introduction of new taxes, such as carbon taxes, carbon pricing mechanisms and other environmental measures. BRI jurisdictions may prefer to plan for such changes in the context of international coordination, for example through BRITACOM, while bearing in mind guidance from the OECD's Inclusive Framework. BRI jurisdictions can raise further tax revenue by measures to broaden the tax base through removal of inefficient tax reliefs and raising revenue in areas that will not affect economic growth, such as recurrent taxes on immovable property and general consumption taxes. BRI jurisdictions should continue to tackle the informal economy and ensure fair taxation of online transactions.

In addition to considering expansion of the use of property and carbon taxes, countries may need to improve the efficiency of personal income tax by broadening the tax base and ensuring that income is correctly included on the tax return and the correct amount of tax is paid. Where possible, countries should increase the use of digital technology in tax collection, as this could improve the overall efficiency of tax systems. Developing countries could do this through cooperation with other countries, and regional and international organizations.

4.2 Transfer Pricing

Countries can make use of the recent developments in international taxation to intensify their scrutiny of transfer pricing by transnational enterprises in their territories. Information obtained through detailed documentation requirements and country-by-country reporting can be enhanced by exchange of tax information during transfer pricing queries.

Tax administrations in BRI jurisdictions may have problems owing to the lack of suitable independent comparable transactions for benchmarking purposes. *The Toolkit for Addressing Difficulties in Accessing Comparable Data for Transfer Pricing Analyses* published by the Platform for Collaboration on Tax[7] sets out some strategies that could be useful to the tax administrations of developing countries, such as the use of safe harbours; more efficient use of the available data without compromising taxpayer confidentiality; and employing a framework that allows the most suitable transfer pricing method to be applied in the various situations.

4.3 Withholding Tax

A withholding tax on payments to low tax jurisdictions is a relatively cost effective way for jurisdictions to combat base erosion and profit shifting. A tax administration with limited resources can raise revenue and prevent profit shifting at relatively low cost through this mechanism, although the system would need to be monitored and abuses penalized. It would also be necessary to put together and keep updated the list of low-tax jurisdictions, or simply to define low tax as an effective tax rate below a certain percentage, or below a certain portion of the domestic tax rate.

Although a withholding tax is a relatively crude taxation mechanism, it can be used by a tax administration whose resources do not allow thorough investigation of the transfer pricing position in relation to such payments. It

7 OECD (2020). *Toolkit for Addressing Difficulties in Accessing Comparable Data for Transfer Pricing Analyses*, https://www.oecd.org/tax/toolkit-on-comparability-and-mineral-pricing.pdf .

therefore represents a saving in terms of time and resources. BRI jurisdictions could also consider an alternative policy of denying tax deductions for payments to low-cost jurisdictions. Withholding taxes could be used more widely for payments that may sometimes be used for purposes of profit shifting, such as management fees, technical fees and royalties.

4.4 Future Application of the Concept of PE and Taxation of the Digital Economy

The concept of permanent establishment (PE) was introduced at a time when international trade was very different. There is a view that, in an age of global supply chains and digital ways of operating, it needs to be adapted for the ways in which the business world is changing. Recommendations in the BEPS reports have addressed many of the perceived deficiencies and new circumstances. However, digital services such as search engines and social media platforms still raise important questions in relation to the PE concept. This is particularly true for many BRI jurisdictions that have a large number of users of a particular platform or application in a country without the provider having a presence in the form of a subsidiary or PE. The taxation of such transactions raises important tax challenges.

Some countries are introducing unilateral measures to levy tax on large digital groups with users in their territory. Many of these are presented as temporary measures until international agreement is reached. The OECD has revised its timetable for agreement of the proposals on the digital economy and considers that countries may be able to reach agreement on the issues by mid-2021.[8] This would involve granting countries a new taxing right that would allow them to tax digital companies with users in their territory even when they are not operating through a PE or subsidiary. BRI jurisdictions should consider factors such as compliance costs and capacity needs in tax administration in meeting these requirements.

BRI jurisdictions should also consider the emerging UN work on this area.[9] Unlike OECD, the UN has proposed a two-pronged approach, which the taxpayer can choose from. There is a gross-based tax at an agreed rate between two countries, or a net income-based tax with an apportionment factor based on jurisdictional source. This alternative approach would probably result in a treaty, or non-treaty, based income tax. The UN model also avoids a threshold for entry, via revenue/other criteria, in an attempt to simplify compliance.[10] The UN approach includes the addition of new Article 12B to the UN Model Tax Convention[11] to permit the source state to impose a withholding tax on payments from automated digital services at a rate to be negotiated. The taxpayer would have an option to be taxed on its profits in the source state at the normal tax rate applicable there, the amount of profits to be determined by a set formula.

8 OECD (2020). *Tax Challenges Arising from Digitalisation – Report on Pillar One Blueprint*. http://www.oecd.org/tax/beps/tax-challenges-arising-from-digitalisation-report-on-pillar-one-blueprint-beba0634-en.htm.

9 UN (2020). *Tax Consequences of the Digitalized Economy – Issues of Relevance for Developing Countries*, https://www.un.org/development/desa/financing/sites/www.un.org.development.desa.financing/files/2020-06/CICTM%2020th_CRP.25%20_%20Digitalized%20Economy.pdf .

10 Important questions still need to be resolved on the proposed UN approach – i.e. would the election annual/fixed, ensuring an efficient process for the approach to work in multiple jurisdictions, possible interactions with another jurisdiction employing the model proposed by the OECD, etc.

11 UN (2020). *Tax Consequences of the Digitalized Economy – Issues of Relevance for Developing Countries*, https://www.un-.org/development/desa/financing/sites/www.un.org.development.desa.financing/files/2020-08/TAX%20TREATY%20PROVISION%20ON%20PAYMENTS%20FOR%20DIGITAL%20SERVICES.pdf.

5. Challenges for Tax Administration during the Pandemic

5.1 Tax Administration during the Pandemic

The pandemic poses particular issues in relation to ensuring that tax administration functions continue, and that taxpayers and tax officials are kept safe. In addition to governance issues, the tax administration must take decisions in relation to the deployment of staff through remote working, training and redeployment, while taking adequate measures to ensure their safety and well-being. Such redeployment is bound to increase the use of technological solutions, and has already happened in many BRI jurisdictions. There could also be a role for BRITACOM to help share peer experiences and good practices in use of technology in tax administration.

