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**DIGITALIZATION OF TAX
ADMINISTRATION:
ADVANCING A SHARED VISION
THROUGH COLLABORATION**





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TABLE OF CONTENTS



Feature

- 5— The Present and Future of Electronic Invoicing in Hungary:
Challenges and Opportunities in the ViDA Era
Bálint Ármin Takács and Szabolcs Péter Czöndör
- 12— Integrated Tax Systems and Administrative Reforms at the
Georgia Revenue Service
Teona Tsimakuridze
- 20— The Impact of CRS on Tax Transparency and Financial Compliance
in Armenia: Potential Effects, International Evidence,
and Empirical Evaluation Options
Anna Torosyan and Nairuhi Avetisyan
- 26— Closing the Tax Gap Through Administrative Design:
A “Tax Pipe” Framework for Digital Tax Administration
in Belt and Road Economies
Chris Sanger and David Snell
- 37— How Technology and Transformation Unleash Strategic Potential for Tax
Carina Ngai and Brendon Choy



- 43— Improving the Tax Environment
— A Business and Industry Perspective
Christian Kaeser
- 48— Bridging the Digital Divide: Why Tax Administration
Transformation Demands a New Corporate Response
R. Jay Riche

Tax System

- 55— The Tax Code of Macao SAR of China:
A Comprehensive Reform for Modern Tax Administration
Pui Kam Tam

International Taxation



- 58— Five Key Global Minimum Tax Considerations for
BRI Jurisdictions in 2026 and Beyond
Conrad Turley and Tam Do
- 66— Pillar Two and the “Side-by-Side” Agreement:
A Guide for the Perplexed
H. David Rosenbloom
- 71— The OECD “Side-by-Side” Package:
Technical Features and Implications for
Pillar Two Implementation
Stefano Grilli and Giuseppe Francesco Patti



Analysis & Insights

- 77— Tax Governance Issues for Multinational Enterprises
in a Complex World
Hafiz Choudhury and Peter Hann

TABLE OF CONTENTS

Tax Practice

- 86— Optimizing Cross-Border Tax Services for Belt and Road Development:
Practices of Jiangsu Provincial Tax Service, the State Taxation Administration of China
Xu Guanglie
- 91— The Right People, the Right Roles: Rewiring Human Resources
at the Indonesian Tax Authority Headquarters
Ihsan Priyawibawa
- 97— Reinforcing the Capacity Building of the Tax Administration of Malaysia
Suzaina Sopian
- 104— Tax Administration Capacity Building Enhancement in Algeria
Ahmed CHERCHARI

Empirical Research

- 110— Optimizing the Quality Evaluation System of Tax and Fee Filing in China:
Tax Reform Practices from the Perspective of Behavioral Insights
**Research Group of Guangdong Provincial Tax Service,
the State Taxation Administration of China**

In Brief

- 120— The Milestones of the BRITACOM Development
The BRITACOM Secretariat



The Present and Future of Electronic Invoicing in Hungary: Challenges and Opportunities in the ViDA Era

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Abstract: Electronic invoicing is increasingly becoming a fundamental element of data-driven tax administration in Hungary and across the European Union, particularly in the wake of the VAT in the Digital Age (ViDA) reform. The traditional documentary role of the invoice is diminishing, gradually being replaced by structured, machine-readable data sets that enable near real-time information flow between economic operators and tax authorities. In this environment, digitalisation represents not only technological advancement but also transformation of tax auditing, risk analysis, and administrative processes. Hungary is in a favorable position in this process, as the Online Invoice System has already established an advanced digital infrastructure that aligns well with the directions set by ViDA. The focus of future regulatory and technological developments lies in structured electronic invoicing, interoperability in accordance with the EN 16931 standard, automated data exchange, and bilateral (seller-buyer) data reporting. All of this may enable closer integration of invoicing, accounting, and taxation processes, increase the efficiency of audits, and reduce administrative burdens in the long term. At the same time, the transition requires significant IT, organizational, and regulatory implementation efforts from both businesses and developers.

Keywords: Electronic invoicing; VAT in the Digital Age (ViDA) reform package; Interoperability; Data reporting; Automation; Paradigm shift

1. The Digitalisation of Invoicing as a Turning Point in Tax Administration

Over the past two decades, the digitalisation of economic processes has fundamentally transformed the way companies operate, from e-commerce through financial systems all the way to tax administration. Within companies, this transformation has taken place at an extraordinary speed and often in an unsystematic manner. In many cases, digital solutions and traditional paper-based processes coexist. The widespread adoption of Enterprise Resource Planning (ERP) systems and cloud-based tools has significantly increased efficiency in certain areas, yet the internal digital infrastructure of organisations has become fragmented.

At the same time, dramatic changes have also occurred in business-to-business — that is, B2B — relationships. Business partners have been coming from an ever-greater number of countries and industries, conducting increasingly complex transactions with one another. This, however, brought a fundamental problem to the surface: Despite digitalisation, a unified, universally accepted data structure and set of rules were missing. As a result, manual processes became increasingly valued due to the limited possibilities for automation, and they imposed an ever-growing administrative burden.

The lack of standardisation gave rise to serious and multifaceted problems. Risks emerged ranging from manual errors and uncertainty over payment deadlines all the way to taxation. It is precisely to address this situation that the most significant transformation is taking place in one of the most important elements of everyday business operations: invoicing. Traditionally, an invoice was an administrative document that served to record economic events after the fact. In the digital age, however, the role of the invoice is radically changing: In future it will function not merely as a record, but as a structured data source that connects economic actors and tax authorities in real time.

The spread of electronic invoicing is not only the result of technological progress, but also a key instrument of the modernisation of tax

administration systems. Digital data management enables tax authorities to obtain information on economic transactions almost immediately, which significantly increases the effectiveness of risk analysis and audits, and has a substantial reducing effect on the Value-Added Tax (VAT) gap.

In this process, the European Union has also entered a new phase with the emergence of the VAT in the Digital Age (ViDA) reform package, which has set the digitalisation of the VAT system as its goal. One of the most important elements of the reform is the widespread application of electronic invoicing and the introduction of associated digital reporting systems, both at the level of individual Member States and at the level of the Community. The aim of the invoicing changes in the ViDA package is that an electronic invoice should exclusively consist of a structured dataset that can be processed automatically by machine and that also forms the basis for digital reporting. Member State tax authorities must introduce systems that ensure data sharing and the development of joint risk analysis.

Hungary occupies a special position in this process within the European Union. The Hungarian tax administration had already embarked on a path very similar to the goals set by ViDA several years earlier, with the introduction of the Online Invoice System, which provides real-time data reporting on invoices issued by domestic businesses. This system is considered an advanced digital tax administration solution in international comparison and has provided significant experience for both the authority and economic actors in the application of data-driven audit models. The most important difference, however, is that the Online Invoice System receives only invoice report files, and not the invoices themselves, and that the Hungarian system has not introduced an obligation for electronic invoicing. It is layered on top of invoicing processes as a kind of overlay, without intervening in them. This flexibility is a significant advantage from a corporate perspective, yet the digital challenges that make it necessary for Hungary to transform this solution are also apparent.

In the years ahead, however, digitalisation

will move to a new level. In future, an invoice will appear primarily not as a visual document but as a structured dataset processed by IT systems. This change represents both an opportunity and a challenge for businesses, accountants, software developers, and tax administration alike. The new model of digitalisation foreshadows the emergence of an ecosystem in which the issuance, transmission, processing, and auditing of invoices take place largely through automated processes. The data connections between ERP systems, accounting systems, and tax authority platforms will create an integrated digital infrastructure. This infrastructure will not only increase the efficiency of tax audits but will also make it possible to reduce the administrative burdens on businesses and improve their efficiency.

2. The Development of Electronic Invoicing in Hungary

Over the past decade, Hungary has become one of the outstanding European examples of electronic data reporting and digital tax administration. The process initially appeared primarily as a technological and business innovation, but within a short period of time it became one of the key tools of tax administration modernisation. The Hungarian regulatory environment applies a fundamentally technology-neutral

framework in the area of electronic invoicing. The legislation does not prescribe specific technological solutions, but rather establishes principles such as ensuring the authenticity of origin, the integrity of data content, and the legibility of the invoice, as well as protection against deletion and modification during the retention period. This approach made it possible for businesses to apply different technological solutions. In practice, however, it has emerged that PDF-based invoices — that is, invoice images most easily interpretable by the human eye — have become the most widespread solution for electronic invoicing in Hungary.

The invoice-image-based approach to electronic invoicing is entirely consistent with the manual nature to which we have been accustomed in the paper-based world. If one examines the entire process, an invoicing programme presents a data-based information set in the form of an invoice image, which the recipient company then converts back into a data-based form. In essence, the electronic invoice thus performs the function of reaching the buyer more quickly than a paper-based invoice, yet it can only limitedly influence the digitalisation process.

Figure 1 indicates that electronic invoicing is significantly more widespread in the B2C segment than in the B2B and B2G sectors. For Hungarian companies, the acceptance of elec-

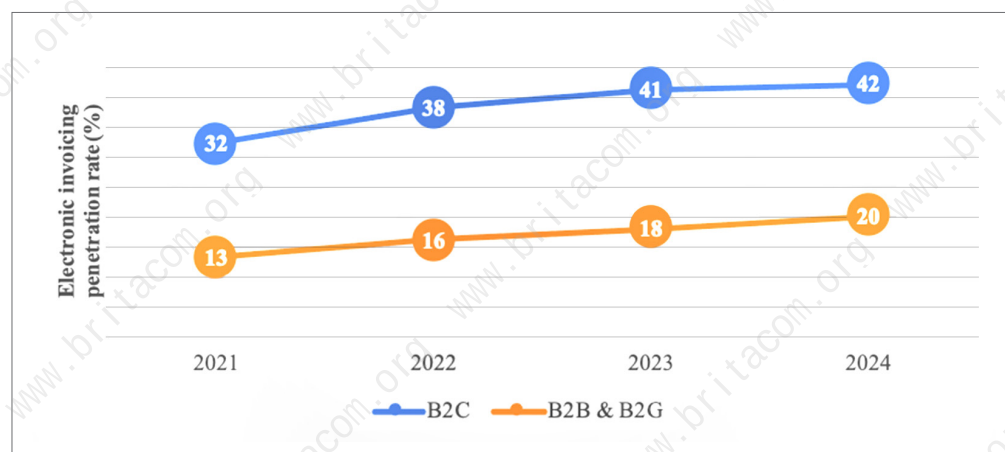


Figure 1. Electronic invoicing penetration in Hungary

Note: The figures shown present the estimated penetration of electronic invoicing in Hungary, expressed as the issued invoices relative to the total number of invoices reported through the Online Invoice System.

tronic invoices — precisely because of the limited advantages and the compulsion to transform processes — has caused more problems.

3. The Online Invoice System and Its Impact

The year 2018 represents a significant milestone in the history of Hungarian invoicing, as this was when the Online Invoice System appeared, which thoroughly disrupted the invoicing market. The Hungarian invoice reporting requirement demands the transfer, in a defined data structure, of at least the data content required under the VAT Act for invoices produced by invoicing programmes, which is separate from the invoice issuance process itself. The Hungarian tax authority therefore does not intervene in the invoicing process yet provides services to both the invoice issuer and the invoice recipient.

The system became fully comprehensive in 2021. From that year onwards, every invoice issued by a Hungarian taxable person must be reported to the Online Invoice System. This solution significantly increased the information capacity of the tax authority and made it possible to process and audit data in an automated manner. The operation of the system also brought important lessons for digital tax administration. Through real-time data reporting, the tax authority was able to analyse large volumes of invoice data and identify risks more rapidly. In parallel, new requirements also emerged for businesses and software developers with regard

to the operation of invoicing systems, particularly in the areas of data quality and automated data reporting.

The development of Hungary's electronic invoicing environment has thus created a digital infrastructure that has significantly prepared the ground for the ViDA reform package initiated by the European Union.

4. The ViDA Package — The Digital Transformation of the European VAT System

The European Union's VAT system has undergone significant development in recent decades, yet globalisation, the digital economy, and the growth of cross-border trade have posed new challenges for Member States. Traditional tax administration models — which are largely built on retrospective reports and periodic returns — are increasingly unable to handle the volume and speed of modern economic transactions effectively. To address this situation, the European Commission launched the ViDA reform package, which aims at the comprehensive digitalisation of the EU VAT system. One of the most important goals of ViDA is the technological modernisation of the VAT system and the digitalisation of administration. A central element of the reform is the widespread application of structured electronic invoices and the introduction of digital reporting systems. Instead of summary reports submitted, often months later, under the traditional approach, data reporting in future will take place much closer in time to the economic transactions themselves.

Another key element of the reform is the widespread application of the European invoice standard, EN 16931. This standard ensures that electronic invoices are created in a structured, machine-readable format, which makes it possible for the IT systems of different countries to interoperate. The uniform data structure is particularly important for companies operating in multiple Member States, as it reduces the administrative burdens arising from divergent national regulations and facilitates automated invoice processing.

Behind the ViDA reform, however, there is

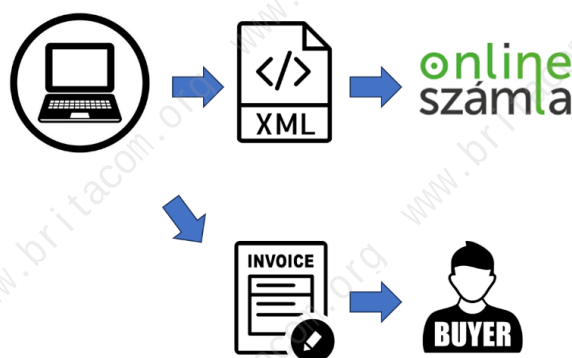


Figure 2. Operation of the Online Invoice System
Note: “Online számla” is Hungarian for “online invoice” or “e-invoice”.

not merely technological modernisation. One of the most important goals of the European Commission is to combat VAT fraud, particularly in the case of so-called “missing trader” type abuses in intra-Community trade. Structured, real-time data facilitates the automated checking of transactions by tax authorities, which can significantly reduce the VAT gap — that is, the difference between the tax theoretically collectable and the tax actually collected. It is important to emphasise that while the ViDA reform creates a unified European framework, it still provides Member States with significant room for manoeuvre in designing their own systems. The regulation primarily determines the fundamental principles and the conditions for interoperability, but also allows individual countries to adapt the details of implementation to their own economic and technological environments. As a result, European electronic invoicing systems in the years ahead are expected to be built on uniform foundations, while also preserving the specificities of individual Member States.

5. The Concept of Hungary's ViDA Implementation

The European Union's ViDA reform package defines a common direction for the future of electronic invoicing and digital data reporting; however, the development of many concrete technological and regulatory solutions remains the task of Member States. Hungary starts from a particularly favourable position in this process, given that the Online Invoice System already provides a digital infrastructure from which Hungary has gained extensive experience and developed unique insights into the effective design of invoicing processes. Drawing on this experience, the Ministry of National Economy and the National Tax and Customs Administration (NTCA) have worked out the concept for Hungary's ViDA implementation, which foreshadows the transformation of the entire system of invoicing and data reporting.

One of the most important elements of the concept is the B2B transactions. In future, in the case of transactions between domestic and Community taxable persons, only an electronic

invoice will be considered a legally valid document — one that is created in a machine-readable data structure conforming to the European EN 16931 standard. This change represents a fundamental shift in approach: The primary form of the invoice will not be the visual document but the structured XML dataset, which IT systems are capable of processing automatically.

In the case of invoices issued to natural persons (B2C), the seller's software must also create an XML dataset conforming to the aforementioned data structure, which must be classified as an invoice on the seller's side. This is independent of whether the buyer has requested a paper-based or electronic invoice; thus, on the invoice issuer's side, regardless of the format of the invoice, only structured data content will constitute the invoice. This also has important added value on the issuer's side.

The central element of the technological architecture of Hungary's implementation is the so-called “five-pillar” (5-corner) model — a decentralised invoice exchange system involving the seller, buyer, their respective service providers, and the tax authority. The essence of the model is that the transmission of invoices does not take place directly through the state infrastructure, but through the technical endpoints between the market participants — the invoice issuer and invoice recipient systems. At the same time, the tax authority is also an integral part of

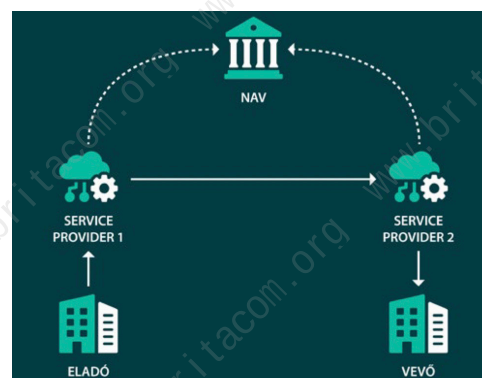


Figure 3. 5-Corner invoicing model

Note: NAV — Abbreviation for the Hungarian National Tax and Customs Administration (Nemzeti Adó- és Vám-hivatal), which oversees e-invoicing. ELADÓ — Hungarian for “seller”. VEVŐ — Hungarian for “buyer”.

the system, since it receives the structured data of invoices from both the issuer's and the recipient's sides.

A key role in the operation of the system is played by the invoice issuance point, which is the technical and legal point at which the invoice is created in the appropriate data structure, validated, and then transmitted to the buyer and simultaneously to the tax authority. Invoicing software at this point is required to carry out pre-validation: It must check the mandatory data content of the invoice, the conformity of the data structure, as well as, for example, the validity of the buyer's tax number. If the invoice does not meet these requirements, the system shall not permit its issuance. This significantly increases the quality of invoice data and the reliability of the system. If a company uses an invoicing service provider for invoice issuance, data content that fails to meet the pre-validation requirements may represent a significant additional workload for the company in handling the matter in its own ERP. This is because the invoice is already a posted document in the ERP and does not comply with the statutory requirements, and therefore corrections must be carried out not only in the invoice but also in the accounting records.

With regard to the technological infrastructure, the Hungarian concept allows for the application of two parallel channels. One is the domestic NTCA application programming interface-based invoice exchange system, which is optimised for domestic economic processes and enables direct technical connections between businesses. The other is the PEPPOL network, which is an international electronic document exchange system and primarily provides an interoperable communication channel for cross-border transactions. The parallel application of the two solutions provides flexibility for businesses and also makes it possible to align with international standards. At the same time, the Hungarian concept does not introduce obligations with respect to individual solutions; thus, it leaves the decision between the two options to the market. However, Hungary will restrict the invoice transmission solutions exclusively to these two.

The Hungarian concept extends not only to the seller but also to the buyer. The buyer-side data reporting obligation closes the process, enabling the tax authority to oversee the entire invoicing process, and making any anomaly visible quickly and effectively. On the buyer's side this is an automated process, as the buyer-side data reporting typically means an expected operation from an application programming interface endpoint.

6. Technological and Regulatory Challenges in the Introduction of ViDA

The ViDA reform and its Hungarian implementation represent a significant step forward in the digitalisation of tax administration; however, the introduction of the system also raises numerous technological, organisational and regulatory challenges. The full-scale introduction of electronic invoicing does not simply mean the application of a new IT solution, but the comprehensive transformation of corporate processes, IT infrastructure and cooperation with tax administration.

One of the most important challenges is the transformation of corporate IT systems. The application of structured electronic invoices requires that the invoicing and ERP systems of businesses be capable of producing and processing data structures conforming to the EN 16931 standard. In many companies' cases, this may require significant developments in ERP systems, particularly when existing systems are primarily built around visual documents — for example, PDF-based invoices. The implementation of XML-based invoicing and automated data exchange therefore often necessitates a comprehensive modernisation of the corporate IT infrastructure.

The changes also bring new requirements for developers and providers of invoicing software. Under the concept, invoicing service providers is supplemented by an accreditation procedure defined by the tax authority. Its purpose is to verify that the software correctly carries out the required validation processes and handles the standard data structures correctly. In



invoice receipt processes, a further new element appears in the form of the status report. If an invoice arrives technically at the recipient but the underlying economic event does not materialise, or the document proves to be erroneous, the buyer must report this to the tax authority in the form of a separate notification. This requirement necessitates the development of new control mechanisms in corporate financial and accounting processes, and may represent a particular adaptation challenge for smaller businesses during the transition period.

At the same time, the changes also offer significant opportunities for efficiency gains. Structured invoice data enable automated invoice processing, the partial automation of accounting processes, and the faster and more accurate processing of financial data. In the longer term, digitalisation may create an integrated economic information system in which invoicing, accounting, and taxation processes operate in a largely automated manner.

7. International Perspective and Conclusion

Electronic invoicing and digital data reporting have today become a global trend. An increasing number of countries are introducing systems built on real-time data reporting and structured invoice data, the purpose of which is

to increase the efficiency of tax administration and combat tax avoidance. In this international environment, Hungary's experiences are particularly valuable, as the country had already been operating an advanced digital invoice data reporting system even before the ViDA reform. The operation of the NTCA Online Invoice System has demonstrated that the real-time processing of structured invoice data can significantly improve the risk analysis and auditing capabilities of the tax authority. The ViDA reform elevates this direction of development to the European level. The introduction of structured electronic invoices and digital reporting systems may, in the longer term, create an interoperable European infrastructure that facilitates cross-border economic transactions and provides tax authorities with more effective tools for combating VAT fraud.

One of the most important tasks for Hungary in the years ahead will be to further develop the existing digital solutions — in particular the infrastructure built on the Online Invoice System — and to bring them into alignment with the European regulatory framework. The implementation of ViDA thus represents not only a new regulatory obligation, but also an opportunity for invoicing, accounting and taxation processes to develop into an integrated, data-driven digital ecosystem.

Integrated Tax Systems and Administrative Reforms at the Georgia Revenue Service

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Abstract: This article examines the development of integrated tax systems and complementary administrative reforms at the Georgia Revenue Service (GRS). It gives a brief introduction to the implementation of digital service delivery, risk-based management, and feedback-driven continuous improvement. The article also highlights key results in service efficiency, compliance, and taxpayer satisfaction, while discussing the strategic direction for 2025–2030.

Keywords: Tax administration reform; Integrated tax systems; Digital transformation; Taxpayer services; Customer-centric services; Risk-based management; Voluntary compliance; E-government

1. Introduction

At the Georgia Revenue Service (GRS), the past several years have been a period of profound transformation that has fundamentally reshaped how the organization operates. This has not been merely a sequence of technical upgrades but a comprehensive rethinking of how public services are delivered and how the institution contributes to the country's economic development. This article reflects GRS's experience as an organization that has undertaken one of the most ambitious modernization programs in the region.

The evolution of GRS has been marked by a transition from a traditional, enforcement-focused tax authority to a

service-oriented partner. This shift began with a deliberate decision to move away from viewing taxpayers as subjects of control and instead recognize them as partners in Georgia's success. The rebranding from the "Tax Authority" to the "Revenue Service" symbolized this transition, signaling a clear departure from an adversarial model toward a service-first approach.

This transformation has been driven both by institutional responsibility and by external expectations. As GRS administers more than 90% of the country's budget revenues, its efficiency forms the foundation of Georgia's fiscal stability. At the same time, evolving public expectations have required the organization to match the speed, accessibility, and convenience

associated with the private sector.

Global developments have further accelerated this process. The COVID-19 pandemic tested institutional resilience and underscored the importance of agility and innovation in maintaining uninterrupted service delivery.¹ At the same time, regional geopolitical developments have increased responsibilities, particularly in the areas of border security and the enforcement of international sanctions. The rapid expansion of e-commerce has also required continuous adaptation to a changing digital economy.

In response to these challenges, GRS has aligned its approach with the OECD's "Tax Administration 3.0" framework,² aiming to build a fully digital, data-driven system seamlessly integrated into taxpayers' daily business processes. While this transformation is ongoing, the progress achieved to date provides a strong foundation for future development.

2. An Overview of the GRS

GRS is a legal entity of public law operating under the jurisdiction of the Ministry of Finance of Georgia. Its mandate is broad, encompassing the administration of both tax and customs systems nationwide.

2.1 Operational Core

On a daily basis, GRS manages the full lifecycle of tax administration — from taxpayer registration and the processing of electronic declarations to liability assessment, risk-based audits, and debt collection, including enforcement measures where necessary.

2.2 Hybrid Organizational Model

The organizational structure of GRS reflects international best practices in tax administration. The institution operates under a hybrid model that combines functional specialization with a taxpayer segment approach. Core depart-

ments are organized by function — such as audit, service delivery, monitoring, and debt management — while specialized units, including the Large Taxpayer Office, focus on segments with distinct needs and risk profiles.

A deliberate institutional distinction exists between headquarters and operational departments. The headquarters are responsible for strategic planning, setting organizational direction, establishing standards and methodologies, and managing institutional risks. Operational departments, in turn, implement these strategies through direct interaction with taxpayers. This structure fosters a productive balance between strategic vision and practical implementation, ultimately enhancing institutional effectiveness.

2.3 Guiding Principles and International Alignment

The activities of GRS are guided by a set of interconnected principles that shape both daily operations and long-term development. Simplification and accessibility remain central priorities, supported by continuous efforts to reduce administrative burdens through digitalization and automation. Voluntary compliance is encouraged through self-assessment mechanisms, transparent communication, and taxpayer education.

Risk-based management enables more efficient allocation of resources by focusing on high-priority compliance areas, while digital transformation underpins nearly all core processes, including filing, invoicing, refunds, and data analytics. International alignment also plays a critical role in ensuring that GRS remains consistent with global standards and practices.

These principles have been embedded in the 2021–2024 strategy and continue to form the foundation of the 2025–2030 vision, ensuring that the administration remains responsive to evolving economic, technological, and geopolitical conditions.³

1 OECD (2021). *Tax Administration 2021*, https://www.oecd.org/content/dam/oecd/en/publications/reports/2021/09/tax-administration-2021_72b221d1/cef472b9-en.pdf.

2 OECD (2020). *Tax Administration 3.0: The Digital Transformation of Tax Administration*, https://www.oecd.org/en/publications/tax-administration-3-0-the-digital-transformation-of-tax-administration_ca274cc5-en.html.

3 GRS. *Strategy for 2021–2024 and 2025–2030*, <https://www.rs.ge/AboutUs-en?cat=1&tab=1>.

2.4 Digital Transformation

In recent years, GRS has implemented one of the most comprehensive digital transformation programs in the region. Today, nearly all procedures — including taxpayer registration, tax return filing, payments, real-time cargo tracking, duty calculation, applications for special statuses (such as qualified VAT payer, virtual zone company, and international company status), and automated VAT refunds — are fully electronic. These services are delivered through the unified portal (eservices.rs.ge).

As part of this transformation, automated tax return completion has been introduced for small businesses. Returns are pre-filled using existing internal data, requiring taxpayers only to review and confirm the information. This approach significantly simplifies compliance and ensures a faster, more user-friendly experience for taxpayers and businesses.

2.5 Vision for 2025–2030

The Strategy for 2025–2030 builds on previous achievements while setting more ambitious objectives for the future.⁴ GRS is moving toward deeper digital governance, with an increased emphasis on advanced data analytics and emerging technologies to enhance compliance management.

In response to global technological and geopolitical developments, the priority remains the creation of a business-friendly environment alongside the maintenance of an efficient and reliable revenue collection system. The strategic vision is structured around four key goals:

- Digital transformation and improvement of compliance;
- Modernization of information technology systems and strengthening analytical capabilities;
- Development of institutional capacity; and
- Expansion of international cooperation.

3. Integrated Tax Systems for Taxpayer Registration and Administration

For decades, like many tax administrations

worldwide, GRS operated through a compliance-driven lens. Its vocabulary reflected this mindset: taxpayers, obligated persons, and subjects of taxation. While technically accurate, these terms reinforced a one-directional relationship. A turning point came with a conscious decision to change not only the language, but the underlying philosophy. GRS began referring to them as customers.

This seemingly small shift triggered a deeper transformation. GRS recognized that value is not created by an institution alone; it is co-created through dialogue, empathy, and collaboration. By understanding citizens' needs and involving them in service design, GRS began to build not only better services, but also stronger relationships.

After 2020, this insight evolved further. Customer-centricity became not just a philosophy, but a strategic priority. GRS revisited its mission, vision, and values, aligning them with the expectations of the people it serves. For the first time, customer orientation became central to the 2021–2024 Service Development Strategy. In the current strategic cycle, this commitment has deepened even further, with the creation of a customer-centric environment placed at the core of the 2025–2030 vision. This approach reflects a shared mindset embraced across all levels of the organization.

3.1 Three Pillars of Service Excellence

Customer-centricity as a mindset is essential, but on its own, it is not enough. To deliver meaningful impact, GRS translated this philosophy into practice through three interconnected pillars:

3.1.1 Consistency: creating predictable and reliable interactions

Citizens expect government services to function uniformly, regardless of channel, location, or time. Inconsistency creates confusion, undermines trust, and increases the burden on both users and staff.

To ensure consistency, GRS has introduced:

- User manuals for customers, providing

4 GRS. *Strategy for 2025–2030*, <https://www.rs.ge/AboutUs-en?cat=1&tab=1>.

clear, step-by-step guidance on what to expect at each service touchpoint; and

- Service delivery guides for staff, ensuring uniform execution across all channels and locations.

Together, these tools form a “chain of consistency”, where both sides of the interaction understand their roles and expected outcomes.

Consistency also extends beyond processes to design, emotion, and perception. GRS is currently implementing a comprehensive design system to ensure that every interaction — across web portals, email, chat, and service platforms — feels familiar and intuitive. Elements such as color coding (for example, dark blue indicating success) are designed to carry consistent meaning across all 500 services delivered through seven channels. This is not merely cosmetic; it is strategic infrastructure for building trust at scale.

3.1.2 Personalization: making every citizen feel seen

While consistency builds reliability, personalization creates connection. It requires understanding users as individuals — recognizing their unique contexts, needs, and expectations — and closing the gap between what is delivered and what is truly needed.

Since 2020, GRS has adopted design thinking as both a methodology and a mindset. Within this framework, two stages have proven particularly transformative:

- Empathy: Going beyond simply asking users what they want, GRS conducts interviews, observations, and contextual analysis to uncover real pain points, needs, and emotional drivers.
- Prototyping: Instead of investing months in fully developed solutions, GRS develops rapid, low-fidelity prototypes for large-scale services. These are tested with real users, allowing early failure, rapid learning, and continuous iteration — saving time, resources, and user frustration.

This approach has fundamentally shifted service design from an inside-out model (based on internal processes) to an outside-in model (based on user needs).

3.1.3 Continuous improvement: challenging the status quo

Many organizations — both public and

private — operate well-functioning services. However, the critical question remains: are these services continuously being challenged and improved?

Processes that were effective five years ago may now include unnecessary steps. Workflows designed for paper-based systems may no longer add value in digital environments. As technology, user expectations, and operating environments evolve, previously logical requirements may become sources of friction.

To address this, GRS has established dedicated teams focused exclusively on reviewing and refining service processes. Their mandate is clear: eliminate unnecessary steps, simplify workflows, and make every interaction easier for both taxpayers and staff.

3.2 Integrated Tax System Architecture and Digital Service Delivery

3.2.1 Once-only principle and connected government

Historically, taxpayer registration and administration involved fragmented and disconnected processes. Individuals and businesses were often required to submit the same information multiple times, navigate different institutions, and rely heavily on in-person visits. This fragmentation led to errors, delays, and frustration for both taxpayers and staff.

The integrated tax system was designed to eliminate these inefficiencies. Built on the once-only principle, it ensures that citizens are not required to repeatedly provide information already held within government systems.

This principle is particularly critical in taxpayer registration, which serves as the foundation of the entire service journey. Through secure integration with national registries — including the Public Registry and civil databases — essential taxpayer information is exchanged automatically between institutions.

For example, when a business is registered with the Public Registry, the relevant data is transferred directly to GRS. The individual then receives an SMS with login credentials for the main service portal (eservice.rs.ge), using a verified phone number. From that point onward, all

tax-related formalities can be completed entirely online. Two-factor authentication ensures a high level of security.

As a result, registration becomes a simple starting point rather than a bureaucratic obstacle.

Further innovations — such as video-based remote identification and AI-supported identity verification — have expanded access to tax services, enabling full digital onboarding without the need for physical presence.

This reflects continuous improvement in practice: streamlining services, increasing efficiency, and enhancing user experience step by step.

3.2.2 Digital service portal (eservice.rs.ge)

The integrated tax system is fully reflected in GRS's digital services. The eservice.rs.ge portal serves as a single access point where users can:

- Register as taxpayers;
- Submit tax returns;
- Receive notifications;
- Pay taxes;
- Submit applications; and
- Interact with GRS without visiting a physical office.

All relevant taxpayer information is consolidated into a single digital profile, providing a comprehensive view of each customer's interaction with GRS. This includes registration data, tax returns, payments, obligations, service requests, and communication history.

The system also provides secure access to selected services of other government agencies, allowing users to view information that affects their compliance status. Each taxpayer has a personalized, authorized account that offers a complete overview of obligations and interactions, including the ability to submit complaints directly through the portal.

Additionally, newly implemented features provide greater transparency. Taxpayers can view their assigned category from the perspective of GRS. For small and medium-sized VAT taxpayer

ers, individualized behavior ratings are displayed, reflecting compliance with legal obligations through a quantified score.

This integrated and transparent approach enhances efficiency, supports voluntary compliance, and strengthens trust between taxpayers and the administration.

3.3 Integrated Feedback Systems and Continuous Learning

To build a truly customer-centric organization, GRS has established a unified feedback system integrated across all service channels.⁵ This enables continuous collection of insights on customer satisfaction, expectations, and areas of concern.

Feedback is analyzed by dedicated teams to identify priorities and drive tangible improvements. Within the “Raising Awareness Among Newly Registered Taxpayers” initiative, these insights are translated into practical solutions.

One example is the “For the Newly Registered” portal, which provides consolidated guidance along with an interactive questionnaire to support tax regime selection. This is complemented by proactive communication tools — automated SMS messages, portal notifications, and targeted outreach — ensuring timely and relevant support.

The “Meeting Space” platform further strengthens this feedback loop by allowing taxpayers to submit suggestions, register for meetings, and access materials from previous sessions. By systematically incorporating these insights into continuous improvement processes, GRS ensures that taxpayer feedback actively shapes the evolution of services, procedures, and regulatory solutions.

3.4 Multi-Channel Service Delivery and Digital Transformation Results

GRS delivers taxpayer services through an integrated multi-channel model designed to reflect diverse user preferences. While digital

5 OECD. *Tax Administration 2023: Comparative Information on OECD and Selected Partner Countries*, https://www.oecd.org/content/dam/oecd/en/publications/reports/2023/09/tax-administration-2023_87655bc9/900b6382-en.pdf.

self-service continues to expand, in-person and human support remain available where needed.

The strategic objective is to encourage migration toward efficient digital channels while maintaining accessibility and inclusiveness. Key performance indicators are continuously monitored to assess whether services are becoming simpler, faster, and more accessible.

Key results include:

- 96.4% of service requests submitted electronically; and
- 1.56 million electronic applications (+16% year-on-year).

At the same time, physical service centers remain available, recognizing the needs of elderly citizens and those with limited Internet access.

Additional indicators include:

- Reduction in in-person visits;
- 46% of top 20 services completed automatically; and
- 45% of top 50 services fully automated.

These metrics reflect tangible progress in simplifying procedures and improving efficiency.

Contact center performance:

- 780,301 total calls;
- 92.5% first-contact resolution;
- 88.2% answered within six minutes; and
- 97% customer satisfaction.

These results are supported by continuous investment in staff training, combining technical expertise with communication skills and empathy.

Digital engagement continues to grow:

- RS Chat sessions: 198,607 (+55%);
- Response rate: 96.8%; and
- AI chatbot handling: 42% fully automated.

The chatbot is continuously improved by analyzing unanswered queries and expanding its knowledge base. It is integrated with multiple communication channels, including Facebook Messenger and email.

Meanwhile, the introduction of video identification based on facial recognition has significantly improved identity verification. Previously, access to electronic services required in-person visits — a major barrier for citizens abroad or in remote areas.

The system compares live video with identity documents and official records. High-confidence matches enable fully automated, 24/7 access, while complex cases are handled by trained operators.

Results include:

- 138,521 sessions; and
- 73% processed automatically.

From the user's perspective, the process is simple and fast, removing a key barrier to digital access.

In line with its commitment to efficiency, GRS also introduced automated tax return completion in 2024. Currently applied to one type of return, this automated feature uses existing data to pre-fill and process submissions.

Under this model, taxpayers only need to review the information, while GRS manages the underlying data processing — saving time and reducing administrative burden.

4. Other Measures and Experience Regarding Tax Administration

Alongside the development of integrated tax systems, GRS has implemented a range of complementary reforms aimed at strengthening tax administration and increasing voluntary compliance. These initiatives focus on reducing administrative burden, improving risk management, enhancing transparency, and aligning national practices with international standards.

A key reform in recent years has been the introduction of the automatic VAT refund system. Timely VAT refunds are essential for business liquidity and overall economic stability, while delays can create fiscal risks for the state. The automated system applies a risk-based approach to VAT administration, ensuring that overpaid amounts are refunded directly to taxpayers' bank accounts without the need for a formal request. This significantly simplifies procedures for businesses while safeguarding public finances through targeted risk controls.

Strengthening tax risk management has been another major priority. GRS has implemented a tax risk management methodology based on internationally recognized best practices, enabling a structured and coordinated ap-



proach to identifying and mitigating compliance risks. This framework supports more efficient allocation of administrative resources and ensures that interventions are proportionate to risk levels. Oversight is maintained through an institutionalized risk governance mechanism that coordinates the work of relevant structural units.

The benefits of dedicated services for large taxpayers are well established. This is reflected in the widespread practice among OECD member countries of creating specialized units to manage this segment. In line with these best practices, GRS has focused on improving processes that support voluntary compliance among large taxpayers by creating a more favorable and predictable environment.

A business process based on the Risk Differentiation Framework (RDF) has been introduced, applying a differentiated response model. The primary objective is to allocate greater attention and resources to large taxpayers with high and medium risk, while providing streamlined support and monitoring for those classified

as low-risk. This approach allows GRS to balance control and service, ensuring both efficiency and fairness.

Tax debt management reform has also played a critical role in improving compliance. The reform aims to increase the rate of timely tax payments and reduce the accumulation of arrears through modern and effective debt management mechanisms. The updated approach is based on targeted communication with taxpayers identified through predefined indicators, combined with tailored enforcement measures that take into account the financial capacity of indebted taxpayers.

Institutional capacity has been further strengthened through investments in data and analytics. The establishment of a centralized data warehouse enables the integration and analysis of information from multiple sources, supporting evidence-based decision-making and more accurate risk assessment. International cooperation is particularly important in this area, including the implementation of Country-by-Country



Reporting (CbCR) and the Common Reporting Standard (CRS).⁶ These initiatives enhance tax transparency and improve the identification of cross-border tax risks.

Transparency and access to information have also been significantly enhanced through the launch of InfoHub,⁷ a centralized digital platform providing open access to tax legislation, administrative decisions, and practical guidance. Developed using a user-centered approach, InfoHub promotes legal certainty, reduces information asymmetry, and strengthens trust between taxpayers and the administration.

5. Conclusion

The experience of GRS demonstrates that effective tax administration requires a balanced

combination of strong institutional frameworks, modern digital infrastructure, and a consistent focus on the needs of taxpayers.

The reforms outlined in this article — from the introduction of integrated tax systems and the once-only principle to the implementation of risk-based approaches, automated services, and data-driven decision-making — reflect a comprehensive shift toward a more efficient, transparent, and user-oriented administration. These changes have not only streamlined processes and reduced administrative burden, but have also contributed to improved voluntary compliance and stronger trust between taxpayers and the administration.

A key lesson emerging from this transformation is that digitalization alone is not sufficient. Sustainable results depend on aligning technological solutions with clear service design principles, including consistency, personalization, and continuous improvement. Equally important is the institutional commitment to transparency, open communication, and the systematic use of feedback in shaping services and policies.

Looking ahead to the 2025–2030 strategic cycle, GRS will continue to build on these foundations by further strengthening digital governance, expanding automation, and enhancing data integration. At the same time, maintaining alignment with international standards and best practices remains a central priority, particularly in the areas of risk management, tax transparency, and cross-border cooperation.

