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Paying Taxes 2020

The changing landscape of tax policy and administration across 190 economies

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Foreword

Over the 15 years that *Paying Taxes* has been comparing tax systems globally, we have seen substantial improvements in the ease of paying taxes, driven largely by advances in technology. As with many other areas of society, progress has not been universal or uniform, and this is reflected in the results. Even though many of the top-line indicators that measure the ease of paying taxes have remained relatively stable over time, where economies have been unable to implement technology successfully, they continue to risk missing opportunities to make it easier and quicker for entities to comply with tax obligations and for governments to monitor that compliance. As before, we have used a medium-sized case study company as the basis for these comparisons and findings.

The reasons for economies falling behind, whether a lack of investment or a lack of political will, are increasingly well understood. Informed individuals may well ask, "If other governments can progress, why can't ours?" This research, which is part of the World Bank's *Doing Business* study, aims to look at the challenges governments face when they implement new technology, and the benefits of different approaches to making paying taxes easier and more transparent. What is clear is that no one policy fits all, and it takes time for governments and businesses to adjust. In this publication, we highlight some of the different approaches taken and the related outcomes.

For all governments, the administration of tax is a priority. Paying tax is one of the most universal, frequent and potentially contentious interactions that citizens have with their government. It can affect, and be affected by, an individual's broader perception of government. If paying taxes is seen as easy, straightforward, fair and robust, then individuals and businesses may associate those traits with their government more broadly. If citizens can see how their taxes are used and if they recognise the corresponding value generated for society, they may be more likely to comply with their tax obligations.

Ease of filing and paying tax. This year, at a global level, we have seen modest improvements in the administrative ease of paying taxes. In certain economies, however, digital technologies have led to more substantial improvements.

For example, in both Brazil and Vietnam, the time to comply with tax obligations fell by 23% between 2017 and 2018, and in Côte d'Ivoire, the Kyrgyz Republic and Israel, the number of payments indicator was reduced by more than half.

Value-added tax (VAT) is becoming a tax of choice to help governments generate revenue, and we will discuss various strategies for its implementation and their effects. For example, we have seen the introduction of VAT in Saudi Arabia and the United Arab Emirates as both economies seek to broaden their tax bases and reduce reliance on natural resource revenues. Both countries have implemented online systems for filing and paying VAT, in line with best practice.

In a separate chapter, we discuss the different types of automation and software used for tax compliance that are currently available, how these are being implemented and the ways in which they can reduce the administrative burden of filing and paying taxes.

Total Tax and Contribution Rate. Globally, the Total Tax and Contribution Rate (TTCR) has also remained relatively stable for a decade, with only small changes in most economies. This suggests that there isn't a 'race to the bottom' as governments compete for investment. This year, however, we have seen some dramatic changes in the TTCR of individual territories as they seek to radically change the structure of their tax system to address local circumstances.

Modern technologies pose a number of complex questions for tax policy.

In Ghana, though the rate of VAT was reduced, new cascading sales taxes were introduced in an attempt to increase tax revenues. We have also seen a dramatic change to the structure of social security contributions in Romania, with employees now bearing almost the full cost of social security contributions that were previously split between employees and employers. And this year's data shows the impact of the 2018 US tax reform on our case study company.

Refunds and corrections. We now have five years of data for the post-filing index, which looks at the processes of correcting a corporate income tax return and claiming a VAT refund. Though there have been relatively few reforms to the post-filing process since 2014, we are now seeing more economies allowing companies to claim VAT refunds, which helps VAT systems become more neutral.

Taxing the digital economy

Currently, at a global level, the most prominent tax policy issue is how to tax the digital economy, and the Organisation for Economic Co-operation and Development recently released its proposals for allocating profits arising from digital activity.[1] Modern technologies pose a number of complex questions for tax policy, such as: how to tax a multinational business on sales into a territory where it has little or no physical presence; how to assign a value to user-generated data and content and then build that into the taxation of multinational enterprises; and how to compensate for the possible reduction in labour tax revenues resulting from the automation of routine tasks.

Though answering these questions is critical, it is unlikely to affect the results in *Paying Taxes* in the short term, as our research is based on a medium-sized domestic case study company. The implementation of policy changes in the longer term, however, will have local repercussions. As reflected by our case study, our focus remains largely on domestic companies that need to be able to comply with their current tax obligations as easily as possible. The results of this study show that it is vital that governments and tax authorities continue to invest in modernising their tax administration systems. At the same time, however, all governments will need to understand the implications of any new consensus that emerges with respect to the taxation of the digital economy.

By providing a robust comparison of the taxation of business in 190 economies, *Paying Taxes* helps governments and businesses understand whether their tax systems are keeping pace with global change and helps them learn from what others are doing. Our findings can increase trust and understanding between taxpayers and tax authorities as to where systems are working well and where there is room for improvement. We would like to thank the many contributors who continue to provide the data that informs the study, without whom this research would not be possible.