BRI tax administrations should identify critical functions and categorise other functions according to their perceived importance or necessity. A tax administration would normally undertake risk analysis to identify the places where core systems may have critical vulnerabilities. There should be a risk management plan setting out the mitigating actions to be taken. The various functions within the tax administration should each appoint a contact to liaise with other areas of the tax administration and relevant third parties to ensure continuity of critical functions. At an early stage back-up staff may need to be identified to continue the critical functions and taxpayer services.

The recovery period is likely to be long and will involve managing restoration of tax administration functions. There will be ongoing safety considerations and strategies need to be flexible to adapt to changes resulting from government measures in the course of the pandemic. The OECD suggests[12] that tax administrations should set up a Business Restoration Committee (BRC). This would be an advisory group to prepare recovery plans and work out the implications of major decisions during the crisis. The World Bank has developed guidance on Business Continuity Plans and the IMF has laid out a four-step plan for phased reopening of tax administration functions.

Tax administrations in BRI jurisdictions should plan flexibly for different scenarios such as a relatively quick return to normal work; a slower return where some restrictions continue; a return that is faster for some sectors than others; and further tightening of measures during further waves of the pandemic. Plans would take into account the availability and safety of staff, additional services that may be implemented to support taxpayers and the impact on government revenue. A resumption strategy may be required for each major tax administration function.

Monitoring is required to track the impact of the crisis on tax revenues and on taxpayer segments. A particular area of risk relates to the taxpayers who are involved in excisable goods, especially in the distribution and wholesale levels; several countries have increased their monitoring of this segment. BRITACOM can play an important role in sharing good practices in fighting illicit trade.

As tax reporting has been deferred in many countries, tax returns may not be available, and the information in the returns will relate to periods before the crisis. Early information will however be available from VAT reporting, payroll reporting and direct contact with taxpayers. Further data can be gathered from tax audits when they re-commence, from statistics on requests for deferral of tax payments or from debt repayment plans and numbers of insolvencies. Tax administrations could also schedule period-

12 OECD (2020). *Tax Administration Responses to COVID-19: Recovery Period Planning*, http://www.oecd.org/coronavirus/policy-responses/tax-administration-responses-to-covid-19-assisting-wider-government-0dc51664/.

ic reports on core metrics such as the number of staff available, the ability to maintain IT systems, the use of tax administration services and problems encountered by taxpayers.

5.2 Internal Reorganisation Needs and New Ways of Working

The tax administration must have a clear view on the benefits of working in the office in relation to the health risks involved. Policies must be developed on whether the return to the office is compulsory or voluntary at first and any categories of staff that may be exempted. Safety measures within the office such as social distancing will be important. In the longer term there may be opportunities for greater flexibility in deployment of staff with relevant training and support when required. More of the routine functions can be automated and artificial intelligence and machine learning can assist decision making. Government departments could work together to enhance services through single portals to government services.

Guidance should be issued to staff in relation to home working as there is a risk of fraud and theft of information. Where staff are working from home there is an increased risk of disclosure of tax-related information to third parties such as family members, for example if personal information is worked on when non-government employees are present. The use of voice-activated assistants could also increase the risk of unintentional disclosure. Staff should therefore be asked to perform a risk assessment of their remote working environment and to complete checklists on security requirements. Guidance should be given to staff on anti-spy screen protection, the use of headsets, secure methods of disposing of confidential information and the risks arising from using virtual assistants or leaving devices unattended. It is also important to deal with issues such as dealing with phishing attempts, junk and spam mail and reporting suspicious mail.

Dangers may arise from the use of insecure networks or applications as home networks may not have the same levels of security as the office systems in terms of firewalls or network intrusion detection. Guidance should be provided on protecting home networks, and passwords and verification procedures should be strengthened. Potential security problems with non-government applications, such as video conferencing, should be the subject of guidance. Tax administrations will need to set up internal fraud risk assessments, increase the checks required when paying out funds to taxpayers, and ensure that internal control and audit trail checks are in place.

5.3 Importance of Digital Transformation

Communication with taxpayers through digital and other methods continues to be important. Particular attention must be paid to the tax administration website to make it easy to find and navigate, and to provide clear information on how to contact the tax administration during the crisis, and to estimate response times if possible. The tax administration can specify how to support taxpayers and provide

information about the possibilities of delaying payments. Any changes in services and processes need to be communicated clearly. Performance and availability of online services, particularly through mobile data access, should be regularly monitored.

During the crisis, the benefit of encouraging taxpayers to submit tax returns electronically has been evident. Electronic returns enable some automatic checking of returns and reduce the need for transportation and handling of paper returns. Record keeping within the tax administration is more efficient in terms of storage space and ease of retrieval. However, in many countries, availability of filing sites and mechanisms has been identified as a problem.

The digital transformation combined with more frequent returns can also ensure that more up-to-date information is held by the tax administration. The time-lagged system is out of step with the current world in which smart devices, streaming services and social media platforms are used for communicating, earning money and paying for goods and services. A good example of the importance of this is the experience of the UK during the crisis. The UK HMRC could have designed better support schemes during the crisis if more up-to-date information had been available from tax returns. As the UK's tax year runs to 5 April, at the start of the crisis, the latest information provided by HMRC for many UK taxpayers was for the year 2018/19. As a result, it is difficult to extract relevant information on a citizen's income and tax position, to verify the credibility of claims for support in the crisis. The UK is now planning to extend its Making Tax Digital (MTD) strategy to more taxpayers[13] and is conducting a review of the timing and frequency of paying various taxes.

6. Conclusion

The crisis offers countries opportunity to rebalance their economies towards the technologies of the future and export-oriented industries. Mass unemployment and the crisis have created an environment in which workers have time for further learning and new skills is an attractive alternative. Governments can push to rebalance their economies by introducing additional incentives for exports in growing industries and creating the infrastructure in which the rebalancing can take place. A proper trade policy with simplification of customs procedures and reduction of costs of cross-border trade would also be appropriate. The BRITACOM can be a good platform for exchanging peer experiences and identifying new opportunities.