Ultimately, the ongoing transformation of GRS highlights that a modern revenue administration is not defined solely by its enforcement capacity, but by its ability to deliver accessible, reliable, and user-centered services. This approach supports not only administrative efficiency, but also long-term economic development and Georgia's continued integration into the global economic system.

6 OECD. *Country-by-Country Reporting (CbCR) and Common Reporting Standard (CRS)*, OECD, 2014–2023. <https://www.oecd.org/tax/beps/country-by-country-reporting.htm>; <https://www.oecd.org/tax/automatic-exchange/common-reporting-standard/>.

7 GRS. *Launch of InfoHub – Centralized Information Platform*, <https://www.rs.ge/NewsArchive-en?newsId=597>.

The Impact of CRS on Tax Transparency and Financial Compliance in Armenia: Potential Effects, International Evidence, and Empirical Evaluation Options

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Abstract: This article examines the impact of the application of the Common Reporting Standard (CRS) on tax transparency, financial compliance, and revenue mobilization in Armenia. As Armenia advances its international tax cooperation agenda, CRS implementation represents a significant institutional reform aimed at reducing cross-border tax evasion and improving financial account reporting. The paper analyzes the operational, legal, and administrative consequences of CRS adoption, including challenges in identifying financial institutions, conducting due diligence, and ensuring accurate reporting in a jurisdiction where certain CRS-defined entities, such as trusts, do not exist under domestic law. Drawing on international evidence, the study reviews how CRS participation has increased tax revenue in jurisdictions that have implemented the standard and evaluates the relevance of quasi-experimental impact-assessment methods, including Difference-in-Differences (DiD) and the Synthetic Control Method (SCM), for estimating Armenia's future revenue effects. By

combining comparative analysis with Armenia's financial regulatory context, the article demonstrates that CRS adoption is likely to enhance transparency and compliance but will require substantial institutional coordination and regulatory adaptation. The findings contribute to the emerging literature on global tax governance and provide policy-oriented insights for Armenia's tax administration, financial institutions, and regulators.

Keywords: Common Reporting Standard (CRS); Exchange of tax-related information; Tax transparency; International taxation; Financial compliance; Difference-in-Differences; Synthetic control method

1. Introduction

Over the past decade, the global tax environment has undergone a profound transformation as international cooperation has become central to identifying undeclared foreign assets and improving compliance. The OECD's Common Reporting Standard (CRS), adopted in 2014, now constitutes one of the most ambitious multilateral information-exchange systems in history. By enabling automatic exchange of financial account information between jurisdictions, the CRS significantly increases transparency regarding cross-border financial holdings.

Armenia's decision to join the CRS framework and conduct its first exchanges marks a major step in the modernization of its tax administration. As the country deepens its integration into international transparency networks, it is vital to assess the likely short-term and long-term impacts of the CRS on tax revenue, compliance behavior, administrative processes, and the financial sector. International experience provides instructive examples of how the application of the CRS has affected the economic environment of other countries, showing that under the right conditions, the CRS can produce measurable revenue gains.

Furthermore, as Armenia begins receiving CRS data, policymakers may wish to quantify the impact of CRS implementation on domestic revenue, compliance, and financial flows. For this, modern empirical evaluation tools such as

Difference-in-Differences (DiD) and the Synthetic Control Method (SCM) offer credible strategies for estimating the causal effects of the CRS in Armenia.

This paper provides a comprehensive discussion of these issues, ensuring that Armenia's implementation strategy is grounded in both global evidence and rigorous methodological analysis.

2. The Common Reporting Standard: Objectives and Mechanisms

The CRS was developed to reduce offshore tax evasion by ensuring that tax authorities receive automatic information about their residents' financial accounts held abroad. Financial institutions in participating jurisdictions must collect information on the tax residency of account holders and report details such as year-end account balances, interest, dividends, and income from financial assets. This information is transmitted annually to the tax authorities, which exchange it with partner jurisdictions under the Multilateral Competent Authority Agreement (MCAA).¹

The CRS structure rests on several pillars. First, domestic legal obligations require financial institutions to conduct due diligence and identify non-resident accounts. Second, each jurisdiction must establish technical infrastructure to receive, validate, analyze, and securely store data. Third, automatic exchange relationships must be acti-

1 OECD (2014). *Standard for Automatic Exchange of Financial Account Information in Tax Matters*, <https://www.oecd.org/tax/automatic-exchange/common-reporting-standard/standard-for-automatic-exchange-of-financial-account-information-for-tax-matters-9789264216525-en.pdf>.

vated with partner jurisdictions, enabling reciprocal exchanges. Fourth, tax administrations must have the capacity to use this information for tax purposes and in compliance activities, which often requires specialized investigative units.

The CRS aims not only to enable enforcement actions but also to strengthen voluntary compliance. Studies show that when taxpayers believe their foreign assets are visible to authorities, they become more likely to disclose income accurately.² This behavioral component is as significant as audit-based enforcement, and international experience demonstrates that voluntary corrections and preemptive disclosures often rise before the first CRS exchange takes place.

3. Armenia's CRS Integration: Initial Steps and Administrative Context

Armenia's tax administration, under the State Revenue Committee (SRC, the Tax Authority), has pursued legal and administrative reforms to align domestic regulations with CRS requirements. In 2025, Armenia initiated its first CRS exchanges. These exchanges allow Armenia to access information about Armenian tax residents' accounts abroad and require Armenian financial institutions to report data regarding foreign tax residents' accounts held domestically.

This transition comes during a period of ongoing administrative modernization, including enhanced electronic reporting systems, expanded international cooperation, and integration of automated risk-selection models. Nevertheless, CRS implementation places new demands on Armenia's financial sector, its regulatory institutions, and the SRC's data-handling and audit systems. The potential benefits, such as improved tax compli-

ance, increased revenues, and greater transparency, will depend on the country's ability to operationalize and use CRS information effectively.

4. Revenue Effects of CRS: International Evidence and Implications for Armenia

The CRS and its predecessor frameworks, including Foreign Account Tax Compliance Act (FATCA) and the EU Savings Directive, have generated a growing body of empirical research showing their measurable impact on tax compliance and revenue mobilization.

One of the clearest findings in the literature concerns the decline in offshore deposits. Beer, Coelho, and Leduc (2019), analyzing bilateral banking data from 2010–2018, estimated that the introduction of automatic exchange frameworks resulted in an average decline of 22%–25% in foreign-owned deposits in jurisdictions historically used for offshore wealth concealment.³ These declines reflect both repatriation of assets and increased disclosure to domestic authorities.

A second line of evidence focuses directly on revenue. Research by Johannesen, Langetieg, Reck, Risch, and Slemrod (2018) found that the United States' FATCA regime led to increases in reported foreign income and an estimated USD10 billion in additional tax revenue over several years.⁴ While FATCA is not identical to the CRS, it operates on similar principles, and its revenue effects provide a reasonable analogue.

In Europe, Denmark and Norway reported substantial increases in voluntary disclosures after announcing participation in the CRS. Norway recorded over NOK10 billion in newly declared foreign assets in the two years surrounding CRS implementation.⁵ Similarly, Italy recorded

2 OECD (2018). *Standard for Automatic Exchange of Financial Information in Tax Matters: Implementation Handbook (2nd Edition)*, <https://bsb-bahamas.com/wp-content/uploads/2018/04/CRS-Implementation-Handbook.pdf>.

3 Beer S., Coelho M., & Leduc S. (2019). *The Impact of Automatic Exchange of Information on Cross-Border Deposits* (IMF Working Paper No. WP/19/286). International Monetary Fund.

4 Johannesen, N., Langetieg, P., et al. (2018). *Taxing Hidden Wealth: The Revenue Potential of the Foreign Account Tax Compliance Act* (Working Paper). National Bureau of Economic Research.

5 Norwegian Ministry of Finance (2017). *2017 Report on Voluntary Disclosure Programs (2016–2018 series)* (AE-OI-linked disclosures).

EUR4.1 billion in additional declared offshore financial wealth as part of CRS-linked voluntary disclosure programs.⁶

Argentina provides another striking example. After joining CRS, a major tax regularization program revealed USD116.8 billion in previously undisclosed offshore assets, significantly expanding the tax base.⁷

The pattern across these cases is consistent: not only did automatic information exchange reduce offshore wealth held in secrecy jurisdictions, but it also increased domestic revenues through voluntary compliance, audits, and the use of CRS data in enforcement operations.

Armenia, with a globally connected diaspora and growing integration into global financial markets, is well positioned to benefit from similar patterns if CRS data is used effectively.

The potential revenue gains for Armenia from CRS participation must be understood in terms of both direct and indirect effects. Direct effects include tax assessments arising from audits triggered by CRS data. Indirect effects include voluntary behavioral changes — such as increased income declaration — among taxpayers who anticipate detection if they continue to hide foreign assets.

Armenia's revenue potential will depend on several factors. The size of offshore wealth held by Armenian tax residents is not precisely known, but anecdotal evidence points to substantial holdings in countries including Russia, Cyprus, the United Arab Emirates, and various European jurisdictions. CRS data will allow the SRC to quantify and analyze these holdings for the first time.

Based on international benchmarks, Armenia might reasonably expect revenue gains ranging from 0.1% to 0.3% of GDP in the first years of

implementation, consistent with the experience of countries of similar administrative capacity and financial size.⁸ This range incorporates both direct assessments and increased voluntary reporting.

5. Implementation Challenges in Armenia: Legal Gaps, Financial Institution Classification, and Data Complexity

Although CRS offers significant benefits, its implementation still presents several challenges. One key issue is ensuring that financial institutions and taxpayers fully comply with reporting requirements, especially given the diversity of account types and the need to correctly classify entities such as passive non-financial entities (NFEs) or foreign trusts. While Armenia has already established a dedicated division within the SRC to manage CRS data, the proper interpretation and cross-checking of complex international account structures remain a challenge. In addition, financial institutions must adapt their internal processes and staff training to meet CRS standards, ensuring accurate collection, verification, and submission of data in line with international obligations.

Errors in identification — particularly when taxpayer names, transliterations, or personal identifiers differ — must be resolved through automated and manual processes. Improving data matching through algorithms that incorporate multiple identifiers will be essential.

Moreover, CRS implementation may impose notable compliance burdens on Armenian financial institutions. Ensuring accurate due diligence, proper classification of entity accounts, and timely data submission requires continuous training, supervision, and effective communica-

6 Italian Ministry of Economy and Finance (2017). *Voluntary Disclosure Program Statistics*, https://www.mef.gov.it/inevidenza/article_0020.html.

7 Government of Argentina (2017). *Declaración Voluntaria y Excepcional de Bienes*, <https://www.afip.gob.ar/noticias/2017/sinceramiento-fiscal-resultados.asp>.

8 IMF Fiscal Affairs Department (2020). *Technical Notes on Revenue Gains from Automatic Exchange*, <https://www.imf.org/en/Publications/FAD-Notes>.

tion between regulators and reporting entities. These challenges are especially noticeable in Armenia both because of how its financial sector is organized and because some types of entities required under CRS do not exist under Armenian law.

A key difficulty arises in the identification and classification of financial institutions under CRS. The CRS definition of an FI is broader than the national list of entities regulated by the Central Bank of Armenia (CBA).

Under the CRS, FIs include not only banks, credit organizations, investment firms, and specified insurance companies, but also custodial institutions, certain investment entities, including specific types of trusts.

However, Armenia does not have a domestic legal framework recognizing or regulating trusts, and Armenian law does not currently contain equivalents to common-law trust structures. This creates a conceptual gap, where the CRS legally requires Armenia to identify and classify trusts as Reporting FIs or Non-Reporting FIs, yet such entities cannot formally be registered or licensed under Armenian law. As a result, the regulatory compliance burden falls on financial institutions when dealing with non-resident clients to conduct due diligence and to identify and report on controlling persons of a foreign-law trust including settlors, trustees, beneficiaries and protectors. Meanwhile, the SRC must ensure proper implementation and oversight of these CRS obligations.

These issues extend to investment entities, which under the CRS may include entities whose primary income derives from investment activities and that are managed by another FI. In Armenia, certain asset-management activities are licensed by the CBA, but many foreign investment entities interacting with Armenian banks do not fall under any domestic supervisory list. Armenian financial institutions must therefore rely on self-certifications and foreign documentation to determine whether an entity qualifies as an FI, a passive NFE, or an active NFE. This increases the risk of misclassification, particularly in cases where clients lack familiarity with CRS rules or provide incomplete information.

Another challenge relates to “look-through” requirements for passive NFEs. If an Armenian bank identifies a passive NFE with controlling persons who are tax residents of multiple jurisdictions, it must collect due diligence data across all relevant jurisdictions and transmit it to the SRC. When such entities involve foreign trusts or offshore investment vehicles, verifying the identity of controlling persons becomes more complex, especially where foreign jurisdictions have limited transparency or when documentation is not fully accessible.

Finally, the absence of trusts and similar structures in Armenian law also creates an internal training challenge. Staff within banks and financial institutions must gain specialized expertise to correctly interpret CRS categories that do not exist domestically. Unlike in jurisdictions with trust law, Armenian personnel cannot rely on direct regulatory guidance or established jurisprudence; instead, they must depend on international guidance documents, OECD commentary, and foreign legal definitions. This increases the cost of compliance, lengthens onboarding processes, and raises the likelihood of inconsistent treatment across institutions.

Overall, while Armenia’s financial sector is relatively small and well-regulated, these structural and legal asymmetries introduce unique compliance challenges that must be addressed through ongoing training, clearer domestic guidance, and active supervision by the SRC to ensure consistent and accurate FI classification under the CRS.

6. Evaluating CRS Impact in Armenia: Selecting Appropriate Empirical Methods

As Armenia begins to use CRS data, policymakers may want to evaluate how CRS adoption affects revenue, voluntary compliance, and financial flows. Two quantitative methods are particularly appropriate for this purpose: the DiD approach and SCM.

DiD compares the change in outcomes (e.g., tax revenues, voluntary disclosures, offshore inflows) in Armenia before and after CRS im-

plementation with the change in comparable outcomes in peer countries that did not implement CRS at the same time.⁹ For example, if Armenia's tax revenue from high-wealth individuals increases by 15% after CRS while a comparable non-CRS country sees only 5% growth, the difference of 10 percentage points can be attributed to CRS under the DiD framework. The advantage of DiD is its simplicity and interpretability. However, DiD requires a "parallel trends" assumption: Armenia must have exhibited similar revenue trends to the comparison country before CRS adoption.

SCM constructs a synthetic counterfactual — a weighted combination of countries that did not implement CRS — so that the resulting composite closely mimics Armenia's pre-CRS trends.¹⁰

Armenia has started collecting CRS data, and once this data is analyzed, comparing it with a synthetic control group can help estimate the reform's potential impact. The advantage of SCM is that it allows the creation of a combined benchmark from several countries when no single state is a perfect match for Armenia. This makes SCM especially appropriate in cases like Armenia, where pre-reform developments do not fully align with those of any one comparator.

Taking into account Armenia's specific economic structure, the pace of institutional reforms, and various external factors, such as migration dynamics and the influence of regional developments, SCM appears to be the more suitable tool for assessing the effect of CRS. While DiD can also provide valuable insights, particularly when comparing Armenia with countries that have similar tax systems, the tailored counterfactual produced by SCM tends to provide a more reliable foundation for causal conclusions.

For illustration, consider a scenario where

Armenia's tax revenues from high-net-worth individuals increase from AMD40 billion before CRS to AMD52 billion after its implementation. A synthetic Armenia, constructed, for example, from Georgia (weight 0.6), Moldova (weight 0.25), and Montenegro (weight 0.15), which did not adopt CRS at the same time, might show that without CRS, this revenue would have risen only to AMD46 billion. In this case, the estimated impact of CRS would amount to approximately AMD6 billion in additional revenues attributable to the reform.

This approach would allow the SRC to more accurately measure the effects of CRS and support evidence-based decisions on future compliance and data-management initiatives.

7. Conclusion

Armenia's integration into the CRS framework represents a transformative development in the country's approach to tax transparency and international cooperation. Drawing on international evidence, it is reasonable to expect substantial improvements in compliance, increased detection of offshore wealth, and meaningful revenue gains. However, these benefits depend critically on effective administrative follow-up, secure handling of data, and robust analytic capacity.

To measure the impact of CRS credibly, Armenia should adopt modern statistical evaluation methods, with particular attention to SCM, which is best suited to Armenia's economic context. Used alongside DiD, SCM can provide rigorous estimates of revenue effects, compliance improvements, and behavioral responses.

With strong implementation, Armenia can follow the path of other countries where CRS has strengthened public finances, increased voluntary tax compliance, and reinforced public trust in the fairness of the tax system.

9 Angrist J. & Pischke J.S. (2009). *Mostly Harmless Econometrics: An Empiricist's Companion*, <https://press.princeton.edu/books/paperback/9780691120355/mostly-harmless-econometrics>.

10 Abadie A., Diamond A., & Hainmueller J. (2010). Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California's Tobacco Control Program. 490 *Journal of the American Statistical Association* 105, pp. 493–505.

Closing the Tax Gap Through Administrative Design: A “Tax Pipe” Framework for Digital Tax Administration in Belt and Road Economies*

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Abstract: Tax administrations across developed and developing economies continue to face tax gaps. While tax gaps are often analysed ex post, as failures of reporting or enforcement, this article notes that many revenue losses can have their origins in weaknesses in administrative processes. Using the “tax pipe” concept, the article traces how economic activity flows into public revenue through the tax compliance process, identifying where revenue leaks occur. Applying the framework to jurisdictions including those in the Belt and Road Initiative Tax Administration Cooperation Mechanism (BRITACOM), the article shows how digitalisation can reduce leaks at

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multiple points in the administrative process by strengthening information flows, embedding compliance into routine economic activity, and supporting earlier, more targeted administrative intervention. The analysis draws on international evidence and country examples to show that sustained reductions in the tax gap depend less on single reforms than on coordinated improvements across the tax compliance process. The article concludes that digital tax administration can make a significant contribution to closing holes in the pipe and thereby reducing the tax gap.

Keywords: Tax administration; Tax gap; Digitalisation; Tax pipe; Whole-of-government approach; Belt and Road Initiative; BRITACOM; Compliance gap; Informal economy; Shadow economy; Taxpayer morale; Risk management; Artificial intelligence

1. Introduction

The tax gap remains a challenge for tax administrations, not least because it does not reflect a single failure but rather the interaction of economic behaviour, legal frameworks and administrative design. While often discussed as an aggregate measure of revenue loss, the tax gap in practice arises at multiple points between economic activity and tax receipts.

Rather than approaching the tax gap through ex post analysis, focusing on under-reporting, non-payment, or enforcement shortfalls after liabilities should have been declared, this article adopts a different perspective, examining how administrative structures themselves influence whether taxable activity is ever captured, assessed and collected. To do so, it introduces a “tax pipe” framework that conceptualises tax administration as a sequence of stages through which economic activity

must pass before revenue is remitted to the tax administration.^{1,2}

2. The Tax Gap in Context

The term “tax gap” is generally defined as the difference between tax revenue that could be collected under an existing legal or normative framework and the revenue actually collected in practice.³ It consists of two main components: the compliance gap (revenue lost due to non-compliance with tax laws) and the policy gap (revenue not collected because of policy choices like reduced rates or exemptions). Many tax administrations, including the UK tax administration (HM Revenue and Customs, HMRC),⁴ the Federal Board of Revenue in Pakistan,⁵ European Union administrations such as those in Bulgaria, Greece, Hungary, Poland and Romania,⁶ and multilateral bodies such as the International Monetary Fund (IMF) and

1 Sanger, C., & Stern, R. (2023). *Organisational Change Management as an Enabler of the Digital Transformation of Tax Administrations*. Presentation at Conference on the Digitalisation of Tax Administrations and Contemporary Issues, EY.

2 References to Belt and Road Initiative jurisdictions in this article relate to tax administrations represented on the published BRITACOM Council membership list, which is used to situate the analysis institutionally rather than to define a homogeneous country group. Country examples are included to illustrate administrative mechanisms at specific stages of the tax process, rather than to assess revenue outcomes or attribute changes in tax gaps to individual reforms.

3 International Monetary Fund (2021). *Estimating the Corporate Income Tax Gap: The RA-GAP Methodology*, <https://www.imf.org/-/media/files/publications/tnm/2021/english/tnmea2021009.pdf>.

4 HM Revenue & Customs (2025). *Measuring Tax Gaps 2025 Edition: Tax Gap Estimates for 2023 to 2024*, <https://download1.fbr.gov.pk/Docs/2023118141362748Tax-Gap-Report-2022-Final.pdf>.

5 Federal Board of Revenue (2025). *Tax Gap Report. Government of Pakistan*, <https://www.fbr.gov.pk/tax-gap-report>.

6 European Commission (2024). *VAT Gap in the EU: Report 2024*, https://taxation-customs.ec.europa.eu/taxation/vat/fight-against-vat-fraud/vat-gap_en.

the Organization for Economic Co-operation and Development (OECD),⁷ focus on the compliance gap, as does this article given the limited space available.

A recent EY report, “Shadow Economy Exposed”, places particular emphasis on the role of the shadow economy in the tax gap. Shadow economy is defined in the study as “unreported value added (i.e., GDP) of registered and unregistered entities”.⁸ In particular, it includes:

- Hidden or underground activities: lawful transactions that are intentionally unreported (e.g., under-declared revenues by registered firms);
- Informal activities: unrecorded market production by unregistered or very small household enterprises (e.g., street vendors);
- Illegal activities: prohibited economic activities between willing participants (e.g., drug production and sale);
- Non-monetary household production: goods produced for own consumption, not sold on the market; and
- Statistical deficiencies: gaps arising from weaknesses in data collection systems.

This unreported activity represents economic value that is potentially taxable but not

collected and therefore contributes directly to the tax gap. Using estimates covering 131 countries between 2000 and 2023, EY finds that the shadow economy remains a significant source of the tax gap, with country-level impacts that are obscured by global aggregates. While unreported activity accounted for 11.8% of global GDP in 2023 on a GDP-weighted basis, the unweighted country average is considerably higher, at 19.3% of GDP, reflecting the concentration of informality in economies with more limited compliance capacity. Although the study documents a decline in shadow-economy activity in 119 of 131 countries over the past two decades, it concludes that the remaining level of unreported activity remains sufficiently large in many jurisdictions to constitute a persistent source of foregone revenue. While the analysis does not address Belt and Road Initiative jurisdictions explicitly, Figure 1 extracts data for BRITACOM Council members where these were included in the study. Using an unweighted average, these jurisdictions showed shadow economy activity of 28.4% of GDP (2023).

International evidence consistently shows that the tax gap cannot be closed through a single

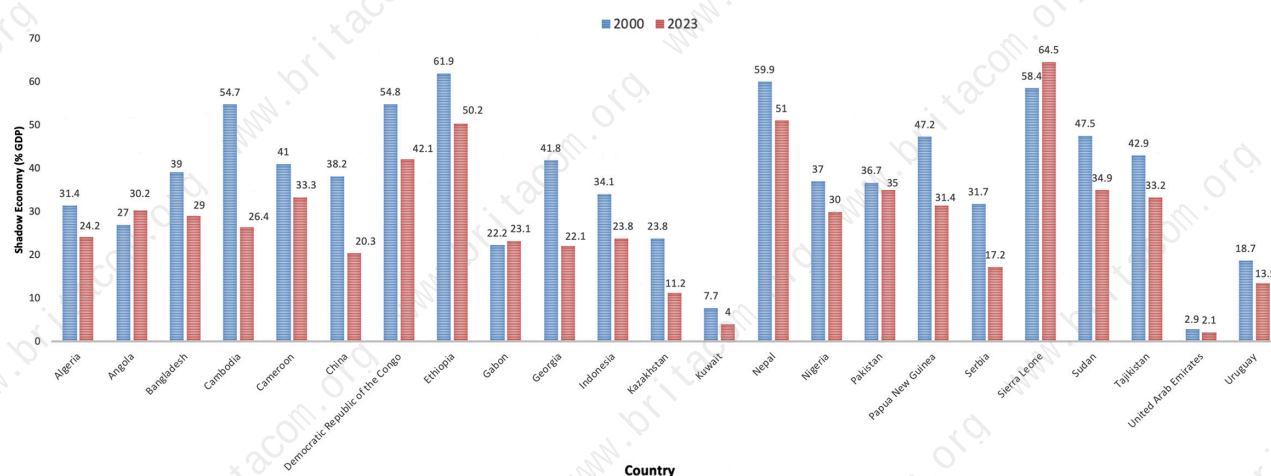


Figure 1. Shadow economy size in certain BRITACOM council members

7 OECD (2024). *Tax Administration 2024: Comparative Information on OECD and Other Advanced and Emerging Economies*, https://www.oecd.org/en/publications/tax-administration-2024_2d5fba9c-en.html.

8 Ernst & Young (2025). *Shadow Economy Exposed*, <https://www.ey.com/content/dam/ey-unified-site/ey-com/en-gl/insights/tax/documents/ey-gl-shadow-economy-report-02-2025.pdf>.

administrative reform. OECD analysis links compliance outcomes to the combined effectiveness of core administrative functions, while IMF research demonstrates that reductions in compliance gaps are associated with cumulative improvements in tax administration performance across multiple dimensions.⁹ These findings imply that closing the tax gap requires coordinated, sustained interventions along the tax compliance process.

Whilst the size of the tax gap in GDP terms is often a prime reason for action, concentrating on bringing informal business into the formal system of tax administration does not necessarily lead to substantial revenue gain. A study by the Asian Development Bank (ADB) suggests that, despite the number of registered tax filers more than tripling in Pakistan between 2007 and 2019, the income tax-to-GDP ratio remained flat at 3%–4%.¹⁰ Most new registrants reported minimal or zero taxable income. Meanwhile, stricter enforcement, expanded withholding requirements, and extensive follow-up efforts created significant administrative costs.¹¹ At the time these measures were introduced, Pakistan's authorities treated mass firm registration as the essential first step to raising revenue.¹² Similar

patterns are observed in other countries examined by the African Tax Administration Forum (ATAF) and the International Centre for Tax and Development (ICTD) — notably Rwanda, Uganda, South Africa, and Sierra Leone — where mass registration and enforcement-led efforts to incorporate small informal firms into the tax system substantially expanded taxpayer registers but generated little additional revenue.¹³

This collective experience indicates that trying to bring small informal businesses into the tax system may deliver minimal tax increases while increasing administrative costs and producing large numbers of nil-or low-liability filers.

This raises an important issue for revenue authorities: At which stages of the compliance process, or the “tax pipe”, does the system break down, and which interventions would most effectively increase actual collections?

3. A Conceptual “Pipe” Model of the Tax System

3.1 Introduction to the Model

The tax pipe model is a diagnostic framework used to identify the factors that influence

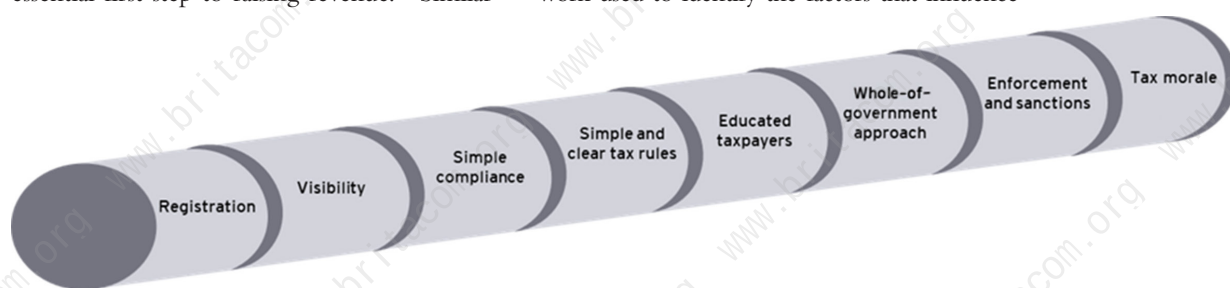


Figure 2. The tax pipe model

Source: Sanger, Chris and Stern, Richard (2023). Organisational change management as an enabler of the digital transformation of tax administrations, EY, Presentation at Conference on the Digitalisation of Tax Administrations and Contemporary Issues.

9 International Monetary Fund (2025). *Closing the Gap: How Tax Administration Performance Shapes Compliance*, <https://www.imf.org/en/publications/wp/issues/2025/10/09/closing-the-gap-how-tax-administration-performance-shapes-compliance-571094>.

10 Asian Development Bank (2014). *Taxing Informal and Hard-to-Tax Sectors: A Policy Guide*, <https://www.adb.org/sites/default/files/publication/1066521/taxing-informal-hard-tax-sectors.pdf>.

11 Supra note 6.

12 Federal Board of Revenue (2025). *About Broadening of Tax Base (BTB)*, Government of Pakistan. *About Broadening of Tax Base (BTB)* — Federal Board of Revenue Government of Pakistan.

13 International Centre for Tax and Development and African Tax Administration Forum (2024). *Taxing Informal Economies: Practices, Challenges and Ways Forward*, https://www.ictd.ac/wp-content/uploads/2025/06/EN-ICTD-Policy_Paper.pdf.

whether legally owed taxes are remitted to the tax administration. This model imagines effective tax administration as a pipe, where actions at one end result in collected taxes at the other. The effectiveness of tax administration can be measured by how much revenue escapes the pipe (the tax gap). Revenue leakage happens due to weaknesses in the system or adminis-

trative inefficiencies, essentially “holes” in the pipe. These potential holes arise from areas such as registration, taxpayer visibility to authorities, compliance, clarity and simplicity of tax laws, education and understanding among taxpayers, coordinated government approaches to tax data and functions, enforcement and penalties, and taxpayer morale.

Table 1: Tax administration stages and the tax gap

Stage	Impact on Tax Gap
Registration	Expands the taxpayer base and can reduce the tax gap by ensuring individuals and businesses formally enter the tax system
Taxpayer visibility	Improves detection of non-compliance and lowers the tax gap by giving authorities timely information on taxpayer activities
Simple compliance	Reduces unintentional errors and increases voluntary compliance, helping to narrow the tax gap
Simple and clear tax rules	Enhances taxpayer understanding of obligations, reducing mistakes, and lowering the tax gap
Educated taxpayers	Increases correct filing and payment behaviours, reducing revenue leakage, and the tax gap
Whole-of-government approach	Strengthens coordinated compliance efforts across agencies, reducing systemic non-compliance, and the overall tax gap
Enforcement and sanctions	Visible and effective enforcement deters evasion, shrinking the compliance gap and overall tax gap
Taxpayer morale	Higher societal intolerance for non-compliance supports voluntary compliance and decreases the tax gap

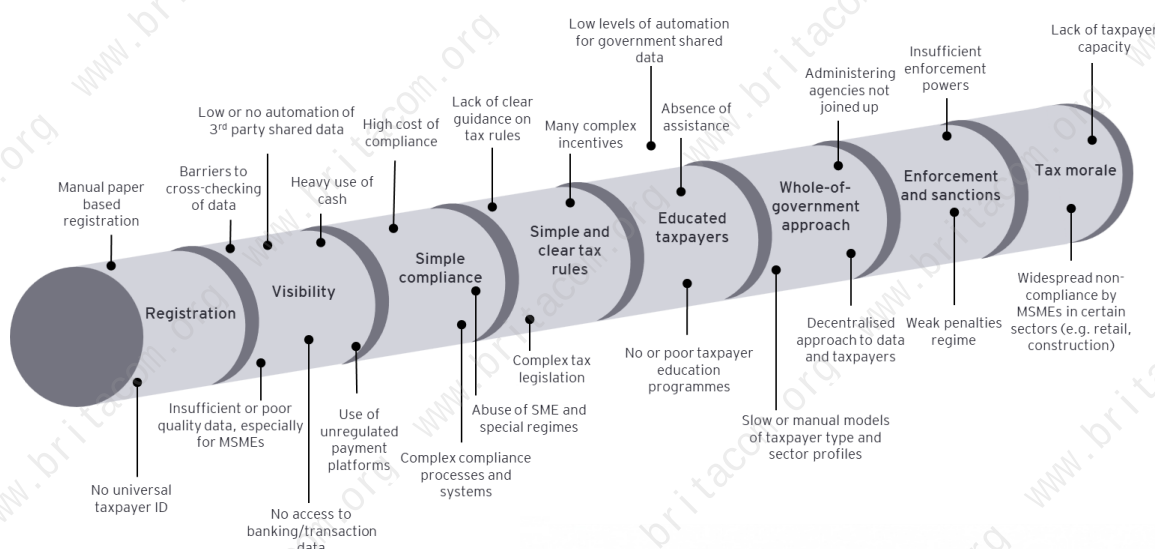


Figure 3. The tax pipe model (with leaks)

Source: Sanger, Chris and Stern, Richard (2023). Organisational change management as an enabler of the digital transformation of tax administrations, EY, Presentation at Conference on the Digitalisation of Tax Administrations and Contemporary Issues.

3.2 Interpreting the Tax Gap as Leakage

Taken together, these stages map directly onto the leakage points illustrated in Figure 3, showing how weaknesses at each step of the pipe compound to enable the tax gap and how strengthening them collectively forms the founda-

tion for more tax receipts.

Figure 3 illustrates how weaknesses (whether technological, procedural, or behavioural) create openings through which legally due revenue escapes before it can be collected. Each stage represents a potential leakage point.

Table 2: Causes of leakage at different tax administration stages

Stage	Impact on Tax Gap
Registration	Leakage occurs when registration systems rely on manual processes or lack universal taxpayer identification. Without consistent IDs or automated onboarding, large segments of economic activity remain outside the system from the outset, limiting the administration's ability to track, verify, or engage taxpayers
Taxpayer visibility	When administrations lack high-quality data, cannot cross-check third-party information, or operate without access to banking and transaction data, taxpayer visibility gaps emerge. Heavy use of cash and reliance on unregulated payment platforms further obscure taxable activity. At this stage, leakage arises because the administration cannot "see" the underlying economic transactions needed for accurate assessment
Simple compliance	Complex or manual compliance processes increase the likelihood of under-reporting, non-filing, and mistakes, particularly among micro, small and -medium-sized enterprises (MSMEs). High compliance costs, complex systems, or abuse of special regimes all create leakage by lowering the proportion of accurate and timely declarations that move through the pipe
Simple and clear tax rules	Ambiguous or overly complex legislation introduces confusion, increases errors, and encourages avoidance. Numerous incentives and exceptions complicate obligations. Leakage here stems from taxpayers not understanding what is due or exploiting loopholes created by unclear or inconsistent rules
Educated taxpayers	Without adequate taxpayer education programmes, especially for MSMEs, compliance capacity remains low. Absence of assistance or automation leaves many unable to correctly navigate obligations, resulting in consistent under-declaration or continued informality
Whole-of-government approach	Fragmented government systems create leakage when agencies do not share data, use manual processes, or maintain decentralised approaches to taxpayer information. Slow profiling of sectors or taxpayer types limits risk assessment and enforcement, allowing non-compliance to persist undetected
Enforcement and sanctions	Insufficient enforcement powers, weak penalties, or low automation reduce deterrence. When sanctions are rarely applied or easily avoided, leakage grows as taxpayers perceive little consequence for under-reporting or non-payment
Taxpayer morale	Widespread non-compliance in certain sectors, low trust, or weak social norms further widen leakage. When compliance is not the norm, or when perceived inequities undermine willingness to participate, the system loses revenue even before administrative verification begins

Weaknesses in any of these areas can compound across the revenue pipeline and widen the tax gap. Addressing these points in a holistic manner helps to limit leakage from shadow economy activity.

3.3 Conventional Approaches to Plugging the Pipe

The mechanisms used by tax administrations to reduce revenue leakage have included audits, third-party reporting, withholding at source, registration requirements, sanctions, anti-fraud controls, and taxpayer education. These methods can be effective but often encounter challenges due to slow information capture, manual handling, and reliance on physical documentation. In the old model, registration and updates typically involved paper forms and in-person visits, resulting in hand-processed data that compromised both accuracy and timeliness at times, as systems scaled.¹⁴ Based on International Survey on Revenue Administration data, the OECD reports that 59% of surveyed tax administrations continue to permit the submission of accounting documents and tax returns in both paper and electronic formats, indicating that many systems are in transition rather than fully digital.¹⁵

Presumptive taxation was also identified as a key instrument, particularly where precise income reporting proves challenging.¹⁶ These regimes compute proxies for tax liabilities using simplified metrics such as turnover, asset size, or business category, instead of comprehensive accounting records. Frequently applied to small enterprises with limited record-keeping capac-

ity, they reduce administrative burdens for both taxpayers and administrators. Their adoption is widespread across developing economies as a pragmatic solution to limited record-keeping.¹⁷

Historically, taxpayer interactions were based on standardised service halls and counter processes, with online services initially limited to routine matters. Support functions focused on awareness and clarification rather than real-time verification; early guidance relied heavily on printed manuals, notices, and on-site explanations, while enquiry services began as physical assistance before expanding to hotline and online channels.¹⁸ These attributes reflect a system characterised by retrospective action: adept at addressing issues after they have arisen rather than preventing leakage when economic activity occurs, owing to delayed data integration.

3.4 Integrating Future Digitalisation with the Tax Pipe

Digital tax administration can address various forms of revenue leakage that traditional compliance measures have often struggled to resolve. It supports early intervention on certain vulnerabilities within the system, accomplishing this with greater consistency and scale than conventional methods typically allow.

While resolving these challenges is inherently complex, technological advancements offer valuable solutions. Implementing digital processes can effectively address revenue gaps by formalizing value chains and transactions, enhancing taxpayer detection and visibility, reducing barriers to compliance, and improving taxpayer education.

¹⁴ Belt and Road Initiative Tax Administration Cooperation Mechanism (2021). *Final Report of the Digitalizing Tax Administration Task Force: Wuzhen Action Plan (2019–2021)*, <https://www.britacom.org/news/2ndOnlineMeeting/files/05Final%20Report%20of%20Digitalizing%20Tax%20Administration%20Task%20Force.pdf>.

¹⁵ Supra note 7.

¹⁶ OECD (2024). *The Design of Presumptive Tax Regimes in Selected Countries*, https://www.oecd.org/en/publications/the-design-of-presumptive-tax-regimes-in-selected-countries_58b6103c-en.html.

¹⁷ International Monetary Fund (2023). *Designing a Presumptive Income Tax Based on Turnover in Countries with Large Informal Sectors*, <https://www.imf.org/-/media/files/publications/wp/2023/english/wp2023267-print-pdf.pdf>.

¹⁸ Supra note 12.

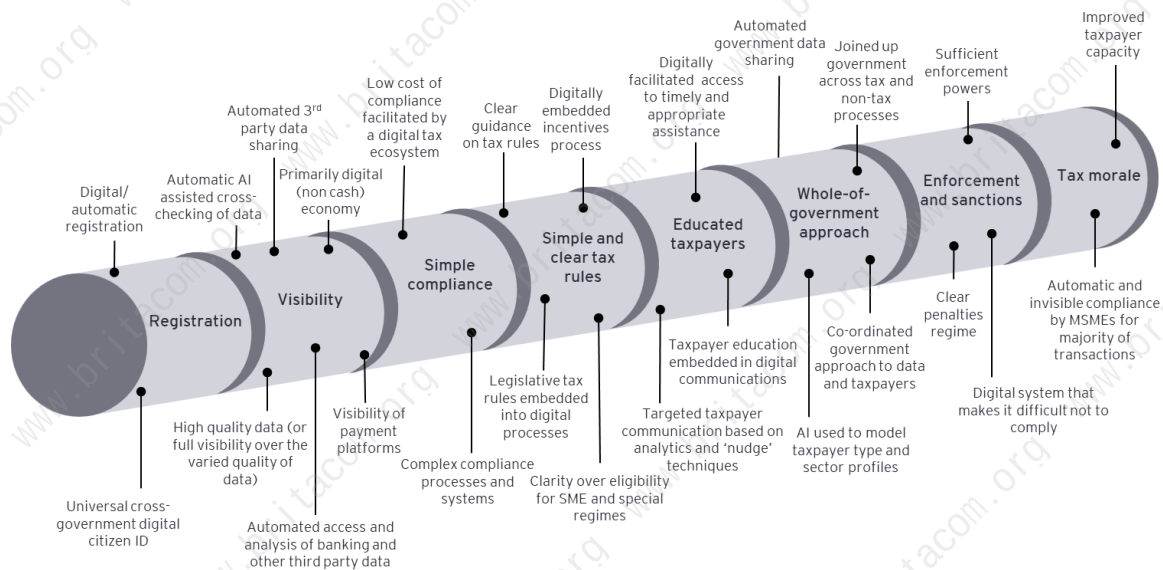


Figure 4. The tax pipe model (future digital tax administration)

Source: Sanger, Chris and Stern, Richard (2023). Organisational change management as an enabler of the digital transformation of tax administrations, EY, Presentation at Conference on the Digitalisation of Tax Administrations and Contemporary Issues.

Figure 4 illustrates that digital tax administration involves specific tools designed to target distinct types of revenue leakage.

3.4.1 Registration: From paper-based on Boarding to Automatic Identity Capture

Digital registration transforms the entry point to the tax system by streamlining processes and removing delays and information losses associated with manual, document-heavy procedures. When registration is automated and connected to business licensing systems, the creation of a tax identity is synchronised with business establishment, rather than being a separate administrative step. For instance, China's intelligent establishment model enables business registration data to flow directly into tax systems, where verification and tax-type assignment are handled

automatically.¹⁹ This approach eliminates the need for re-submission and reduces errors at the source. Likewise, Greece has implemented a real-time digital deregistration mechanism, which allows exit procedures to be completed instantly once cross-system checks are satisfied.²⁰ Collectively, these reforms reinforce the earliest stage of the tax pipe, providing the state with a reliable, real-time identity for all subsequent administrative processes.

3.4.2 Taxpayer visibility: Building connected data ecosystems

Traditionally, visibility in the tax process has been limited by fragmented systems, delayed declarations and inconsistent third-party data. Digital integration fundamentally changes this landscape. Indonesia's Coretax platform, for example, has consolidated 128 systems into

19 Belt and Road Initiative Tax Administration Cooperation Mechanism (2025). *Tax Administration Product Portfolio No. 1: Convenient Taxpayer Registration – User-Friendly and Thoughtful Service for Enterprises and Individuals*, <https://eygb.sharepoint.com/sites/etctaxpolicyteam/Shared%20Documents/01.%20Client%20and%20project%20work/04.%20Government/Britacom/6th%20BRITACOF/Conference%20materials/Tax%20Administration%20Product%20Portfolio%201.pdf>.

20 Supra note 12.

a single platform, connected with banks, customs and regulatory authorities, allowing for real-time monitoring of declarations and automatic anomaly detection.²¹ Similarly, Mongolia's KHUR data-exchange system uses automated cross-checks with multiple agencies, significantly reducing the time required for verification cycles and enhancing the accuracy of critical taxpayer information.²² When system architecture provides taxpayer visibility, rather than relying on manual reporting, subsequent compliance becomes both more efficient and more precise.

3.4.3 Simple compliance: Embedding compliance into daily digital behaviour

Digitalisation lessens the burden of compliance by making tasks such as filing and payment almost automatic, as a result of broader digital activity. Kazakhstan's E-Salyq applications illustrate how small taxpayers can meet their obligations through banking-linked mobile services that calculate liabilities, support automatic deductions, and generate receipts, all without complicated user input.²³ Comparable effects are also seen in larger systems: China's E-Tax platform integrates filing, payment, pre-filled returns, and notifications within a unified national interface, reducing friction and improving the regularity and quality of data collection. In this model, compliance becomes a regular digital

interaction rather than a discrete administrative event.²⁴

3.4.4 Simple and clear tax rules: Logic embedded directly into systems

With digitalisation, tax rules can be embedded within system logic rather than existing as static guidance, reducing uncertainty and the potential for human error. In China, confirmatory filing and comprehensive associated filing models draw upon taxpayer behavioural tags, invoice data, and automated calculations to provide personalised, pre-filled returns that taxpayers simply validate.²⁵ The eTAX portals of Hong Kong SAR, China employ similar principles, using pre-filled returns and QR-based solutions to reduce manual input and errors.²⁶ As a result, this stage of the tax pipe is strengthened by providing clarity through system design rather than through interpretation.

3.4.5 Educated taxpayers: Targeted, real-time support

Digital channels empower tax administrations to provide taxpayers with information precisely when it is needed. Malaysia and Singapore illustrate this through multi-channel digital education, including social-media formats, AI chatbots, and real-time helplines, making taxpayer support an ongoing process rather than a periodic campaign.²⁷ Comparable approaches

21 Belt and Road Initiative Tax Administration Cooperation Mechanism (2025). *Taxpayer Service Product Portfolio No.5: Interdepartmental Collaboration – Enjoy New Experience of High Efficiency in Tax Filing*, <https://eygb.sharepoint.com/sites/etctaxpolicyteam/Shared%20Documents/01.%20Client%20and%20project%20work/04.%20Government/Britacom/6th%20BRITACOF/Conference%20materials/Taxpayer%20Service%20Product%20Portfolio%205.pdf>.

22 Belt and Road Initiative Tax Administration Cooperation Mechanism (2025). *Taxpayer Service Product Portfolio No.4: Integration and Interconnection – Creating a New Model for Convenient Taxpayer Services Online and Offline*, <https://eygb.sharepoint.com/sites/etctaxpolicyteam/Shared%20Documents/01.%20Client%20and%20project%20work/04.%20Government/Britacom/6th%20BRITACOF/Conference%20materials/Taxpayer%20Service%20Product%20Portfolio%204.pdf>.

23 Supra note 21.

24 *Ibid.*

25 *Ibid.*

26 *Ibid.*

27 BRITACOM (2025). *Taxpayer Service Product Portfolio No. 2: Easy Tax Enquiry – Multiple Ways to Access Taxpayer Service Right at Your Fingertips*, <https://eygb.sharepoint.com/sites/etctaxpolicyteam/Shared%20Documents/01.%20Client%20and%20project%20work/04.%20Government/Britacom/6th%20BRITACOF/Conference%20materials/Taxpayer%20Service%20Product%20Portfolio%202.pdf>; BRITACOM (2025). *Taxpayer Service Product Portfolio No. 3: Help You Understand Taxes – Precise and Diverse Tax Information Delivery*, <https://eygb.sharepoint.com/sites/etctaxpolicyteam/Shared%20Documents/01.%20Client%20and%20project%20work/04.%20Government/Britacom/6th%20BRITACOF/Conference%20materials/Taxpayer%20Service%20Product%20Portfolio%203.pdf>.

are also used at scale: China's targeted policy-delivery model applies data segmentation to send personalised notifications through channels such as E-Tax China, WeChat and SMS, ensuring guidance reaches taxpayers exactly as obligations arise.²⁸ Consequently, this stage of the pipe shifts from one-way communication to responsive, data-driven engagement.

3.4.6 Whole-of-government approach: Coordination designed into the operating model

Leakage within the tax pipe often arises not from weaknesses within a single function, but from fragmentation across government systems. Where taxpayer identities, transactions, and assets are held in separate administrative silos, information enters the pipe late or incompletely, limiting effective risk assessment, and enforcement. Digital tax administration increasingly addresses this by enabling whole-of-government integration directly into operating models, rather than relying on ad hoc data exchange. Crucially, this integration depends not only on technical connectivity but on a clear legal framework that permits data sharing across agencies, defines permissible uses of information, and establishes safeguards for confidentiality and taxpayer rights. Where such legal foundations are absent or restrictive, digital integration is constrained, regardless of technical capability.

China's "one-stop government services" initiative has restructured administrative workflows so that data relating to tax, social security, customs, and land registration move in an integrated manner across departments.²⁹ This enables frequent events, such as new business registra-

tions or real estate transactions, to be processed via unified channels. Uruguay offers a parallel example with its one-stop investment platform, which consolidates investment approvals and links tax processes directly with cross-agency workflows.³⁰ The overall impact is a tax pipe with fewer institutional hand-offs and more robust administrative reliability.

3.4.7 Enforcement and sanctions: From episodic audits to continuous, data-supported oversight

Digital systems improve enforcement by standardising and systematising the audit process. China's tax audit compliance guidelines demonstrate how digital workflow design can reduce discretion, enhance transparency and ensure a consistent national approach to investigations and follow-up.³¹ Indonesia's Coretax system further strengthens enforcement by embedding real-time risk modelling, enabling authorities to detect and address deviations earlier, before they escalate.³² In this digital model, enforcement is an ongoing, system-supported function rather than an occasional administrative intervention.

3.4.8 Taxpayer morale: Towards voluntary compliance

Taxpayer morale reflects taxpayers' underlying willingness to meet their obligations and is shaped by everyday administrative experience. Even where liabilities are accepted in principle, minor procedural difficulties or uncertainty can discourage timely compliance. Digital tax administration supports morale by reducing these frictions, making obligations clearer, simpler to complete, and more predictable in outcome.

In Mongolia, the expansion of pre-filled re-

28 BRITACOM (2025), Taxpayer Service Product Portfolio No. 2: Easy Tax Enquiry – Multiple Ways to Access Taxpayer Service Right at Your Fingertips, <https://eygb.sharepoint.com/sites/etctaxpolicyteam/Shared%20Documents/01.%20Client%20and%20project%20work/04.%20Government/Britacom/6th%20BRITACOF/Conference%20materials/Taxpayer%20Service%20Product%20Portfolio%202.pdf>.

29 Supra note 21.

30 Supra note 28.

31 Belt and Road Initiative Tax Administration Cooperation Mechanism (2025). *Tax Administration Product Portfolio No. 13: Establishing Standardized Systems and Processes for Tax Law Enforcement*, <https://eygb.sharepoint.com/sites/etctaxpolicyteam/Shared%20Documents/01.%20Client%20and%20project%20work/04.%20Government/Britacom/6th%20BRITACOF/Conference%20materials/Tax%20Administration%20Product%20Portfolio%202013.pdf>.

32 Supra note 28.



turns and mobile filing options has been associated with higher rates of timely filing, indicating that straightforward and predictable processes can encourage compliance.³³ Similarly, China's 12366 taxpayer service platform provides rapid clarification at the point of need, reducing the risk that minor administrative uncertainty deters filing or payment.³⁴ Together, these approaches lower the practical and psychological costs of compliance and reinforce the expectation that paying tax is a routine, manageable part of normal economic activity.

4. Conclusion

The tax pipe model highlights that revenue shortfalls rarely arise from a single failure. Instead, they accumulate where economic activity lacks transparency, data are untimely or fragmented, regulatory logic is difficult to apply, and compliance imposes an unnecessary burden. Effective digitalisation addresses these vulnerabilities by bringing transactions into view earlier, integrating legal rules directly into operational systems,

automating verification, and enabling targeted, risk-based intervention. In doing so, it shifts administration from episodic, retrospective action towards continuous oversight integrated within normal economic activity.

A robust tax administration will build upon continuous data integration, linking identities, transactions, and obligations across public and private systems to improve speed, accuracy, and accessibility. Progress will be shown less by the pursuit of a single end-state than by targeted, measurable strengthening of key points in the tax pipe, through tools such as real-time identity capture, connected data ecosystems, embedded regulatory logic, mobile compliance solutions, and automated enforcement routines. AI further enhances the capabilities by improving risk analysis, fraud detection, and taxpayer services, allowing administrative effort to be directed where it has greatest impact. This supports the operation of the tax system as a tax delivery system in which core administrative functions are integrated across the compliance lifecycle.

³³ *Supra* note 21.

³⁴ *Ibid.*

How Technology and Transformation Unleash Strategic Potential for Tax*

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Abstract: As tax administrations accelerate digitalisation under the OECD's Tax Administration 3.0 vision, tax functions are increasingly operating within an environment characterised by heightened transparency, near real-time reporting, and data-driven compliance. In this context, technology-enabled transformation has become a critical driver in redefining the role of tax — from a predominantly reactive compliance function to a strategic partner that delivers insights, foresight, and enterprise value. The foundational enablers required to support this transition, including robust data architecture, integration of tax considerations into upstream business systems, and the responsible application of advanced technologies such as artificial intelligence (AI), must operate cohesively within a strong governance and control framework. A successful tax transformation is not defined by technology adoption alone, but by the extent to which organisations redesign tax as an integrated, data-driven capability aligned with broader enterprise strategy. For tax leaders and the C-Suite, this transformation represents both a structural necessity and a strategic opportunity to convert regulatory transparency into sustainable long-term value.

Keywords: Tax Administration 3.0; Tax transformation and technology; Data integration; Tax governance and controls; Transparency and foresight; Future-ready tax function

Over the past decade, tax functions have been reshaped by unprecedented transparency, near real-time reporting, and digitalisation shaped by the OECD Forum on Tax

Administration (FTA) and its Tax Administration 3.0 vision for a more seamless tax administration over time.

In this evolving environment, technology and transformation are no longer

* This article is for general information only and does not constitute tax or legal advice.

optional but a strategic operating choice. They are fundamental to redefining the tax function — from a reactive compliance role to a strategic partner that delivers insight, foresight, and value to the business.

Following the vision from Tax Administration 3.0, compliance is increasingly shifting upstream into the natural systems where transactions happen. The tax function's strategic advantage will come from an enterprise-level data platform, strong control and governance embedded in processes and technology solutions, and the application of advanced technologies such as artificial intelligence (AI) with proper traceability, to turn transparency into foresight.

1. Background and Overview

Over time, a growing number of administrations have aligned more closely with a long-term direction with embracing digital transformation initiatives, moving toward operating models in which tax processes are more integrated, efficient, and user-centric for both individuals and businesses.

Following the FTA setting forth its progressive vision for tax administration in 2020, known as Tax Administration 3.0, numerous revenue authorities have already begun major digital and transformation initiatives — Tax Administration 3.0 crystallised the direction of travel and the building blocks needed to go further. Early initiatives generally focused on deploying digital tools and innovative solutions to strengthen compliance outcomes while reducing administrative complexity for taxpayers.

Data sharing among tax authorities, business systems, and external sources is becoming more direct and automated than ever. Tax administrations now obtain information from a variety of sources in addition to traditional pay-as-you-earn data, with some details already transferred automatically via machine-to-machine processes that require no manual input.

Digital identity solutions are increasingly integrated into tax systems, allowing many taxpayers to access services online. These technologies ensure secure identification and help different systems work together, enabling fast data

exchange.

Integration with third-party systems has also advanced considerably. Tax administrations have developed Application Programming Interfaces (APIs), and many make these available for external use. Some administrations are going beyond basic system connectivity by creating software like digital record-keeping and electronic document tools, making them usable for taxpayers in their daily business activities.

Taxpayers now enjoy simpler filing thanks to expanded pre-filled returns. Pre-filled returns are expanding in a growing number of jurisdictions, and e-invoicing/digital records are enabling more automated population of indirect and corporate tax filings, even though the degree of prefill and completeness varies widely by regime and ultimately depends on data availability.

AI is now widely applied across various sectors. Tax authorities are increasingly relying on AI to boost efficiency and enhance service quality, particularly in compliance management and taxpayer support. Common applications include detecting fraud and tax evasion, evaluating risks, and providing virtual assistant services.

Formal approaches and governance systems are increasingly widespread. Governments now have specific digital transformation strategies, showing they recognise digitalisation as a major change to their operating models instead of just separate technology projects. These strategies usually outline precise goals and clarify how incremental improvements are prioritised and scheduled.

Recognising that successful digital transformation is highly dependent on people and capabilities, many administrations have begun systematically identifying the skills required to support this transition. Among these administrations, most collaborate with other government agencies and external partners to strengthen workforce capability.

Although moving to fully digital tax administrations is still a long-term goal, current evidence shows significant progress has already been achieved. As the broader economy becomes increasingly digital, this will no doubt have an unprecedented impact on how tax ad-

ministrations adapt.

2. AI-enabled Tax Functions

Tax functions globally are progressing into a new phase of development. While previous stages of digital transformation focused primarily on automation and operational efficiency, the increasing integration of AI is significantly transforming how tax teams operate, apply professional judgment, interact with data and manage risk.

AI-enabled tax functions surpass traditional rule-based automation by introducing advanced, insight-driven capabilities such as large-scale data analysis, intelligent document review, scenario evaluation, and near real-time decision support.

These technologies are integrated to maintain the rigorous standards of accuracy, governance, and control vital for tax compliance and financial reporting. Successful implementation necessitates thoughtful evaluation of actionable AI use cases in taxation, strong data infrastructure and governance, and adherence to the core principles that ensure responsible and effective adoption.

In the past, tax transformation projects have made use of automation technologies like workflow management tools, robotic process automation, and rules-based systems. These solutions have proven effective by minimizing manual work, standardizing processes, and speeding up responses. However, their effectiveness is inherently limited due to their reliance on fixed logic and well-structured data. As tax scenarios become more complex and datasets increase in size and diversity, automation alone cannot fully meet evolving requirements.

AI represents a significant evolution from traditional task-level automation to the deployment of intelligent and adaptive solutions. Rather than solely following predefined instructions, AI-driven solutions can identify patterns, interpret unstructured data, and continuously refine their outputs as new information emerges.

In the context of tax environments, these capabilities enable the efficient execution of tasks that demand professional judgment, such as document review, exception management,

and risk identification. Consequently, the focus shifts from simply automating tax processes to integrating advanced intelligence into tax applications.

Tax functions have a very low tolerance for error. As a result, using AI in tax processes requires careful attention to detail, openness in operations, and strong supervision. AI solutions are designed to support, not replace, human expertise. They should feature complete audit trails, strict validation steps, and clear escalation procedures built into their systems.

3. Data Platform for Tax

A future-ready tax function stands or falls on data: quality, consistency, lineage and governance. The data foundation for tax should be created through close integration within the Record-to-Report process, and on an enterprise-wide centralized platform to drive consistency and efficiency.

An enterprise tax data platform provides a central foundation to ingest, harmonize, and deliver tax-relevant data from across the enterprise as a single source of truth. It should be positioned as a core component of the enterprise and finance data architecture and form part of the overall data strategy. With this centralized foundation, tax-relevant data can be collected once and reused across connected tax processes, including planning and forecasting, compliance, reporting, and analytics. This enables greater consistency and transparency across the group and across different tax types, while minimizing manual data manipulation and reconciliation and reducing the risk of inconsistent data being used for different reporting purposes.

The effectiveness of a tax data platform is significantly enhanced by centralising and consolidating tax-relevant data through integration with natural systems such as Enterprise Resource Planning (ERP) and Enterprise Performance Management (EPM). Integration with these source systems is critical, rather than rebuilding tax logic downstream in spreadsheets or other offline tools. Upstream tax sensitisation at source provides clarity on tax-relevant data attributes and ensures that downstream data

processes are consistent, controlled, and scalable. For tax, rather than being merely a consumer of the finance data, over time, the integration would support building tax data ecosystems to be aligned with any enterprise-wide data initiatives.

In addition, the data platform should be designed with external connectivity in mind and support standardized data models and standard API-based integration, particularly to address the increasing demand for near real-time and digital reporting requirements. These capabilities enable organizations to respond to reporting requirements in a timely manner, reduce compliance risks, and adapt quickly as digital tax administration continues to evolve.

4. Governance, Operating Models and Skills

With the rapidly evolving technology and data, organizations are expected to establish strong governance around their digital tax transformation strategy to support this change. While transformation is inevitable, it must be carefully planned and executed in a structured and phased manner, rather than through a big-bang approach.

As tax functions introduce more advanced digital and AI-driven capabilities, governance increasingly serves as a catalyst for effective adoption rather than a limiting factor. Strong governance frameworks provide the foundation for responsible use of new technologies, enabling risks to be identified and addressed early while ensuring that core obligations such as accuracy, regulatory compliance, and transparency are consistently met. Achieving this outcome requires a purposeful evolution of the tax operating model, the integration of controls directly into technology-enabled processes, and a material shift in both workforce capability and organisational mindset.

A future-ready tax operating model must be developed through an integrated approach that spans people, processes, and technology and data. These components are inherently interdependent and need to be advanced in a coordinated and aligned way to deliver sustainable



outcomes.

Process design should transition from manual, sequential procedures to end-to-end workflows enabled by digital technologies. This encompasses the standardisation of tax processes across jurisdictions where feasible, clear accountability for decision-making, and established escalation protocols for exceptions. Robust processes provide the framework in which AI and automation can be implemented safely and efficiently.

People occupy a central position within the operating model. As routine tasks are increasingly automated or enhanced by AI, tax professionals are anticipated to focus on interpretation, oversight, and advisory responsibilities. Well-defined roles are essential for distinguishing operational execution, technical review, data stewardship, and governance functions.

Technology and data underpin the tax operating model. Systems must be seamlessly integrated, data maintained with consistency and strong governance, and the technology architecture must accommodate both current compliance requirements and future analytical demands. A resilient technology and data infrastructure is vital for the effective operationalisation of governance frameworks.

Although technology is a critical driver of



transformation, accountability for tax risk ultimately remains with people. The move toward AI-enabled tax functions therefore demands change not only in capabilities, but also in how tax professionals think and operate.

From a capability standpoint, the role of the tax professional is expanding beyond traditional technical expertise. Increasingly, teams require stronger data literacy, a working understanding of AI and analytics tools, and the ability to critically evaluate and challenge technology-generated outputs. Closer collaboration with finance, technology, and data specialists is also becoming essential, placing greater emphasis on communication, coordination, and stakeholder engagement skills.

Alongside these capability shifts, a change in mindset is equally important. Tax teams must evolve from a largely reactive, compliance-focused approach toward one that is more forward-looking and insight-driven. This involves greater confidence in using data and digital tools to support decision-making, openness to new ways of working, and a clear understanding that professional judgment remains central even as technological sophistication increases.

Leadership is instrumental in enabling this transition. By setting clear expectations, investing in targeted training and change initiatives,

and reinforcing a culture of accountability and continuous improvement, leaders can create the conditions necessary for people and technology to work together effectively.

5. From Technology to Value: Implications for Tax Leaders and C-Suite

The role of tax must adapt to drive strategic value creation. A connected, data-driven approach enables greater insight into an organization's tax positions, supports better business and investment decision-making, and helps to proactively manage and mitigate tax risks associated with business transactions.

The shift from technology adoption to value realization requires a fundamental mindset change. The objective is no longer limited to improving efficiency or reducing manual effort, but to enable strategic value creation for the business — supporting forward-looking planning and forecasting, navigating an increasingly complex geopolitical environment, and proactively identifying and mitigating tax-related risks.

As tax authorities continue to shift toward data-driven, risk-based compliance and enforcement models, the importance of digital maturity within the tax function becomes increasingly pronounced. Organizations with robust tech-

nology and data capabilities are better equipped to engage with authorities in a transparent, informed, and confident manner.

For the C-Suite, tax transformation is no longer a purely functional concern. As tax becomes more deeply embedded in enterprise data and decision-making processes, it has direct implications for governance, risk, cash flow, and reputation.

Senior leaders should recognize that:

A. Tax data is an enterprise asset and should be aligned with broader data and finance transformation strategies.

B. Investments in tax technology can deliver value beyond compliance, including improved forecasting, decision support, and risk mitigation.

C. A fragmented or under-invested tax capability increases exposure to regulatory change, near real-time reporting requirements, and reputational risk.

Effective tax transformation therefore requires active C-Suite sponsorship, cross-functional collaboration, and alignment with enterprise priorities.

6. Forward-looking Roadmap and Approach

Building a future-ready tax function is a multi-year journey that requires a carefully planned roadmap, rather than a one-off exercise. It is essential to adopt a process-driven transformation approach in which technology acts as an enabler but not the end goal, to deliver the intended transformation values.

A phased, pragmatic journey typically includes:

A. Setting the transformation goal and KPIs

The starting point of any successful tax transformation is a clear articulation of the desired end state. This involves defining transformation in the context of the organization's broader strategy, regulatory environment, change readiness and risk appetite.

B. Diagnostic across key dimensions to establish a baseline and target vision

A structured diagnostic is critical to understand the organization's readiness to fit the gap

to leading practices. The diagnostic should span the core dimensions of people, process, technology and data and serve as the baseline for transformation planning and define a fit for purpose strategic delivery model.

C. Define/Re-define future operating model

With the target vision and understanding of organization's readiness, the next step is to define a clear operating model, which typically includes a strong and clear governance structure for decision making with aligned processes, technology and data enablement. This should form the bridge between high-level strategy and day-to-day operations, allowing clarity for tax function operations.

D. Prioritize the "low hanging fruits" aligned to the strategic vision

Early focus on the transformation journey should be on high impact and lower complexity initiatives that address foundational issues. These initiatives should be aligned with the long-term strategic vision and ensure that short-term gains do not create future complexity or rework. This is critical for demonstrating value and building confidence for ongoing organizational support on the transformation journey.

E. Amplify, scale and expand

Once foundational elements are in place, the transformation can be expanded and scaled across the function, shifting the focus from implementation to achieving longer-term strategic value and sustainability.

Tax transformation is not defined by the technologies an organisation deploys, but by how effectively it redesigns tax as a strategic, data-driven capability. Under Tax Administration 3.0, transparency is inevitable. The choice for tax leaders and the C-Suite is whether to treat that transparency as a compliance burden — or to leverage and harness it as a source of insight, resilience and longer-term value.

Technology becomes a true catalyst only when it is part of a comprehensive and wider transformation agenda to provide the integration. For organisations willing to make that shift, tax can move decisively from reactive reporting to strategic foresight.

Improving the Tax Environment*

— A Business and Industry Perspective

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Abstract: This article examines the tax environment from a business perspective, arguing that tax certainty and predictability are as critical as tax burden for investment. It analyzes challenges in Pillar Two implementation, including high complexity and compliance costs, and discusses the 2025 G7 “Side-by-Side” understanding, which exempts US MNEs from Pillar Two rules while other countries’ MNEs remain subject to both systems, creating competitive distortions. This article also explores how digitalization and generative AI are reshaping business models and tax administration. It highlights the importance of advance pricing agreements (APAs) and advance rulings in enhancing tax certainty and trust between taxpayers and administrations. Finally, it addresses the interplay between rising customs tariffs and transfer pricing, noting potential disputes and profit shifts. This article calls for cooperative dialogue to navigate these complexities and create a more stable tax environment for growth and investment.

Keywords: Tax environment; Pillar Two; Tax certainty; Advance pricing agreements (APAs); Advance rulings

In today’s global economy, the tax environment plays a crucial role in shaping the business landscape. A well-structured tax system can significantly influence business decisions, drive investments, and foster economic growth. For businesses, it is not only the tax burden that drives investment decisions, but also the stability

and predictability of the overall tax environment — because this is essentially creating the foundation for long-term planning and investment. It provides the certainty needed to make informed decisions about resource allocation, expansion, and innovation. For governments, too, an effective tax system is a vital tool for gen-

* The views expressed in this article are solely those of the author.

erating revenue, promoting economic stability, fostering growth, and ultimately achieving societal objectives.

Enhancing the tax and business environment can thus have far-reaching benefits. By reducing complexity, increasing transparency, and providing clear guidelines, governments can create a more attractive environment for businesses. This, in turn, can lead to increased cross-border investments, as companies seek to capitalize on favorable conditions. Improved tax policies can also contribute to better growth and prosperity for countries by fostering a competitive business climate, encouraging innovation, and attracting foreign direct investment. A well-known example that illustrates the impact of attractive corporate tax systems on inbound investments is Ireland's corporate tax rate of 12.5%. It has been a significant factor in attracting multinational companies like Google, Apple, and Meta to establish their European headquarters in the country. This favorable tax environment has led to substantial foreign direct investment, job creation, and economic growth in Ireland.¹ Meanwhile, systems like Ireland's had motivated the OECD to start its Base Erosion and Profit Shifting Project, finally leading to a global tax environment with much more complexity than in the past, with the Global Minimum Tax or Pillar Two as the archetype of complexity.

1. Pillar Two Implementation and Its Challenges

Pillar Two is an initiative by the OECD/G20 to ensure that large multinational enterprises (MNEs) pay a minimum effective tax rate of 15% on their profits in every country they operate. This framework aims to combat tax avoidance by preventing MNEs from shifting profits to low-tax jurisdictions. The rules apply to MNEs with consolidated revenues exceed-

ing EUR750 million and include mechanisms like the Income Inclusion Rule (IIR) and the Undertaxed Profit Rule (UTPR) to enforce the minimum tax rate.

The implementation of Pillar Two presents several challenges, both for taxpayers and tax administrations. First, the application of the rules requires expertise in international accounting and tax. This is especially burdensome for tax authorities because so far most of them have not had to deal with international accounting rules. Second, Pillar Two rules are in themselves highly complex as they contain a vast number of adjustments and require data points which in some cases cannot be easily provided — this materially increases compliance costs and absorbs funds that otherwise could have been invested productively.² Third, for developing countries Pillar Two can limit the ability to attract inbound investments because tax benefits can no longer be used to attract these investments. This all goes hand in hand with the fact that for many countries, the fiscal income generated from Pillar Two may be very limited. However, carefully designed tax benefits and incentives can help mitigate these challenges: substance-based carve-outs can shield top-up taxes, making the system more manageable for businesses and tax administrations. This carve-out allows for certain income to be excluded from the calculation of the effective tax rate, based on the presence of substantial business activities in the jurisdiction.

But Pillar Two is not only driving complexity and cost for taxpayers and tax authorities while reducing the ability of jurisdictions to use tax benefits to attract inbound investments. It also motivated the US to threaten retaliatory measures against countries taxing US-based MNEs under Pillar Two rules, ultimately leading to what is called the “Side-by-Side” understanding.

¹ <https://generisonline.com/understanding-the-corporate-taxation-system-in-ireland/>.

² Sean Bray, Daniel Bunn, Johannes Gaul & Christoph Spengel (ZEW), *OECD Pillar Two Compliance Costs: A Quantitative Assessment for EU-Headquartered Groups*, <https://taxfoundation.org/research/all/eu/oecd-pillar-two-compliance-costs-eu/>.

2. The “Side-by-Side” Understanding of the G7

In early 2025, the US threatened to implement so-called retaliatory tax measures, such as a proposed Section 899 of the Internal Revenue Code (IRC), in response to the implementation of Pillar Two rules by other countries. The threat was mostly targeted against the so-called UTPR which the US and others (including the author) view as an extraterritorial tax for which there is no justification. The US viewed the UTPR as well as other Pillar Two rules as potentially harmful to US-based MNEs, as they could lead to increased tax and administrative burdens and reduced competitiveness for these companies. By threatening retaliatory measures, the US aimed to protect its domestic businesses from the adverse effects of Pillar Two rules, emphasizing that the US already has rules targeted against foreign low-taxed income such as the so-called US Global Intangible Low-Taxed Income (GILTI) rules.

In the summer of 2025, the G7 reached an understanding on the “Side-by-Side” approach of GILTI and Pillar Two, aimed at exempting US MNEs from Pillar Two rules. With this “Side-by-Side” understanding, the “global” consensus which was the foundation for the “Global” Minimum Tax finally disappeared. What is left looks like a potential competitive distortion. Some distortive factors are that while US MNEs only have to apply GILTI rules and no UTPR or IIR applies under Pillar Two, MNEs in other countries are still subject to both, UTPR and IIR on the one hand and GILTI on the other, as far as they have US operations. Additionally, GILTI might be administratively burdensome, but it allows for what is called a “global blending”: Only if the global effective tax rate drops below the threshold a top-up tax applies. This way high tax countries and low tax countries can offset each other. Within Pillar Two this offset is not allowed, because the rules only allow for a so-called jurisdictional blending — a blending of income and taxes only within the same jurisdiction.

This development might create some other uncertainties down the road, and it requires countries to carefully reconsider their position

regarding Pillar Two specifically, and within the international tax arena in general. For example, many countries might start to wonder whether their tax systems should also qualify for a “Side-by-Side”, too, as they already have robust anti-abuse rules in place. This discrepancy can create an uneven playing field and at a minimum, changes to the OECD Pillar Two model rules may be necessary to achieve a more balanced approach. In addition, countries might refrain from introducing a UTPR not to trigger potential retaliatory measures from other countries. Or countries with substantial US inbound investments could give up a QDMTT (Qualified Domestic Top-up Tax) which they might already have introduced. I still believe, in the end, “adventures” like Pillar Two do not fit into the present geopolitical landscape.

3. Digitalization and Generative AI

Digitalization and generative AI are transforming the business landscape. Generative AI can address capacity shortfalls, integrate into value chains, and impact the services industry. Chatbots and AI-driven solutions can take over service functions, affecting shared service centers and programming jobs. Especially developing countries need to be aware of these impacts as they are still home to many of the service functions most likely impacted by generative AI. To protect the local services economy, these jurisdictions need to carefully consider how to create the best environment to benefit from this trend rather than being hit by it. This could include respective tax incentives for generative AI applications or just general tax benefits for the services industry. The spectrum is wide but each country should develop a holistic strategy including tax on how to deal with this potential digital revolution.

For tax administrations the potential to integrate generative AI is big, too. Respective applications can help as chatbots to interact with taxpayers and take stress out of the system by saving human resources better needed elsewhere. Generative AI can assist tax officers in reviewing, auditing and assessing vast amounts of data much faster. This is especially the case for jurisdictions

which already receive electronic filings and do have digital access to data of their taxpayers.

4. Tax Certainty, Advance Rulings, and APAs

Tax certainty is a decisive factor for investment decisions. Usually, if dispute resolution mechanisms such as a mutual agreement procedure (MAP) are established and working well, this is seen as an indicator for tax certainty. But much more certainty is achieved, if jurisdictions and taxpayers enter into so-called advance pricing agreements (APAs), or if advance rulings are available. These tools create early transparency and are the foundation to build trust between taxpayers and tax administrations. They provide businesses with the certainty needed to plan and execute their strategies. Reliable ruling practices can create trust, especially for new investors. And APAs offer a foundation for business planning, helping both taxpayers and tax administrations save time and avoid potential disputes.

With an APA a taxpayer describes his/her transfer pricing for a specific type of transaction and seeks to achieve an alignment for this with one (unilateral APA) or two (bilateral APA) or more jurisdictions (multilateral APA) involved. This instrument is especially relevant for new investments and allows taxpayers to reliably design their business plans while tax administrations gain valuable insights into business models and are able to better forecast future fiscal revenue. Many jurisdictions that have been able to successfully attract inbound investments offer APAs.

With advance rulings specific tax questions can be addressed to the authorities and taxpayers get binding answers. This instrument is obviously ideal to create certainty especially for taxpayers who start their business in the respective jurisdiction and might not be accustomed to its tax system. The constructive dialogue that is started with the request for an advance ruling in itself creates trust and can save a lot of efforts for unnecessary, avoidable disputes.

5. Customs and Transfer Pricing

Customs tariffs are critical elements of the tax environment, too — and they can have an

impact on tax. The trade tensions between the United States and almost all other jurisdictions have led to increased customs tariffs on various goods. Many companies have had to adjust their supply chains to mitigate the impact of these tariffs on their profitability. But changing existing supply chains takes a lot of time, while the increased customs immediately kick into effect. In reality, companies will either be able to roll the higher cost of higher customs over to their customers, driving up inflation. This will only be possible if the respective company is in a leading position. Or the company will have to “swallow” the increased customs costs, lowering its own profitability. In this scenario, businesses must decide which party will fully or partially bear the cost of the higher customs — which might lead to transfer pricing adjustments.

Usually, if a company sells its products into a market (such as into the US), it will use a subsidiary as a distributor. The Transfer Price (TP) for selling the product to the distributor will be set using the so-called “resale-minus” method. With this method the price for which the product is finally sold to the customers serves as the reference (or starting point) and a certain percentage reflecting the expected profitability of the distributor is deducted from this reference. If higher customs cannot be rolled over to the customers (i.e., will not increase the reference sales price), they would automatically end up lowering the profitability of the foreign parent entity and not that of the local distributor. It is questionable if this is the right result, because the higher customs could be viewed as an extraordinary, unforeseeable event which should at least be borne partially by the distributor.

But it is not only the effect of the higher customs on the risk and profit split that will create some uncertainties. Many businesses are actively adjusting the transfer pricing to reduce customs. With customs tariffs of more than 50% (and much more) in certain cases it is obvious that reducing the customs value is more than economically tempting. But this would finally mean that the tax base of the exporting countries would be lowered while the tax base of the US would be increased: a lower TP would shift

more profitability to the US as the importing country, leading to higher taxes in the US, while at the same time the higher customs would be mitigated at least partially. Within certain ranges these transfer pricing adjustments seem reasonable but as with any modifications they will trigger increased audit activities and attract attention, potentially leading to more disputes in this area and higher uncertainties. Taxpayers and tax administrations should actively and cooperatively start discussing these matters.

6. Conclusion

In conclusion, the tax environment is a critical factor in shaping the business landscape and driving economic growth. Improvements

in the tax and business environment can lead to increased cross-border investments, fostering innovation and prosperity for countries. The implementation of Pillar Two and the “Side-by-Side” understanding of the G7’s tax policies present challenges that require careful consideration and adaptation. Digitalization and generative AI are transforming industries, and the tax environment must support these advancements. Tax certainty, advance rulings, and APAs provide businesses with the stability needed for strategic planning, while customs and transfer pricing require careful management to ensure profitability. By addressing these key areas, governments and businesses can create a more favorable environment for growth and investment.



Bridging the Digital Divide: Why Tax Administration Transformation Demands a New Corporate Response

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Abstract: Tax authorities across the world are in the midst of a significant change in how they administer tax. This is of specific relevance for the Belt and Road Initiative (BRI) jurisdictions. The shift from periodic, paper-based reporting to continuous, transaction-level data collection is not just a technical upgrade. It is a reordering of the relationship between the state and the corporate taxpayer: a new digital tax world order. This article examines what that shift actually involves, the readiness challenges it creates for multinationals and regionally operating companies, and the case for treating tax data management as a core operational discipline rather than a compliance afterthought. Drawing on the Gulf Cooperation Council (GCC), where the United Arab Emirates (UAE) and Saudi Arabia have moved with remarkable speed, as well as the broader BRI experience, the article argues that corporations which embed continuous compliance into their operational infrastructure will secure real advantages in cost, risk, and regulatory resilience. The role of e-invoicing authorised service providers (ASP), enterprise resource planning (ERP) integrators, and regionally focused advisers is considered throughout.

Keywords: Tax administration digitalisation; Continuous transaction control (CTC); E-invoicing; Tax data governance; Belt and Road Initiative (BRI)

1. Introduction

The way tax authorities engage with corporate taxpayers has changed significantly. It is faster than many companies appear to have predicted. For most of the modern era, tax compliance operated on a deferred basis: businesses recorded their transactions, and periodically summarised that activity in filings submitted to revenue authorities. The gap between the transaction and the report could be measured in months. The report itself was, in most jurisdictions, a

document prepared by the taxpayer and submitted largely on the trust in the organisation's systems and data.

That model is being materially disrupted. Advances in data infrastructure, cloud computing, machine learning, and regulatory technology are enabling tax authorities across the Belt and Road Initiative (BRI) and beyond to compress or eliminate the interval between a commercial transaction and its regulatory visibility. Instead, taxpayers can report in realtime. E-invoicing, continuous transaction con-

trols (CTCs), and analytics platforms are creating a world in which tax authorities hold transaction-level data on a near-contemporaneous basis. The corporate taxpayer's role is shifting, in consequence, from periodic reporter to continuous data provider. The AI revolution has come for the taxman.

For corporations operating in BRI jurisdictions, Gulf Cooperation Council (GCC) member economies and other digitally advancing tax environments, this is a serious process change and it demands more than a technical response. The companies that will manage this transition well are those that leverage this opportunity and see digitalisation as a catalyst for building more robust tax and finance functions, not just a regulatory burden to be absorbed at minimum cost.

This article is organised in three substantive parts. Section 2 examines what we mean by tax administration digitalisation, drawing a distinction that matters in practice between the digitisation of existing processes and the deeper structural change currently underway. Section 3 addresses the corporate readiness challenge: the system, the all-important governance, and cultural dimensions of operating effectively in a continuous compliance environment. Section 4 considers how technology-enabled stakeholders can create strategic options for corporations navigating this landscape, with the GCC as an illustrative case study.