As mentioned above, stimulus measures need to be monitored to ensure they are providing value for money. If not, they should be redesigned to achieve better results. Again, the BRITACOM could be a platform to establish standards and exchange peer experiences.

Governments can encourage the opportunity to retrain new industries through taxes and other incentive measures. This could include help for industries and technologies such as green energy, AI and robotics, advance manufacturing, genetic research, nanotechnology, and quantum information science. Government support can take the form of grants, tax breaks for the companies involved in the industries or additional tax breaks for investors in innovative startups in these fields.

13 HMRC of UK (2020). *Building a Trusted, Modern Tax Administration System*.

International Taxation and the BRITACOM: A Study from the Perspective of "Profound Changes Unseen in a Century"

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Abstract: The world is undergoing "profound changes unseen in a century", which is crucial for current development of international taxation. The trends of "world multi-polarization, economic globalization, IT application and cultural diversity" are surging forward. New driving forces are replacing the old ones. Balance among different countries is also changing rapidly. A global governance system is thus reshaping. Based on all these changes, this paper analyzes their impacts on international taxation, and particularly the Belt and Road Initiative Tax Administration Cooperation Mechanism (BRITACOM).

Keywords: International taxation; BRITACOM; Profound changes unseen in a century

1. Introduction

Since 2017, Chinese President Xi Jinping has put forward the concept of "profound changes unseen in a century" on several important occasions. This concept should be an indispensable institutional background of studying international tax issues in the current world, and specifically, conducting the research on the Belt and Road Initiative Tax Administration Cooperation Mechanism (BRITACOM). Based on such understanding, this paper puts forward three arguments. Firstly, a clear understanding of "profound changes unseen in a century" is crucial for studies regarding trends in international taxation and the BRITACOM. Secondly, it is essential to comprehend the impacts of these changes on international taxation relations. Thirdly, any further analysis on the BRITACOM could be made on the basis of a better overview of these profound worldwide changes.

2. Concept of "Profound Changes Unseen in a Century" as a Basis for Further Studies

A clear understanding of "profound changes unseen in a century" should start with what President Xi Jinping covered in the report delivered at the 19th CPC Na-

tional Congress on 18 October 2017, "The world is undergoing major developments, transformation, and adjustment, but peace and development remain the call of our day. The trends of world multi-polarization, economic globalization, IT application, and cultural diversity are surging forward". This important analysis has gradually led to the clear judgement of "profound changes unseen in a century". To have a better understanding of this concept, three aspects should be noted, namely its connotation, historical position and current features.

2.1 A Four-dimensional Changing Pattern

As to its connotation, we should refer to the four well-recognized major trends, namely "world multi-polarization, economic globalization, IT application and cultural diversity", which actually form the essence of "profound changes unseen in a century". A dynamic review for this pattern and its changing nature are thus required. Notably, world multi-polarization is now placed before economic globalization, indicating the political relations among jurisdictions are the primary factor affecting international relations. De-globalization sometimes does exist, while in general economic globalization is still the mainstream. Cultural diversity and IT application do manifest the significant impacts of culture and new growth momentum on international relations.

2.2 A Two-fold Historical View

As to its historical version, these profound changes are really "unseen" for a century both domestically and internationally. The century has evidenced numbers of unprecedented shifts that have occured. Economic globalization has largely disrupted segmented closeness. Technical innovation, factor movement, cultural respects and many other new events have transformed the worldwide development path. These profound changes do highlight the unprecedented new opportunities for the mankind.

2.3 A Three-fold Existing Status

As to its current feature, three key elements need to be noted. At the BRICS Business Forum on 25 July 2018, President Xi Jinping proposed three elements of the profound worldwide changes for the next decade. Firstly, the next decade will evidence the growth of new driving forces in full flourish. A large number of new industries, business forms and models will fundamentally change global development and people's lives. Secondly, the next decade will witness a dynamic new political equilibrium among the jurisdictions in the international landscape. Mostly, the collective rise of emerging markets and developing countries will make global development more balanced and world peace firmly based. Thirdly, the next decade will witness the reshaping of a new global governance system, which would be beneficial to the prosperity and stability of the entire world.

3. Impacts of "Profound Changes Unseen in a Century" on International Taxation

3.1 Influences of a Changed World Pattern on International Tax Relations

First of all, global politics have already become the primary influential factor. World multi-polarization has various meanings, with the choice of developing path, different ideological beliefs, linkage of association and special national interests. Political factors played an increasingly important role in all aspects of international field in our current era, and international taxation relations are no exception. Secondly, the process of economic globalization has now faced its difficulties. While globalization still has its kinetic energy and acts as a mainstream, the process has suffered certain setbacks, sometimes even de-globalization. For a long time, most of literature concerning international taxation issues has taken a strong globalization process for granted, or as almost the only positive factor. Again however, such a day has gone. Thirdly, evidences have shown that cultural diversity does reflect an increasing importance of cultural differences in international contacts. Exchanges between different cultures have essentially affected international taxation relations. Fourthly, it has been fully recognized that the

move of large-scale technology innovation has strong impacts on the global development. The resulting application of Internet technology has brought new challenges to any domestic tax regimes and international taxation governance. In short, facing such comprehensive profound changes nowadays, international tax cooperation should be strengthened in response to new challenges and opportunities, and promote the adaptability of international tax rules.

3.2 Unexpected Results of the Rising Digital Economy

Along with the large-scale technology innovation and IT application, the emergence of a digital economy has become a worldwide phenomenon. New features of digital economy have brought challenges to the traditional functions of domestic taxation systems, which in turn have had impacts on international tax relations. Firstly, economic digitalization changes the way of international trade and investment, and reshapes the distribution of international interests. Secondly, the process of digitalization results in mismatches between places where economic activities occur and places where profits are booked. Thirdly, the virtual nature of the digitalization process brings challenges to traditional tax jurisdictions. Fourthly, most of digit-linked economic activities change the collection and exploitation of tax data, hence promoting the digitalization of tax administration.

These new issues naturally call for and evidence two crucial trends. One is that jurisdictions and international organizations have already strengthened the depth and breadth of tax cooperation. It is imperative to strengthen international tax cooperation in the identification of PE standards, profit allocation of digital activities, settlement of digitalization divergence, and of course, necessary bargains or negotiations of the distributions of economic gains. The other is that almost all sovereign states have implemented tax instruments to promote their own digital economic activities. Each country attempts to take advantage of this new chance and hopes to take a lead along the digitalization process. Competition will surely be tough in all means.

3.3 Emergence of New Types of International Tax Competition and Cooperation

These profound changes have impacts on transnational capital flows as well. International taxation often focuses on five aspects. First, sovereign states levy taxes on transnational mobile tax base according to tax jurisdictions. Second, sovereign states spare no effort to curb tax avoidance caused by transnational capitals. Third, sovereign states strengthen international cooperation and optimize domestic tax regime to avoid double taxation on transnational activities. Fourth, sovereign states adopt tax reduction and preferential measures to strive for mobile tax base. Fifth, sovereign states sometimes would jointly prevent harmful tax competition, combat tax evasion and avoid double taxation.

All these reflect two types of relationships. One is the relationship between sovereign states, while the other is the one between sovereign states as a whole and transnational capital as a whole. Such two relationships will have certain modifications given the profound changes and will present new characteristics in the new era. As the global multi-polarization becomes a notable background for international taxation issues, the state-state and state-capital tax relationships now turn to be a political-economic combination, which will provide future researches on international taxation with a unique perspective.

3.4 Rebuilding of Global Tax Governance in the Post-BEPS Era

Given these profound changes, adjusting or reshaping global tax governance system is an irresistible trend. Such adjustments should also be crucial for further implementation of the Base Erosion and Profit Shifting (BEPS) Project. From its start of research in 2012 to its formal realization in 2015, the BEPS Project has contributed to preventing the erosion of tax base among countries. From 2016 on, with the coming of the post-BEPS era, the BEPS Project has entered into the implementation phase. This era just coincided with all these profound changes. BEPS Project was the product of economic globalization, and the implementation of BEPS Project

will simultaneously be subject to a combined factors from political willingness of different jurisdictions, ongoing economic globalization and sometimes de-globalization to a certain degree. No longer will the sovereign states be a united entity, nor will powerful capital be an integrated body. Such a new state-capital duel will be a complex one and will result in many uncertainties in the implementation of the BEPS Project. Given all these, international tax community needs to find out a new set of governance rules for a more efficient global tax system in general, and an effective implementation of the BEPS Project in particular.

3.5 Active Role China Has Played in International Tax Governance

Over the years, China has been deeply involved in the efforts for a better international tax governance system. From the beginning of this century, China has been playing an increasingly important role in the international taxation arena, showing a positive attitude as a responsible country. In recent years, China has successfully transformed from a participant to an active player in international tax governance. Under both the tax cooperation of the BRI and the framework of OECD/G20 BEPS Project, China has promoted bilateral, sub-multilateral and multilateral international tax cooperation continuously. It is true that both projects take into account the interests of developed and developing countries and provide a North-South dialogue platform for global tax issues. As a platform for multilateral tax administration cooperation among BRI jurisdictions, the BRITACOM meets closer to the needs of BRI jurisdictions, pays more attention to the interests of developing countries, and includes more factors such as cultural diversity.

4. Rethinking the BRITACOM in the Context of "Profound Changes Unseen in a Century"

4.1 Adjusting the Direction of BRITACOM according to the Changed World Pattern

All aspects of the profound changes should be considered in guiding the direction of the BRITACOM. For instance, the trend of global multi-polorization calls for the BRITACOM to firmly recognize a coexistence of different paths towards tax modernization. Looking ahead, this direction needs to be further consolidated and the resulting benefits will be increasingly recognized. Consideration of the complex nature of current economic globalization can be another case in point. The BRITACOM could adapt to the trend of globalization and further strengthen the interaction and cooperation among the Belt and Road cooperation parties in taxation. It could help emerging markets and developing countries involve in the international division of labor and share the benefits of globalization. The BRITACOM could make joint efforts to international taxation administration cooperation, and particularly expand tax cooperation among the Belt and Road cooperation parties. Such efforts as tax service, dispute resolution, tax legislation and risk management could be implemented firstly within BRI jurisdictions, so that the BRITACOM could truly realize its vision that fosters economic growth of the Belt and Road cooperation parties and contributes to the fulfillment of inclusive and sustainable development.

4.2 Paying More Attention to Tax Challenges Arising from Digitalization

As the rising of digital economy is the first element of current status of the profound changes, the BRITACOM could place related taxation issues on the top of the cooperation list. It is apparent that the development of digital economy raises more complex and broader taxation issues, exacerbates challenges to the existing tax rules and changes the nature of policymaking. The BRITACOM could consider the impacts of digitalization on international tax rules as well as other aspects of tax system, and act as a group to help promote negotiation. Undoubtedly, tackling international taxation issues raised by the digital economy requires joint efforts to improve certainty and clarity in taxation. Specifically, how to allocate taxing rights on income generated from cross-border activities should be

clarified among BRI jurisdictions. Guidelines and principles for taxing online sales should be also formulated. Examples may include the adoption of tax measures such as alternative applications of the PE threshold, withholding taxes and turnover taxes. Besides, the fact that digitalization changes the collection and exploitation of tax data can not be ignored. With the development of an intelligent society, BRI jurisdictions are facing greater opportunities to enhance their tax collection and management capacities. BRI jurisdictions should strengthen cooperation in sharing advanced experiences of tax collection and improving underdeveloped countries' technical level of tax administration. The BRITACOM thus could make use of digital technology to promote effective tax administration, so as to reduce administrative costs, enhance tax transparency and optimize tax/business environment.

4.3 Acting as a Platform for Hearing More Voices from Developing Jurisdictions

The number of jurisdictions joining the BRITACOM will further increase. For those developing jurisdictions that have few opportunities to speak on international occasions, the BRITACOM is a appropriate platform for their presentation. At the same time, the BRITACOM could strive to maintain a balance between the interests of developed and developing jurisdictions, and establish a cooperation platform for tax administration on an equal footing. Furthermore, the BRITACOM should urge all parties to work together for a fairer international tax governance system. The BRITACOM experiences could be used as an imperative reference for improving international tax order. It is a sincere hope that more emerging markets and developing jurisdictions will join the BRITACOM and forge strong partnerships in tax administration.