2. Tax Administration Digitalisation: Beyond Digitising Forms

2.1 Digitisation and Digitalisation Are Not the Same Thing

This is an important distinction that matters. Digitisation is the conversion of existing processes into digital form: replacing paper tax returns with online filing portals, enabling electronic payment of liabilities, and scanning paper records. However, the compliance relationship remains essentially intact: deferred, summarised reporting, and submitted on a taxpayer-determined timeline. Digitalisation, as the International Chamber of Commerce (ICC) has observed in its reporting to the Belt and Road Initiative Tax Administration Cooperation Mechanism (BRI-

TACOM), is something categorically different. It is the use of digital technologies to redesign how processes operate and how value is created and captured (ICC, 2021).

The first wave of tax technology reform, which swept much of the developed world through the 1990s and 2000s, was largely focused on digitisation. Tax authorities put their existing forms and processes online. Taxpayers submitted the same information they had always submitted, through web portals rather than by post. The underlying logic of the compliance relationship did not change. This created a “first wave” of technological efficiency in the tax compliance process, but it is not big-T technology digitalisation.

What is happening now is a redesign of the informational architecture underpinning that relationship. The defining characteristic of the current wave is the move towards continuous, granular, transaction-level data access, away from the summarised, taxpayer-curated reporting that characterised the preceding era. Taken to its logical conclusion, tax data is automatically reported in real time based on commercial-grade transaction-level data.

2.2 Continuous Transaction Controls and the Real-Time Audit Trail

CTCs are the most consequential technical development in this shift. In simple terms, a CTC regime means that when a business issues an invoice, that invoice is simultaneously transmitted to, or validated by, the tax authority's systems before, during, or immediately after the transaction. The authority's record of the transaction is created in real time, not reconstructed from periodic filings months later. This raises the inevitable question of whether tax filings are even necessary.

Saudi Arabia's Fatoora system, introduced in December 2021, is arguably among the most advanced implementations of this model anywhere. Under Phase 2 of the Saudi e-invoicing mandate, VAT-registered businesses above defined revenue thresholds must integrate their enterprise resource planning (ERP) and invoicing systems directly with the Zakat, Tax and Customs Authority (ZATCA) platform. Invoices are transmitted to ZATCA in real time, and the

clearance confirmation from ZATCA is itself a precondition for the invoice's legal validity. The system generates a continuous, government-side ledger of every in-scope transaction as it occurs (KPMG, 2025). This is qualitatively different from any prior compliance model.

Inspired by recent developments in Belgium and France, the United Arab Emirates (UAE) is implementing a comparable but architecturally distinct framework. Under Ministerial Decisions No.243 and 244 of 2025, the UAE has adopted a Decentralised Continuous Transaction Control and Exchange (DCTCE) model built on the Open Peppol network. A pilot programme opens in July 2026, with mandatory adoption for businesses with annual revenues of AED50 million¹ or more required by January 2027 (KPMG, 2025). Invoices must be issued in structured XML format, exchanged through authorised service providers (ASPs), and made available to the Federal Tax Authority (FTA) in near real time. PDFs and paper invoices will cease to constitute valid tax documents for in-scope transactions.

This pattern is also visible across BRI jurisdictions, at varying stages. China's Golden Tax Project has operated as a CTC environment for VAT invoices for over two decades. Brazil's NF-e system has operated since 2008. India's e-invoicing regime, introduced in 2020, now applies to businesses above progressively lower revenue thresholds. BRITACOM's knowledge-sharing framework has been a vehicle for disseminating implementation experience across participating jurisdictions, many of which are at earlier stages of designing their own approaches (BRITACOM, 2025).

2.3 The Analytics Layer and What It Means for Audit

With the rollout of transaction-level data collection, tax authorities are deploying advanced analytics capabilities that alter how compliance risk is identified and effectively audited. Traditional review selection was largely manual and sample-based; inspectors examined a subset of

returns, typically selected on criteria that were often opaque to taxpayers. Modern administrations are applying machine learning and data analytics across the full population of filings, cross-referencing transaction data, return data, and third-party information sources to flag anomalies that human audit teams will struggle to identify at scale.

The UAE FTA offers an instructive example. The FTA's Strategy 2023–2026 describes a risk-driven, data-analytical approach to audit selection drawing on cross-referenced data from not only VAT returns, but also corporate tax filings, transfer pricing documentation, and, perhaps intuitively, as e-invoicing data becomes available, transaction-level records. The FTA apparently conducted 93,000 inspection visits of UAE taxpayers in 2024, an increase of 135 per cent over the preceding year, driven mainly by digital tools rather than additional headcount (Alvarez and Marsal, 2025). The introduction of e-invoicing will amplify this capability further, enabling automatic reconciliation of invoice-level data against periodic filings in ways that expose reporting inconsistencies that would previously have gone undetected.

The practical implication for corporate taxpayers is an inevitable shift in the character of risk management. In a periodic reporting environment, an inadvertent error (a misclassified transaction, a timing difference, or a reconciliation gap) might go undetected if it were not material enough to attract manual audit scrutiny. In a continuous data environment, with analytics running across the full population of transactions, the question is not whether a discrepancy will surface but when. I would argue strongly that this changes the calculus of compliance investment considerably.

3. Are Taxpayers Ready for This Challenge?

3.1 This is an Organisational Problem, Not a Technology Problem

The transition from periodic reporting to

¹ Approximately USD13,615,000 (exchange rate: AED1 = USD0.2723).

continuous compliance is, in essence, an organisational transformation in which technology is an enabler but not a sufficient condition for success. The companies that struggle most with tax administration digitalisation are not, in this author's experience, those with inadequate technology budgets. They are those that have not really recognised the depth of operational, organisational, and often cultural change required, and consequently attempt to solve the problem by purchasing software.

Periodic compliance operated on a rhythm that was, for many organisations, largely disconnected from day-to-day commercial operations. Finance teams assembled relevant data at period-end, prepared filings, and submitted them according to prescribed deadlines. The compliance function was retrospective and bounded in time: It had a beginning, a middle, and an end.

Continuous compliance has no such temporal boundary. When every invoice is a tax event simultaneously visible to the tax authority, the compliance function becomes embedded in the transaction itself. The quality of the tax authority's data is a direct function of the quality of the company's transaction processing, master data management, and system configuration. A misclassified customer, an incorrectly coded product, a tax determination that does not reflect the current legal position: None of these awaits correction at period-end reconciliation. Each enters the tax authority's systems in real time, and stays there.

3.2 It Is All About the Data

The practical consequence is that data quality has become a compliance risk in its own right. The structured XML formats required by e-invoicing frameworks, such as the UAE's PINT-AE standard and Saudi Arabia's UBL format, impose specific field-level requirements like counterparty tax identification numbers, standardised product codes, and accurate transaction classifications. These fields are either present and correct or absent and non-compliant. There is no middle ground in a machine-readable document. There are no shades of grey.

For multinational corporations operating across multiple BRI and GCC jurisdictions, the

complexity compounds. Different jurisdictions impose different data requirements, different invoice formats, different validation rules, and different transmission protocols. A business issuing 50,000 invoices per month across seven jurisdictions does not face one continuous compliance obligation; it faces seven, each with its own technical specifications and its own audit and penalty regime. Managing that requires a level of ERP configuration discipline and master data governance that most organisations have not previously needed to maintain.

Product tax classifications, customer VAT registration status, applicable tax rates, and exemption codes must be configured correctly in the system of record and kept current as regulatory changes occur. The cost of not doing this is no longer an end-of-year reconciliation exercise. It is a real-time audit trail of incorrect data delivered continuously to the tax authority, available for interrogation at any point thereafter.

3.3 Application Programming Interface Connectivity and the Architecture of Continuous Compliance

The technical architecture of continuous compliance centres on Application Programming Interface (API) connectivity between corporate ERP systems and tax authority platforms, mediated in most jurisdictions by ASPs. Under the UAE model, every in-scope business must appoint an ASP, being a third party licensed by the Ministry of Finance and the FTA, through which invoice data is formatted, validated, transmitted to the FTA, and archived (AMA Global, 2026). The ASP is not optional infrastructure; it is a legal requirement.

For businesses operating modern ERP platforms from SAP, Oracle, or Microsoft, the path to compliance involves deploying or configuring localisation modules that handle jurisdiction-specific formatting, digital signing, transmission, and archiving. For businesses on legacy or bespoke systems, the integration challenge can be substantially more complex and may require significant system investment or the deployment of middleware. Neither path is quick, and neither should be left until the compliance deadline

is visible on the horizon.

3.4 Governance: The Wider Organisational Challenge

But whose problem is it? Compliance in a real-time data environment is not only a tax department problem. It is a shared responsibility with finance, IT, procurement, legal, and operations, and the governance framework must reflect that. Invoice data quality depends on configuration decisions made by ERP administrators. Customer and vendor master data is maintained by procurement and accounts payable teams. The tax classification of products and services is determined, often without any tax input at all, by commercial teams at the time of product launch. A governance model that treats continuous compliance as a tax team concern will repeatedly fail to address the sources of compliance risks where they actually originate.

Effective governance in this environment requires cross-functional ownership of data quality, clearly assigned accountability for system configuration maintenance, and a process for monitoring regulatory change and translating it into system updates before the effective date, not after. In organisations operating across multiple BRI or GCC jurisdictions, this framework must also accommodate the varying pace and scope of regulatory evolution in each market, together with the differing technical standards that apply. That is a material governance commitment, not a task that can be delegated to a compliance tool.

As a best practice, we have seen many modern tax functions include a tax operations manager to help coordinate these elements. As noted above, while this is a wider organisational responsibility, it is likely better for tax to take the lead in such a way.

4. Strategic Positioning Through Technology-Enabled Intermediaries

4.1 A New Ecosystem of Tax Technology Services

The transformation of tax administration has

produced a corresponding change in the advisory and technology services market that supports corporate compliance.

The traditional model, in which a tax adviser produces periodic filings from client-supplied data, is being supplemented, and in some contexts displaced, by a more integrated ecosystem of technology platforms, ASPs, analytics specialists, and regionally focused advisers who combine regulatory knowledge with technology implementation capability.

This ecosystem matters most for corporations operating in markets where regulatory frameworks are evolving rapidly and where multiple new compliance obligations are arriving in close sequence. The UAE is instructive here. Within a three-year period, it has introduced corporate income tax, e-invoicing, R&D tax credits, and updated transfer pricing requirements, while simultaneously expanding the FTA's audit function and overhauling its penalty framework. Navigating that environment requires partners who can hold the technical, legal, and operational dimensions of compliance in view at the same time, not advisers who excel in one dimension and defer on the others.

4.2 The Tax-Ready Data Architecture

The concept of a tax-ready data architecture represents a strategic step beyond reactive compliance management. Instead of treating tax requirements as a set of periodic obligations addressed by pulling data from operational systems at filing time, the tax-ready data architecture embeds tax logic into the operational system itself. Tax determinations are made at the point of transaction, using current rules and classifications. Every transaction is, simultaneously, a commercial record and a compliant tax document.

This has several advantages beyond regulatory compliance. It eliminates the reconciliation risk that arises when operational data and tax filings are prepared through separate processes; when the same data that drives the invoice also drives the tax return, the scope for discrepancy is structurally reduced. It distributes the work of data classification continuously across operations rather than concentrating it in filing periods, reducing

peak compliance costs. And it generates a richer internal data set, a continuous structured record of commercial activity with its tax attributes that can support treasury planning, transfer pricing analysis, and business intelligence in ways that periodic reporting simply cannot.

For corporations active in BRI and GCC jurisdictions, there is a further resilience argument. When a jurisdiction updates its e-invoicing technical specifications, as Saudi Arabia has done through successive phases of its Fatoora rollout, the impact on a company with a tax-ready architecture is a configuration update in a system already designed for digital compliance. The impact on a company operating a legacy process designed around periodic reporting can be considerably more disruptive.

4.3 The Regional Technology Adviser's Role

Multinational corporations in BRI and GCC jurisdictions face a specific challenge that, in my view, the market has been slow to address: The combination of deep local regulatory knowledge and robust technology implementation capability is rarely available from a single source. Global technology platforms may have strong products but limited appreciation of jurisdiction-specific regulatory nuance. Local regulatory advisers may have detailed knowledge of the applicable rules but limited capacity to translate that knowledge into system configuration and process design.

This gap is where regionally focused tax technology firms are positioning. By combining knowledge of local tax frameworks (the operational requirements of UAE and Saudi e-invoicing, the GCC corporate tax regime, and the BRITACOM jurisdictional landscape) with technology deployment capability, these firms offer a path to compliance that is both technically sound and commercially practical. They are not a substitute for in-house tax capability, but they serve a function that neither global platforms nor traditional advisers currently fill well.

For small and mid-sized enterprises, the ASP model itself provides an outsourced route to continuous compliance. By working through an ASP that handles invoice formatting, transmission,

validation, and archiving, a business can achieve near-regulatory compliance without building the full technical stack internally. The critical requirement is that the ASP holds formal accreditation from the relevant tax authority and maintains that accreditation as technical standards evolve.

4.4 Compliance as Competitive Advantage

The argument that early investment in continuous compliance creates competitive advantages rather than merely reducing a liability is much more than lip-service. At the most direct level, companies that build robust compliance infrastructure before enforcement pressure arrives incur substantially lower costs than those who respond reactively. Proactive compliance is cheaper than reactive compliance, and both are cheaper than non-compliance in an environment where audit activity is rising and penalties are being actively enforced.

Smarter taxpayers will see this transformation as an opportunity. At a more strategic level, the data assets produced by a well-implemented tax-ready architecture have value beyond regulatory compliance. The continuous transaction records that feed an e-invoicing system are also, with appropriate governance, a source of commercial intelligence: transaction volumes by customer and product, payment behavior, and supply chain activity. All of this can inform commercial strategy in ways that quarterly management accounts cannot. Leveraging AI in this construct will give taxpayers not only significantly reduced tax risks but also enhanced tax planning abilities. I predict in the not-too-distant future a renaissance of tax efficiency building on advanced AI incorporating Large Language Models (LLMs) of data sets and global tax rules.

For corporations operating across BRI jurisdictions, where data sharing and interoperability frameworks between tax administrations are a growing focus of BRITACOM cooperation, the ability to produce structured, standardised transaction data also carries increasing relevance for cross-border risk management. Transfer pricing analysis, permanent establishment assessments, and cross-border withholding tax compliance all benefit from the granularity and integrity of data

that a continuous compliance architecture makes routinely available.

5. Conclusion

The digitalisation of tax administration is not merely a trend. It is a transformation. It is a structural shift in the relationship between the state and corporate taxpayers that is still in its early stages in many jurisdictions. It is proceeding in a broadly consistent direction: towards real-time, transaction-level data access, analytics-driven enforcement, and a compliance environment that is continuous.

The appropriate corporate response should not be a defensive, jurisdiction-by-jurisdiction adaptation to each new technical requirement as it emerges. That approach is expensive, perpetually reactive, and leaves the organisation structurally unprepared for the next change. The proper response is a strategic reorientation towards tax-data management as a core operational discipline: investment in data quality as a compliance foundation, ERP architectures that embed tax logic into transaction flows, and cross-functional governance over tax-relevant data.

The GCC provides a current and very instructive illustration of both the pace at which this transformation can proceed and the complexity it creates for operating businesses. Within three years, the region moved from a largely informal tax environment to one characterised by corporate income tax, e-invoicing mandates, real-time audit capability, and an increasingly interconnected regulatory data infrastructure. BRI jurisdictions at earlier stages of their own programmes have the advantage of being able to learn from that experience as they design their own frameworks; those that do not will find themselves repeating avoidable mistakes.

The core insight for policymakers and practitioners alike remains the same: Tax digitalisation is not, at its foundation, about technology. It is about the quality, integrity, and accessibility of data that records economic activity as it occurs. Technology is the instrument; data governance is the discipline; and the goal, for tax authorities and compliant taxpayers alike, is a more transparent and efficient tax system that supports rather than

constrains economic participation.

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The Tax Code of Macao SAR of China: A Comprehensive Reform for Modern Tax Administration

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Abstract: The Tax Code of Macao SAR of China, enacted by Law No.24/2024 and effective from 1 January 2026, represents the most comprehensive reform of the SAR's fiscal framework in decades. It consolidates fragmented laws into a unified system, modernizes procedures, and aligns Macao with international tax standards. By introducing clear rules on territorial taxation, tax residency, tax domicile, transfer pricing, and appeals, the Code strengthens legal certainty, enhances fairness, and supports Macao's integration into the global tax landscape.

Keywords: Tax Code; Tax reform; Transfer pricing; Taxpayer rights; International tax standards

1. Introduction

The enactment of the Tax Code of Macao SAR of China (hereinafter referred to as the Code) by Law No.24/2024 marks a decisive turning point in the SAR's fiscal governance. For decades, the tax system of Macao SAR of China (hereinafter referred to as Macao) was governed by separate laws covering profits tax, professional tax, property tax, stamp duty, consumption tax, and other levies. Although it was functional, this fragmented framework often created complexity for taxpayers and inefficiencies for administrators. The Code addresses these challenges by consolidating disparate provisions into a single, coherent framework that is easier to understand and apply.

By establishing one rulebook for tax administration, it reduces duplication, increases predictability, and strengthens the relationship between taxpayers and tax

authorities. At the same time, it introduces modern practices such as electronic notifications, digital filing, and transfer pricing rules, ensuring that Macao's tax system is equipped to meet the demands of a digital and cross-border economy. Importantly, the Code balances stronger enforcement powers with clearly defined taxpayer rights, fostering fairness and encouraging voluntary compliance.

This reform is not only technical but also strategic. It reflects Macao's broader policy objective of building a tax system that is transparent, efficient, and internationally credible. By aligning with global standards, particularly those of the Organization for Economic Co-operation and Development (OECD), the Code enhances Macao's competitiveness while preserving its local identity. The consolidation of rules and modernization of procedures provide a stronger foundation

for fiscal governance, supporting sustainable economic development and reinforcing Macao's role in international cooperation. In this way, the Code represents both a modernization of tax administration and a statement of Macao's commitment to fairness, predictability, and efficiency. The following sections outline the Code's core structure and explain how its key innovations aim to strengthen fiscal governance and improve the overall relationship between taxpayers and the tax authorities.

2. Territorial Scope of Taxation

Article 14 of the Code establishes the territorial principle of taxation. Income sourced in Macao is taxable, while income generated outside Macao is generally exempt from taxation. This territorial approach provides clarity and avoids double taxation, aligning Macao with widely accepted international practice.

An important exception applies to Macao tax residents who are members of multinational enterprise groups. These entities must declare dividends, interest, royalties, and capital gains earned outside Macao. This measure prevents profit shifting and reflects global efforts to safeguard tax bases against erosion.

3. Tax Domicile and Representation

Article 21 of the Code defines tax domicile as the official address for notifications. For individuals, it is their habitual residence; for legal entities, it is their registered office or place of effective management. Electronic addresses declared by taxpayers are also recognized, reflecting modern communication practices.

Transitional provisions under Article 26 of Law No.24/2024 mandate taxpayers to declare or update their domicile within one year of the Code's entry into force. From 1 January 2027, if no update is made, the most recently declared address will automatically be deemed as the official domicile. This measure ensures clarity and consistency in communication between taxpayers and the tax authorities, while reducing the risk of disputes over the validity of notifications.

Articles 82 to 90 of the Code regulate no-

tifications, which may be delivered by registered mail or electronically. Electronic notifications are deemed completed when accessed or, if unread, within three working days upon dispatch. Where the domicile is unknown, public notice is used under Article 88 of the Code. These provisions modernize communication and provide certainty regarding the timing of notifications.

To ensure representation, Article 22 of the Code stipulates that taxpayers residing outside Macao or without a permanent establishment in Macao shall appoint a local tax agent. The tax agent must explicitly accept the appointment, and any changes must be reported to the tax authorities. The tax agent, who must be a natural person residing in Macao, acts as the legal point of contact for fulfilling obligations and receiving notifications, ensuring representation and accountability, allowing taxpayers to meet their obligations even when outside the jurisdiction.

4. Tax Residency

Article 24 of the Code sets out the criteria for tax residency. For individuals, tax residency is established when they spend at least 183 days in Macao during a tax year, or when they maintain a permanent home with the intention of residing there. For legal entities, residency applies to those with a registered office or place of effective management in Macao.

These definitions are consistent with international standards, offering clarity for taxpayers and administrators alike and reducing the likelihood of disputes over residency status.

5. Transfer Pricing and Cross-Border Transactions

Article 100 of the Code introduces transfer pricing rules, mandating that transactions between Macao taxpayers and related parties outside Macao shall comply with the arm's length principle (ALP). Taxpayers must submit a summary table on controlled transactions with overseas affiliates, including details of relationships, transaction terms, comparables, and chosen methodologies. While less burdensome than the OECD's three-tiered documentation approach, such a requirement ensures that the tax administration

has sufficient information to assess compliance.

Tax authorities may adjust taxable bases if transactions deviate from arm's length standards. To avoid double taxation, the Code provides foreign tax credits for income already taxed outside Macao. This mechanism is especially applicable for dividends, where credits may be granted if the taxpayer holds no less than 10 percent of the overseas entity distributing the dividend. These measures bolster Macao's capacity to regulate cross-border transactions while protecting taxpayers from unfair double taxation.

6. Taxpayer Protections and Administrative Duties

The Code introduces several safeguards for taxpayers. Articles 38, 135, and 147 of the Code require compensatory interest when refunds are delayed due to administrative fault. Interest accrues after the statutory refund period at the legal rate under the Macao Civil Code. This provision protects taxpayers from undue financial loss and incentivizes timely refunds by the tax administration.

Article 48 of the Code stipulates that the tax administration's right to assess taxes lapses if no notification is issued within five years of the taxable event. This provision ensures certainty for taxpayers and prevents indefinite exposure to assessments.

Article 49 of the Code provides that tax debts expire after 15 years, unless suspended by installment agreements. This balances taxpayer rights with effective enforcement, providing certainty while preserving the tax administration's ability to collect outstanding liabilities.

Together, these provisions protect taxpayers from undue financial loss, ensure certainty, and incentivize timely action by the tax administration.

7. Appeals and Remedies

Articles 150 to 154 of the Code revise the tax appeal process. Deadlines are extended and procedures are clarified, allowing for objections, administrative appeals, and judicial appeals. Certain steps carry suspensive effect.

From 2026, the streamlined process will reduce uncertainty and enhance fairness, ensuring taxpayers have effective remedies against administrative decisions. This reform strengthens trust in

the system and promotes voluntary compliance.

8. Digital Governance and Modernization

In line with Macao's e-government strategy, the Code supports electronic submission of petitions, applications, and appeals under Articles 73, 207, 220, and 242. Tax enforcement procedures, including filings with courts and registries, may also be conducted electronically.

These measures reduce administrative burdens, facilitate compliance, and modernize communication between taxpayers and tax authorities. They also reflect Macao's broader commitment to digital governance and efficiency.

9. Conclusion

The Code is a landmark reform that replaces fragmented and outdated rules with a unified and principled framework. By consolidating procedures and clarifying obligations, it reduces complexity, strengthens predictability, and fosters voluntary compliance. Clear rules on territorial taxation, tax residency, and transfer pricing align Macao with international standards, while safeguards such as limits on assessments, expiry of tax debts, and compensatory interest for delayed refunds balance enforcement powers with taxpayer rights.

Equally important is the Code's emphasis on modernization. Electronic notifications, filings, and appeals reflect Macao's e-government strategy and prepare the administration for the demands of a digital economy. These measures streamline communication, enhance efficiency, and reinforce transparency. Together, these developments consolidate Macao's position as a competitive financial and commercial hub, underpinned by commitments to fairness, modernization, and effective participation in the global tax community.

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Five Key Global Minimum Tax Considerations for BRI Jurisdictions in 2026 and Beyond

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Abstract: The article examines how the Pillar Two Global Minimum Tax (GMT) is evolving in 2026 and what this means for Belt and Road Initiative (BRI) jurisdictions. Its purpose is to highlight five practical considerations for policymakers and multinational enterprises (MNEs), particularly after the January 2026 “Side-by-Side” agreement reshaped the GMT landscape. More than 30 BRI partner jurisdictions have already implemented the GMT rules, especially in Europe, South-East Asia and the Middle East, with first filing and payment deadlines passed in several states. The “Side-by-Side” deal might be viewed as shifting the GMT toward more of a patchwork framework, in terms of its coverage. A major development is the new Substance-Based Tax Incentive (SBTI) safe harbor, which allows a wide range of incentive types (including super-deductions and certain credits) to retain their value alongside GMT, where they are linked to real economic substance. GMT may now have entered a more stable but increasingly complex phase. BRI jurisdictions now enjoy greater flexibility to design competitive, substance-based incentives, but face significant and ongoing compliance, data and administration challenges as the rules continue to develop.

Keywords: Global Minimum Tax (GMT); “Side-by-Side” Agreement (2026); Substance-Based Tax Incentive (SBTI) safe harbor; Compliance challenges; International taxation

For many Belt and Road Initiative (BRI) partner jurisdictions, and for businesses operating across them, the Pillar Two Global Minimum Tax (GMT) has become an established fact of life. At the time of writing in May 2026, more than 30 BRI partner jurisdictions, notably in Europe, South-East Asia and the Middle East, with smaller numbers in Africa and the Americas, have implemented the rules (out of more than 60 adopters globally). For many of these countries the first registration deadlines have already passed, and in some (e.g., Hungary, Türkiye, and Vietnam) the first GMT payments have already been made. Meanwhile, the 30 June 2026 filing deadlines for the GloBE Information Return (GIR) loom on the horizon for all in-scope multinational enterprises (MNEs). Overall, a massive worldwide compliance exercise is in motion.

At the same time, the GMT framework existing in 2026 is significantly different from the one envisaged in the Inclusive Framework (IF) political agreement of 2021. In particular, the 5 January 2026 “Side-by-Side” agreement moves the GMT framework from (in concept) a universally applicable system of rules to more of a “patchwork” system. Furthermore, the norms of the 2026 GMT framework have (implicitly) moved some way back in the direction of Base Erosion and Profit Shifting (BEPS) 1.0 concepts. Namely, low effective tax rates in a country may in practice be permissible, so long as profits are aligned with commercial substance. This results from the changes made to the treatment of tax incentives in the “Side-by-Side” package. As such, while much has been written in the past on the relevance of the GMT for the BRI, these considerations may need to be revisited in light of the recast framework.

With all this in mind, this article sets out five key GMT areas of relevance for BRI jurisdictions, and worth monitoring for developments in the remainder of this year and beyond.

1. GMT Framework Stabilization

The complexity of the 2025 negotiations

to recast the GMT rules raised questions on the sustainability of the overall framework into the future. Firstly, there was a risk of the negotiations breaking down. Secondly, once it became clear that any agreement would lead to a “patchwork” system of rules, which could recalibrate the pros and cons of GMT rule adoption by countries, the question arose as to whether some countries might roll back their already implemented GMT rules or stall their GMT adoption plans.

In the event, however, an agreement was reached and, thus far, there have been no indications that countries plan to turn away from the GMT in significant numbers. As such, the balance has likely tipped toward more countries adopting the rules over time, including BRI partner jurisdictions. Indeed, the African Tax Administration Forum (ATAF) has consistently encouraged African countries to adopt Qualified Domestic Minimum Top-up Taxes (QDMTTs) and has recently reiterated this position.¹ If, for example, a sizeable portion of the 54 African countries were to adopt QDMTTs, this could raise the overall number of GMT adopters, including in the BRI, considerably. It remains to be seen over what timeframe this might occur.

2. Patchwork GMT Framework Implications

The movement of the GMT to a “patchwork” system of rules has implications for BRI jurisdictions and is worth explaining in brief. To recap, in the original IF political agreement of 2021, 130+ IF jurisdictions (representing more than 90% of global GDP) agreed to a “common approach” for the GMT. This included jurisdictions which did not subsequently adopt GMT rules, including China, India, and the US. Under the “common approach” jurisdictions were free to adopt GMT rules or not. At the same time, non-adopters acceded to other IF jurisdictions applying their own GMT rules with regard to (1) MNEs headquartered in non-adopting jurisdictions and (2) Vis-a-vis profits arising in non-adopting jurisdictions.

1 ATAF (2026). *African Perspective on “Side-by-Side” Changes to the Global Minimum Tax*, <https://ataftax.org/news/ataf-releases-african-perspective-on-side-by-side-changes-to-the-global-minimum-tax/>.

Under this original approach (as elaborated over the years up to 2025), where a critical mass of jurisdictions adopted GMT rules, virtually all large MNEs in the world would be subject to the 15% GMT in all of their jurisdictions of operation. For every jurisdiction an MNE operated in, either the local QDMTT would pick up the local top-up tax, or a higher tier Income Inclusion Rule (IIR) would pick up the top-up tax, or an Undertaxed Payments Rule (UTPR) in another MNE operating jurisdiction would pick up the top-up tax. With (say) 60+ jurisdictions adopting the rules (i.e., the current level of adoption), it would be only in very limited cases that a large MNE would have not one single entity in a GMT adopting jurisdiction and so fall completely outside the scope of the rules. As such, the GMT rules were (in concept) universal in application.

The recast GMT rule framework applies from 2026 onward in “patchwork” fashion.² GMT coverage for an MNE has several variants.

(1) For MNEs headquartered in IIR-adopting countries (e.g., many European and Asia-Pacific jurisdictions), all MNE operations, across all operating jurisdictions, would be subject to the 15% GMT.

(2) For MNEs headquartered in a qualified “Side-by-Side” regime (e.g., US and potentially also Brazil),³ MNE operations in QDMTT jurisdictions would be subject to the 15% GMT; foreign IIRs/UTPRs are turned off for these MNEs.

(3) For MNEs headquartered in a qualified Ultimate Parent Entity (UPE) regime, much of the MNE’s overseas operations may be subject

to the 15% GMT, but not the home country operations.⁴ Overseas operations may be subject to the 15% GMT under either local QDMTTs or overseas IIRs/UTPRs.

(4) For MNEs headquartered in a jurisdiction that has not adopted IIR/QDMTT and does not avail of the qualified “Side-by-Side” or UPE regimes, all MNE operations, across all operating jurisdictions, would be subject to the 15% GMT. Overseas operations may be subject to the 15% GMT under either local QDMTTs or overseas IIRs/UTPRs and home country operations under overseas UTPRs.

It is noted that these GMT impositions “coexist” with many other measures having a minimum tax effect, such as the turnover-based alternative minimum taxes applied by more than half of all African countries,⁵ and the various US minimum tax measures.⁶ Interactions with controlled foreign company (CFC) regimes, now in place in 50+ countries, also merit close attention, as discussed further below.

As can readily be seen, this is quite a complex tapestry for national policymakers and businesses to navigate. For example, when designing incentives to attract investment, BRI partner jurisdiction policymakers will need to consider whether the businesses likely to avail of them will fall within the scope of GMT, or another minimum tax framework, and craft incentive design accordingly.

3. Parallel Tax System Changes

Over several years, in parallel with the implementation of Pillar Two, many jurisdictions have adopted corporate income tax (CIT) sys-

2 The mechanics of the “Side-by-Side” package are well covered in other articles and will not be repeated here. See: KPMG (2026). *Update on Global Minimum Tax Framework: “Side-by-Side” Package*, <https://assets.kpmg.com/content/dam/kpmgsites/xx/pdf/2026/01/kpmg-update-on-global-minimum-tax-framework.pdf>.

3 Sholli, S. (2026). *Brazil Asks OECD for Pillar Two Carve-out Deal*, <https://www.internationaltaxreview.com/article/2g9hm2ntpq5zx88vcwfsu/direct-tax/brazil-asks-oecd-for-pillar-two-carve-out-deal>.

4 In order for a country to be recognized as having a qualified UPE regime, it must have some manner of alternative minimum tax in place.

5 Fox, C. & Turley, C. (2025). *Global Minimum Tax Design Creates Five Key Challenges for Africa*, <https://news.bloombergtax.com/daily-tax-report-international/global-minimum-tax-design-creates-five-key-challenges-for-africa>.

6 Net Controlled Foreign Corporation Tested Income rules (NCTI, formerly GILTI) and Corporate Alternative Minimum Tax (CAMT).

tems for the first time or raised their existing rates toward the GMT 15% threshold. This has also been noted for several BRI partner jurisdictions. In the Middle East, for example, the United Arab Emirates (UAE) introduced a 9% CIT from 2023, and Kuwait and Bahrain are putting new CIT regimes in place from 2027,⁷ at rates of 15% and 10% respectively. These are introduced in parallel with their GMT rules. Adoption of new CIT regimes has also been seen in the Caribbean, including a new Barbados CIT system with a 9% rate, replacing the prior system with rates of 5.5% and below. Few jurisdictions globally remain without a CIT regime.

Countries have also been modifying their existing CIT regimes and other corporate rules to better align to the GMT framework. This includes a number of countries adopting participation exemption regimes for dividends (e.g., Ireland from 2025), which maps to the GMT exclusion for dividends from substantial shareholdings. Various countries have been extending their loss carry forward periods, given that this segues better with the GMT deferred tax provisions (e.g., Switzerland). Romania went so far as to adapt their national accounting standards to allow for deferred tax accounting, in order to facilitate proper GMT calculations and compliance. Jurisdictions, including in the BRI, are likely to continue to adapt their existing CIT systems to further complement the GMT over coming years. The adaptations occurring in the incentive space are elaborated on further below.

Another area to watch is developments in relation to CFC regimes. In the priority hierarchy of the GMT rule system, taxing rights go

firstly to QDMTT jurisdictions, then to CFC tax imposing jurisdictions, and after that to IIR and UTPR jurisdictions. From one perspective, CFC rules are duplicative of the GMT rules, particularly the IIR. In consequence, there have been calls for CFC rules to be turned off for groups in scope of GMT, including as part of EU tax simplification plans.⁸ At the same time, retention/modification of CFC rules could (in concept) bring priority taxing rights over GMT imposing jurisdictions. For example, to the extent that a given country is looking at the possibility that locally-parented MNEs could be subject to foreign IIR and UTPR rules on low taxed profits, it can “jump the queue” by imposing CFC tax on those same profit pools.⁹ While it remains to be seen where these trends land, they will clearly play into the overall tax environment for the BRI.

4. Incentives

As noted above, one of the most significant changes to the GMT framework in the January 2026 “Side-by-Side” package is the modified treatment of tax incentives. This has significant implications for BRI partner jurisdictions, both GMT adopters and non-adopters, and is worth further exploration.

The original 2021 GMT framework set a fairly strict approach to tax incentives. The basic rule was that if the incentives resulted in the effective tax rate (ETR) in a jurisdiction dipping below 15%, their value would be partially/wholly clawed back via GMT imposition, subject to protection in certain cases.

(1) Temporary benefits, including acceler-

7 Kuwait's new business profits tax would replace an older, much narrower, levy on foreign invested entities. See: KPMG (2024). *Business Profit Tax in Kuwait — Proposed Law*, <https://kpmg.com/kw/en/insights/2024/12/kuwait-tax-alert-dec-2024.html>.

8 Vella, L. (2026). *US Business Group Wants EU Anti-Tax Avoidance Rule Exception*, <https://news.bloombergtax.com/daily-tax-report-international/us-business-group-wants-eu-anti-tax-avoidance-rule-exception>. KPMG (2026). *KPMG Provides Feedback on the European Commission's Call for Evidence on the Upcoming Tax Omnibus Proposal*, <https://kpmg.com/xx/en/our-insights/eu-tax/etf-577-tax-omnibus-public-consultation.html>.

9 In this regard, it is interesting that Italy has, in 2026, finalized a 15% CFC tax on the net accounting profit of foreign subsidiaries (with high passive income) as an optional substitute for the more complex, standard CFC rules. Botswana is also bringing in new CFC rules with a 15% rate from 2026.

ated tax depreciation, were protected via ETR adjustments for deferred tax.

(2) To the extent that the Substance-Based Income Exemption (SBIE) was sufficiently high to protect the incentivized income – this might be the case for certain routine activities with relatively low margins.

(3) Where the accountants booked the incentive above the line, as an addition to income, rather than as a reduction to income tax expense, e.g., grants. This protection extended to refundable tax credits, to the extent that the accountants booked them in the same way as grants. If, instead, they were booked below the line (reduction to tax expense), special provisions would adjust for this and put specified qualified refundable tax credits in the same position as grants. The same treatment was extended to certain transferable tax credits.

While the SBIE rule did preserve the BEPS 1.0 norm that tax competition for “substance” was still permissible, this was only to the degree that routine activities and profits were in point. The new 2026 GMT framework essentially moves toward a position whereby residual profits might also benefit from lower ETRs, so long as profits are aligned with commercial substance. This is through the introduction of the Substance-Based Tax Incentive (SBTI) safe harbor, with effect from 2026.

In high-level terms, the new rules allow for the value of a wider range of incentives to be protected from GMT claw back. This includes permanent benefits from super deductions and non-refundable tax credits, production-based tax incentives and (in certain circumstances) income-based tax incentives, such as low rates or exemptions. The value of these incentives is added back to the ETR numerator. For example, the ETR in a country of operation may have sat at 4% under the 2021 GMT framework due to the tax reductions achieved via super deductions, meaning a top-up tax rate of 11%. Under the

new 2026 GMT framework the tax saving from the super deductions is added back to the ETR numerator, and might sit at 18%, such that no top-up tax is due.

The incentives need to be calculated based on expenditures incurred or on the amount of tangible property produced in a jurisdiction, and a substance cap applies to the SBTI uplift, calculated on the basis of payroll or tangible assets. The precise value of the SBTI will vary case by case and careful modelling may be needed. Nonetheless, the changes provide countries, including in the BRI, significantly more latitude in the design of incentives to attract inbound investment. The impact of SBTI on revised GMT revenue estimates by various countries gives a sense of the significance of this change.¹⁰

BRI partner jurisdictions differ widely in their design of tax incentives, and so will have different perspectives on the SBTI changes. Certain BRI countries had already moved ahead to adapt their incentive offerings to the 2021 GMT framework, by introducing new Qualified Refundable Tax Credits (QRTCs), including some European BRI partners such as Hungary, Romania and Bulgaria as well as Asia-Pacific BRI partners such as Singapore. Under the new 2026 GMT framework, BRI partners introducing non-refundable credits, such as the UAE and Luxembourg, will now also benefit, as will the numerous BRI countries for which super deductions are a key part of their incentive offering, such as China, Indonesia, Poland and the Czech Republic. For income-based incentives the analysis is more complex, and depends on the extent to which the benefits granted bear a direct relationship to expenditures incurred. Under consideration is whether Polish Investment Zone and Czech Tax Holiday regimes may qualify; further countries may look to modify their IP boxes to access the SBTI treatment.

Overall then, the 2026 GMT framework changes for incentives will have significant im-

10 The UK, the Netherlands, Australia, France and South Africa have all revised down significantly their anticipated revenue from GMT, in consequence of the “Side-by-Side” Package changes, including SBTI. See: Office for Budget Responsibility (2026). *Economic and Fiscal Outlook — March 2026*, <https://obr.uk/efo/economic-and-fiscal-outlook-march-2026>.

pact on BRI partner jurisdictions, and on how they design their tax incentives to maintain and enhance their investment attractiveness for the years ahead. The OECD has indicated that further guidance is in the pipeline, including certain safeguards around use of incentives that would effectively “hand back” GMT to in-scope MNEs (related benefits rules), and so these will be important to watch for.

5. Compliance and Administration

Across BRI GMT adopting jurisdictions, various GMT compliance action deadlines have already come and gone. The first GMT payments were already due in Hungary, Türkiye and Vietnam, under their QDMTTs, in late 2025 and early 2026. Registration deadlines have already passed in Austria, Bahrain, Barbados, Kuwait, Romania, Slovenia and Türkiye, among others. Registration requirements, including the level of detail required, and the range of entities obligated to register (e.g., liquidation/deregistration cases, etc.), vary greatly across jurisdictions. Even with the best of intent, it is likely that many in-scope MNEs have missed one or more of these local filings or fallen short of the requirements, racking up penalty exposures. This neatly illustrates a key point — the GMT is not easy to comply with.