4.4 Promoting Governance Standards and Tax Administration Capacity through the BRITACOM

With the continuous development of the BRI, economic and trade exchanges between participating jurisdictions have been frequent. However, facing different development levels, legal environments and related dispute resolution mechanisms, BRI jurisdctions still face somewhat different standards for tax governance and

actually have different levels of tax administration capacities, which possibly leads to disputes over tax jurisdictions and the application of tax treaties. To tackle these mismatches and imbalances, the BRITACOM could further enhance the pluralistic and open process of cooperation. Efforts could be made in these two interactive aspects, namely improvements in governance standards and enhancing administrative capacities. The BRITACOM could promote the standards' convergence for tax governance, such as tax legislation, dispute resolution and principle of the tax base. It is noted that the convergence of tax governance standards does not mean that all BRITACOM Member Tax Administrations adopt unified standards, yet it is a relative convergence that jurisdictions at different levels of tax administration work together in the direction of tax modernization, thereby improving the overall level of tax management. The BRITACOM could also improve tax administration capacity, especially for the tax administration of cross-border activities. It is thus vital to enhance tax cooperation to provide knowledge product, training courses and technical assistance. The BRITACOM could also bring together tax authorities of BRI jurisdictions to discuss administrative issues and share needed knowledge. The simultaneous improvement in both tax governance standard and administration capacity could ensure the benefits of the BRITACOM to be fully exploited.

5. Conclusion

With "profound changes unseen in a century", the development of the future remains to be seen, which in turn stresses the importance of international tax cooperation, as this cooperation will help generate some certainty in current uncertain world. Since the establishment of the BRITACOM, all parties have become increasingly close to each other and the cooperation has steadily expanded. Specifically, in the fight against the COVID-19, BRITACOM Council Member Tax Administrations, Observers, and other related parties have made significant consensus on making joint efforts to defeat the virus and promote economic recovery. The BRITACOM would further serve as a platform for improving international tax administration capacities and international governance system, making sure that the views of emerging markets and developing countries are heeded, and then serving to build a community of shared future for mankind.

Great Outcomes Brought by China's Unremitting Efforts to Optimize Tax-related Business Environment

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Abstract: In recent years China's tax authority prioritized the expectations of market entities and focused on relieving their burden, supporting their development, raising the efficiency and promoting shared governance, improved the mechanism to advance work and paid special attention to the implementation of reform measures, so as to ensure timely implementation of tax and fee reduction, deliver notable reform results in key areas including legislation of taxation and facilitation of tax payments, and actively build a stable, fair, transparent and predictable tax-related business environment.

Keywords: Tax-related business environment; Tax and fee reduction; Legislation; Facilitation

The Chinese government attaches great importance to the optimization of business environment. As President Xi Jinping pointed out, a better business environment should be created to release enormous potential and driving force of development by enhancing its capability to attract, reassure and retain businesses. The establishment of a market-oriented, law-based and internationalized business environment, as highlighted by Premier Li Keqiang, requires deepening reforms to streamline administration, delegate powers, and improve regulation and services. In recent years, the State Taxation Administration (STA) of China has made every effort to cut taxes and fees and facilitate tax payments, aiming to create a stable, equitable, transparent and predictable tax-related business environment.

1. Improving the Mechanism and Coordinate All Streams of Work for Optimized Business Environment

Regarding optimization of tax-related business environment as a crucial step to speed up modernization of tax governance system and capacity, the STA keeps improving the mechanism to advance work, encouraging innovation-driven development and focusing on the implementation of reform measures so as to

bring breakthroughs in the reform of tax-related business environment.

- **Ad hoc groups are established to provide organizational infrastructure.** In order to fully implement the Work Plan of the Central Committee of the Communist Party of China and the State Council to optimize the business environment, the STA attaches great importance to the optimization of tax-related business environment. To this end, steering groups and ad hoc working groups are established at both state and local level for enhanced systemic guidance and coordination, and synergy across departments and levels. These groups are responsible for formulating coordinated work plans on a regular basis and ensuring their effective and meticulous implementation.
- **Specific schemes are formulated to guide the reform path.** In order to accelerate the transformation of the reform achievements of tax facilitation, the STA has adopted a goal, problem and result-oriented approach, and rolled out a batch of targeted reform measures in a more comprehensive and coordinated way, thus promoting the continuous optimization of tax-related business environment. For example, in September 2018, the five-year action plan to optimize tax-related business environment was formulated. With 58 specific reform measures in five categories in place, it is a top-down design for the five-year development blueprint of tax-related business environment; on this basis, in September 2020, with the consent of the State Council, 12 departments, including the National Development and Reform Commission, the Ministry of Public Security and the Ministry of Finance, jointly issued the *Notice on Measures to Promote the Reform to Facilitate Tax and Fee Payment and Optimize Tax-related Business Environment*, comprising 16 reform measures in five categories to further advance the reform for facilitation of tax payment and push the optimization of tax environment to a new level.
- **Pilot programs are deepened to promote innovation-led development.** To strengthen innovation in the optimization of tax-related business environment, the STA, in the principle of "making joint efforts at state and local level under the guidance of overall planning, encouraging active innovation while maintaining prudence", has coordinated with 18 provincial and municipal tax bureaus, and launched a total of 1,275 reform measures, among which 1,017 have been completed. Initiatives such as paying tax within "one visit", "one-tax-return" and "one-click" online filing, going through start-up procedures directly online, "one window" for integrated and parallel processing services including the registering, trading and taxpaying regarding real estate, have been promoted nationwide as exemplary cases.
- **Oversight is strengthened to ensure the implementation of work.** To guarantee the high-quality accomplishment of optimization moves, the implementation mechanism, which highlights the priorities in tax environment optimization, is improved to identify the responsibility by means of cascading accountability, all-round inspection and supervision, performance appraisal and so on. The STA also sets up evaluation indicator of "tax environment optimization" to motivate the related departments and bureaus to implement the reform measures with high quality and put the tax-related business environment high on the inspection agenda. Approaches such as field visits and symposiums are employed to comprehensively track the implementation progress and ensure that tangible results are produced.

2. Aligning with Advanced Practices and Launching Targeted Policies to Promote the Implementation of Reforms in Key Areas

Through learning from advanced international practices, the STA underscores the expec-

tations of market entities in its work and focuses on relieving their burden, supporting their development, raising the efficiency and promoting shared governance, so as to deliver notable reform results in key areas including legislation of taxation and facilitation of tax payments.

2.1 Making Solid and Meticulous Efforts on Implementing Preferential Policies to Reduce Tax Burden for Businesses

- **Promptly introduce relevant policies and see to their timely implementation.** The STA, joining hands with other departments, has carried out prompt research and formulated related policy documents on the tax incentives package planned by the Chinese government. Meanwhile, the STA has undertaken on its own the design of corresponding support measures, and timely adaptation of information system for tax administration, so as to ensure timely implementation of tax and fee incentives. In recent years, the Chinese government has implemented a series of preferential tax and fee policies, such as lowering the value-added tax (VAT) rates, decreasing the effective income tax rate for small and micro enterprises (SMEs), and reducing enterprise contributions to social insurance schemes, which have effectively reduced the tax burden on enterprises while bringing down China's total tax revenue and the overall contribution rate.
- **Establish an effective mechanism to guarantee the implementation of policies.** The STA has established a mechanism featuring unified leadership, overall coordination, all-in-one tax returns, thorough implementation, synthesized services, consistent responses, standardized accounting, integrated supervision and concerted efforts. For example, training activities have been held with the theme of interpretation of preferential tax policies for tax officials at the basic level so as to ensure they can comprehend and are prepared for any possible enquiry and execution, and eventually, to facilitate the thorough implementation; integrated supervision, involving a closed loop of identifying problems, rectifying them, giving feedbacks and improving the mechanism, is undertaken to ensure that the eligible get the most out of these policies.
- **Keep upgrading the services to ensure that the eligible can benefit from these policies as soon as possible.** More novel and sophisticated services are introduced to cut taxes and fees, including targeted services, among which 8 are for supporting inclusive tax relief for SMEs, 20 for deepening the VAT reform and 16 for lowering contribution rate of social security; 28 general services focusing on the facilitation of invoice usage, simplification of tax processing and enhancement of information support; and the practice of "Keeping for Filing", which means that taxpayers can apply tax incentives on their own and the relevant materials are kept for future reference. Now over 95% of tax incentive applications are exempted from filing relevant materials so that taxpayers can enjoy the preferences as soon as possible.

2.2 Steadily Pushing Forward the Tax Reform to Support High-quality Economic Development

- **Continuously expedite tax legislation.** The STA, along with relevant departments, is making continuous endeavors to push forward the construction and perfection of a stable and unified legal framework for taxation, involving legalizing sophisticated rules and regulations that have been tested by practices. So far, legislations of 11 tax types have been enacted, and those of the VAT and excise tax are at the public consultation stage. Meanwhile, the STA is also working with relevant departments on the revision of the *Tax Administration Law*, refining administrative rules and regulations on e-invoice management and tax-related services, thus further boosting the tax legislation progress.
- **Initially establish a modern tax system.** Giving full play to the adjusting role

of taxation in supporting economic development, the STA has instituted a batch of tax reforms to establish a sound modern tax system with stable tax revenue, optimal structure and standardized regulations. For example, since China fully implemented the pilot project of replacing business tax with VAT on 1 May 2016, a more equitable, simplified and efficient VAT system was explored through the efforts of cutting the number of VAT brackets from four to three, lowering VAT rates, unifying the standard for small-scale taxpayers, and improving the refund scheme for excess input VAT credits. Since 2018, the STA has been pressing ahead the personal income tax reform to combine comprehensive and schedular tax systems, marking the evolution of the tax reform from an outcome of economic governance into a component of social governance.

- **Design the tax system in a more scientific manner.** In accordance with the planning and deployment of the Chinese government and with an eye on the actual economic and social development, the STA enhances the overall design, promotes the implementation of supplementary policies and steps up the building of a more scientific and equitable modern tax system. For example, the STA, along with the Ministry of Finance, jointly carried out a refund scheme for excess input VAT credits within certain industries in 2018 as the World Bank's *Doing Business* report suggests. Since 1 April 2019, the scheme has been scaled up to all industries, with clear procedures and standardized operations, so as to realize a complete online processing of applications, review and issuance of tax refunds, and consequently to ease the pressure on corporate cash flow with enhanced efficiency.

2.3 Further Deepening Reforms for Facilitation of Tax Payment to Raise the Efficiency of Taxpayer Services

- **Improve and streamline the filing process.** The STA has achieved a sustained decrease in the number of tax payments by simplifying the tax system, consolidating tax returns, promoting combined filing and so on. For instance, business tax has been phased out as the reform of replacing business tax with VAT expands to all industries. Since the promotion of the Golden Tax Project Phase III in 2017, taxpayers can file a combined return of stamp tax on different taxable items; in 2019, the integrated filing of VAT and its additional tax, and the joint filing of urban land use tax and real estate tax were put into force; in 2020, the STA has arranged local tax bureaus in Beijing, Shanghai and Guangzhou to pilot comprehensive filing of diverse taxes including corporate income tax, urban land use tax, real estate tax, land appreciation tax and stamp tax, substantially reducing the time of tax filing for companies.
- **Vigorously shorten the time of paying tax.** The STA has greatly reduced the time of tax payments by deepening the reform of collection and administration systems of the state and local tax administration, simplifying tax returns, upgrading the online tax administration system, and publishing standards for data conversion of financial statements. For the reform of collection and administration systems, taxpayer service halls of the original national and local tax bureaus are upgraded and integrated, while 12366 Taxpayer Service Hotline, Golden Tax Phase III System and online taxpayer service platform make the "one-network" and "one-click" function possible; the STA has simplified the tax returns for VAT, corporate income tax and other taxes, and promoted auto-generation of tax returns for enterprises on the basis of linkage between data in financial statements and tax returns; by leveraging big data analysis, tax policy information and tax guidelines are pushed to taxpayers concerned; tax bureaus in Beijing, Shanghai and other localities have also developed an approach to conducting real-time conversion between financial statements at busi-

nesses' end and tax returns at tax authorities' end with error-reporting function.