Comprehensive coverage of the compliance challenges raised by the GMT would require several volumes to cover. A sample of some of the most notable issues being dealt with or considered by MNEs in recent times, and pertinent for BRI partner jurisdictions, includes the following:

5.1 Data

Obtaining the requisite data to conduct GMT calculations has long been regarded as

one of the most significant compliance challenges. Existing tax and accounting systems may not capture many of the data points required for the calculations. Compliance may necessitate new procedures to obtain the information and collaboration with various internal and external stakeholders, e.g., working with investment managers to maintain more detailed records on investment holding ownership interests and their movements. Accounting records may not contain data at the necessary granularity for GMT purposes, e.g., consolidated financial statement separate entity package detail on deferred tax movements.¹¹ New customized systems and calculation engines may need to be built/bought for GMT purposes.

Overall, compliance with the GMT is a costly business. While costs are buffered somewhat by the use of the transitional Country-by-Country Reporting safe harbor (which most MNEs can use for the majority of their operating jurisdictions) up to 2027, business is hoping for significant simplification to the overall rule architecture (beyond that provided in the simplified ETR safe harbor) to moderate compliance costs over the longer term. Looking to the longer term, interesting ideas have been floated, such as rendering GMT rules in computer code (“rules as code”) to facilitate automated application. This will be watched with interest.

5.2 Local Interpretations

At the core of the GMT is the IF-issued model rules, commentary, and administrative guidance (now at tranche six). As voluminous as this is, it cannot cater to every contingency, and the proper application of the GMT rules to various fact sets remains ambiguous. In this context, national tax authorities have frequently stepped

¹¹ In this regard, it is worth noting that accounting treatments provide the crucial underpinning for GMT treatments, to a level beyond most existing CIT systems. For example, under International Financial Reporting Standard (IFRS), the complex provisions of IFRS 9 will determine whether fair value movements on financing instruments are booked to the P&L, thus impacting GMT, or to Other Comprehensive Income (OCI) thus not impacting the calculation – this may not be instantly apparent to most tax professionals. Corporate tax departments and tax administrations are consequently both grappling to upskill on accounting in order to be fully able to handle the complexities of the GMT rules.

in with their own interpretations. Generally speaking these are set out in published local guidance and public rulings. In some instances an even firmer approach is taken and the interpretations are entered into legislation. In other instances they are looser, and may simply be verbally communicated by tax officials at taxpayer information seminars.

Keeping track of all of these local variations heightens the compliance challenge for businesses. In most instances, GMT will be paid under QDMTT rules (as the priority rule). Where the QDMTT safe harbor is in point for a country (the case for most BRI QDMTTs), the GIR will be completed solely on the basis of locally adapted QDMTT rules. This is already a major compliance exercise given the need for local team input on the GMT rule variations in each country. However, this can get even more complex where multiple top-up tax calculations need to be input in the GIR in respect of a single low tax jurisdiction. Where (say) two countries have GMT taxing rights in respect of the profit pool in a given jurisdiction, and the two

taxing right countries have different approaches to the calculation (due to variations in local rules), then the MNE will need to provide the data for two different calculations. Where multiple countries have taxing rights (likely from 2025 onward with the UTPR) the complexity multiplies. A challenge for MNEs is that it is not entirely clear whether all “sources” of differences in computations would need to be taken into account (i.e., legislation + public guidance + private rulings, etc.) and how the MNEs ensure they remain on top of all of these differences.

A multiplicity of different local variations have been identified in practice including joint ventures, insurance entities, intragroup financing, prior year adjustments, transfer pricing, mergers and de-mergers, transitional deferred tax attributes, substance-based exclusion for assets under construction, and many others. BRI GMT adopting jurisdictions will have their hands full, supporting businesses to get clarity (including liaison with other adopting countries and the OECD to maintain consistency), at the same time as businesses (and their advisors) try to map



out and comply with all of these differing rules.

5.3 Rule Updates

The GMT rule set is ever-evolving, and the OECD Secretariat has outlined a raft of further guidance for issuance later in 2026. An inherent tension exists between a desire for greater clarity and certainty via new guidance, and an instinctive sense that the rules are already “complex enough” and that there should be an end to further tinkering. This tension is further accentuated by the fact that a single individual might rationally maintain both positions simultaneously (e.g., where for their particular industry they would like further clarity, but nothing else beyond that).

GMT adopting jurisdictions bring new tranches of administrative guidance into effect at different points in time, varying depending on numerous factors (e.g., the manner in which their local GMT legislation cross-references the OECD issuances, the speed of local legislative processes, constitutional constraints, etc.). This is one of the main sources of GMT rule variance across countries (feeding into the GIR “differences” issue highlighted above). The existence of different historic versions of the GMT in effect in different countries at the same point in time adds to the compliance challenges for MNEs. Some of the planned forthcoming guidance, such as new integrity rules, are likely to be particularly challenging in this regard. GMT adopting BRI tax authorities and impacted businesses are advised to keep ample coffee close to hand.¹²

5.4 Disputes

The complexity of the GMT rules, and the challenges in compliance, seem destined to lead to significant tax audit activity and disputes.

The OECD has noted that they are working on mechanisms to prevent and resolve GMT-related disputes. Particularly important are mechanisms through which national tax authorities can liaise with each other to discuss challenging areas in the application of the GMT rules (in particular those for which ambiguities in the rules could lead to differing local interpretations) and strive to reach a common view (which ideally would be publicized). Also important will be mechanisms for early certainty, enabling MNEs to effectively deal with cases where one of their operating jurisdictions is subject to the GMT taxing rights of multiple jurisdictions, where each might apply the rules in varying manners. Close engagement of BRI GMT adopting jurisdictions with initiatives to prevent and resolve disputes will be key to smooth application of the rules for businesses.

6. Concluding Remarks

The GMT rules are a fact of life for many BRI partner jurisdictions and for the businesses that operate in them. The January 2026 “Side-by-Side” agreement has seemingly stabilized the GMT framework, and may see GMT adoption in further countries, but has also altered the framework in fundamental ways. Tax incentive policies in BRI partner jurisdictions are shaped by the GMT framework, and (following the January 2026 changes) in a different manner from that originally envisaged under the original 2021 GMT framework. Finally, an intensive compliance exercise (in effect, a major global experiment) is currently underway, courtesy of the GMT, and how this works out in practice in coming months (in BRI partner jurisdictions and elsewhere) may shape how the GMT framework evolves over the coming years.

¹² A clear recent example of the issues arising from the different pace at which countries are implementing the GMT framework relates to GIR information exchanges. Countries have been slow to sign up to and activate information exchange relationships under the GIR Multilateral Competent Authority Agreement. This could frustrate MNEs looking to use central filings, in a single country, to meet their compliance requirements. The OECD published, on 18 May 2026, an announcement on a common understanding among 33 GMT adopting jurisdictions to facilitate central filings – however, even then this has limitations. See: Enache, R., Turley, C., Do, T. & Gendebien, M. (2026). *Euro Tax Flash from KPMG's EU Tax Centre: OECD Clarifies GloBE Information Return Central Filing*, <https://kpmg.com/xx/en/our-insights/eu-tax/etf-579-oecd-clarifies-globe-information-return-central-filing.html>.

Pillar Two and the “Side-by-Side” Agreement: A Guide for the Perplexed*

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Abstract: The ambitious “Pillars” proposed by the OECD have received mixed reviews. Pillar One is moribund and Pillar Two, though accepted in the European Union, has been ignored by some of the world’s largest jurisdictions. The United States has insisted on a special “Side-by-Side” regime that largely exempts it from the complex Pillar Two rules. This essay takes the position that, for many reasons, Pillar Two cannot replace the international tax regime that has prevailed for more than 100 years, and that the OECD must know this. The intention of the OECD, however, may not be to insist on worldwide adoption of Pillar Two but rather to promote a consensus of as many jurisdictions as possible to adopt a minimum 15 percent tax on financial statement income of members of large corporate groups. The “Side-by-Side” exception threatens this goal by preferential treatment to US multinational groups, thereby inviting many jurisdictions to forgo any such consensus.

Keywords: Pillar Two; “Side-by-Side” Agreement; OECD Model; Global minimum tax; Tax competition; International tax

1. Evolving Mission of the OECD

The Organisation for Economic Co-operation and Development (OECD) is, of course, an international organization based in Paris, France. It came into existence in December 1960 as a successor to the Organisation for European Economic

Co-operation (OEEC), which had been formed shortly after World War II to deal with a variety of European economic issues. In 1963 the OECD released a draft of a “model” income tax convention — a document that had widespread impact almost immediately. The OECD Model Convention for the Avoidance of Double

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Taxation with Respect to Taxes on Income and on Capital (hereinafter referred to as the “OECD Model”) was issued formally in 1977 and rapidly became the accepted template for tax treaty negotiations throughout the world. The US Model Income Tax Convention, first released in 1976, built on the work of the OECD. The United Nations Model, published in 1980, was also based on the OECD model.

The OECD has remained the custodian of its Model, interpreting and re-interpreting it, expatiating on its every word, releasing reams of commentary that, like the Model itself, have had worldwide repercussions. In 1979, the OECD set out on a new path. It issued a report on Transfer Pricing and Multinational Enterprises and followed that up in 1995 with Transfer Pricing Guidelines — a second major topic in the area of international taxation. The OECD Guidelines have since been supplemented and modified many times, culminating in the current 2022 version. The Guidelines have come to occupy a position in the realm of international taxation that is nearly as important as the OECD Model.

In 2013, the OECD shifted its attention in a new direction. With its Base Erosion and Profit Shifting (BEPS) Project, it began to make suggestions for the content of domestic laws relating to the taxation of cross-border investments and income. It eventually issued 15 reports, dealing with a variety of international tax issues, from taxation of the digital economy to corporate income tax avoidance to the resolution of international tax disputes. The aim was “introducing coherence in the domestic rules that affect cross-border activities, reinforcing substance requirements in the existing international standards, and improving transparency as well as certainty.”

The OECD’s move from an “international” subject — advising jurisdictions on how to coordinate their domestic tax laws in treaties — to advising on the content of domestic legislation was not especially radical, given its prior foray into transfer pricing. Nevertheless, undertaking to advise jurisdictions on how to negotiate with respect to cross-border activity and setting

guidelines for the analysis of transfer pricing issues are both quite different from providing advice on what domestic laws should say. The shift placed the organization in a position where it would need to defend its legitimacy: It had moved from providing guidance for how jurisdictions might deal with each other’s domestic tax laws to issues of far more political sensitivity. With the expanding OECD reach, the question was increasingly voiced: How does an international organization in Paris have standing to suggest, advise, or tell national governments what their domestic tax legislation should say? This question is not answered, at least not in a politically satisfactory sense, by assembling representatives of those governments in a large forum and soliciting consensus on the substance of the organization’s advice. Just possibly, the OECD overreached.

2. State of the Pillars

Today the world labors to understand, and possibly to assimilate, the advice that the OECD has provided in its two “Pillars”, Pillar One and Pillar Two. Pillar One would have a portion of the profits from cross-border transactions assigned to jurisdictions where markets are located. This aspect of the OECD’s advice has not been well received. The organization has not yet managed to bring itself to put Pillar One out of its misery, but most observers agree there is no appetite for a profit allocation to jurisdictions that were never previously seen as having a justifiable claim to a piece of the pie.

Pillar Two, on the other hand, has been formally adopted by the European Union, has been accepted by a number of non-European jurisdictions, and remains under active consideration throughout the world. Recently, it has undergone substantial modification at the instance of the United States, which was alarmed and offended by the likely impacts of the original Pillar Two rules, and which therefore negotiated a substantial — but not complete — exemption for itself in the innocuously labelled “Side-by-Side” Agreement. Some other jurisdictions have suggested they may want to follow suit.

So what is Pillar Two all about, and what is

the effect of the “Side-by-Side” Agreement that the United States secured for itself? The remainder of this essay seeks to respond to those questions in clear, acronym- and jargon-free terms.

The core idea behind Pillar Two is that competition among jurisdictions with respect to tax benefits is potentially harmful and should be reduced or eliminated. This requires the proverbial “level playing field” — tax of approximately 15 percent on income earned by corporate groups in every jurisdiction in which the groups operate. For the time being the rules apply only to large groups, those with more than EUR750 million of annual revenue. The effective rate of tax is computed on the basis of financial statement income, adjusted in various ways, and “recognizes” only taxes that meet specific qualifications under the OECD’s rules. Jurisdictions are assumed to understand the Pillar Two tax base in a uniform way. The adjustments, tweaks, and exceptions that the OECD has proposed to financial statement income are assumed to pose no threat to this common understanding. These assumptions may be questionable. More than two-thirds of the text issued in connection with the “Side-by-Side” Agreement was devoted to a “simplified” calculation of the Pillar Two effective tax rate.

If the 15 percent effective tax rate target is not met in a jurisdiction where income is earned, the OECD calls for additional tax to bring that rate up to 15 percent. The priority claim to impose this additional tax is assigned to the jurisdiction where the income is earned. If that jurisdiction fails to impose sufficient additional (and qualifying) tax to meet the 15 percent test, the next jurisdiction in line is the jurisdiction of the parent of the multinational group. If that jurisdiction does not impose additional qualifying tax sufficient to bring the effective tax rate to 15 percent, the entitlement moves downward to the jurisdiction of another group company that controls the entity that earned the income, if there is such an entity. If the 15 percent target is still not hit, other jurisdictions where the group operates and earns income are permitted to impose additional tax on group entities operating within their borders. The

aim is always to collect the difference between the qualifying taxes imposed by the designated claimants and the target rate of 15 percent.

3. Reaction of the United States to Pillar Two

The United States bridled at these rules. It has long had a robust system for imposing tax on parent companies whose affiliates earn low-tax income in foreign jurisdictions. For a variety of reasons, these US rules were deemed by the OECD not to qualify for Pillar Two’s effective tax rate calculation. In addition, the OECD determined that credits afforded by US law to incentivize certain types of US domestic investment were, if not refundable (as most were not), effectively tax refunds, lowering the rate of tax on the US income of US entities. An eventual OECD concession provided that if incentive credits were transferable, they would be viewed as additional income rather than a direct reduction of US tax. This was still a potentially negative result because the effective rate of tax can be driven lower by either lower qualifying taxes or additional income.

The United States thought it unfair that its elaborate system for taxing low-tax foreign income was given no credence in the calculation of the Pillar Two effective tax rate. And the rules with respect to credits for certain US domestic investments (for example, the credit for research and development, or for investments in green energy facilities) had the effect of subjecting US domestic income earned by US affiliates of foreign parent entities to additional taxes levied by foreign jurisdictions on the ground that the US effective tax rate on the US income was too low, either because the amount of qualifying tax was reduced or because the amount of US income was increased. This meant tax benefits intended by US legislation for taxpayers who made favored investments in the United States would be transferred to treasuries of foreign jurisdictions — a peculiar result, to say the least.

So, the United States loudly proclaimed that it wanted out. It insisted it would accept no additional Pillar Two tax to bring the effective rate up to 15 percent except for the additional

Pillar Two tax levied by the jurisdiction where income was earned. US companies were thus excused from many of the rules accompanying Pillar Two, though not from the need to report effective tax rates computed pursuant to the elaborate Pillar Two rules in all jurisdictions where they operate. Insofar as investments by foreign parented groups in the United States are concerned, at least some US incentive credits would be treated as additional taxes that did not reduce the amount of US qualifying tax and did not result in additional income for purposes of computing the effective tax rate.

4. Whither the OECD?

It is perhaps appropriate, at this juncture, to pause and take note of the prodigious task the OECD has performed. Revising an international tax order that the world has known for more than 100 years has been an enormous task. Attempting to enlist the efforts, and seek the approvals, of most of the world's taxing jurisdictions is, independently, an exceptional undertaking. No person who is serious about tax policy, especially international tax policy, can fail to be impressed by both the effort and the results.

And yet, it seems clear, Pillar Two in its current form is not a workable proposal. The system it embodies cannot work in practice. There are too many inherent uncertainties, too many complex and confusing rules, too much reliance on knowing what is happening in other jurisdictions in real time, and too many assumptions that the jurisdictions of the world will agree on what the complex rules will mean in practice. In addition, too little attention has been devoted to the efficient resolution of disputes, on the apparent assumption that the rules of Pillar Two will run smoothly of their own accord in every jurisdiction where they are adopted. There is hubris in these rules, which seems to have been fueled by a belief that the OECD's objectives are so obviously laudable.

OECD staff is supremely competent and has much real-world expertise. It surely understands the unworkability of the proposed Pillar Two rules. Moreover, the United States cannot be the only jurisdiction that will refuse to accept

the extensive and highly intrusive rules of Pillar Two. Many developing jurisdictions have been tentative. Pillar Two has not yet managed to earn support from even half of the world economy. So what is going on here?

5. A Potentially Fatal Flaw

My own assessment is that the OECD — seeking to move jurisdictions toward that elusive level playing field and away from a world in which tax haven jurisdictions siphon off revenue from other jurisdictions, thinks it has developed a mechanism that will incentivize jurisdictions, even low-tax jurisdictions, to impose a tax of at least 15 percent on income earned within their borders. In other words, the objective is not to ask the international tax world to live with the highly detailed, sometimes surprising, rules of Pillar Two. Rather, the aim seems to be far simpler: a world in which all jurisdictions, wishing to avoid triggering levies by other jurisdictions, preclude that result by themselves imposing tax of at least 15 percent. In such a world, parent entities, intermediate entities, other entities within the group have no call to impose tax they would not otherwise impose; the income in question, wherever it may be earned, is subject to an acceptable 15 percent tax in the jurisdiction where that income is earned.

The United States would have no quarrel with this world and, indeed, would probably welcome it. There would be no tax havens where income could be earned without being subjected to a non-trivial rate of tax. And the OECD could justly take credit for having achieved the much desired “level playing field.”

There is, however, a flaw in the structure and its existence is made clear by the “Side-by-Side” Agreement sought by the United States. That agreement left US multinational groups outside the realm of Pillar Two except with respect to Pillar Two additional tax imposed by the jurisdiction where income is earned. The “Side-by-Side” system was deemed acceptable by the OECD because certain jurisdictions were seen as imposing minimum tax requirements with respect to domestic and foreign income independent of the Pillar Two rules. The United

States was identified as an example — thus far the only example — of such a jurisdiction.

The OECD spelled out the requirements of a tax system “eligible” for “Side-by-Side” treatment. Among other requirements, the jurisdiction must have at least a 20 percent nominal corporate income tax. It must have a corporate alternative minimum tax, or some other domestic tax regime based on financial statement income, that ensures an effective corporate income tax rate of at least 15 percent. There must be no material risk that multinational groups will be subject to tax on their domestic operations at a rate lower than 15 percent. And there must be no material risk that foreign operations will be subject to tax at a rate lower than 15 percent.

The problem, of course, is that the US tax system does not clearly meet all these requirements. Its system for taxing the income of foreign subsidiaries imposes tax at a rate of 12.6 percent, not 15 percent. It is true that most large US multinational groups will likely pay tax on their foreign income at an overall rate of at least 15 percent, given that in most cases the income of these groups is earned in many jurisdictions, including relatively high-tax jurisdictions. This, however, does not mean the effective rate of tax with respect to a particular foreign country will equal or exceed 15 percent. Nor can it fairly be said that there is “no material risk” that the overall rate of tax on the foreign income of some large US parented groups will fall short of 15 percent.

In other words, US multinational groups may be advantaged by the “Side-by-Side”

Agreement by comparison with competing groups with parent entities in jurisdictions where Pillar Two prevails. The advantage is countered by certain disadvantages of the US system, including especially a notable stinginess with respect to foreign tax credits. Nevertheless, there certainly can be a potential advantage for large US groups that avoid the strictures of Pillar Two. That advantage will disappear if every jurisdiction where a US group earns income adopts a Pillar Two tax requiring at least a 15 percent rate on income earned within the jurisdiction. The enormous compliance burden that Pillar Two entails will remain, but that may be a price worth paying for that talismanic “level playing field.”

What happens, however, if some jurisdictions, wishing to attract investment from the United States, decline to adopt, or retain, the additional Pillar Two taxes on income earned within those jurisdictions? Some jurisdictions may decide, in other words, that their interest lies in competition, not cooperation. That would leave US groups benefiting from the advantage of an effective tax rate lower than 15 percent in those jurisdictions, a notable advantage vis-à-vis groups from jurisdictions that have not sought exemption from the Pillar Two rules.

Only time will tell whether this flaw proves fatal. The source of international tax competition, and thus of the non-level playing field that the OECD wishes to alter, was always the desire of some jurisdictions to attract investment to their borders at the expense of other jurisdictions. What makes anyone believe that desire has been extinguished by the rules of Pillar Two?



The OECD “Side-by-Side” Package: Technical Features and Implications for Pillar Two Implementation

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Abstract: The OECD “Side-by-Side” Package, approved in January 2026, represents a significant evolution in the implementation of Pillar Two. This article examines three critical components of this package: the “Side-by-Side” regime, the Permanent Simplified Effective Tax Rate (ETR) Safe Harbour, and the Substance-Based Tax Incentive (SBTI) Safe Harbour. The “Side-by-Side” regime provides an alternative compliance framework for jurisdictions meeting specific criteria, with the United States of America currently being the sole jurisdiction recognized under this regime. The Permanent Simplified ETR Safe Harbour offers operational simplifications relative to the full Global Anti-Base Erosion (GloBE) calculation methodology, reducing compliance burdens while maintaining integrity through core principles such as matching, full allocation, single expense and loss, and single tax principles. The SBTI Safe Harbour preserves substance-based tax incentives within the Pillar Two framework through a substance cap mechanism.

Keywords: Pillar Two; Global Minimum Tax; GloBE; “Side-by-Side” Package

1. Introduction

The so-called “Side-by-Side” Package, approved by the Organisation for Economic Co-operation and Development (OECD) in January 2026, is the most significant development since the original GloBE Model Rules, introducing

a set of technical simplifications and clarifications that directly impact the compliance obligations and structuring strategies of multinational enterprise groups. This article provides a technical analysis of the “Side-by-Side” regime, the Permanent Simplified ETR Safe Harbour (SESH),

and the Substance-Based Tax Incentive (SBTI) Safe Harbour, focusing on their mechanics, eligibility criteria, and practical implications.

2. The “Side-by-Side” Regime

The “Side-by-Side” regime is conceived as a structural overlay to the GloBE Model Rules. The technical foundation of the “Side-by-Side” regime is the recognition that the compliance burden associated with the full GloBE calculation is disproportionate in many jurisdictions, particularly in jurisdictions where the risk of base erosion is low or where local accounting and tax systems are already effective in addressing such risk. On the other hand, such a regime is the result of a well-known political effort of the United States which wanted to relieve its companies from the application of Pillar Two as it deemed that its own domestic tax regime is already structured in a way that can secure the goals that the Pillar Two legislation aims to accomplish.

In order for a jurisdiction to qualify as a “Side-by-Side” regime, the legislation of such jurisdiction must meet:

- (i) three criteria in connection with its domestic taxation; and
- (ii) three criteria in connection with the taxation of foreign entities of MNE Groups located therein.

In particular, the domestic taxation should provide for a corporate income tax statutory rate not lower than 20%, a Qualified Domestic Top-up Tax (QDMTT) or a similar regime that taxes the local entity at — at least — a 15% rate and uses Constituent Entities’ financial statements as a starting point for its calculation and, finally, should not present any material risk so that the profits of the entities located in such jurisdiction are taxed at an effective tax rate which is lower than 15%.

With respect to the taxation of foreign income of the entities which are part of the group, the tax system of the relevant jurisdiction must have a tax regime applicable to all resident corporations on their foreign income, anti-base erosion provisions and, finally, present no material risk that the overall profits of foreign operations

are subject to an effective tax rate of at least 15%.

In addition to all the above-mentioned requirements, the domestic relevant tax regime shall allow foreign QDMTTs to be credited against domestic covered tax liabilities.

Any country may apply to the OECD to seek, where the above-mentioned requirements are met, its regime to be officially recognized as a “Side-by-Side” regime. Once the scrutiny of the OECD has positively ended, such a regime is listed as such in the Central Record of the OECD.¹

The main consequences of a regime being recognized as a “Side-by-Side” regime are as follows.

For fiscal years other than 2024 and 2025, MNE Groups which have their Ultimate Parent Entity (UPE) in the United States are not required to apply any IIR (should such group have other Parent Entities located in countries that have implemented Pillar Two and that are required to apply such IIR) nor UTPR. This last charging rule, however, should apply with respect to fiscal year 2025 as the “Side-by-Side” regime does not exclude the application of UTPR for such fiscal year.

From an overall perspective, it is not exactly clear whether or not the “Side-by-Side” regime can be considered a full relief for the United States-based MNE Groups. Indeed, where these groups also have Constituent Entities in countries that have implemented Pillar Two, they will still have to comply with local compliance duties. In addition, should any QDMTT come due, the burden of such tax will be ultimately borne — through the credit method relief — by the United States.

Finally, it will be interesting to see if other countries will try to have their domestic regime recognized as a “Side-by-Side” regime, as the features to be treated as such are not easy to meet nor entirely clear yet.

3. The New Permanent Safe Harbour: Simplified ETR Safe Harbour

The new Permanent Safe Harbour (being

¹ As of the date of this article, only the regime of the United States is listed as a “Side-by-Side” regime in such record.

the Simplified ETR Safe Harbour) is designed to address the operational challenges associated with the calculation of jurisdictional ETR under the full GloBE methodology, which requires a series of adjustments to financial accounts, tax positions, and deferred tax assets and liabilities.

The Safe Harbour will be accompanied by reporting simplifications. MNE groups electing the Safe Harbour will indicate their election in the GloBE Information Return, with certain data points not required, such as those relating only to IIR and UTPR.

An extensive analysis of such new Safe Harbour is beyond the scope of this article but some of the main features of this new regime are summarized below.

3.1 Eligibility Criteria and Applicability Period

To access the SESH, an MNE group must satisfy several eligibility requirements. The group must not have incurred Top-up Tax liability in the tested jurisdiction in any fiscal year beginning within the 24 months preceding the first day of the fiscal year for which SESH is elected.

This applies whether the group was subject to full GloBE computations or other specified safe harbours.

If the group fails to qualify in a subsequent year, it may re-elect the Safe Harbour if it did not have Top-up Tax liability in any fiscal year beginning within 24 months of the first day of the year for which the Safe Harbour was not elected, under either the full GloBE Rules or any specified safe harbour. Specified safe harbours include the Simplified Calculation Safe Harbour for Non-Material Constituent Entities and any other safe harbour agreed by the OECD/G20 Inclusive Framework on BEPS. The Transitional CbCR Safe Harbour and QD-MTT Safe Harbour do not qualify as specified safe harbours for re-entry purposes.

The three alternative circumstances mentioned at §2(a)–(c) of the box reported at page 67 of the A.G. may be summarized as reported in the text.

Namely, letters a) and b) describe a situation where only one jurisdiction has taxing rights while letter c) describes the situation where

more than one jurisdiction have taxing rights and all have adopted in their legislation the SESH option and “*an election for the Simplified ETR Safe Harbour is made by the MNE Group with respect to that Tested Jurisdiction in applying the legislation of all those Jurisdictions.*”

The description of the language in italic has been purposely omitted in the text of the article because it describes the situation when the SESH is available to the taxpayer and not when it actually applies to the taxpayer.

In this latter case, it is implied that it applies if and when the taxpayer opts for it. However, since the language of the articles deals with the case when the SESH is available the second part of letter c) has been omitted.

3.2 Integrity Rules

The group must also make necessary adjustments to its Simplified Income and Taxes to comply with four core principles: the matching principle, which requires that intragroup income is recognized no later than the corresponding expense in the same fiscal year, and that the two amounts align. The second principle is the full allocation principle, which requires that all income is allocated to a tested jurisdiction. The third principle is the single expense and loss principle, which requires that expenses and losses are deducted only once and in a single jurisdiction. Finally, the single tax principle should be respected. Such principle requires that taxes are recorded only once and in a single jurisdiction. When any of these principles is not met, specific adjustments are provided under the Permanent Safe Harbour.

In addition, similarly to what occurs with full GloBE Rules, the SESH requires that financial instruments issued and subscribed between Constituent Entities are classified consistently (e.g., equity or debt for both the parties involved).

3.3 Main Features

Under the SESH, the ETR is calculated as the ratio between simplified taxes and the simplified income. The data source for both metrics is, in principle, the financial accounts prepared for the consolidated financial statement of the relevant group. As an exception to this rule,

MNE Groups located in a country in which the QDMTT must be calculated by using local financial accounting standards shall use such source of data even for SESH purposes.

Starting from such source of data the calculation of simplified income and simplified taxes involves a limited set of adjustments.

With respect to the simplified income calculation, the starting point is the Jurisdictional Profit (or Loss) before Income Tax (JPBT), calculated as the sum of all entities' Financial Accounting Net Income or Loss (FANIL) in a given tested jurisdiction, plus their Jurisdictional Income Tax Expense (JITE).

As provided for full GloBE calculations, intra-group transactions are generally relevant also for the SESH.

As per the adjustments, three basic adjustments have to be applied to the JPBT, being certain items which are commonly exempted from tax, such as dividends and equity gains or losses, and (similarly to what provided under the OECD Model Rules) bribes, kickbacks and other illegal payments as well as fines and penalties that equal or exceed EUR250,000.

As also provided under the OECD Model Rules, certain industry-specific adjustments² might be applied under the SESH.

In line with the OECD Model Rules, specific rules are provided for Included Revaluation Method Gain or Losses³ and Prior Period Errors and Changes in Accounting Principle⁴. In principle, under the SESH, no adjustment to the JPBT is required if the relevant item registered in the FANIL is an expense or a loss.

On the contrary, income items (e.g., a prior period error relating to unreported revenues) require a JPBT adjustment unless specific conditions are satisfied.

The SESH also provides for specific rules in connection with mergers and acquisitions (M&A) transactions.

In principle, all standard provisions⁵ of the full GloBE Rules continue to apply under the SESH. However, where certain conditions are met, an MNE Group may apply for a simplified approach in connection with M&A transactions.

Such simplified approach only applies to the extent that all of the assets (except for goodwill) and liabilities for which a GloBE-to-book difference arises have the same tax basis before and after the relevant transaction and corresponding deferred tax assets or liabilities accrued at a rate that equals or exceeds 15%.

If the conditions are met, according to the simplified M&A regime, the effect on the FANIL of the GloBE-to-book differences is not removed and certain specific rules apply for the accrual and reversal of the relevant deferred taxes.

In addition, all the elections that an MNE Group may apply under the OECD Model Rules are applicable also under the SESH. On top of the canonical elections, under the SESH, an MNE Group may elect out of the Asymmetric Foreign Exchange Currency Gain or Loss⁶ and Accrued Pension Expense adjustments.⁷

With respect to the simplified taxes, such taxes are equal to the sum of current and deferred taxes accrued in the FANIL of all the Constituent Entities located in the same tested jurisdiction. In addition, as also happens for full GloBE purposes, deferred taxes that are only recorded at a consolidated financial statement level that are attributable to a CE might be allocated to it. This amount is denominated as JITE.

Some specific adjustments to the JITE are needed in order to calculate the Simplified Taxes.⁸

The first type of adjustment, which is in

² Reference here is made to the adjustments provided for by Art. 3.2.9 and 3.2.10 of the OECD Model Rules in connection with insurance companies and banks as well as the exclusion for shipping income.

³ Article 3.2.1(d) of the OECD Model Rules.

⁴ Article 3.2.1(h) of the OECD Model Rules.

⁵ Chapter 6 of the OECD Model Rules.

⁶ Article 3.2.1(f) of the OECD Model Rules.

⁷ Article 3.2.1(i) of the OECD Model Rules.

⁸ Such adjustments are mainly in line with the adjustments already provided for by the OECD Model Rules in full GloBE.

line with what is provided for under GloBE Rules,⁹ requires the relevant MNE Groups to adjust the JITE to exclude any tax expense with respect to income that is not included in the Simplified Income.

The second type of adjustments aims to ensure that the JITE does not include taxes that are uncertain to be paid or not paid within a reasonable amount of time.

Accordingly, expenses arising from the accrual or reversal of an UTP and Disallowed Accrual are to be excluded from the JITE.¹⁰

Similarly to what is provided for under full GloBE Rules,¹¹ MNE Groups shall ignore the impact of any valuation allowance or accounting recognition adjustment that has been recognised with respect to a deferred tax asset. In addition, any deferred tax expense (DTE) arising from a change in the applicable tax rate or from the generation and use of tax credits must not be taken into account under the SESH.

Subject to certain exceptions, as a simplification compared with the full GloBE Rules, MNE Groups should exclude any DTE which does not fall within the recapture exception accrual definition.¹²

All the DTEs must be recast at 15%. This is to the extent that such DTEs were registered in the relevant financial accounts at a rate higher than 15%. If not, no recast is needed.

A particular approach is provided for cross-border allocation of income and taxes related to Permanent Establishments and Flow-through Entities (FTEs). As a principle, the relevant GloBE Rules provisions apply.¹³ The taxes that should have been allocated between main entity and PE and between FTEs and respective owners are not taken into account for any jurisdiction unless a specific five-year election is made.

In addition, a so-called PE Simplification Election (a one-year election) is available under which certain simplifications apply to the ordi-

nary income and taxes attribution regime of the entity at stake even though such simplifications only apply at a main entity level instead of at a PE level.

The SESH also provides for specific rules in connection with transfer pricing adjustments. In brief, the transfer pricing adjustment is relevant when it accrues.

This is unless the MNE Group makes a five-year election according to which the TP adjustments that accrue within 12 months of the end of the fiscal year for which the TP taxable income adjustments are made will have to be relevant in the transaction year. Other specific TP rules are provided for specific fact patterns (for instance, transactions recorded at cost).

Specific rules are also provided for FTEs. Tax Transparent Entities¹⁴ are deemed to have no simplified income and no simplified taxes if all their income and taxes are entirely attributed to a PE or their owners, in accordance with the provisions of the OECD Model Rules. This aligns the treatment of such entities with the treatment they will have for a full GloBE calculation. An investment entity or insurance investment entity may be treated as tax transparent entity where the conditions reported under Art. 7.5 of the OECD Model Rules are met.

Finally, several elections are available under the SESH, including the possibility to include in the simplified taxes and simplified income the amounts of Qualified Refundable Tax Credits, or Marketable Transferable Tax Credits, include taxes recorded in OCI or equity with respect to items that are included in the simplified income as well as the so-called Substance-based Tax Incentive Safe Harbour.

3.4 Transition Year

The application of the SESH does not affect the identification of the Transition Year. In other words, the Transition Year is always deter-

⁹ Articles 4.1.3 (a) and 4.4.1 (a) of the OECD Model Rules.

¹⁰ In the same fashion provided for by Article 4.1.2(c), Article 4.1.3(d) and Article 4.4.6 of the OECD Model Rules.

¹¹ Articles 4.4.1(c) and 4.4.2(c) of the OECD Model Rules.

¹² Article 4.4.5 of the OECD Model Rules.

¹³ Article 3.4, 3.5, and 4.3.2(b) of the OECD Model Rules.

¹⁴ Other than UPEs of an MNE Group.

mined in accordance with the standard GloBE provisions, and an MNE Group's election to apply the SESH for a given tested jurisdiction does not affect this determination.

Accordingly, the MNE Groups will have to determine the relevant GloBE values under the ordinary rules provided for the Transition Year. When applying the SESH, such values will not be affected (therefore, the provisions of Art. 9 will not be applied again) and the GloBE values determined for the purpose of the Transition Year will be "carried forward".

3.5 Eligibility Restrictions

On top of the limitations related to the payment of Top-up Tax in previous fiscal years, the SESH provides for other restrictions on the eligibility for this regime.

An MNE Group cannot elect to apply the SESH for:

- (i) Stateless Constituent Entities whose income and taxes are not entirely attributable to a PE or its owners;
- (ii) Investment Entities that are not treated — also by election — as Tax Transparent Entities;
- (iii) Jurisdictions where the group has elected for the Eligible Distribution Tax System election under Article 7.3 of the OECD Model Rules, and there is an outstanding balance of the Deemed Distribution Tax Recapture Account for the jurisdiction at the beginning of the relevant fiscal year.

4. Substance-based Tax Incentive Safe Harbour

This safe harbour eliminates the potential Top-up Tax due in connection with certain qualified tax incentives (QTIs).

This regime is a targeted response to the challenge of preserving legitimate substance-based tax incentives within the Pillar Two framework.

A QTI is defined as an incentive that is generally available to taxpayers and is calculated based on expenditures incurred (expenditure-based incentives) or the amount of tangible property produced in the jurisdiction (production-based incentives). The technical guidance provides detailed criteria for the qualification of

incentives.

The QTI calculation is capped through the application of a Substance Cap to ensure that the amount of this benefit is limited to the actual substance that the MNE Group has in a given jurisdiction.

The QTI cap is set at the higher of 5.5% of payroll costs or depreciation on tangible assets in the jurisdiction, with an elective alternative based on 1% of the carrying value of tangible assets. The calculation of the cap requires precise tracking of payroll costs, depreciation, and carrying values, supported by clear documentation and audit trails.

5. Conclusion

The "Side-by-Side" Package is a technical recalibration of the GloBE Model Rules, aiming for simplifications, preserving substance-based incentives, and establishing a framework for ongoing refinement. The regime's technical features demand a new approach to compliance, planning, and engagement with administrative guidance. The SESH and the QTI regime are central to this new approach, offering a potential solution to the operational challenges of Pillar Two implementation while maintaining the integrity of the global minimum tax. It is worth noting, however, that the SESH is a less complicated regime than the full GloBE, but it still requires a thorough understanding of the full GloBE Rules and the collection of a relevant amount of information (which is one of the most challenging features of the entire Pillar Two system). As the MNE Groups already had several years to adjust to the complexities of the full GloBE regime, both from a technical and administrative standpoint, it will be interesting to see if the effort of implementing a new system, even if simpler, will be worthwhile.

Under the "Side-by-Side" regime, the political struggle that brought this regime to light does not seem to have a clear winner. While the United States (and any other country that will be deemed eligible for it) seemed to have come on top, there are still a lot of administrative and tax burdens that even the United States groups should have to comply with.

Tax Governance Issues for Multinational Enterprises in a Complex World

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Abstract: This article examines the key tax governance challenges facing multinational enterprises (MNEs) in an increasingly complex global environment. It discusses how changes in business models — including supply chain fragmentation, digitalisation, and the growing role of intangibles — are reshaping international taxation and creating new compliance burdens. The article highlights the diverging pressures on both Global South and Global North countries to raise tax revenues while maintaining investment-friendly policies. It explores the role of tax technology, artificial intelligence, and cooperative compliance programmes in improving tax administration and taxpayer engagement. The article also addresses the interaction between tax and trade, including trade tensions arising from tax measures such as digital services taxes and the global minimum tax under Pillar Two. Finally, it considers emerging issues such as carbon border adjustments and environmental, social and governance (ESG)-related regulations. The article argues that MNEs can play a constructive role by engaging proactively with tax administrations, using digital tools, and participating in cooperative compliance frameworks, while recognising the legitimate revenue needs of developing countries.

Keywords: Tax governance; Multinational enterprises (MNEs); Digitalisation of tax administration; Pillar Two; Cooperative compliance

1. The Global Policy Context

1.1 Global Changes in Business

Multinational enterprises (MNEs) manage tax and regulatory risk in an increasingly complex global environment. The production of goods may require inputs from across national borders, and in some industries the components may

cross borders more than once. The increased specialisation of business activities has resulted in fragmentation of supply chains, so that manufacturing companies are often, in reality, owners of brands and intellectual property, and outsource a range of production activities to unrelated third parties. Supply chain security has become a growing concern, especially in

recent years, as transport and distribution routes become less secure through geopolitical conflicts, tariffs and trade disputes. Finally, vertically integrated businesses formed by corporate consolidation have shifted part of the international trade of goods to intra-company trade, giving rise to transfer pricing questions.

Increasing digitalisation of demand, supply and distribution has also transformed international trade through growth in trade in services. Changing patterns of demand allow for new distribution channels, enabling businesses to move across borders and producing new challenges for tax authorities. The workforce is becoming more automated and staff more specialised, giving rise to new challenges in taxing labour income. Disruption of business models has also resulted in concentration of market share to a small number of firms.