- **Actively build smart tax administration.** The STA has not only availed taxpayers of more convenient and efficient online services, but also enhanced the effectiveness of tax administration by implementing the "Internet + Taxation" action plan, introducing "zero physical contact" taxpayer services, developing electronic channels for tax payments, and promoting the application of e-invoices. For example, the Golden Tax Project Phase III is thoroughly promoted to realize a nationwide unification of tax administration platforms, application software and business standards; the "Internet + Taxation" initiative is implemented to promote the deep integration of Internet innovations with tax administration, and to create a whole-time running smart tax administration ecosystem featuring comprehensive scope, high accessibility, complete process and full interconnection, and so far more than 90% of corporate taxpayers' tax matters can be handled online; the electronic tax payment is further promoted to realize "full online signing" of the tripartite agreement, and the third-party payment via the mobile app of Electronic Tax Bureau is enabled to facilitate taxpayers, which has already become the preferred payment method for them; e-invoices are steadily phased in, with electronic ordinary VAT invoices promoted in 2015, the national public service platform for e-invoices launched in 2019, and the reform of electronic VAT invoices for newly registered taxpayers in certain regions has been piloted since September 2020. By the end of 2020, almost all the VAT specialized invoices for newly registered taxpayers will be electronic.

2.4 Vigorously Fitting into the Landscape of Shared Governance to Maximize the Benefits for Businesses and Individuals

- **Optimize services for startups.** The STA has made every effort to simplify the processing of tax matters for startups, and to shorten the time span of initial application and issuance of invoices. Since 2018, the STA has successively promoted measures including "service packages" for newly registered taxpayers, accelerated reviews of newly registered taxpayers' first application for VAT invoices and parallel processing of multiple tax matters at once. The time of the first application and issuance of VAT invoices for startups has been reduced to less than 2 working days, and in some localities, 1 working day or even instantly. At the same time, the STA has also actively cooperated with the State Administration for Market Regulation to further facilitate processes of starting a business, secure substantial reduction in its institutional transaction costs, and continue to stimulate the vitality of mass entrepreneurship and innovation.
- **Speed up the tax processing for real estate transactions.** In 2019, the STA issued the *Announcement on Optimizing Tax Processing Methods for Real Estate Transactions* to speed up the processing of real estate transactions by further broadening processing channels such as online prechecks, promoting one-window services enabled by cooperation across departments, streamlining the process through synthesized services. In 2020, the STA has also worked with relevant departments to push ahead the "Internet + real estate registration" and the building of an integrated online platform providing "one-window" services. Up to now, joint handling of businesses related to real estate registration is feasible in nearly 85% of the municipalities in China, making things easier for enterprises and individuals.
- **Expedite export tax rebates.** The STA cooperates with the General Administration of Customs to enable export tax rebates to be completed through one single window so as to promote one-stop paperless handling, continue to optimize and expand the "zero physical contact" rebate service, and

accelerate the tax rebates. As a result, for a normal tax rebate, the average processing time has been reduced by 20%, and it is possible to be done within 8 working days, which consequently promotes the stable development of foreign trade.

3. Adopting a Step-by-step Approach and Elevate the Effectiveness and Efficiency of Tax Service and Administration

In recent years, to further deepen the reform of streamlining administration, delegating powers, and improving regulation and services, the STA has continued to launch facilitation measures for taxpayers, striving to create a tax-related business environment with less burden, simpler processes and better services.

- **Tax processing has been continuously facilitated.** According to the World Bank's *Doing Business* report, China's global ranking on the indicator of paying taxes improved from 131st in 2016 to 105th in 2019, with the number of tax payments reduced from 9 to 7, and the time consumption of paying tax reduced from 259 hours to 138 hours, which are among the top 20 and top 50 in the world respectively and significantly better than the average of 10.2 times and 159 hours of OECD high-income countries. As for post-filing processes, China obtains full marks for two consecutive years in "time to comply with a corporate income tax correction", and ties for first place in the world, which demonstrates that tax payment in China has been greatly facilitated.
- **Taxpayer satisfaction has been steadily enhanced.** The taxpayer satisfaction survey conducted by a third-party agency entrusted by the STA shows that taxpayer satisfaction scores have been rising in recent years. The taxpayer satisfaction score in 2018 was 84.82 points, an increase of 1.21 points over 2016, and the score in 2019 was 1.44 points higher than that in 2018. Meanwhile, the satisfaction gap between regions across the country has been narrowing year by year, reflecting taxpayers' increasing recognition of tax work.
- **Tax compliance continues to improve.** According to the national tax credit evaluation[1] in 2020, the number of A-level (highest) enterprises leaps to 1.72 million, an increase of 460,000 or 37% over last year, while the number of B-level and M-level enterprises grows steadily and the number of C-level and D-level enterprises drops, indicating that the awareness, willingness and ability of taxpayers to pay taxes in accordance with the law are increasing, and the overall tax credit status of enterprises continues to improve.

The business environment can always be better. Creating a world-class tax-related business environment is not only an integral part of the work of the STA, but also a key element in modernizing tax governance system and capacity. Going forward, following the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and centering on the needs of taxpayers, the STA will continue to push ahead reforms to further facilitate tax and fee payments and put in place more practical and effective innovations to enhance support for market entities.

1 The tax department evaluates the credit status of corporate taxpayers each year based on four dimensions: corporate attitude, compliance ability, actual results and the degree of dishonesty, including nearly 100 evaluation indicators. The evaluation results are divided into five grades from high to low ranging from A, B, M, C to D.

2020

2 June - 22 October 2020

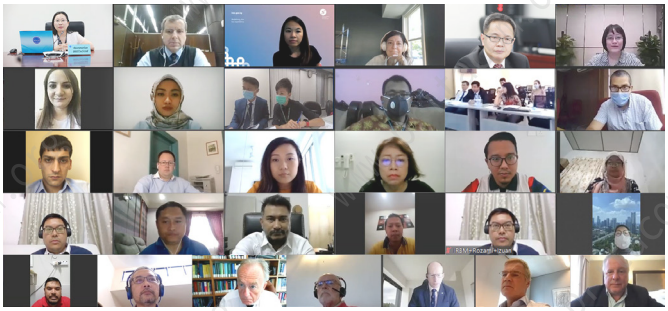
A Series of Virtual Seminars on Tax Digitalization Held

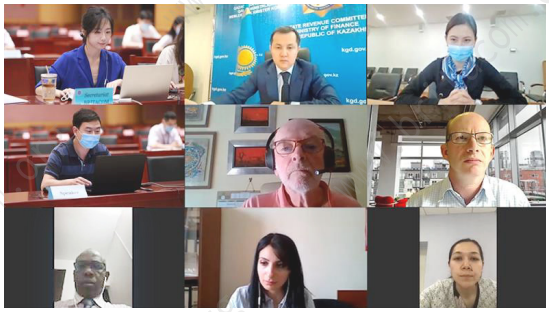
Since the virtual meeting featuring Responding to COVID-19: BRITACOM Perspective on 2 June 2020, the BRITACOM Secretariat has hosted a series of virtual events, which provides BRITACOM parties one more opportunity to exchange views and share experiences in such challenging times. Considering the theme of the Second Belt and Road Initiative Tax Administration Cooperation Forum (BRITACOF) and the significance of tax digitalization especially in the fight against COVID-19, BRITACOM Secretariat has held three working-level seminars featuring tax digitalization. As part of the virtual seminar series, Seminar 1 and Seminar 2 (each Seminar includes one working level seminar plus one follow-up meeting), with the theme of business continuity in response to COVID-19 and service and administration of VAT in digital time, took place from 30 July to 22 October 2020. Representatives from BRITACOM Member Tax Administrations, Observers, Advisory Board, international organizations and businesses attended the seminars, exchanged views on digitalization in such areas as tax consultation, tax publicity and taxpayer services to maintain business continuity during the pandemic and shared experiences in service and administration of VAT in digital times.

12 June 2020

The Launch Ceremony of the Belt and Road Initiative Tax Journal Held

The Launch Ceremony of the Belt and Road Initiative Tax Journal (BRITJ) was held in Beijing, China on 12 June 2020. BRITJ provides an important platform for communication and cooperation among tax administrations of the BRI jurisdictions and beyond, through which the Belt and Road Initiative Tax Administration Cooperation Mechanism (BRITACOM) Member Tax Administrations, Observers and other relevant parties could share insights for the formulation and development of effective tax policies and tax systems, and exchange innovative practices and invaluable experiences. Letters and videos of congratulations on the launch of the BRITJ from members of the Editorial Advisory Board could be found on the BRITACOM website (www.britacom.org).





July - October 2020

Five Online Training Programs Held

Due to the outbreak of COVID-19, international travel and onsite training events are temporarily suspended at this stage. To cushion the impact of the virus, the Belt and Road Initiative Tax Administration Capacity Enhancement Group (BRITACEG) has delivered five online training programs from July to October 2020 for more than 350 participants from 31 BRI jurisdictions, featuring Large Business Management, Risk Management, Country-by-Country Reporting, Tax Treaties and Training for Trainers respectively.

4 August - 23 September 2020

BRITACOM Wuzhen Action Plan (2019-2021) Task Force Virtual Meetings Held

Five virtual meetings of task forces of the BRITACOM *Wuzhen Action Plan (2019-2021)* on Expediting Tax Dispute Resolution, Following Rule of Law and Raising Tax Certainty, Enhancing Tax Administration Capacity, Digitalizing Tax Administration and Streamlining Tax Compliance took place successfully from 4 August to 23 September 2020. Chair of each task force updated participants on the progress of each task force. Members of the task forces and the Advisory Board exchanged views on each interim report and reached consensus on next steps.

24 September 2020

The BRITJ Editorial Advisory Board Annual Meeting 2020 Held

More than 20 members of the Editorial Advisory Board around the world attended the annual meeting and expressed their support and provided their insightful views on the first issue, on BRITJ's development and role of the Editorial Advisory Board in general. The BRITJ, while featuring the distinct characteristics of BRI jurisdictions, shall provide an indispensable platform in deepening tax communication and cooperation, and give full play to its role of "think tank" by providing intellectual support for BRI jurisdictions to improve domestic tax environment, strengthen tax administration cooperation, and build a growth-friendly tax environment.

23 October 2020

The Membership and Observership of the BRITACOM Expanded

Since the establishment of the BRITACOM in April 2019, two more Member Tax Administrations and eight more Observers have joined the BRITACOM by completing related processes based on the *MoU on the Establishment of the BRITACOM*. So far there are 36 Member Tax Administrations and 30 Observers spanning from Asia to Africa, Europe, America, and Oceania, working together on tax matters for removing barriers to cross-border trade and investment, and boosting coordinated regional development and inclusive growth in the context of economic globalization.

15 December 2020

The High-level Virtual Conference Held

The High-level Virtual Conference featuring New Challenges, New Opportunities, and Future: Development Planning of Tax Digitalization in the Context of the Global Pandemic was held on 15 December 2020, participated by representatives from BRITACOM Member Tax Administrations, Observers, Advisory Board, international organizations and businesses. Participants shared experiences of making development planning of tax digitalization, introduced the digitalization technologies of taxpayer service, and exchanged views on how tax digitalization could serve state governance and thus stressed the importance of international cooperation.

Contributions Invited

Dear readers and writers,

We highly appreciate your contribution to the *Belt and Road Initiative Tax Journal* (BRITJ), and look forward to your continuous support in the future.

As an official journal sponsored by China Taxation Magazine House in collaboration with the BRITACOM Secretariat, BRITJ is committed to serving as a platform for communication and cooperation among tax administrators, academia, tax practitioners and other stakeholders around the world, and providing strong theoretical support and international reference for tax reform and administration among the Belt and Road jurisdictions.

Given your expertise and reputation in the tax arena, we sincerely invite you to contribute papers to the journal on such themes as tax issues concerning the Belt and Road Initiative, the latest development and reform of tax system and tax administration as well as hot topics in the field of international taxation. Papers written in English with less than 5,000 words and sent in a WORD format would be highly appreciated.

Papers can be sent to britj@britacom.org. For more information, please visit our website: www.britacom.org.

Kind regards,

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