The scope and freedom available to some businesses through digital delivery of services give rise to the possibility of “scale without mass”. Technology allows these businesses to grow rapidly and sell their services widely without the need for large increases in physical assets or employee numbers. They can engage in significant economic activity with a smaller physical footprint in a jurisdiction. This creates challenges for countries with traditional taxation laws based on physical presence. The challenges are clearly seen in business areas such as software and digital services, changing the way in which businesses compete and create value.

The growth in the role and value of intangibles raises issues about their creation, development and management. The functions, assets and risks involved in transactions may be more centralised than in the past and more transfer pricing issues may arise. For a global MNE, the volume of intercompany transactions results in a substantial compliance burden for transfer pricing purposes. In other tax and regulatory matters there is increasing pressure on companies to conform to complex national and regional standards.

1.2 Tax and Regulatory Governance

The countries of the Global South have generally suffered from low tax-to-GDP ratios,

and insufficient administrative capacity owing to lack of resources. There is now an urgent need to raise more tax revenue, and increase the tax-to-GDP ratio. There is pressure for developing country governments to collect the correct amount of tax from MNEs, modernising international tax legislation and its implementation.

There is also pressure on governments in the Global North to increase tax revenue. They are under pressure from aging populations, rising healthcare costs and in some cases the need to increase defence spending. Tax administrations in the Global North are developing their technological capacity to address the impact of digitalisation of the economy discussed above, and for efficiency gains to make up for a growing “donut hole” in their tax bases. Tax policy is also being used for non-revenue goals such as the environment, health or employment.

More regulatory measures are being passed and businesses must comply. The regulations include restrictions on some activities and requirements to report activity on some social and environmental goals. Environmental, social and governance (ESG) requirements are standards used to evaluate a company’s sustainability, ethical impact, and long-term risks. This form of regulation is a way of requiring accountability from a business on how sustainable and responsible the business operations are, in areas like climate impact, labour practices and accountability of the directors. MNEs must manage these requirements across jurisdictions.

2. Advocating Growth-Friendly Tax Policy

2.1 MNE Considerations on Engagement with Tax Policy

The greater emphasis on domestic revenue mobilisation in the Global South will bring tax arrangements of international companies into greater focus, even while countries also aim to maintain a positive investment environment. To balance these needs countries will utilise the models from both the OECD and UN forums in a way that suits their specific needs. The sharing of data and of peer experiences between

countries will increase. As a result, there can be a view that current taxpayers are carrying unfair burdens. MNEs should look at ways that can help countries maintain growth-friendly policies, while recognising the greater need for revenues.

The use of technology in tax administration can help developing countries leapfrog more developed nations. In the drive to find more tax revenue tax administrations will use their technology to target low-hanging fruit, seeking to identify additional tax revenues that can easily be collected with the help of better technology. Over time more tax technology will be implemented, and policy approaches may change to suit them. MNEs can be a partner for such tax administrations, bringing their experience in other countries to the attention of tax authorities in developing countries.

Digital economy transactions can be approached first from the perspective of indirect tax and countries could implement the destination principle for downloaded and digitally delivered services/value-added functions. Tax administrations will move forward by improving their knowledge and understanding of international tax processes, including tax treaties, transfer pricing and value-added tax (VAT) treatment of cross-border transactions. With greater expertise among personnel, tax administrations can successfully implement further technological solutions that can be used to their full potential by their staff. The Belt and Road Initiative Tax Administration Cooperation Mechanism (BRI-TACOM) arrangements can be used by MNEs to bring global good practices to the attention of developing countries in a neutral platform.

2.2 Recognising Policymaking Concerns

Civil society taxpayer groups are calling for more justice in fiscal policy. These groups have expanded beyond a small group of large actors, and include environmental lobbyists and other groups outside government that may be demanding more taxes or tax concessions. This

pressure can force governments to perform a broader balancing act between policy choices.

Compliance issues arise from the evolving global taxation and transfer pricing rules, and there are mismatches between different sets of rules. Compliance responsibilities in areas such as withholding tax (WHT) need to be managed. Failure by taxpayers to be responsible in paying taxes might pose a reputational risk for businesses. This includes being named and shamed in the media or criticised widely on social media platforms if they are perceived as not contributing their fair share of tax. MNEs have a strong role to play in establishing fair tax policies and their views will be better accepted if they recognise the concerns of policymakers worldwide. Here too, the consultation mechanisms under BRI-TACOM can help mutual understanding.

Increasing trade tensions globally can spill over to tax measures. There are perceived pressures to achieve additional tax collections, potentially resulting in tax disputes and tax capacity issues. There may be unfamiliarity with new and evolving tax instruments. There is also a perception that current taxpayers are carrying unfair burdens. MNEs have a strong role to play in presenting their challenges in this regard and can again utilise forums such as the Belt and Road Initiative Tax Administration Cooperation Forum (BRITACOF) to present their views and concerns.

2.3 Tax Incentives after Pillar Two

The global minimum tax provisions will reduce the effectiveness of some types of incentive regimes and there will need to be some tweaks to the types of incentives offered.¹ In particular, countries will be looking at alternatives to direct tax incentives in their efforts to attract foreign direct investment (FDI). Currently the advice to policy makers from international organisations on incentives is to ensure there is better quality data available on the effectiveness of incentive measures. The effect of the incentives needs to

1 OECD (2022). *Tax Incentives and the Global Minimum Corporate Tax*, https://www.oecd.org/en/publications/tax-incentives-and-the-global-minimum-corporate-tax_25d30b96-en.html.

be monitored through the production of statistics and an annual tax expenditures statement. The need for fiscal responsibility may restrict the amount of tax expenditures available.

Governments will increasingly need to focus incentives on actual capital investments made, such as offering accelerated depreciation or 100% depreciation in first year, instead of more general tax exemptions for income. Indirect tax and customs duty incentives could be reviewed. Non-tax advantages would become more important. Governments could emphasise the availability of skilled workforce, a robust intellectual property (IP) regime, physical and digital infrastructures or other location-specific advantages to attract FDI. The discussions at the BRITACOF can be utilized to share good practices and achieve mutual understanding of the effects of specific types of tax incentives.

3. Engagement with Tax Administration

3.1 Intensifying Administration Engagement

Engagement by taxpayers with the tax administration needs to intensify, to reduce the number of tax disputes. There are various issues for international businesses in tax compliance worldwide. The evolving global taxation and transfer pricing rules, and mismatches between rules, make this necessary. The need for domestic resource mobilisation means that there would be an enhanced role for VAT and environmental levies, and an increasing need for cross-border coordination.

Taxpayers and tax administrations may have concerns around the costs for implementing the administrative processes for global initiatives. Pillar Two implementation, with the first Global Anti-Base Erosion returns due in June 2026 and upcoming registration and notification deadlines, will increase compliance time and costs. There have been multiple rounds of administrative guid-

ance issued by the OECD,² with more to come. These will need to be transposed into local laws and regulations by countries and taxpayers will need to fulfil their compliance obligations. There is evidence that there will be disproportionate compliance costs involved.

The cost of managing the upcoming challenges will be a concern for businesses. There will be a concern about the actual working of new standards, including the Undertaxed Profits Rule (UTPR) and dispute resolution processes. There are also issues arising from compatibility of Pillar Two with the US rules (“Side-by-Side”). Under this, the US would not itself apply the Income Inclusion Rule (IIR) and UTPR, but would continue to apply the global intangible low-taxed income (GILTI) rules. There are still questions on how the IIR and UTPR would apply to US profits of US subsidiaries of foreign companies. The “Side-by-Side” arrangement has been widely criticised.

Another concern will be the question of compliance with UN-based initiatives. A future UN framework convention and early protocols may require compliance with more than one set of international tax standards. The current withholding tax (WHT) and treaty-based approaches in taxing digital economy transactions may create further complications.

3.2 Partnership Between Tax Administrations and Businesses

Firstly, tax administrations need to collaborate with each other across borders to improve their level of cooperation in the exchange of tax information and in tax collection. Tax information is increasingly important in a world of intensified regional trade and investment relationships such as those created by the Belt and Road Initiative (BRI) projects. Tax administrations need to make use of technology to fully exploit the data received. Countries could leverage exist-

2 OECD (2024). *Tax Challenges Arising from the Digitalisation of the Economy — Administrative Guidance on the Global Anti-Base Erosion Model Rules (Pillar Two)*, June 2024, <https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/global-minimum-tax/administrative-guidance-global-anti-base-erosion-rules-pillar-two-june-2024.pdf>.

ing forums for tax administrations such as BRI-TACOM to engage with other governments.

Tax administrations also need to reinforce their partnership with businesses. This can involve building tax compliance and information processes into business accounting and tax software so tax administrations can gather data as business is conducted. Good governance should be prioritised as this can build confidence and trust in the government among the business community. By leveraging the data that business systems process through advanced and innovative IT systems, tax compliance can be simplified, saving compliance time and costs for taxpayers and the tax administration.

Dialogue is required between tax authorities and businesses to find the right balance between tax audits or inspections and trade and investment facilitation. Too many tax audits and disputes with the tax administration may, in combination with other factors, discourage a company from investing further in a developing country. In its use of tax technology the tax administration would need to use the infrastructure and technologies such as data mining, matching and scanning at the right time and on the right set of data, encouraging system-based approaches. The systems should be used to collect the correct amount of tax without causing unnecessary problems for taxpayers.

3.3 Enhancing Internal Tax Risk Management

A further area for MNEs to consider is the need to improve tax risk management. Companies can use software solutions to understand specific country risks, build risk matrices to identify operations or transactions into levels of risk based on specific criteria. The decision on the components of the tax risk matrix is important. A decision must be made on tax type and the risk segregation. Levels of risk related to product-specific issues and types of business transaction must be established. There are also industry-specific tax risks to consider.

A part of tax risk management is to establish responsibilities, monitor performance and plan ahead to ensure the mitigation of future issues arising. Tax risks may arise from products or types of business transaction. The tax risk management must have a strategy for the different types of tax risk arising from different transactions.

Multinational groups need to be aware of emerging issues in international corporate tax, such as global taxation and apportionment issues. There may be partner/stakeholder-related tax risks. There are also risks from timing and classification issues in trade taxes and VAT/GST.

3.4 Cooperative Compliance Programs

An MNE should pursue cooperative compliance arrangements where possible. Cooperative compliance is a strategy adopted by some tax administrations aiming to create an enhanced relationship with the taxpayer.³ This arrangement would mostly be available for large corporate taxpayers. The aim is to develop a closer relationship between the tax administration and the taxpayer based on trust and cooperation, leading to a higher level of voluntary tax compliance. The benefit for taxpayers in this arrangement is that they can avoid penalties and gain more tax certainty going forward.

The taxpayer has to be prepared to deal with greater transparency in its tax affairs. Cooperative compliance may include the possibility for taxpayers to self-review and correct their own errors without needing to pay a penalty. The taxpayer would be expected to disclose any errors in tax returns when they are discovered. The result of the cooperative compliance arrangement should be that the taxpayer fully complies with the relevant tax and customs regulations.

As a result of cooperative compliance, the tax administration can gain a deeper understanding of the taxpayer's business and more insight into the types of transaction that may be business-driven rather than tax-driven. This has

3 OECD (2013). *Co-operative Compliance: A Framework*, https://www.oecd.org/en/publications/co-operative-compliance-a-framework_9789264200852-en.html.

the advantage of minimising misunderstanding of transactions and building trust. The taxpayer would have greater access to the tax administration than before and would be able to obtain its views on particular tax issues faced by the business. In many cases there would be a dedicated person within the tax administration who would communicate with the taxpayer and ensure continuity in communications.

Advantages for the taxpayer from participating in a cooperative compliance initiative could include reduced compliance costs as issues are dealt with by discussion at an early stage. There may be less need for audit and compliance interventions by the tax authority. Cooperation can give taxpayers an opportunity to discuss issues with the tax administration, and this can increase tax certainty. The BRITACOF agenda for the future should include more consideration of this particular area.

Tax administrations would also benefit from a relationship based on trust, as there would be greater knowledge of the business and greater access to decision-makers within the taxpayer's organisation. There could be more confidence that tax returns and payments would be received from the taxpayer on time, and administration time and costs could be reduced. The business insights gained from dealings with the cooperative taxpayer may have more general benefit within the tax administration, helping to better understand the transactions of less compliant taxpayers. There would not be any actions taken to damage trust, though the tax administration would still need to engage in enquiries or audits to test levels of tax compliance. There could still be different interpretations of laws and regulations that could be taken to appeal. The taxpayer could give feedback on difficulties with the tax law or administration.

A typical way of approaching cooperative compliance would be for the parties to draw up an action plan that would include annual risk review meetings, clarifications on interpretation of tax law, disclosure of any issues arising, and consistency in application of the law. At the risk review meeting, the tax administration could note any transactions or areas of high tax risk in

the taxpayer's business and ask for explanations of any issues of concern. The parties could agree on a risk profile for the taxpayer, based on standard criteria. A risk management plan could be prepared, emphasising how the agreed risk areas would be dealt with. The agreement would not prevent the tax administration from carrying out any transfer pricing or other tax audits of the taxpayer when required. The taxpayer could still engage in legal tax planning, disclosing relevant points to the tax administration.

Where a cooperative compliance program is introduced by a tax administration, the operation of the whole program would need to be reviewed periodically to ensure that it is operating as intended and fulfilling the required goals. The review would involve: (i) surveying the views of taxpayers and their agents and performing an analysis of the feedback received; (ii) internal interviews with the tax officials responsible for relationships with the taxpayers under the cooperative compliance program; and (iii) the evaluation of best international practice and different frameworks in use by other countries.

4. Use of Tax Technology in Business

4.1 Benefits of Digitalisation

MNEs can use tax technology to increase the speed and efficiency of their compliance and risk management processes. The benefits achieved from an enhanced ability to understand rules, meet compliance needs and address or prevent possible disputes can be much greater than the initial expense needed for installing the technology and training staff. It is important that full use is made of the technology in the processes within the MNE and that staff are trained to use it to the best advantage.

Governments can improve domestic resource mobilisation by using digital technology to track the operations and profits of MNEs in their territory. Revenue can be traced and assessed that might otherwise have remained untaxed. Internal procedures and training can be adapted to make full use of the tax initiatives launched with the help of digital technology. For developing countries, the technology

can greatly increase the extent of knowledge sharing between tax administrations, covering information on best practices and peer experiences in various areas of international taxation. The systems can support the implementation of guidance on capacity building from international bodies such as the UN and OECD,⁴ or regional bodies such as the African Tax Administration Forum (ATAF)⁵, and information and best practices can be shared among other regional groups such as BRI jurisdictions.

Digital processes must be introduced in an ordered manner, allowing sufficient time for taxpayers to adjust to the new procedures. Digital tax administration is particularly useful in the area of indirect taxation, improving the ability of the tax administration to register taxpayers and collect indirect tax. Tax administrations with low resources can first introduce digitalisation in the area of indirect tax, covering cross-border digitally delivered services, if required. The technology could later be extended to other taxes.

Digital technology could permit the integration of tax processes within business record-keeping systems, to allow smoother compliance processes without the need for businesses to duplicate systems for accounting and tax. Although this may be a chance for taxpayers to improve their compliance, there can also be resistance to such measures by businesses. The tax administration must phase in the systems carefully, after consultation, in a way that causes minimum disruption to the business operations of taxpayers.

4.2 Progress on Digitalisation in Tax Administrations

Countries with more resources are already using digital technology widely in their tax administrations. A report by the OECD's Forum

on Tax Administration (FTA) on 17 June 2025 on *Tax Administration Digitalisation and Digital Transformation Initiatives*⁶ looked at progress made by tax administrations on digitalisation. The FTA has more than 50 members, which are OECD members or associates, and are generally adequately resourced to allow them to move forward with digitalisation. The publication studied ongoing digital initiatives and identified new approaches used by those tax authorities. The report also looked at areas where future collaboration between tax administrations could be valuable.

The study revealed that most taxpayers in the FTA countries surveyed had already introduced a digital identity for taxpayers to access online services, facilitating identification of taxpayers. Many tax administrations have been integrating tax interactions into third-party systems, and application programming interfaces (APIs) have been developed by around 80% of the tax administrations studied. These tax administrations increasingly receive data directly from taxpayer business systems and third parties.

According to the FTA report, available technology such as electronic invoicing systems allowed tax administrations to insert amounts into VAT returns. Furthermore, around one quarter were able to pre-populate corporate income tax (CIT) returns with relevant amounts. A number of tax administrations could provide some VAT and CIT taxpayers with returns that were totally prefilled with relevant amounts. More than 70% of the tax administrations surveyed were using artificial intelligence (AI) to enhance efficiency, for compliance management and to improve taxpayer services. There was growing involvement of AI in the detection of tax evasion and fraud, and in risk assessment processes.

For developing countries that lack re-

4 OECD (2022). *Tax Capacity Building: A Practical Guide to Developing and Advancing Tax Capacity Building Programmes*, https://www.oecd.org/en/publications/tax-capacity-building_c73f126f-en.html.

5 <https://www.ataftax.org/technical-assistance>.

6 OECD (2025). *Tax Administration Digitalisation and Digital Transformation Initiatives*, https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/06/tax-administration-digitalisation-and-digital-transformation-initiatives_87f43a78/c076d776-en.pdf.

sources, it may be unrealistic to introduce all these measures in a short time. However, by beginning with digital technology for VAT and gaining experience of the procedures required to make full use of the technology, a tax administration can demonstrate the benefits of the technology and make a case for funding of further technology in relation to other taxes. For the taxpayers, the digital technology may give an opportunity to engage more with the tax administration to facilitate tax compliance.

4.3 Tax Administration and AI

The issue of tax administration and AI was discussed by the UN Committee of Experts on International Cooperation in Tax Matters in October 2025.⁷ They were in favour of creating a subcommittee on the subject, and noted that other organisations including the OECD and IMF had issued reports on this topic. There will be a role for the Committee in providing practical guidance for developing countries, especially the less developed countries that would be faced with significant budgetary issues in introducing AI systems.

AI could be used by a tax administration to assist the tax policy decision-making process. The use of AI could help the administration in detection of tax fraud, risk assessment, and taxpayer services. There would need to be safeguards against AI-facilitated tax avoidance and evasion. The focus would be on guidance on practical implementation of AI systems. The Committee members noted the importance of people ultimately making decisions, with AI supporting those decisions by providing information. Taxpayer confidentiality would be important, as there are significant penalties for violations of the law in this area. There would need to be guardrails around AI to protect data security.

As the use of AI could be very expensive, countries would need to analyse the costs and benefits of using AI. The UN guidance would need to contain references to the rights of the

taxpayer. Guidance would need to focus on rights and interests of taxpayers, taking into account ethical issues.

Another observation was that AI can save time for the tax administration in investigations by highlighting issues that are not immediately obvious to human investigators. The use of AI could therefore boost the detection of tax evasion and illicit financial flows. Taxpayers must be aware that their level of compliance will be scrutinised more closely than before as governments make full use of AI and other technologies.

5. Link Between Tax and Trade

5.1 Tax as a Barrier to Trade

Trade tensions can arise as a result of tax and customs issues. This is well known in relation to countervailing tariffs, but tariff measures can also be used to retaliate against tax measures by other countries. In this case, tax becomes a barrier to trade. An example was the threatened US retaliation for the global minimum tax, planned as a revenge tax but withdrawn from the legislation after agreement with the OECD on a “Side-by-Side” approach. There have also been tensions over digital services taxes with threatened retaliation by the US. A number of countries are dissatisfied with the “Side-by-Side” approach agreed by the G7 with the US.

Developing countries are more aware than ever of the need to increase domestic resource mobilisation to pursue the sustainable development goals (SDGs). The economic problems caused by the pandemic, the inflation and other consequences of the current geopolitical situation have set back the economies of most developing countries and left them further behind in the push to achieve the SDGs. They are looking for suitable tax policies to fill the gaps in funding.

5.2 Policy Measures to Address Climate Change and Achieve Energy Transition

Companies operating in the internation-

⁷ UN (2026). *Tax Administration and Artificial Intelligence Proposed Work Plan*, <https://financing.desa.un.org/sites/default/files/2026-03/32nd%20UNTC%20Session%20CRP.5%20Tax%20Adm%20and%20AI.pdf>.

al arena need to be aware of environmental taxes and measures taken to combat climate change. The EU is imposing the carbon border adjustment mechanism (CBAM) at its borders and this affects products entering the EU customs space. MNEs are affected by this charge and by any retaliatory measures taken by other countries. Careful planning may be needed to keep such expenses as low as possible, possibly by moving certain manufacturing if possible, or by improving the carbon footprint of products.

Carbon taxes are increasingly imposed on air and shipping fees, in an attempt to compensate for the carbon footprint of transport in these industries. This may affect the freight fees involved in moving products across borders; and give rise to a need for further planning in the production and delivery of goods. Companies must consider that in the future there may be more resource taxes in relation to exports. Going forward, the BRITACOF agenda should consider how tax policy can help achieve energy transition, offer practical support to member jurisdictions and improve sharing of best practices.

5.3 Supporting Action on Tax and Trade Coordination

MNEs could support action on tax and trade coordination where this is possible. Further coordination could achieve the elimination of classification conflicts on goods and save compliance costs for businesses. Regional trade arrangements could be used to achieve better coordination. Also, further work could be done on creating classifications for services for both trade and tax.

Direct taxation and customs authorities, which are often both part of the same department within the government, are also beginning to make better use of customs information for direct tax purposes, and there is greater coordination of information in indirect and direct tax returns to reveal any potential discrepancies. Companies must therefore be prepared to answer questions from the tax or customs authorities on apparent discrepancies in valuations of goods.

These apparent inconsistencies will often be a consequence of the different ways in which the customs duties and direct taxes are computed, the different goals of the taxes and the differing time periods over which some charges are computed. Some all-round tax and customs expertise will be required by MNEs to deal with points raised.

6. Issues for Consideration by Taxpayers

MNEs engaging in cross-border projects need to be well informed about the tax and regulatory requirements in the countries where they are operating. This includes not only understanding the local tax system that will affect their activities, but also complying with the regulatory requirements such as ESG or other disclosures that may be required. Relevant returns in relation to international tax requirements must be prepared in line with local requirements and submitted in line with the appropriate deadlines. Taxpayers should look for available incentives within the tax legislation of the countries where they operate and take into account the effect on computations and returns for the global minimum tax where relevant.

MNEs should make full use of digital technology in their tax compliance. They would also benefit from engaging with tax administrations in cooperative compliance programs where possible, to enhance transparency and to improve tax certainty for their planned projects. Taxpayers should also be aware that tax administrations in developed and developing countries are expanding their use of digital technology and this will make their scrutiny of taxpayer compliance more effective.

Many international agreements aim to minimise the extent to which tax affects cross-border trading and investment decisions, through mechanisms such as relief from double taxation. However, obstacles to trade may arise through mismatches between tax systems. Another potential barrier is the increasing use of customs tariffs and other restrictive measures as a retaliatory measure against perceived trading issues. MNEs must give careful consideration to production and supply chains to avoid unnecessary charges arising from cross-border transactions.

Optimizing Cross-Border Tax Services for Belt and Road Development: Practices of Jiangsu Provincial Tax Service, the State Taxation Administration of China

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Abstract: Serving as a core convergence point of the Belt and Road Initiative (BRI) and a vital link connecting domestic and international markets, Jiangsu Province stands at the forefront of China's opening-up strategy with important responsibilities. Against this backdrop, Jiangsu Provincial Tax Service of the State Taxation Administration of China (Jiangsu Tax Service) has developed the "TaxExpress Jiangsu" cross-border tax service brand. Focused on enhancing policy certainty, delivering high-quality services, and deepening multi-dimensional cooperation across departments, regions and borders, it has built a distinctive service system. By supporting both inbound and outbound investment, optimizing business environment and stabilizing policy expectations, Jiangsu Tax Service provides robust tax support for Jiangsu's deeper BRI integration and construction of a globally competitive two-way opening-up hub, contributing significantly to the development of a "Strong, Prosperous, Beautiful, and High-Quality" modernized Jiangsu.

Keywords: Cross-border tax services; Opening-up; Belt and Road Initiative (BRI); Going global

1. Background

Located along China's eastern coast, Jiangsu Province enjoys unique geographical advantages with direct access to both the Yangtze River and the sea. With a strong economic foundation, dynamic growth momentum, a comprehensive industrial system, and a high level of opening up, Jiangsu serves both as a convergence point of the Silk Road Economic Belt and the 21st-Century Maritime Silk Road, and as one of China's leading open economies. It has been entrusted by President Xi Jinping with major responsibilities, includ-

ing "taking the lead as a major economic province" and "building a globally influential hub for two-way opening up".

Jiangsu is home to the China (Jiangsu) Pilot Free Trade Zone, which consists of Nanjing, Suzhou, and Lianyungang areas. It hosts 27 national-level economic and technological development zones — the most in the country — and three national-level overseas economic and trade cooperation zones. Among the latter, the China-UAE Production Capacity Cooperation Demonstration Park is China's first of its kind established under the BRI. Tax

statistics indicate that Jiangsu currently has 42,000 foreign-invested enterprises. In 2024, these enterprises generated RMB291.8 billion (USD43.1 billion) ¹ in tax revenue, accounting for 19.2% of the province's total tax revenue. Accumulated reinvested foreign investment profits exceeded RMB200 billion (USD29.6 billion), ranking first nationwide. Additionally, more than 2,600 enterprises have “gone global,” establishing more than 4,500 overseas enterprises in 124 countries and regions, with actual direct investment exceeding RMB200 billion (USD29.6 billion). ² BRI economies have become one of the primary destinations for Jiangsu enterprises investing abroad.

Jiangsu Provincial Tax Service of the State Taxation Administration of China (hereinafter referred to as Jiangsu Tax Service) fully recognizes the irreplaceable role of taxation in safeguarding national economic interests, facilitating cross-border trade and investment, and fostering a fair, transparent, and predictable business environment. It has therefore proactively integrated tax administration into the national opening-up strategy and Jiangsu's overall development agenda, demonstrating the responsibility of a major economic province. Jiangsu Tax Service is committed to serving high-level opening up with a broader vision and more practical measures, contributing tax expertise to the development of Jiangsu as a key Belt and Road convergence point.

2. Supporting the Development of the Belt and Road Convergence Point Through Tax Services

In recent years, Jiangsu Tax Service has focused on its mission of supporting the development of Jiangsu as a Belt and Road convergence point. Through the “TaxExpress Jiangsu” cross-border tax service brand, it has gradually established a “guideline-oriented, mechanism-coordinated, and service-supported” framework by coordinating institutional innovation and practical service initiatives. Through enhancing policy certainty, improving targeted services, and

strengthening mechanism innovation, as well as deepening collaboration across departments, regions, and jurisdictions, Jiangsu Tax Service has significantly improved the sophistication, professionalism, and intelligence of its cross-border tax services and developed a unique “Jiangsu model.”

2.1 Enhancing Certainty Through High-Level Planning

2.1.1 Guideline-oriented approach

Since 2014, drawing on international best practices, Jiangsu Tax Service has successively issued five editions of the *Jiangsu Tax Service International Tax Compliance Guidelines*. These guidelines proactively articulate the Service's international tax administration philosophy, key areas of concern, and major service measures, while providing timely alerts on cross-border tax risks. They offer clear compliance guidance for all Jiangsu enterprises “going global,” including those active in BRI jurisdictions.

2.1.2 Policy certainty

Jiangsu Tax Service has established a robust and multi-layered framework to enhance tax certainty. This framework proactively guides and encourages taxpayers to apply for clarification on the applicable policies for major and complex cross-border transactions, whether completed or anticipated. By integrating expectation management with pre-positioned services, Jiangsu Tax Service has continuously improved the administration and the application of international tax policies for cross-border transactions, thereby fully supporting the compliant development of entities engaged in cross-border operations.

2.1.3 Consistent standards

A provincial coordination mechanism for international tax administration and services has been established to address inconsistencies in policy implementation across different regions of the province through high-level communication and centralized coordination. Jiangsu Tax Service has signed *Agreements on International Tax Collaborative Administration and Services* with several foreign-in-

1 All currency conversions in this article are based on the exchange rates as of 1 June 2026 (exchange rate: RMB1=USD0.1478).

2 Relevant statistics are compiled on official releases from Jiangsu competent departments of taxation, commerce and statistics.

vested enterprises, such as Suzhou Dongshan Precision Manufacturing Co., Ltd., providing unified standards and consistent guidance in areas such as transfer pricing and tax treaty application.

2.1.4 Coordinated action

Dedicated “project managers” have been assigned to 120 key provincial-level foreign-invested enterprises to provide customized services. Meanwhile, provincial, municipal, and county-level tax authorities have jointly established expert service teams to deliver full-cycle policy consultation and guidance. These efforts continue to optimize the foreign investment environment and enhance the confidence and sense of gain among foreign-invested enterprises.

2.2 Delivering High-Quality Services and Greater Satisfaction

2.2.1 Enriching the “TaxExpress Jiangsu” brand

Jiangsu Tax Service has introduced 20 measures to support enterprises “going global,” offering five categories of specialized “1+1” services. Through “one specialist, one file, one strategy for each enterprise,” bespoke services are provided to each taxpayer. In addition, the “one business circle, one community; one network, one platform” initiative offers a new service model that combines universal and targeted support. In 2025, a total of 1,929 certificates of Chinese Tax Residency were issued, covering cross-border transaction income exceeding RMB37.7 billion (USD5.6 billion), effectively helping Jiangsu enterprises expand the depth and breadth of their overseas economic activities. Jiangsu Tax Service has also promoted three major policy tools for serving foreign investments: tax deferral for profit reinvestment, tax treaty benefits, and advance pricing arrangements (APAs). Together, these measures have formed a multi-layered and progressive policy support system featuring “tax deferral + reinvestment credits + industry-specific tax incentives,” providing stable and sustainable policy expectations for foreign-invested enterprises.

2.2.2 Launching innovative service initiatives

Jiangsu Tax Service has signed memoranda of cooperation with Jiangsu’s three national-level

overseas economic and trade cooperation zones to establish overseas cross-border tax service stations. These stations collect tax-related demands from outbound enterprises, provide unified tax guidance, and deliver integrated cross-border tax services. Jiangsu has also launched a dedicated non-resident cross-border tax filing platform. Since April 2023, the platform has processed 257 tax filings and facilitated tax payments totaling RMB74.6million (USD11 million), significantly improving the convenience of non-resident tax filing and reducing compliance costs.

2.2.3 Supporting foreign trade and inbound consumption

Provincial, municipal, and county-level export tax rebate service teams have been established. These teams have developed services-needs profiles (in the form of e-ledgers) for 1,198 key enterprises eligible for export tax rebates in Jiangsu, enabling them to deliver targeted services through tax-enterprise liaison groups, interactive platforms, symposia, and other channels. Jiangsu Tax Service has also collaborated with departments responsible for commerce, tourism, customs, and finance to provide guidance on tax rebate policies for departing overseas tourists. In 2025, 398 new tax rebate stores were established, bringing the total to 501 stores and achieving full coverage across 13 prefecture-level cities in Jiangsu.

2.3 Strengthening Coordination Through Multi-Dimensional Cooperation

2.3.1 Deepening interdepartmental coordination

As a member of the provincial leading group for Belt and Road development, Jiangsu Tax Service fully utilizes the provincial interdepartmental coordination platform to propose policy recommendations for optimizing cross-border tax services. It actively participates in various government-enterprise symposia organized by the Jiangsu Provincial People’s Congress, the Department of Commerce of Jiangsu Province, the Jiangsu Provincial Development and Reform Commission and the China Council for the Promotion of International Trade Jiangsu Sub-Council to promote cross-border tax service measures and

ensure enterprises fully understand and benefit from them. The Belt and Road Comprehensive Tax Service Platform has been connected with the Jiangsu Belt and Road Portal and the Comprehensive Service Platform for Enterprises “Going Global”, making Jiangsu the first province in China to achieve integrated information sharing in this field.

2.3.2 Deepening regional cooperation

Jiangsu Tax Service, together with the tax authorities of Shanghai, Zhejiang, Anhui, and Ningbo, jointly signed the *Framework Agreement on Enhancing International Tax Certainty in the Yangtze River Delta Region*. The agreement strengthens cooperation in areas including the administration of tax treaty benefits, coordinated service models for headquarters economies, tax service collaboration, and joint professional training. Through these efforts, the participating parties aim to enhance regional tax certainty and foster a stable, transparent, and fair tax business environment.

2.3.3 Deepening international exchange and cooperation

Jiangsu hosts both the OECD-STA Multilateral Tax Center and the Belt and Road Tax Academy. Jiangsu Tax Service actively facilitates exchange activities and visits involving tax officials from BRI partner jurisdictions and representatives of international organizations, sharing practical experiences in tax administration and collection. Supported by its tax intelligence research teams, Jiangsu Tax Service has developed a range of knowledge products, including jurisdiction-specific tax policy reports, investment tax guides, and global tax updates. These resources help outbound enterprises gain a comprehensive understanding of the host-country tax systems and enhance certainty in cross-border operations.

3. Contributing Greater Tax Strength to High-Quality Belt and Road Development

3.1 Stabilizing Policy Expectations Through Standardized Implementation of Tax Incentives

Committed to the rule of law, Jiangsu Tax Service regards enhancing tax certainty as a cen-

tral element of supporting enterprises engaged in cross-border operations and integrates compliance guidance throughout the entire process of cross-border tax services.

3.1.1 Further improving the full-cycle policy support system for outbound enterprises

Jiangsu Tax Service will continue organizing country-specific and industry-specific events, including cross-border tax salons, seminars for key outbound enterprises, and policy briefings on business-friendly measures, to support Jiangsu enterprises in expanding overseas. The integrated application and dynamic updating of the *Belt and Road Investment Tax Guide* will be further strengthened to improve the precision and accessibility of policy information for outbound enterprises. Greater attention will also be paid to the transfer pricing disputes encountered by outbound enterprises, and they will be encouraged to safeguard their legitimate rights and interests through mechanisms such as APAs.

3.1.2 Further releasing policy benefits and enhancing standardized administration for foreign-invested enterprises

Jiangsu Tax Service will further leverage the positive effect of tax deferral incentives in encouraging profit reinvestment and provide policy support services for tax treaty benefits applications exceeding RMB1 million (USD147,800). At the same time, greater emphasis will be placed on guiding foreign-invested enterprises to strengthen internal risk controls and enhance tax compliance capabilities. By balancing optimized policy services with effective risk management, the Service aims not only to ensure tax incentives are implemented in a standardized and stable manner, but also to attract foreign investment and help foreign-invested enterprises achieve long-term and sustainable development.

3.1.3 Further reducing burdens and enhancing convenience for foreign trade enterprises

Export tax rebate services will continue to be upgraded through the optimization of the “targeted push + intelligent self-check” service model. Allowing data to “travel more” while

enterprises “travel less,” Jiangsu aims to further shorten the export tax rebate processing time and reduce the operational burden on foreign trade enterprises.

3.2 Strengthening Institutional Support Through Efficient and User-Friendly Tax Services

Guided by a user-centered approach and supported by digital transformation, Jiangsu Tax Service is actively exploring three innovative service models to shift from response to proactive service delivery.

3.2.1 Empowering smart services through data

Through extensive use of big data and digital technologies, Jiangsu Tax Service is building a proactive service mechanism characterized by “delivering services before requests arise and resolving issues before complaints occur.” Intelligent service tools, including AI-powered customer service solutions for cross-border taxation, are being developed to identify enterprise needs accurately, provide intelligent responses, and deliver targeted policy information, creating a service experience featuring “non-interference when unnecessary and immediate response when needed.”

3.2.2 Enhancing personalized guidance through proactive analysis

Jiangsu Tax Service will continue to improve the 12366 cross-border tax service hotline to provide real-time responses to enterprises’ tax-related concerns, while conducting regular analysis of recurring issues and service patterns. In addition, the regular “face-to-face” communication mechanism between tax authorities and enterprises will be further strengthened to better understand enterprise needs, gather feedback and suggestions, and resolve major tax-related issues in a timely manner.

3.2.3 Strengthening risk prevention through early intervention

For complex tax issues faced by key enterprises engaged in cross-border operations, expert teams will provide customized guidance for internal control systems and risk prevention mechanisms. Through refined guidance and ear-

ly-warning services, enterprises will be assisted in improving their risk management systems and shifting from post-event remediation to proactive prevention.

3.3 Promoting Compliance and Shared Development Through Collaborative Governance

Jiangsu Tax Service will further enhance coordination both vertically and horizontally by building a three-tier cooperation platform aimed at facilitating resource integration and coordinated development.

3.3.1 Strengthening overseas service platforms

Building on the existing foundation, Jiangsu Tax Service will continue to strengthen cross-border cooperation and improve the two-way coordination mechanism between overseas industrial parks and tax authorities. These efforts will ensure rapid responses to enterprise demands and closed-loop resolution of requests, extending tax services directly to the frontline of overseas operations by outbound enterprises.

3.3.2 Strengthening regional cooperation in the Yangtze River Delta

Jiangsu Tax Service will deepen integration into the coordinated development strategy of the Yangtze River Delta region, achieving broader and higher-quality sharing of cross-border taxpayer information. Through more consistent policy implementation and more standardized services, Jiangsu aims to create a more attractive, transparent, and predictable tax business environment.

3.3.3 Strengthening multi-agency coordination

Cooperation with customs authorities and other government agencies will continue to deepen. Jiangsu will explore the establishment of a coordinated transfer pricing administration mechanism, and jointly study and resolve representative cases to avoid inconsistencies in policy implementation and double taxation. These efforts will reduce compliance risks for enterprises engaged in cross-border operations and make cross-border compliance less costly and more efficient.

The Right People, the Right Roles: Rewiring Human Resources at the Indonesian Tax Authority Headquarters

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Abstract: This article examines human-resource reform at Indonesia's Directorate General of Taxes (DGT) as a practical way to make a function-based administration work day to day. The core problem is familiar: headquarters has long been heavy on supporting staff while its work demands expert and cognitively intensive roles. In 2025, DGT began to rebalance the mix through open recruitment into new functional streams (strategic and regulatory analysis, data analytics, and intelligence/financial forensics) alongside legacy functions such as audit, valuation, and education. Entry is merit-based: eligibility checks are followed by a Situational Judgement Test and a technical assessment in tax policy, administration, and quantitative methods. The operating model is team-centred and output-anchored so performance can be seen and judged. The evidence base is naturally still limited. The first cohort only started in earnest in August 2025, but initial signs are positive. In one directorate, close to 80% of staff shifted from supporting staff to functional roles, with sharper ownership, tighter review loops, and analysis reaching decision-makers in a clearer, more usable form. The article documents these changes, sets simple indicators for tracking impact over the next year (from cycle times to uptake by field offices), and outlines next steps, including a measured extension of functional roles into field operations—the wider aim being straightforward: the right people in the right roles, chosen openly, held to clear outputs.

Keywords: Tax reform; Human-resource reform; Function-based organisation; Evidence-driven organisation

1. Introduction

Taxation has long been the backbone of Indonesia's development. In 2024, the Directorate General of Taxes (DGT) col-

lected almost IDR2,000 trillion (approximately USD120 billion) which was close to 70% of national revenue,¹ underscoring DGT's central role in financing growth.

1 ANTARA News (2025). *Sesuai target, realisasi sementara APBN 2024 defisit 2,29 persen*, <https://www.antaranews.com/berita/4565814/sesuai-target-realisasi-sembentara-apbn-2024-defisit-229-persen>.

At the same time, DGT administers a range of tax incentives intended to boost investment and economic activity, although these can erode the revenue base. According to the Ministry of Finance's Fiscal Policy Agency, Indonesia's tax expenditures in 2023 were estimated at more than IDR300 trillion (about USD18 billion), equal to 1.73% of GDP, representing a 6% increase from 2022 levels. Balancing these aims presents a strategic challenge. DGT must offset forgone revenue through incentives while still meeting the rising demands of the development budget. Much of this work falls to DGT headquarters (HQ), which sets policy direction and technical standards for the system as a whole.

In 2025, DGT has taken a significant leap as part of reorganising and strengthening the role of its HQ. It begins with HQ's human resources. This move sits within Indonesia's third wave of tax reform launched in 2017, which is structured around five pillars: organisational restructuring, human resource development, business process optimisation, the advancement of information technology and data systems, and the overhaul of legal frameworks. Tax reform itself is not new. Across many developing economies, governments have pursued broad tax reforms to improve service for taxpayers, provide greater legal certainty, narrow the tax gap, and secure more sustainable revenue for development. The centre of gravity has shifted from rewriting regulations to rethinking how tax authorities are organised and how their people actually work day to day. A defining feature of this wave has been the shift toward digital tax administration and a function-based organisation, as recommended by the International Monetary Fund (IMF).

According to the IMF's 2010 technical notes, tax authorities need to consider an organisational transition towards a function-based structure. Such a model emphasises the type of work carried out, rather than the type of taxpayer or the nature of economic activity, as the basis

for structuring the institution. A function-based tax authority is typically anchored by a robust central headquarters, which bears responsibility for policy development, technical guidance, the design of streamlined and effective business processes, as well as the regular monitoring and evaluation of institutional performance targets. The underlying rationale is that this structure fosters clarity of roles, enhances accountability, and enables strategic oversight.

However, a function-based organisation can only perform optimally if supported by highly skilled personnel. DGT, like many tax authorities, is undergoing reform and faces a significant challenge in this area. By the end of 2024, more than three-quarters of the staff at the DGT HQ were categorised as supporting staff.² At the same time, it is supposed to be supported by expert-level staff to conduct policy analyses. This condition presents a considerable obstacle to realising the institution's reform ambitions, particularly given the increasing complexity of modern tax policy.

One area where expertise is urgently required is in the evaluation and formulation of tax incentives. With tax expenditures of this size, decisions must rest on careful analysis. Without a committed team of skilled analysts, DGT risks allocating public resources inefficiently. Thus, strengthening human capital at HQ is no longer optional. Increasing the number of expert-level personnel is essential if Indonesia's tax administration is to keep pace with its policy challenges.

This article explores how DGT has been working to strengthen its human resources by increasing the number of expert-level personnel, the challenges it has encountered along the way, and whether these efforts have made a tangible difference in practice.

2. Background

Building on the earlier argument that a function-based tax administration stands or falls on the strength of its human capital, the picture

² Source: internal data. DGT Human Resources Statistics, 2024.

at DGT as of end-2024 is revealing. DGT employs 43,784 active staff across the archipelago. Of these, 3,396 — around 7.76% — are posted at the HQ. The majority of HQ staff sit in supporting staff roles: 2,617 people, or roughly three-quarters of the HQ cohort. In practice, supporting staff handle office administration, general affairs, finance, secretariat work, public relations, and assorted assignments that sometimes include tax analysis and business-process tasks. The mix is serviceable for running an office; it is less obviously suited to a headquarters expected to set policy and technical standards for the whole system.

Minister of Finance Regulation No.124/2024 defines DGT's core remit, and for HQ directorates the mandate is unambiguous: formulate tax policy and produce the technical standards that make policy usable. This contrasts with the responsibilities of regional and local offices (for instance, in Minister of Finance Regulation No.12/2017) which centre on implementing policy, coordinating activities, delivering services to taxpayers, undertaking supervision, and enforcing compliance. If we take those regulatory duties seriously, HQ should be weighted towards roles capable of policy design, regulatory drafting, methodological development, and evaluative research. Yet, when set against the current staffing profile, a mismatch emerges.

The first mismatch is horizontal: The type of work predominant at HQ — policy formulation and technical standard-setting — is being carried out in large part by supporting staff whose formal role expectations, by design, are administrative rather than analytical. Many of these colleagues are capable and dedicated; the point is simply that the job family they occupy is not the one intended for policy analysis in the civil-service framework. The second mismatch is vertical: Within HQ there are supporting staff who actually possess the education and skills one would associate with policy work — some are postgraduates — yet they remain parked in supporting roles with limited pathways to contribute as subject-matter experts. Talent exists, but it is not positioned where it can be leveraged.

From an education angle, DGT's national

workforce is dominated by diploma-holders (about 81%), with the remaining 19% being college graduates and postgraduates. Zoom in on HQ, especially the supporting staff, and the pattern looks different: A slim majority hold bachelor's degrees and roughly 26% have postgraduate credentials. That makes sense. Field offices tend to need technically oriented roles where a diploma is perfectly adequate; HQ's policy work, by contrast, leans on deeper academic training. At the structural echelons of HQ, spanning from supervisors to senior leadership, around 70% of the officials hold postgraduate degrees, whether master's or doctoral degrees. The gap, in other words, is not at the very top but between those decision-makers and the people expected to supply them with rigorous analysis, options papers, and implementable technical designs. That is precisely the space the functional push is meant to close.

Taken together, these mismatches blunt the promise of the function-based model. A strong headquarters is supposed to set policy direction, design sound business processes, and monitor performance with technical authority. That requires analysts who can, for example, assess the opportunity cost of a new incentive, model behavioural responses, draft workable regulations, and articulate implementation guidance that the field can follow without ambiguity. When such work is dispersed across support positions, the organisation relies on informal heroics rather than institutional design. It works until it doesn't.

DGT's response is to move deliberately towards human-resource reform with a clear instrument: recruitment into functional roles. This choice is not incidental. Functional posts are defined by expertise and specific skill sets, with work that sits primarily in the cognitive domain (knowledge production, analytical judgement, and professional standards) and is aligned to educational attainment. A headquarters needs a critical mass of such functional specialists. In practical terms, this means creating and filling streams such as policy analyst, regulatory drafter, data and econometrics specialist, business-process architect, and evaluation lead. It also means

mapping existing HQ functions against competency frameworks so that roles are anchored in demonstrable skills such as economics, law, accounting, data science, and behavioural insights rather than in generic job titles.

None of this diminishes the importance of supporting staff. DGT HQ still needs first-rate administration, finance, and general affairs to run smoothly. But the proportions matter. With only around 7.76% of DGT's workforce located at HQ, the marginal value of shifting a few hundred positions into functional roles is potentially very large — particularly when the HQ's output shapes how the remaining 92.24% perform in the field. The goal is a better match between mandate and manpower: fewer structural bottlenecks, clearer accountability for analytical outputs, and a steady upgrade in the quality of policy design and standard-setting.

In short, if DGT is to realise the promise of a function-based organisation, its headquarters must look and feel like one: a place where expert personnel do expert work. Recruiting (or converting) into functional roles is the most straightforward lever to pull. It addresses the horizontal mismatch (who does the policy work) and the vertical mismatch (where capable people are placed). And it does so in a way that aligns with the civil-service framework, the ministry's regulations, and the practical demands of modern tax administration.

3. First Wave of Functional Staff Recruitment

To make the function-based model bite in practice, we began rolling out an expansion of functional staff across the HQ in 2025. Until recently, functional posts at HQ were concentrated in a narrow band — tax auditors, tax valuers, and tax educators. These roles have been valuable, but their scope and numbers have not kept pace with what a modern headquarters is expected to do. The functional model we use follows Government Regulation No.11/2017 on civil servants, which places functional work squarely within team-based settings and ties it to measurable outputs. In other words, people do the job as part of a team, and the work does

not vanish into the ether; it must result in deliverables that can be assessed, such as policy notes, regulatory drafts, evaluation memos, data models, and operational standards. That discipline is precisely why this route is attractive. A team-and-output architecture makes it easier to hold ourselves to account, to see where a process stalls, and to improve the next iteration. It is also a better fit for the kind of cognitive work HQ is supposed to specialise in.

Still, according to internal statistics, HQ functional staffing has remained thin and clustered around those three legacy roles. This prompted the decision to widen the functional roles to include strategic analysts and regulatory analysts. Concurrently, we have identified critical capability streams in strategic policy, data analysis and intelligence/financial forensics. Early in the year we estimated that HQ alone would require around 900 functional positions across these tracks to reach critical mass. We are also piloting a limited expansion of functional capacity in technical core and law-enforcement functions such as account representatives and tax-appeal reviewers in large taxpayer offices. That said, the present account focuses on HQ because that is where policy is shaped and where the earlier "horizontal" and "vertical" mismatches were most visible.

To fill these roles credibly, we opted for open recruitment. The vacancies were advertised across the Ministry of Finance to cast a wide net and attract the strongest possible field. Baseline eligibility is straightforward: at minimum a bachelor's degree (with a preference for a master's or higher), a performance rating of at least "Good" over the last two years, and no record of integrity breaches. We want candidates whose integrity is commensurate with their technical qualifications and role-specific competencies. For the strategic and regulatory streams, for example, candidates must have spent at least five years in HQ-level duties related to policy formulation or regulatory drafting within any Ministry of Finance unit. For functional posts in legal advocacy, a law degree is non-negotiable. The principle is simple: The candidate should be educationally fit and already tested in the relevant field, not

learning the basics on the public's time.

Selection then proceeds to competency assessment. Once a candidate clears eligibility, we use two tests to examine fit. The first is the Situational Judgement Test (SJT), which presents real-life interpersonal and socio-cultural scenarios and asks candidates what should be done. Unlike self-report personality tests, the SJT requires applied judgement in context; it taps procedural knowledge and behavioural discretion rather than abstract traits. In our format, candidates take a three-hour test and tackle roughly sixty scenarios that mirror the realities of HQ life: navigating ambiguous policy trade-offs, handling stakeholder discords, sequencing tasks under time pressure, and aligning analysis with the chain of command without lessening professional candour. The second test targets technical competencies. Here we probe intermediate knowledge of tax policy and tax administration, the policy-making process, our internal business processes, and the analytical toolkit needed to ground a position in evidence (such as statistics, economics, and related quantitative skills). The aim is not to trick anyone; it is to verify that those entrusted with HQ work can actually do HQ work.

The response to the call was heartening. With the recruitment window open for roughly a month, more than 4,000 applicants from across the nation submitted their applications. Candidates were most interested in the tax-intelligence stream, followed by strategic analysis and data analytics. We were, of course, delighted and a little overwhelmed. It suggests DGT has never been short of talent; what we have sometimes lacked is a mechanism to recognise and channel that talent into the roles where it creates the most value. It may also hint, though this will need further testing, at growing trust in the organisation, with a sense that credentials and demonstrated performance now matter more and that the right person has a fair shot at the right role. This is the merit system at work.

Importantly, this recruitment push is not a standalone event. It is part of a broader redesign of how HQ works. The aim is to hard-wire teams to outputs and competencies, not job ti-

ties. A strategic analysis team, for example, might bring together an economist, a legal drafter, a data scientist, and a seasoned practitioner from field operations. Their shared product could be a full regulatory impact assessment of a proposed incentive, or an implementation guide that regional offices can apply without ambiguity.

This approach also helps address the two mismatches described earlier. First, by expanding functional roles, we ensure that policy design and technical standard-setting are led by people whose job family is designed for analysis, not by supporting staff out of necessity. Second, an open, merit-driven process gives qualified colleagues with proven records a fair route into roles that match their strengths. The point is not to admire talent from a distance, but to put it to work.

4. A Promising Outcome

To be frank, it is too early to draw firm conclusions about the impact of the human-resource reform. The new functional roles only began operating at the end of August 2025, and it takes time for people to tune in, learn the rhythm of the work, and settle into the expectations of an HQ environment. That being said, the early signals are encouraging. In the directorate I lead where nearly 80% of colleagues have moved from supporting staff status into functional posts, I can already see a change in how the team works and, just as importantly, how the long-standing mismatch is slowly, but surely, easing.

The shift shows up first in the day-to-day. Tasks that used to float between desks now have owners. Outputs that were once “best efforts” are framed as team deliverables with deadlines, methods, and reviewers. Meetings are shorter because briefs are sharper. We spend less time translating requests into analysis and more time testing options against evidence. None of this is glamorous, but it is the hard graft of a functioning headquarters: predictable processes, clear roles, and a shared standard for what “good” looks like.

The transformation is most visible in our policy-impact unit (a sub-directorate whose

remit is policy analysis and evaluation). Today, that unit is fully staffed with functional officers with strong academic foundations (mostly master's degrees in economics, public policy, or accounting). Because the unit leans heavily on research, we have also paid close attention to candidates' prior work: Who has designed or run an evaluation, who has worked with administrative data, and who understands the practical limits of a regulation once it leaves the page. Two streams have proved particularly valuable. The first is behavioural economics, which helps us think concretely about how taxpayers might respond to a rule, not just how we'd like them to respond. The second is experimental and quasi-experimental methods — Randomised Controlled Trials (RCTs), Difference-in-Differences (DID), matching — used properly and ethically. These are not fashionable add-ons; they are tools that can save the organisation from costly missteps.

Take two projects that sit at the core of our agenda: tax-gap estimation and microsimulation. We have attempted both in previous years, and we did have experts scattered across units, talented but unspecialised as a group. The result was uneven, with bursts of good work that were hard to stitch into a coherent programme. Since the reform, these projects sit with cohesive teams whose skills match the work. The teams include modellers who can build and validate the codebase, economists who set assumptions and translate theory into action, communications specialists who turn policy options into workable instruments and clear guidance, and seasoned field colleagues who keep the proposals honest about implementation. The difference is palpable. In the last three months, the tax-gap team has moved from exploratory diagnostics to a documented estimation pipeline with reproducible steps. The microsimulation team, for its part, has produced a first round of policy scenarios that are both technically credible and legible to decision-makers.

There are softer gains, too. Morale has lifted because people feel their training is finally utilised. Ownership has improved; analysts sign their work and invite critique. We have started

“peer-review” circles in my directorate. It is not a bureaucratic hurdle, just a habit of reading each other's drafts before they are submitted. New joiners are paired with mentors for their first products, so the learning curve is steep but supported. Small things, cumulatively important.

5. What's Next?

I do not want to oversell it. A quick burst of progress is not the same thing as sustained performance, and we need to stay disciplined about evidence. Over the next year we will track a few plain indicators: how long it takes to move from a concept note to a board-ready brief; the share of drafts that clear legal and operational review without major rework; the take-up of HQ guidance by regional offices; and (probably) the success rate — how often an HQ recommendation actually delivers the intended effect. If those numbers move in the right direction, we will know the reform is taking hold. If they stall, we will adjust course.

Even with that caution, the direction of travel feels right. “The right person in the right place” used to be an aspiration; now it describes how teams are actually put together. Projects that once ran on individual heroics have a proper team behind them. The conversation with senior decision-makers has improved too. We can see fewer assertions, more evidence; fewer single-point estimates, more sensitivity checks; less grand theory, more pragmatic options that field offices can execute without ambiguity. It sounds small, but it changes the rhythm of the work.

I suspect other parts of DGT that have brought functional staff into core roles are seeing the same early movement. The conditions are there: clearer mandates, a recruitment process that values competence and integrity, and teams built around outputs rather than titles. It is still early days, and we should be modest about what one quarter can tell us. But if the months since August 2025 are any guide, this reform is more than a change of labels. It is breathing new life into how we place talent, how we get the job done, and how high-level decisions are made, more grounded, more timely, and, frankly, more useful to the institution we serve.

Reinforcing the Capacity Building of the Tax Administration of Malaysia

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Abstract: The dynamic and increasingly complex nature of modern tax administration poses significant challenges, particularly in Malaysia, where rapid technological advancements and global economic shifts are redefining the fiscal landscape. This article examines the pivotal role of capacity building in strengthening Malaysia's tax administration to ensure efficiency, equity, and adaptability. The article frames capacity building as a critical strategy to address skill gaps, enhance compliance, and adapt to technological and regulatory transformations.

The study emphasizes the importance of specialized training and development programs, underpinned by innovative approaches such as e-learning, data analytics, and practical simulations. Institutional resilience is highlighted as a critical component, with recommendations for leadership development and collaborative partnerships with educational institutions, international bodies, and the private sector. The discussion extends to the promotion of fairness and equity, ensuring that Malaysia's tax system remains transparent and inclusive, particularly in addressing the informal sector and marginalized groups.

By fostering a culture of continuous learning and adopting advanced technologies, Malaysia's tax administration can build a workforce capable of meeting contemporary challenges while supporting sustainable national development. The article advocates for a multi-stakeholder approach to capacity building, stressing the need for coordinated efforts to align Malaysia's tax practices with global standards and future-proof its fiscal systems.

Keywords: Capacity building; Tax administration; Tax system; Tax compliance; Tax environment

1. Introduction

Tax administration plays a critical role in ensuring sustainable national development and the provision of essential public services. Tax administration is the system and processes through which a govern-

ment collects and enforces taxes from its taxpayers. With annual technological advancements, taxpayers are becoming increasingly sophisticated in tax management. Collecting taxes is becoming increasingly challenging for the country's

tax administration.

The contemporary, globalised economy presents numerous difficulties for tax administrators everywhere. Making sure that people and corporations pay their fair share of taxes is still the fundamental objective of tax administration, but this duty is made more difficult by a number of new and developing problems. There are a few main issues that tax administrators are currently facing.

Tax avoidance, where people or businesses take advantage of legal loopholes to lower their tax obligations, and tax evasion, where taxpayers unlawfully avoid paying taxes, remain significant challenges. Multinational corporations and high-net-worth individuals, in particular, have access to advanced strategies for tax evasion, frequently by employing tax shelters (legal tax avoidance schemes) or concealing money in offshore accounts. Even as governments are increasingly employing cutting-edge technology to identify these kinds of operations, tax evasion is still a worldwide problem that necessitates collaboration between nations as well as ongoing revisions to legal frameworks and enforcement tactics.

In Malaysia, where the economy is intricately linked to both domestic and global forces, the need for a robust and adaptive tax system has never been more critical. The country faces numerous challenges, from the rapid evolution of technology to the complexities of global tax regulations. To meet these challenges, it is imperative to equip our tax officials with the skills, knowledge, and tools they need to excel.

2. The Importance of Capacity Building in Tax Administration

Capacity building in tax administration is more than just a buzzword; it is a cornerstone of our efforts to enhance efficiency, compliance, and revenue collection. Capacity building refers to the process of enhancing the skills, competencies, and capabilities of tax officials, enabling them to perform their duties with greater effectiveness and efficiency. This is especially crucial in Malaysia, where tax administration plays a pivotal role in the national agenda by supporting

economic stability, social equity, and the financing of public goods and services.

The Malaysian tax system, like those in many countries, faces significant challenges. The rapid pace of technological advancement, increasing cross-border transactions, and the complexity of modern business models all pose threats to traditional tax administration methods. Moreover, the public's expectations for transparency, efficiency, and fairness in tax collection are higher than ever. To meet these expectations, we must address the existing gaps in skills, knowledge, and resources within our tax authorities. Tax authorities, responsible for managing complex processes — from tax collection to enforcement — require officials proficient in the latest regulations, administrative procedures, and technological tools to perform effectively. Investing in capacity building ensures that tax officials acquire the necessary skills to streamline processes, minimize errors, and enhance tax collection efficiency.

2.1 Enhancing Efficiency and Compliance

Capacity building is essential for enhancing the efficiency of tax administration. Tax authorities are responsible for managing complex processes, from the collection of taxes to the enforcement of tax laws. To do this effectively, tax officials need to be well-versed in the latest tax regulations, administrative procedures, and technological tools. By investing in capacity building, we can ensure that our tax officials are equipped with the skills they need to streamline processes, reduce errors, and ultimately improve the efficiency of tax collection.

Efficient tax administration plays a crucial role in promoting economic growth by establishing a stable and predictable environment for businesses and investors. When the tax system is perceived as transparent, reliable, and equitable, it increases the likelihood of sustained investment. Furthermore, an efficiently managed tax system helps maintain fair economic competition by providing businesses with a consistent regulatory framework. This consistency reduces the potential for tax evasion, which can otherwise distort market dynamics and create inequalities. Con-

sequently, fostering a culture of tax compliance not only enhances government revenue but also contributes to the overall stability and growth of the economy.

In addition to efficiency, capacity building is crucial for improving tax compliance. A professional-trained workforce is better equipped to detect and address non-compliance, whether intentional or unintentional. This includes identifying potential cases of tax evasion, conducting thorough audits, and providing accurate guidance to taxpayers. By enhancing the capabilities of our tax officials, we can increase compliance rates, reduce the tax gap, and ensure that all taxpayers are contributing their fair share.

2.2 Adapting to a Changing Tax Environment

The tax environment is subject to continual transformation, driven by various factors, including shifts in the global economy, technological advancements, and changes in public policy. These dynamic forces create new challenges for tax administrations, requiring them to remain adaptable and responsive. For example, the expansion of the digital economy, marked by the growth of cross-border e-commerce and the increasing prevalence of digital services, has introduced significant complexities for tax systems. One notable challenge is the need to address Base Erosion and Profit Shifting (BEPS), wherein multinational corporations exploit discrepancies in international tax regulations to minimize their tax obligations, often undermining the fiscal stability of developing economies. Additionally, as global interconnectedness increases, tax authorities are faced with the necessity of reassessing their policies to align with international standards and engage in greater cross-border cooperation.

Furthermore, the rise of digital platforms presents both opportunities and challenges for tax administration. The integration of technologies such as data analytics, artificial intelligence, and blockchain into tax systems has the potential to enhance efficiency, improve tax compliance, and prevent fraud. However, these advancements also demand that tax authorities continuously

update their technological infrastructure and adopt new methodologies for data management and analysis. The growing role of digital platforms not only reshapes the manner in which transactions are conducted but also necessitates the reconfiguration of regulatory frameworks to accommodate these changes.

In many developing nations, a significant proportion of economic activity occurs within the informal sector, which often remains outside the scope of formal taxation systems. This further complicates the task of tax authorities in ensuring broad-based and equitable revenue generation. Strengthening the capacity of tax administrations to effectively engage the informal economy is essential for expanding the tax base and securing sustainable public finances. This process involves initiatives such as targeted outreach and educational campaigns to increase tax awareness, the implementation of simplified tax regimes for micro and small enterprises, and the development of mobile or cashless tax collection mechanisms to ensure that marginalized populations, particularly in rural areas, are included within the formal tax system.

To address these multifaceted challenges, capacity building is critical. It is imperative that tax officials possess the requisite skills, expertise, and resources to effectively navigate the evolving landscape of tax administration. Continuous training, professional development, and the cultivation of an innovative mindset are necessary to ensure that tax personnel remain well-informed about the latest developments in tax policy, technology, and international best practices. By investing in these areas, tax authorities can enhance their responsiveness to emerging challenges and adapt their strategies to maintain the integrity and efficiency of the tax system in an increasingly complex and dynamic global environment.

2.3 Supporting Economic Growth and Development

A well-functioning tax system serves as a foundational element for fostering economic growth and sustainable development. The capacity of a government to effectively collect taxes is

integral to its ability to finance essential public services, including education, healthcare, infrastructure, and social security programs. These public services, in turn, play a critical role in promoting long-term economic prosperity by supporting a skilled and healthy workforce, facilitating the development of infrastructure that underpins economic activity, and ensuring social stability. Consequently, the efficiency of tax administration is paramount, and capacity building is a key factor in enabling tax systems to fulfil these vital functions.

Capacity building within tax administration refers to the process of enhancing the knowledge, skills, and resources of tax officials to ensure the effective implementation of tax policies. Professionally-trained and proficient tax officials are more likely to execute tax policies with accuracy and fairness, manage taxpayer relationships in a transparent and efficient manner, and resolve disputes equitably. This professionalism contributes to the establishment of a stable, predictable, and transparent tax environment, which is essential for fostering investor confidence. A tax system that is perceived as reliable and consistent attracts investment, as investors are more likely to engage in economies where tax practices are perceived to be equitable and free from undue uncertainty or arbitrary decisions.

Furthermore, an efficient and effective tax administration strengthens public trust in the tax system, which is a crucial determinant of voluntary taxpayer compliance. When taxpayers perceive the tax system as transparent, fair, and well-managed, they are more inclined to meet their tax obligations voluntarily, thereby reducing the need for costly and often ineffective enforcement measures. In contrast, a poorly administered tax system may lead to widespread non-compliance, tax evasion, and a depletion of government revenues, which undermines the government's ability to provide essential public goods and services. Therefore, investment in capacity building for tax officials is crucial to ensuring that tax systems remain resilient, adaptable, and capable of addressing the complexities of a rapidly changing economic landscape.

2.4 Promoting Fairness and Equity

A core objective of any tax system is to promote fairness and equity, ensuring that the tax burden is distributed justly across the population. This involves not only levying taxes in a manner that is equitable but also ensuring that individuals and entities contribute to public finances in accordance with their ability to pay. Achieving fairness in taxation is essential for fostering social cohesion, as it ensures that no single group or segment of society bears an undue share of the tax burden, thereby mitigating inequalities and enhancing public trust in the tax system. To effectively meet this objective, capacity building within tax administrations is indispensable.

When tax officials are professional-trained and possess the requisite expertise, they are better positioned to apply tax laws consistently and equitably. Such capacity enables them to assess taxpayers' obligations with greater accuracy, ensuring that taxes are levied according to the law and that all relevant factors, such as income, wealth, and business activity, are taken into account. Moreover, well-equipped tax officials are more capable of identifying discrepancies such as underreporting of income or instances of tax evasion, which can undermine the fairness of the tax system. Effective detection and prevention of such issues are crucial to maintaining the integrity of the tax system and ensuring that all taxpayers are held accountable.

The importance of fairness and equity in taxation is especially pronounced in diverse societies, such as Malaysia, where economic activities, income levels, and regional disparities contribute to a complex socioeconomic landscape. In such a context, capacity building becomes even more critical, as tax officials must navigate the diverse needs and circumstances of different segments of the population. A well-functioning tax administration must be able to design and implement policies that ensure that each group whether low-income households, small businesses, or large corporations pays their fair share without placing disproportionate burdens on any particular sector. Moreover, tax policies must be crafted in a way that addresses the challenges faced by marginalized groups, ensuring that the

system is fair not only in its application but also in its outcomes.

In sum, promoting fairness and equity within a tax system is not a passive goal but one that requires active and ongoing efforts. By investing in capacity building for tax officials, governments can ensure that their tax systems are not only efficient but also just, creating an environment where all citizens are treated fairly, regardless of their economic status. This, in turn, strengthens the legitimacy of the tax system, contributes to social stability, and supports long-term sustainable development.

2.5 Strengthening Institutional Resilience

Capacity building is an essential component in enhancing the resilience and adaptability of tax administration institutions. In an increasingly complex and interconnected global environment, tax authorities are confronted with a diverse array of evolving challenges. These challenges include economic volatility, rapid technological advancements, and shifting societal expectations, all of which necessitate proactive and adaptive institutional strategies.

Addressing these multifaceted challenges requires a sustained investment in the continuous professional development of tax officials. Equipping personnel with advanced skills, comprehensive knowledge, and relevant competencies enhances their capacity to anticipate, respond to, and effectively manage dynamic changes. Such investments not only contribute to the operational efficiency of tax administration but also bolster its ability to remain resilient and relevant in the face of uncertainty.

Furthermore, capacity building must transcend the mere acquisition of technical expertise to encompass the development of leadership and strategic management capabilities. Leadership is a fundamental element of institutional resilience, providing the vision and decision-making acumen necessary to navigate crises, foster innovation, and capitalize on emerging opportunities. By implementing targeted training and development programs, tax administration institutions can cultivate leaders capable of making evidence-based decisions, inspiring organizational

cohesion, and guiding their institutions toward sustainable progress.

Capacity building serves as a critical foundation for strengthening the resilience of tax administration institutions. By fostering leadership excellence and strategic agility, these institutions can effectively navigate challenges while continuing to fulfill their mandate, thereby contributing to national development and economic stability.

3. Training and Development: The Cornerstones of Capacity Building

Bridging existing gaps in tax administration necessitates a strategic emphasis on training and development, which serves as the cornerstone of capacity-building initiatives. Priority should be given to the continuous development of skills to keep pace with the ever-evolving tax landscape. The dynamic nature of this field, characterized by the frequent introduction of new regulations, advanced digital tools, and international standards, demands that tax officials remain adept and well-informed. Such preparedness not only ensures compliance but also mitigates the risk of revenue loss and safeguards the integrity of the tax system.

Tailored training programs play an integral role in this process, as they address the specific requirements of diverse roles within tax administration. Different positions necessitate distinct skill sets; for instance, auditors must possess advanced expertise in forensic accounting, while customer service personnel require exceptional interpersonal and communication skills to engage effectively with taxpayers. Customized training programs enable the delivery of targeted learning experiences, ensuring that each role is equipped with the necessary competencies to perform optimally.

In the context of Malaysia, Malaysian Tax Academy exemplifies a commitment to developing the human capital of the Inland Revenue Board of Malaysia (IRBM) through high-quality training programs aligned with contemporary needs. The academy offers specialized training designed to prepare officers for the unique demands of their respective departments. This in-

cludes six dedicated training centers focusing on Audit, Accounting, Law, Investigation, Information Technology, and Management, which collectively contribute to building a highly skilled and versatile workforce.

Furthermore, leadership and management training must be prioritized as a core component of capacity-building initiatives. As tax administration becomes increasingly complex, the need for strategic leaders who can manage resources efficiently, inspire teams, and drive organizational excellence becomes paramount. Leadership training programs should therefore focus on cultivating strategic thinking, decision-making, and motivational skills, enabling leaders to navigate challenges effectively and foster a culture of innovation and excellence.

Training and development are critical pillars of capacity building in tax administration. By investing in tailored and holistic training initiatives that address both technical expertise and leadership capabilities, tax administrations can build a resilient, adaptive, and forward-thinking workforce that is well-equipped to meet the demands of an ever-changing global landscape.

4. Leveraging Technology for Training

In today's digital age, technology offers unprecedented opportunities to enhance our training efforts. E-learning platforms, for example, provide a flexible and cost-effective way to deliver training to a wide audience. These platforms allow tax officials to learn at their own pace, revisit complex topics, and access the latest training materials from anywhere in the country.

Malaysian Tax Academy has its own e-learning page in providing learning and training for employees. It is called HASLEARN and can be accessed online anywhere. Following the current prevailing trend, the courses available at HASLEARN are fully online or blended learning for employees.

Incorporating simulations and practical exercises into our training programs is another effective strategy. These tools provide hands-on experience in real-life tax administration scenarios, helping our officials to apply their knowledge

in a practical context. For instance, simulations can be used to train auditors in identifying tax evasion techniques, while practical exercises can help customer service representatives improve their problem-solving skills.

Furthermore, training in data analytics is becoming increasingly important. As we move towards a more data-driven approach to tax administration, our officials must be adept at analyzing large datasets to identify trends, detect anomalies, and make informed decisions. Investing in data analytics training will enhance our ability to improve compliance, detect fraud, and increase revenue collection.

5. Collaborative Approaches

Capacity building is not an endeavor achievable through unilateral action. It requires collaboration and cooperation on multiple fronts. Partnerships with educational institutions, for example, can play a crucial role in developing advanced training modules. Universities and research institutions have the expertise and resources to create cutting-edge training programs that address the specific needs of our tax administration. From time to time, the Inland Revenue Board of Malaysia (IRBM) collaborates with local universities such as the National University of Malaysia in study and learning of excise tax.

Regional and international cooperation is equally important. Malaysia is not alone in facing the challenges of modern tax administration. By collaborating with other countries and organizations such as HM Revenue & Customs (HMRC), Organisation for Economic Co-operation and Development (OECD), and International Bureau of Fiscal Documentation (IBFD), we can share best practices, pool resources, and develop joint training programs that benefit all parties involved. International cooperation also allows us to stay abreast of global tax trends and ensure that our training programs are aligned with international standards.

Public-private partnerships can also be highly beneficial. The private sector often has specialized expertise in areas such as technology, data analytics, and risk management. We organised a National Tax Conference in collaboration

with the Chartered Tax Institute of Malaysia. By partnering with private sector experts, we can enhance our training programs and ensure that our tax officials are equipped with the latest skills and knowledge.

6. Measuring the Impact of Training Programs

To ensure the effectiveness of our training efforts, it is imperative to establish clear performance metrics. These metrics should include indicators such as improved compliance rates, reduced processing times, and enhanced taxpayer satisfaction. By regularly measuring these outcomes, we can assess the impact of our training programs and make necessary adjustments to improve their effectiveness.

Feedback loops are another important tool for measuring the impact of training. By gathering feedback from trainees, we can gain valuable insights into the strengths and weaknesses of our training programs. This feedback can then be used to refine our training content, delivery methods, and overall approach to capacity building.

The long-term benefits of investing in training are clear. A professionally-trained workforce is not only more effective in performing its duties, but it also contributes to better policy implementation, increased public trust in tax administration, and ultimately, a stronger and more resilient national tax system.

7. Conclusion

In conclusion, although tax administration faces multifaceted challenges, systematic capacity-building initiatives can effectively mitigate these obstacles. By emphasizing training and development as core components of capacity-building initiatives, tax officials can acquire the requisite skills, knowledge, and tools to excel in their roles. This strategic focus will contribute to the establishment of a tax system that is efficient, transparent, and capable of driving Malaysia's long-term growth and development.

It is imperative for all agencies concerned to collaborate and actively commit to strengthening capacity-building efforts in tax administration.



Such collective action is essential for fostering a tax system that not only addresses present-day challenges but is also agile and resilient enough to capitalize on future opportunities.

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Tax Administration Capacity Building Enhancement in Algeria

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Abstract: This article explores the strategic initiatives undertaken by the Algerian General Directorate of Taxes aiming to enhance the capacity building of its human resources. Recognizing the pivotal role of human capital in administrative efficiency and service delivery, the article highlights the organizational restructuring and training programs, especially in the field of digital transformation. It also examines the tax administration's efforts in identifying training needs, fostering international cooperation, and adopting innovative training methods, which aim to improve employees' skills, foster innovation, and ensure sustainable tax administration modernization, ultimately enhancing service quality and resource mobilization.

Keywords: Capacity building; Tax administration; Human resources; Digital transformation; Training; Strategic planning; International cooperation

1. Introduction

The human resources are considered the cornerstone of any administration or institution, regardless of its activities. On this basis, the General Directorate of Taxes in Algeria has been striving to enhance the capabilities of human resources, which is the strategic choice it has adopted for years and the most effective way to improve the quality of services provided to taxpayers in particular and citizens in general. This, in turn, positively influences the improvement and mobilization of tax resources. From this perspective, this article will discuss the strategy developed by the General Directorate of Taxes in this field and the achievements made as a

result. Before diving into the details, it is worthwhile to present the organization of human resources management at the headquarters of the General Directorate of Taxes.

2. Human Resources Management and Training under the New Organizational Structure of the General Directorate of Taxes

In response to the urgent need to modernize tax administration and update its working methods in line with rapid developments in administrative fields, the Directorate of Staff and Training was es-

tablished under the Executive Decree No. 21-252¹. It is specifically tasked with managing, and monitoring, and evaluating employees, designing training programs, improving skill levels, monitoring and evaluating their implementation, in addition to determining and preparing the system for managing professional careers and competency. This Directorate consists of three sub-directorates:

1) Sub-Directorate of Staff: It is especially responsible for managing employees, ensuring follow-up and evaluation, establishing advisory bodies and social services committees for the structures under the General Directorate of Taxes, maintaining a central registry for employees subject to disciplinary sanctions, and handling administrative and judicial disputes involving employees.

2) Sub-Directorate for Training and Skills Improvement: It is particularly responsible for identifying training needs expressed by structures, preparing basic training programs and improving the level of users, monitoring the implementation of staff training programs and evaluating them, and organizing competitions and professional examinations, in addition to establishing and developing cooperation and exchange relations for pedagogical programs, references and information with training institutions.

3) Sub-Directorate for Competency Enhancement and Career Path Monitoring: It is especially responsible for defining and planning human resources management, controlling the number of employees, conducting forward-looking studies on the development of needs, professions, and skills, and proposing and implementing reference frameworks for professions, professional specializations, and career

paths in collaboration with other structures.

3. The Strategy of the General Directorate of Taxes in Capacity Building Enhancement

The strategy of the General Directorate of Taxes in capacity building enhancement is primarily based on the following four pillars.

3.1 Tax Administration Digitalization Accompaniment

As part of the authorities' efforts to enhance good governance through comprehensive digitization of their services to achieve transparency and administrative efficiency across various sectors, the Tax Administration has embedded this approach by digitizing its sector through the introduction of the "SI-JIBAYATIC"² information system which is designed to complete various stages of tax registration and collection (tax base, control, litigation, etc.), including a training environment for end users. To ensure effective use of this digital technology, in-person training sessions were organized to help employees to better use the digital system and make tax processing faster and more accurate.

In coordination with the Directorate of Information Systems (DSI) at the central level, 55 trainers were mobilized to ensure the training of the relevant staff on the operation of this system at modern tax administration structures, such as Tax Centers (CDI) and Proximity Tax Centers (CPI) across the country, which have been put into service.

Additionally, the General Directorate of Taxes has focused on fully developing the "MASSARI"³ information system thanks to the competency of its employees to cover its needs in terms of managing human resources

1 Executive Decree No. 21-252 of June 6, 2021, organizing the central administration of the Ministry of Finance, Official Gazette No. 47 of June 15, 2021 (official website of the General Secretariat of the Government, www.joradp.dz).

2 "SI-JIBAYATIC" is an Arabic acronym and means "Your Taxes", which is an information system developed to manage all processes of taxation. For more information, please visit the official website of the General Directorate of Taxes (www.mfdgi.gov.dz).

3 "MASSARI" is an Arabic acronym and means "My Career", which is an information system developed to manage the staff career of the Tax Administration.

and budgetary operations. Human resources managers and budget operation staff nationwide benefited from training sessions, both in-person and remotely for the hands-on exploration of this application.

3.2 Acquiring Administrative Skills for Newly Appointed Executives

The General Directorate of Taxes attaches increasing importance to developing administrative skills for newly appointed executives, focusing on enhancing leadership skills and building effective teams. In this context, the General Directorate of Taxes participates in training programs prepared by the training department at the Directorate of Human Resources at the Ministry of Finance level. The participants' evaluations show increased self-confidence and strategic decision-making ability, which have contributed to improved productivity and the development of a positive and innovative work environment.

It is also worth noting that under the initiative of the General Directorate of Taxes, the new officials will benefit from special support during the year of 2025, including training in various fields, particularly the law on public procurement within the framework of the Organic Law on Finance Laws (LOLF), public finance, human resources management and budgetary operations, in order to enable them to achieve effectiveness in the management of external structures in particular.

3.3 Identifying Training Needs

In its quest to achieve optimal job performance, the Directorate of Staff and Training assesses the gap between the necessary skills and the current capabilities of its employees by preparing an analytical card containing the following elements:

- **Job and organizational structures**

analysis: A comprehensive analysis is conducted on the requirements for each job and specialization based on job descriptions and the identification of essential skills for efficient performance.

- **Individual and group performance**

evaluation: Performance audit reports and supervisor feedback are used to identify strengths and weaknesses for each employee.

- **Designing and preparing training programs to develop employees' capabilities:**

Based on evaluation results, specialized training programs are developed, including basic training for new employees and advanced programs (skill enhancement and information updates) focusing on developing leadership and technical competency for current employees.

3.4 Cooperation in Training

The General Directorate of Taxes strives to maintain and develop collaborative relationships and exchanges of educational programs, documents, and information, both locally with specialized training institutions such as the National School of Taxes (ENI)⁴ and the Institute of Customs and Tax Economics (IEDF),⁵ and internationally by enhancing cooperation and partnerships in the tax field with international organizations such as the International Monetary Fund (IMF), World Bank, Organisation for Economic Co-operation and Development (OECD), Belt and Road Initiative Tax Administration Cooperation Mechanism (BRITACOM) and Circle of Reflection and Exchange of Managers of Tax Administrations (CREDAF),⁶ especially in programs related to digitization, training in combating tax fraud and evasion, and other tax-related specializations.

4. Training Types in Tax Administration

The General Directorate of Taxes, with

4 ENI: French acronym "Ecole Nationale des Impôts".

5 IEDF: French acronym "Institut d'Economie Douanière et Fiscale".

6 CREDAF is a non-profit French-speaking non-governmental association, which brings together senior officials of tax administrations from 30 French-speaking countries located on four continents.

respect to the Ordinance No. 06-03,⁷ Executive Decree No. 20-194,⁸ and the memos issued by the General Directorate of Civil Service and Administrative Reform, organizes training courses for employees of the tax administration. These courses aim to manage the professional career of its employees, in addition to continuous improvement and information updating operations, based on the following types.

4.1 Specialized Training

This includes a mandatory long-term training course in taxation field by the law of direct recruitment into one of the following positions based on exams after completing specialized training successfully, including Tax Inspector, Central Tax Inspector and Tax Divisional Inspector.

4.2 Preparatory Training

This is stipulated in the basic law for employees of the tax administration, which the trainees follow before their appointments. It aims to enable the trainees to acquire training knowledge in taxation and carry out the tasks related to the job positions.

4.3 Complementary Training Before Promotion

This is stipulated in the basic law for employees of the tax administration, which the employees follow before promotion. It aims to promote one to a higher position after passing the professional exam or through selection after registering on the qualification list according to the applicable regulations.

4.4 Skills Improvement

This is continuous training for current employees in the form of short-term specialized courses, typically lasting a few days in all areas of tax administration. The goal is to develop employees' skills and update information, specifically in:

- Training in all tax-related specialties;

- Preparatory training for professional exams; and
- Skill enhancement through seminars, forums, and study days.

In this regard, the General Directorate of Taxes, in order to improve the level of its staff, has introduced courses in various specialties. The topics included in the annual training plan were tailored to meet the needs of all departments within the central administration, focusing on modernizing tax administration services to effectively manage tax files across the country. Topics include, but are not limited to, financial accounting system, contract taxation, and organic law on finance laws. These courses represent 80% of the total training programs scheduled for the year, benefiting 1,030 central administration employees.

To strengthen training efforts to improve the skills of a larger number of employees in regional tax departments, the General Directorate of Taxes organized "remote technical training courses" supervised by central administration staff. These courses covered stamp and registration tax and role of tax systems in tax investigation for over 3,000 employees, with plans to cover more topics.

4.5 Advanced Training in International Cooperation

This training type focuses on gaining international expertise and best practices in tax administration. Cooperation in this field helps in knowledge exchange and experience sharing, enhancing the efficiency of the General Directorate of Taxes in performing its tasks and achieving its goals effectively.

4.6 Training Courses in the Field of Combating Tax Evasion and Fraud

The purpose of this course is to enhance employees' capabilities in combating tax evasion, as they will receive training in analyzing taxpayer data and advanced tax investigation

⁷ Ordinance No. 06-03 of July 15, 2006, containing the General Status for the Civil Service.

⁸ Executive Decree No. 20-194 of July 25, 2020, concerning the training and skill improvement of public employees and agents in public institutions and administrations.

techniques, which helps them understand how to apply the laws in practice.

5. Training Implementation System

5.1 In-Person Training

This is the most widely used training method at the General Directorate of Taxes. More than 60% of the training courses are conducted in person. It has many advantages and the most important of which are:

- **Integrating training with operational practices:** In-person training provides the employees with the opportunity to acquire practical skills directly and effectively. Direct interaction with the trainers can help solve any questions or problems that the employees may encounter when applying what they have learned. During training courses, trainers can also provide live examples of their experiences in dealing with tax issues. This allows trainees to understand the laws and regulations more deeply and how to apply them in practice.

- **Encouraging participation and direct interaction:** During in-person courses, trainees are encouraged to interact directly with the trainers through group discussions and exercises, which helps enhance the collective understanding of tax concepts. By asking questions and seeking direct answers from trainers, this contributes to addressing any ambiguity that the employee may encounter while performing his daily duties.

- **Strengthening professional relationships:** On-site training for employees enhances the opportunities for building professional relationships within the tax administration and strengthens the ability to think collectively and solve tax issues innovatively. It also provides an opportunity to exchange ideas and experiences between different employees coming from different tax administrations, whether local or central, which provides them with an opportunity to learn about the different challenges they face in the field.

- **Urgent need to control the “SI-JIBAYATIC” information system:** On-site training in the field of the SI-JIBAYATIC

information system provides an opportunity for trainees to use this system directly under the supervision of the trainer, which reduces errors and increases practical understanding of how to deal with electronic systems, in addition to raising any technical problems they may encounter while working on the system and obtaining immediate solutions, which enhances their efficiency in using this technology in their daily work.

5.2 Online Training

The General Directorate of Taxes has specifically adopted this system since the COVID-19 pandemic to meet the regional geographical dimension and the growing need for training. It is deployed to cover legal training courses and improve the level of employees. Online training has become, from the perspective of the tax administration, one of the most important educational and training methods, because it brings many benefits to employees, including:

- **Flexibility in learning:** Trainees can choose the time and place that suit them to receive lessons and training, allowing them to manage their time effectively without affecting their daily schedules;

- **Cost savings:** Online training reduces travel and accommodation expenses, thereby alleviating the training burdens on employees and supervisors;

- **Access to diverse content:** It provides access to diverse training programs and courses from different sources, which improves the chances of acquiring specialized skills that may not be available locally;

- **Enhancing independence:** It increases employees' ability to learn independently, which helps them develop research, problem-solving, and time management skills;

- **Technology and multimedia interaction:** Using techniques such as videos, live seminars, and interactive tests that enhance the learning experience and make it more exciting and effective;

- **Expanding educational opportunities:** It provides opportunities for employees who cannot participate in in-person training

courses due to geographical restrictions or professional or personal commitments; and

- **Continuous updating of professional expertise:** It ensures that trainees obtain up-to-date practical information.

5.3 Train the Trainers

The new organization of the Tax Administration has led to the development of dedicated programs to train the trainers on a regular basis and to ensure the necessary resources to provide training specializations for all employees, especially in the information systems field. Through these programs, trainers are provided with the necessary advanced knowledge and practical skills to train employees on how to effectively use digital systems, which enhances performance efficiency and ensures the provision of high-quality tax services.

Furthermore, tax administration executives benefited from a course of training the trainers (April 2024) on the exchange of information for tax purposes for the benefit of accounting auditors and those responsible for the exchange of information, which took place within the framework of institutional training activities, entitled “Improving the Performance of the Algerian General Directorate of Taxes in the Field of International Taxes”.

6. Achievements

Thanks to the introduction of remote learning since 2023, the number of employees benefiting from this training increased between 2021 and 2024, reaching 901, 1,004, 5,488 and 6,974 respectively.

Of the 5,488 employees in 2023, 4,242 were trained remotely, representing 77%, compared with 1,246 in-person training, representing 23%. In 2024, the number of employees trained reached 6,974, of whom 4,041 were trained remotely, representing 58%, and 2,933 were trained in-person, representing 42%. Regarding specialized training, the General Directorate of Taxes adopted a specialization approach by professions (such as tax base, tax collection, tax control, and tax disputes), in order to achieve greater effectiveness on the ground.

7. Future Prospects

Future training aims to build a flexible and innovative system to adapt to tax reform and digital transformation.

In this context, the planned training initiatives include:

- Permanently establishing digital training as a strategic choice by developing interactive content tailored to all grades and hierarchical levels. This approach will rely on annual programs covering the entire digital field, including new technologies and methods (project management, development of IT solutions, etc.), as well as tools and equipment (information system security, management of hardware infrastructure and networks, etc.);

- Providing new management and communication skills for the recently appointed senior executives;

- Strengthening continuous and competency-based training to ensure that human resources managers update their knowledge in light of legislative and regulatory changes, and linking it with the promotion plans and career management;

- Raising the level of technical expertise of staff through statutory training and professional development;

- Implementing a mechanism for evaluating the effectiveness of training by linking its outcomes with the performance of individuals and institutions;

- Instilling a sound ethical and professional culture among executives and all staff;

- Promoting distance learning, including initial and supplementary training, to expand access to content, optimize the use of educational resources, reduce costs, and reach a broader audience; and

- Moving toward high-quality specialized training in advanced fields, such as risk analysis, audit of operations, the fight against tax evasion and fraud, and the management of tax litigation.

These prospects are part of a broader effort to develop human capital, aimed at strengthening the professionalism of tax administration staff and ensuring the improvement of tax service quality.

Optimizing the Quality Evaluation System of Tax and Fee Filing in China: Tax Reform Practices from the Perspective of Behavioral Insights

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Abstract: The current quality evaluation system for tax and fee filing, grounded in traditional theories, exhibits a structural bias toward prioritizing outcomes at the expense of processes. This makes it difficult to capture how behavioral characteristics, such as taxpayers' cognitive bias and procrastination, affect filing quality. Adopting a behavioral insights approach grounded in bounded rationality, this article constructs a four-dimensional analytical framework that covers cognitive bias, procrastination, situational complexity, and social norms. It then applies this framework to a large-sample panel dataset from Zhongshan city, Guangdong Province — a pilot city for the reform of tax and fee filing quality evaluation. The empirical results show that cognitive bias is the primary factor affecting filing quality; procrastination and situational complexity significantly increase filing errors; and the positive effects of social norms have not yet been fully activated. Drawing on local reform practices across China, the article further demonstrates the effectiveness of nudge-based management. It contributes to the literature by innovating theoretical assumptions, constructing a multi-dimensional evaluation model, and providing evidence from localized applications. Furthermore, it proposes several recommendations for optimizing the system, such as integrating behavioral insights into data-driven tax governance, facilitating proactive tax credit restoration, refining industry-specific rules, and promoting industry benchmarking and peer-based discipline. These suggestions provide a reference for reorienting the tax filing quality evaluation system toward one focusing on both process and behavior.

Keywords: Tax and fee filing; Quality evaluation; Behavioral insights approach; Nudge-based management; Data-driven tax governance; Tax administration

1. Introduction

Generally speaking, tax filing management is the starting point of tax administration. In practice, the quality evaluation of tax and fee filing serves not only as an important benchmarking tool for assessing the effectiveness of compliance guidance, but also as a powerful lever for upgrading compliance-oriented filing management. Since 2018, Chinese tax authorities have vigorously implemented a range of initiatives, including form simplification, digital empowerment, intelligent pre-filing, and compliance guidance, contributing to systematic improvements in the quality of tax and fee filing. In January 2025, at the National Tax Work Conference, Hu Jinglin, Commissioner of the State Taxation Administration (STA) of China, called for thorough implementation of the “Foundation Enhancement Project” of tax and fee administration in the context of digital transformation, and actively building a new administration model that starts with the comprehensive optimization of tax filing management. In April 2026, “the Report on the Construction of a Law-Based Government by the State Taxation Administration for 2025” further clarified that it would steadily advance the “Foundation Enhancement Project”, take tax filing management as the starting point, optimize compliance guidance ex ante, improve the rules for filing verification and comparison in-process, and pilot quality evaluations ex post.

However, certain limitations still exist in the area of the current quality evaluation of tax and fee filing in view of too many outcome-oriented indicators such as final compliance rates and supplemental tax payment rates applied, failing to capture behavioral characteristics during the filing process — such as cognitive bias and procrastination. The root of this “outcome-over-process” tendency lies in a lag in theoretical support. For a long time, the academic community has been accustomed to using the audit and penalty game model (Allingham et al., 1972) to understand tax compliance, assuming taxpayers are fully rational economic agents. This very approach neglects the systematic behavioral biases that arise under bounded

rationality — a key endogenous variable affecting filing quality. By contrast, behavioral economics research suggests that taxpayers are not fully rational economic agents, but social actors influenced by cognition, psychology, and social norms.

The behavioral insights approach offers a systematic remedy here. Rather than relying on the assumption of perfect rationality, it reframes tax compliance as a behavioral process shaped jointly by cognition, emotion, and social context. This conceptual shift allows policy tools aimed at improving filing quality to extend beyond traditional post-filing audits to pre-filing nudges. The effectiveness of this approach has been widely validated. OECD (2021) shows that about one-third of FTA members have already embedded it into their tax administration practices, using low-cost interventions such as information salience and choice architecture to enhance compliance. A follow-up report (OECD, 2025) further signals its trajectory toward mainstream adoption. China’s tax authorities have introduced an innovative “automatic tax calculation” service at the filing stage, which enables automatic data extraction, tax computation, and return pre-population across a wide range of tax and fee categories, and thus helps taxpayers prevent filing errors and reduce compliance costs through process optimization (Lian Qifeng, 2025). In terms of the existing research, relevant discussions remain largely fragmented and qualitative, lacking empirical testing grounded in systematic data. This article seeks to bridge this gap. By reviewing the behavioral insights literature and conducting an empirical analysis of value-added tax (VAT) filing data from Zhongshan, a pilot city for the reform of tax and fee filing quality evaluation, it aims to provide both theoretical references and practical recommendations for improving the quality evaluation system.

2. Theoretical Analysis and Research Hypotheses

2.1 Core Theoretical Foundations

The behavioral insights approach provides

an important analytical framework for tax compliance research. It breaks with the assumption of complete rationality in traditional tax compliance models and is instead grounded in bounded rationality. While fully respecting individual freedom, it advocates reducing cognitive and behavioral biases through the scientific design of choice architecture, thereby guiding taxpayers toward filing decisions that better align with their own long-term interests. In doing so, it provides an important analytical framework for addressing the “tax compliance puzzle”. This approach integrates three mutually reinforcing theoretical pillars, together forming a complete framework that runs from identifying behavioral biases to precise interventions and then to long-term governance.

2.1.1 Prospect theory and dual-system theory: revealing the cognitive roots of behavioral biases

Kahneman et al. (1979) proposed prospect theory, showing that decision-making under risk is characterized by loss aversion and reference dependence. Kahneman’s (2011) dual-system theory divided cognition into intuitive System 1 and rational System 2. In complex filing scenarios, taxpayers frequently rely on intuitive processes, which can result in systematic biases.

2.1.2 Nudge theory and its tax applications: providing actionable intervention strategies

Nudge theory, proposed by Thaler et al. (2008), advocates guiding compliance behavior in a low-cost, high-acceptance manner through choice architecture designs such as default options and loss framing. Chetty et al. (2009) demonstrated that the salience of tax information directly affects taxpayers’ perceptions and decision quality, and that hidden or complex information displays are likely to trigger filing errors.

2.1.3 The slippery slope framework: expanding the governance dimensions of tax compliance

Kirchler et al. (2008) distinguish between enforced compliance (based on deterrence) and voluntary compliance (grounded in trust). They argue that over-reliance on coercion risks crowding out intrinsic motivation, and that

tax authorities must therefore strike a dynamic balance between enforcement firmness and a service-oriented approach to achieve sustained improvements in compliance.

2.2 Mechanisms Affecting Filing Quality

Behavioral bias is a systematic deviation shaped by cognitive, psychological, situational, and social-normative factors, and it operates specifically through the following mechanisms.

2.2.1 Cognitive bias mechanism

Constrained by information asymmetry and cognitive resources, taxpayers find it difficult to fully grasp the details of the tax system, often relying on heuristic decision-making and thereby generating systematic bias (Li Wen, 2021). When tax information lacks salience or taxpayers have insufficient cognitive capacity, rational inattention and misfiling occur frequently (Liu Hua et al., 2017; Chen Yixin et al., 2024). The dual-system theory shows that in complex filing environments, taxpayers tend to activate the intuitive System 1, leading to deviations such as improper treatment of input tax items and errors in item classification across reporting fields driven by hasty judgments. In VAT filing, this manifests as a high historical tax-filing error rectification rate and abnormal input-VAT deduction reversal ratio.

2.2.2 Procrastination mechanism

Loss aversion leads taxpayers to perceive tax payments as a “loss”, triggering avoidance emotions and a persistent tendency to delay filing (Yue Shumin et al., 2026). As the VAT deadline approaches, increasing anxiety causes many filers to rely on intuition and historical experience, leading to a significant decline in accuracy (Benzarti, 2021). In the context of monthly VAT filing, concentrated filing on the deadline day and the last three days is a typical manifestation of procrastination, and the error rate for returns filed during this period is significantly higher than that of timely filers.

2.2.3 Situational constraints mechanism

Frequent changes in tax laws, complex columns in tax returns, and limited adoption of intelligent pre-filing have raised compliance costs

(Wang Jing et al., 2022). Cognitive Load Theory posits that when the presentation of information exceeds the working memory capacity, extrinsic cognitive load directly erodes decision quality (Sweller, 1988). The OECD (2021) also identifies cognitive overload caused by poor information architecture as an important cause of filing errors. Under this mechanism, situational constraints trigger an adaptive bias; even taxpayers with compliance intentions may commit unintentional errors due to excessive situational demands.

2.2.4 Social norm deficiency mechanism

Taxpayers are subject to herd effects, with compliance decisions being deeply influenced by the perception of peer group behavior. The slippery slope framework proposed by Kirchler et al. (2008) suggests that social norm pressure promotes voluntary compliance; conversely, if widespread non-compliant filing in the industry is perceived, the intrinsic constraints of compliance tend to weaken. The compliance level within the same industry constitutes an individual reference frame; the better the industry compliance climate, the more compliant the individual is. In contrast, the absence of social norms can induce or amplify filing bias through conformity mechanisms (Cui Yafei, 2019).

Based on the foregoing theoretical framework, this article proposes the following hypothesis: Taxpayers' behavioral biases during the filing process are significantly negatively associated with the quality of tax and fee filing.

3. Empirical Study Using VAT Filing Data from Zhongshan City, Guangdong Province

This article utilizes the full monthly VAT filing dataset for general VAT taxpayers from January 2023 to April 2026 in Zhongshan city, Guangdong Province. A two-way fixed effects panel model is adopted to identify the causal relationship between behavioral factors and filing quality, and to quantify the marginal effects of behavioral biases across various dimensions. Multiple robustness tests are conducted to ensure the reliability of the conclusions.

3.1 Sample Selection and Definition of Variables

3.1.1 Sample and data sources

All data used in this article are derived from the tax collection and administration system, combining multiple sources including the main and detailed forms of VAT return, basic enterprise information, and tax violation registration forms. The dataset comprises 3,296,700 valid observations, spans 40 months, and encompasses entities of different scales, industries, and credit ratings, thereby demonstrating strong regional representativeness and statistical power.

3.1.2 Dependent variable

The core dependent variable is procedural compliance in filing, a continuous variable normalized to the $[0,1]$ interval and positively oriented, constructed using data on canceled filings, abnormal corrections, and the cumulative number of corrections. Higher values correspond to improved filing quality.

3.1.3 Explanatory variables

Drawing on the behavioral insights approach, this article constructs a set of explanatory variables across four major dimensions — cognitive bias, procrastination, situational complexity, and social norms — to systematically capture irrational behavioral characteristics during the tax filing process.

The cognitive bias dimension, grounded in dual-system theory, is measured by the historical tax-filing error rectification rate, grade-A tax credit rating, and abnormal input-VAT deduction reversal ratio, to capture the judgment biases induced by intuitive System 1 thinking.

The procrastination dimension stems from the loss aversion hypothesis of prospect theory and constructs a temporal gradient of time pressure using three indicators: filing in the last three days, deadline-day filing, and off-hours filing. The first two respectively capture overall procrastination and the additional quality deterioration due to extreme haste, while the third captures cognitive impairment under non-routine conditions.

The situational complexity dimension is grounded in the Cognitive Load Theory, using business complexity to measure information

overload induced by the diversity of tax-related matters, and using business volatility to reflect the adaptive bias caused by environmental uncertainty.

The social norms dimension is based on the slippery slope framework and the herd effect, using the industry tax-compliance norm to capture the spillover effects of peer compliance, and using high-visibility enterprises to examine how social oversight translates into compliant filing.

Together, these four dimensions form a multi-layered, nested explanation of the sources of filing bias, ranging from internal psychological factors to external situational influences.

3.2 Model Specification

A two-way fixed effects panel model is constructed to isolate the independent effects of various behavioral biases on filing quality while controlling for individual heterogeneity and common time shocks:

$$Process_{it} = \beta_1 Cog_{it} + \beta_2 Psy_{it} + \beta_3 Sit_{it} + \beta_4 Soc_{it} + \gamma X_{it} + \lambda_t + \mu_i + \varepsilon_{it}$$

Where, $Process_{it}$ measures taxpayers' procedural compliance in filing; Cog_{it} measures taxpayers' cognitive bias, including the histori-

cal tax-filing error rectification rate, tax credit rating A, and the abnormal ratio of input-VAT deduction reversal; Psy_{it} measures taxpayers' procrastination, including filing in the last three days, filing on the deadline day, and filing during off-hours; Sit_{it} measures filing complexity, including business complexity and business volatility; Soc_{it} measures the social norms faced by taxpayers, including industry compliance climate and high-visibility enterprises. λ_t represents the monthly fixed effects, controlling for macro time-varying impacts; μ_i represents individual fixed effects, absorbing heterogeneity that does not change over time; ε_{it} is the random error term. All regressions use robust standard errors clustered at the taxpayer level.

3.3 Benchmark Regression Results

With the exception of tax credit rating A and high-visibility enterprises, all core explanatory variables are significant at the 1% level, fully supporting the central hypothesis that systematic behavioral biases significantly reduce tax and fee filing quality. The benchmark regression results are reported in Table 1.

Table 1: Benchmark regression results

Dimension	Variables	Procedural compliance in filing
Cognitive bias	Historical tax-filing error rectification rate	-0.062*** (0.00056)
	Tax credit rating A	-0.001 (0.00061)
	Abnormal input-VAT deduction reversal ratio	-0.004*** (0.00060)
Procrastination	Deadline-day filing	-0.017*** (0.00027)
	Filing in the last three days	-0.012*** (0.00011)
	Off-hour filing	-0.005*** (0.00010)
Situational complexity	Business complexity	-0.024*** (0.00071)
	Business volatility	0.0004*** (0.00005)
Social norms	Industry tax-compliance norm	0.005*** (0.00114)
	High-visibility enterprises	-0.001 (0.00270)
Constant term		0.991*** (0.00112)

Note: ***represents significance at the 1 percent level. Robust standard errors in parentheses.

3.4 Analysis of Benchmark Regression Results

Based on the benchmark regression results in Table 1, the analysis is as follows.

With respect to cognitive bias — the primary determinant of filing quality — the historical tax-filing error rectification rate yields a coefficient of -0.062, underscoring pronounced cognitive inertia among taxpayers. This persistence of past non-compliance in shaping current filing quality corroborates the dual-system theory proposition that taxpayers tend to revert to established operational routines. Notably, the tax credit rating A variable fails to achieve statistical significance at the 10% level ($p=0.214$), revealing the limited discriminatory power of the traditional, outcome-oriented credit system in capturing filing quality and suggesting an urgent need to refine credit metrics. Conversely, although modest in magnitude (-0.004), the coefficient on the abnormal input-VAT deduction reversal ratio is highly significant, indicating that insufficient salience of tax information triggers rational inattention.

Turning to procrastination effects, this behavioural tendency exerts a significant and persistent negative impact on filing quality. Filing in the last three days yields a coefficient of -0.012, indicating that it reduces the procedural compliance score by an average of 0.012 near the deadline. The coefficient on filing on the deadline day is -0.017 and is significant at the 1% level, which means that, even after controlling for the overall procrastination effect of the last three days, filing on the deadline day is associated with an additional significant deterioration in filing quality. The coefficient on filing during off-hours is -0.005. Taken together, the above three variables delineate a temporal gradient: The closer to the deadline, the more pronounced the deterioration in filing quality. This pattern is highly consistent with the loss aversion mechanism of prospect theory: When taxpayers encode tax payments as a “loss”, avoidance emotions arise, and anxiety intensifies as the deadline approaches. This leads to hasty decisions driven by intuitive System 1 processing and causes a sharp increase in the error rate. These findings provide

a clear basis for progressive reminders and graded interventions.

With respect to situational complexity, this dimension exerts a significantly negative impact on filing quality. The coefficient on business complexity is -0.024, which indicates that the more complex the tax-related affairs, the heavier the cognitive load, and the higher the probability of errors, providing direct evidence for the Cognitive Load Theory. The coefficient on business volatility is 0.0004 and statistically significant, but its economic significance is negligible, which may reflect that enterprises with high volatility are more inclined to rely on professional agents or strengthen internal audits, thereby partially offsetting the cognitive load brought by volatility.

As for social norms, while they exert a positive influence via peer effects, their binding force remains constrained. The coefficient on industry tax-compliance norm is 0.005, confirming that improvements in industry compliance generate positive spillover effects, which is consistent with the theoretical expectations of the slippery slope framework. However, the coefficient on high-visibility enterprises is only -0.001 and statistically insignificant, providing no statistical evidence of a significant association between high-visibility enterprises and filing standardization; therefore, the transmission mechanism of social oversight to filing behavior still needs to be further activated. In other words, this indicates that the social norms mechanism has not been fully activated at the current stage. Consequently, the key breakthrough for unlocking governance effectiveness is how to precisely channel social norm pressure into the filing process.

3.5 Robustness Tests

To rule out the effects of variable measurement bias, reverse causality, and related issues on the benchmark regression results, this article conducts two robustness tests. One test excludes the indicator of deadline filing and re-estimates the model using only filing in the last three days as the proxy variable for procrastination; its coefficient remains significantly negative ($\beta = -0.015$, $p < 0.01$), and the core conclusions

remain robust. The other lags the core explanatory variables by one period, substituting one-period lagged terms for the historical tax-filing error rectification rate and business complexity, respectively, to alleviate the potential reverse

causality. The signs of the coefficients for all variables are completely consistent with the benchmark regression, and the significance levels remain largely unchanged. The results of the robustness tests are reported in the table below.

Table 2: Robustness test results

Variable	(1) Exclusion of last-day filing	(2) Lagged by one period
Historical tax-filing error rectification rate of lagged one period		-0.041***
Tax credit rating A	-0.001	-0.001
Abnormal input-VAT deduction reversal ratio	-0.004***	-0.004***
Deadline-day filing		-0.017***
Filing in the last three days	-0.015***	-0.012***
Off-hour filing	-0.005***	-0.005***
Business complexity of lagged one period		-0.004***
Business volatility	0.000***	0.001***
Industry tax-compliance norm	0.005***	0.004***
High-visibility enterprises	-0.001	-0.002
Historical tax-filing error rectification rate	-0.062***	
Business complexity	-0.024***	
Constant term	0.991***	0.990***

Note: ***represents significance at the 1 percent level.

3.6 Summary

In summary, the above empirical analysis shows that systematic behavioral bias under bounded rationality does significantly reduce tax and fee filing quality, and the core hypothesis is strongly supported by the empirical evidence. These findings provide solid empirical support for constructing a quality evaluation system for tax and fee filing from the perspective of behavioral insights.

4. Behavioral Insights Pilots in China

In recent years, as part of the “Foundation Enhancement Project”, tax authorities across China have applied behavioral insights to develop a process-oriented system that evaluates and

improves filing quality through targeted interventions. This system has effectively addressed a key weakness of traditional approaches: A tendency to emphasize outcomes and focus on post-filing audits, while overlooking behavioral factors and early-stage guidance. It has also provided a valuable reference for tax administrations worldwide. The approach is structured around four innovative dimensions: addressing cognitive biases, reducing procrastination, simplifying situational complexity, and reinforcing social norms.

4.1 Addressing Cognitive Biases Through Light-Touch Interventions

Through light-touch interventions (e.g., enhancing information salience, simplifying rules, and using intelligent pre-filed forms), tax

authorities reduce filing errors arising from taxpayers' cognitive limitations. Leveraging the tax administration and interaction platform, Dongcheng District Office, Beijing Municipal Tax Service, STA, delivers targeted tax service guidance that combines behavioral data such as taxpayers' learning motivation and tutoring preferences, which significantly reduces the filing error rate of complex forms. Zhejiang Provincial Tax Service, STA, developed an industry-specific compliance guide ("one county, one industry, one handbook") to address biases in taxpayers' understanding of key industry policies. Guangdong Provincial Tax Service, STA, piloted an intelligent self-check function for tax filing. In its first four months of operation, the tool was used over 7.2 million times by taxpayers. More than 1.3 million unique taxpayers received error correction alerts, helping them self-correct their filings. Jiangsu Provincial Tax Service, STA, has built a multi-tax intelligent audit system with a set of risk indicators. The system automatically scans for filing risks and pinpoints specific problematic fields, achieving an accuracy rate of over 90% in risk identification. It effectively reduces filing errors caused by information asymmetry and cognitive oversights.

4.2 Reducing Procrastination

Drawing on nudge principles such as loss aversion and temporal framing, these measures help taxpayers overcome irrational procrastination in tax filing. Shanghai Municipal Tax Service, STA, has established per-taxpayer profiles of policy entitlements. Using these profiles, it sends targeted reminders for overdue filings and missed tax benefits. It has also optimized tax credit repair mechanism, raising the credit restoration rate to 100% for taxpayers who make short-term corrections. Rongchang District Office, Chongqing Municipal Tax Service, STA, uses intelligent outbound calling technology to send targeted reminders to taxpayers with high tax credit ratings who have overdue filings, urging them to restore their credit status and effectively helping them avoid credit-rating downgrades. Beihu District Office, Chenzhou Tax Service, STA, has built a multi-dimensional data verification model that can identify filing risks within one hour and complete closed-loop pro-

cessing within 24 hours, substantially reducing the filing correction rate and thereby effectively mitigating the decline in filing quality caused by procrastination-driven last-minute filing surges.

4.3 Simplifying Situational Complexity

To address cognitive overload arising from complex tax systems, diverse business operations, and intricate scenarios, tax authorities have introduced industry-customized services and cross-departmental data empowerment. The Guangdong Provincial Tax Service has launched a digital intelligence-driven tax source perception portal to monitor the alignment between tax filings and actual business operations. By enhancing dynamic detection of complex reporting scenarios, the initiative enables precision taxpayer profiling and tailored compliance guidance. Henan Provincial Tax Service, STA, has built a comprehensive tax administration indicator system, broken down data barriers across multiple stages and constructed a coordinated, whole-chain administration mechanism, effectively reducing unintentional filing errors in complex tax service scenarios.

4.4 Reinforcing Social Norms

By leveraging industry role models, credit-based incentives, and intermediary regulation to reinforce social norms, tax authorities aim to enhance industry-wide compliance. Guangdong Provincial Tax Service, STA, has developed an innovative system module called "Tax Agency Filing Quality," which provides a one-stop display of the filing quality of tax intermediaries' own returns, the returns they file for clients, and high-frequency practice risks. Zhongshan Tax Service, STA, relies on this module to accurately identify groups of tax intermediaries with low compliance, carries out centralized training and warning education, and thereby generates the spillover effect of "regulating one intermediary well to standardize a batch of enterprises," effectively improving the agency filing capability in the jurisdiction. Tianjin Municipal Tax Service, STA, has strengthened industry supervision and professional ethics education for tax intermediaries, substantially reducing the error rate in agency filings and reducing the industry-wide filing error rate by 90%. Tax authorities in Jilin Province formulated dedicated compli-

ance guidelines for the cross-border tourism industry to correct common filing misconceptions, helping standardize filing practices in the industry while ensuring that policy benefits are effectively delivered. Tax authorities in Zhejiang Province further deepened tax-bank interaction and the cultivation program for Grade A taxpayers, using credit-based incentives to create a positive group effect that guides taxpayers toward proactive compliance, thereby weakening herd-style non-compliance.

5. Theoretical Contributions and Research Implications

5.1 Theoretical Contributions

First, this study re-examines the theoretical foundations of tax and fee filing quality evaluation. By moving beyond the conventional assumption of perfect rationality inherent in traditional compliance theories, it adopts the bounded rationality framework central to the behavioral insights approach. This shift establishes four systematic behavioral biases — namely cognitive bias, procrastination, situational constraints, and deficient social norms — as core endogenous determinants of filing quality. Consequently, the study addresses the longstanding inability of traditional theories to explain irrational filing behaviors or resolve the “tax compliance puzzle”, effectively transitioning the evaluation paradigm from a purely outcome-oriented focus to one integrating both process and behavioral dimensions.

Second, this study develops a behavioural-dimension anchored evaluation framework, filling the gap in fragmented domestic research. It systematically integrates prospect theory, dual-system theory, nudge theory, and the slippery slope framework to build a four-dimensional filing quality evaluation system. Through large-sample empirical analysis of the marginal effects of various behavioral biases, it demonstrates that systematic behavioral bias under bounded rationality does significantly reduce tax and fee filing quality. This fills the domestic gap in the fragmented research on the behavioral dimension of tax and fee filing quality evaluation and constructs a new paradigm integrating theory, empirics, and practice, providing a founda-

tional framework for further optimizing the quality evaluation system for tax and fee filing in China.

Third, this study advances the localized application of the behavioral insights approach within tax administration. By integrating tax practice across multiple regions and industries, it empirically validates the efficacy of low-cost behavioral intervention in governing tax and fee filing. The findings demonstrate that such interventions can serve as viable alternatives to rigid regulatory measures, thereby offering robust theoretical grounding and empirical evidence for innovating digital tax governance models and achieving sustainable tax compliance.

5.2 Research Implications

Drawing on theoretical research and practical testing grounded in the behavioral insights approach, the scientific design of management and service measures to resolve the core factors affecting filing quality is key to implementing filing quality evaluation.

At the technical level, compliance guidance should be integrated with behavioural insights to reduce cognitive load. Empirical evidence shows that the historical tax-filing error rectification rate has a significant negative impact on filing quality, and the effect of the tax credit rating A label is limited, indicating that evaluation alone is insufficient to eliminate cognitive inertia. Compliance guidance should be continuously optimized by using digital tools such as intelligent pre-filing, automatic verification, prompts and reminders, and risk profiling to improve the filing choice architecture, highlight tax information, visualize complex rules, and therefore reduce filing errors arising from information asymmetry and rational inattention at the source. For instance, Guangdong Province’s enhancement of prompts and reminders when filing quality problems occur verifies the effectiveness of embedding behavioral intervention into compliance guidance.

At the institutional level, tax credit restoration mechanisms should be front-loaded by leveraging loss aversion. Empirical evidence shows that procrastination is an important factor leading to the decline in filing quality, presenting a temporal gradient where “the closer to the

deadline, the more significant the quality decline.” Drawing on the experience of Shanghai, Rongchang District and other localities, policy-makers should maximize the proportion of credit repair available for short-term post-breach correction, establish a gradual restoration mechanism, and trigger targeted reminders immediately after the filing period ends, thereby prompting taxpayers to make timely corrections through a loss-framed design in which non-restoration leads to loss. The combination of flexible incentives and rigid constraints can effectively curb the quality deterioration caused by procrastination-driven last-minute filing surges.

At the industry level, refined sector-specific rules should be promoted to ease cognitive overload. The significant negative impact of business complexity on filing quality indicates that complex tax systems and filing rules are important external causes of unintentional errors. Differentiated verification rules, filing procedures, and operational guidelines should be tailored to the operational characteristics and tax-related compliance challenges of different industries so as to lower the administrative barriers to tax compliance in complex scenarios. Cases such as Shenzhen’s tiered guidance for the gold and jewelry industry demonstrate that industry-specific rules can effectively mitigate adaptation bias caused by situational constraints.

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1 January 2026

BRITACEG Delivers Fruitful Training Outcomes in 2025

In 2025, the Belt and Road Initiative Tax Administration Capacity Enhancement Group (BRITACEG), through its six Belt and Road Initiative Tax Academies (BRITAs) in Yangzhou, Beijing, Macao, Astana, Riyadh and Algiers, officially launched a total of 44 training programs. Centering on core themes including transfer pricing regulation, international tax transparency, digital transformation of tax administration, etc., these programs have attracted participation from more than 2,300 tax officials across multiple BRI jurisdictions.

The series of training activities have effectively improved the professional competency and practical governance capacity of tax officials in participating jurisdictions, further strengthened international tax exchange and coordination under the BRI framework, and earned wide recognition and positive feedback from stakeholders.

12-17 January 2026

BRITACEG Delegation Pays Official Visits to BRITA-Riyadh and BRITA-Algiers

To further promote the development of BRITACEG and regional BRITAs, a BRITACEG delegation paid an official visit to BRITA-Riyadh and BRITA-Algiers from 12 to 17 January 2026. During the visit, the two BRITAs shared their valuable experience in advancing tax training development. Both sides also held in-depth exchanges on resource sharing and areas for future cooperation and development.

The visit further consolidated the cooperative ties between BRITACEG and regional BRITAs, deepened pragmatic communication on tax capacity building and training cooperation, and laid a solid foundation for advancing high-quality development of the Belt and Road Initiative Tax Administration Cooperation Mechanism (BRITACOM).

15 January 2026

BRITA-Algiers Launches Themed Training Program

On 15 January 2026, BRITA-Algiers, with the support of BRITACEG, successfully hosted a training program themed Building a Growth-friendly Tax Environment. Invited speakers including experts from the Ministry of Finance of Algeria, the General Directorate of Taxes of Algeria, and the State Taxation Administration of China (STA) delivered professional lectures to participants.

The training gave full play to the resource advantages of BRITACOM, facilitated experience sharing and professional capacity building among tax officials, strengthened practical tax training cooperation, and further enriched the capacity-building outcomes of the BRITA network under BRITACOM.

28 January 2026

BRITACOM Successfully Hosts 2026 Capacity Building Programme Briefing

On 28 January 2026, BRITACOM successfully held a briefing session for its 2026 BRITACEG training programs.

The event convened over 200 participants, including tax officials and experts from 22 jurisdictions, representatives from various BRITAs, universities, and prospective trainees. Attendees were engaged in in-depth discussions on training arrangements and application procedures.

This briefing marked BRITACOM's inaugural event of 2026. Moving forward, BRITACOM will continue to organize seminars, exchange activities, and training programs, further strengthening its role as a robust platform for communication and collaboration among BRI jurisdictions.



19 March 2026

Virtual Meeting Successfully Maps Out 2026 Plan for BRITACOM Product Portfolios

On 19 March 2026, the BRITACOM successfully convened a virtual meeting to discuss the 2026 work plan for its two flagship initiatives: the Tax Administration Product Portfolio (TAPP) and the Taxpayer Service Product Portfolio (TSPP). The meeting brought together representatives from BRITACOM Member Tax Administrations, Observers, Advisory Board members, and members of TAPP and TSPP working groups to review progress, introduce new products, and set the course for the work in 2026 about the two product portfolios.



14-15 April 2026

The BRITAs' Roundtable 2026 Successfully Concluded in Hengqin

From 14 to 15 April 2026, BRITACOM successfully held the BRITAs' Roundtable in the Guangdong-Macao In-Depth Cooperation Zone in Hengqin of China. Representatives from six BRITAs attended the event. Meanwhile, officials from tax administrations of relevant jurisdictions, as well as representatives from international organizations and BRITACEG experts, participated in the event either on-site or online.



As an important gathering of BRITAs, this event is a significant milestone in the progress of BRITACOM. BRITACOM expects more in-depth exchanges and closer cooperation among all parties to jointly promote the sustainable development of BRITAs and build a stronger global tax capacity development network.

19 May 2026

1st Launch Event of BRITACOM TAPP and TSPP Products in 2026

The 1st Launch Event of BRITACOM TAPP and TSPP Products was held on 19 May 2026. At the event, the TAPP and TSPP each unveiled two products. Under the TAPP framework, the launched products were Secure and Unified Identity Verification and Strengthening Declaration Management and Improving Declaration Quality. Under the TSPP framework, the released products included the Cornerstone of Building a Harmonious Tax Environment: Taxpayer Service Philosophy and Institutional Guarantees for Taxpayers' Rights and Interests.

This event marks an important milestone in the systematic development and practical implementation of BRITACOM product portfolios. It further supports cross-border tax

cooperation and lays a solid foundation for advancing high-quality tax governance and practical collaboration among BRI jurisdictions. Looking ahead, two additional product launch events will be held successively in June and July to continuously expand and upgrade BRITACOM product portfolios.

24-30 May 2026

Advanced Seminar on Hot Issues in Tax Reform Held by BRITA·Yangzhou

BRITA·Yangzhou hosted an Advanced Seminar on Hot Issues in Tax Reform on 24-30 May 2026, which was attended by 21 tax officials from 7 jurisdictions. Organized under BRITACOM, the seminar included lectures by experts from BRITACEG and the STA, interactive discussions, site visits, and cultural activities. The lectures covered key hot topics such as the Two-Pillar solutions, the prevention and resolution of cross-border tax disputes, and the application of artificial intelligence in tax governance. This seminar served as an important platform to enhance the professional capabilities of tax officials and promote in-depth tax cooperation and experience sharing among relevant parties of BRITACOM.



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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