We hope that this report will be of value to all those interested in improving tax systems, whether in government, business, academia or civil society. Your comments and feedback on the study and its future direction are always very welcome, and we would be delighted to hear from you.

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1. The Organisation for Economic Co-operation and Development, *Public consultation document: Secretariat Proposal for a 'Unified Approach' under Pillar One*, 9 October 2019 – 12 November 2019: https://www.oecd.org/tax/beps/public-consultation-document-secretariat-proposal-unified-approach-pillar-one.pdf. See also: Global Anti-Base Erosion Proposal (GloBE), *Public consultation document: Pillar Two,* 8 November 2019 – 2 December 2019: http://www.oecd.org/tax/beps/public-consultation-document-global-anti-base-erosion-proposal-pillar-two.pdf.pdf.

Key findings

On average, for our case study company, technology continues to make it easier to file and pay taxes, while the Total Tax and Contribution Rate is almost unchanged.

Number of payments

23.1

down **0.7** from 2017

Time to comply

234 hours

down **2** hours from 2017

Total Tax and Contribution Rate

40.5%

up **0.1%** pt from 2017

Post-filing index

60.9/100

up **1.0** from 2017

For detailed results by economy and region and to prepare your own comparisons, please see:

pwc.com/payingtaxes

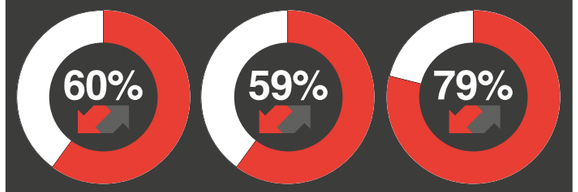
It's easier to pay tax

but different approaches to technology have resulted in significant local variations.

Brazil & Vietnam down **23%**

Time to comply

Number of payments



Payments down from 63 to 25 **Côte d'Ivoire**

Payments down from 63 to 26 **Kyrgyz Republic**

Payments down from 28 to 6 **Israel**

The digitisation of tax administrations has eased the compliance burden for taxpayers.

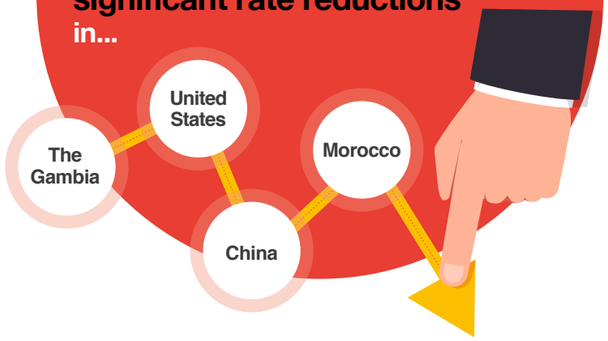
Significant policy shifts

in individual economies have had little effect on the global average Total Tax and Contribution Rate.

Middle East countries are introducing VAT.

In Ghana the balance is changing from VAT towards cascading sales taxes.

Lower taxes on profits drive significant rate reductions in...



2. This excludes 113 economies where no time is required to complete a CIT correction.
Note: *VAT* refers to value-added tax. *CIT* refers to corporate income tax.

Improvement in post-filing procedures

largely due to increased access to VAT refunds.

The four components of the post-filing index are:

Time to comply with VAT refund	Time to obtain VAT refund	Time to comply with a CIT correction	Time to complete a CIT correction[2]
18.2 HOURS	**27.3** WEEKS	**14.6** HOURS	**25.5** WEEKS

Each component is given a score out of 100.
These are averaged to give the post-filing index score.

Armenia and Egypt have recently made VAT refunds available to the case study company. Turkey has exempted capital purchases from VAT.

Regional overview

World average results for 2018[3]

Time to comply	Number of payments
234 hrs	23.1

Total Tax and Contribution Rate (TTCR)	Post-filing index (PFI)
40.5%	60.9

North America

US tax reform reduced the region's TTCR in 2018, and the region continues to have the lowest number of payments; all three countries — Canada, Mexico and the US — have online filing and payment systems for all taxes.

Time	Payments
182 hrs	8.2

TTCR	PFI
38.7%	69.3

Central America & the Caribbean

The time to comply in the region showed a modest reduction in 2018. In many economies there is still scope to improve the availability and take-up of online systems for filing and paying taxes.

Time	Payments
199 hrs	30.3

TTCR	PFI
42.2%	51.9

South America

Despite a significant reduction in the time to comply in Brazil, South America remains the most difficult region in which to pay taxes, with the highest TTCR and time to comply indicators and the lowest post-filing index score.

Time	Payments
519 hrs	24.7

TTCR	PFI
53.3%	41.5

Africa

Implementing online filing and payment systems continues to be a challenge for the region, resulting in it having the highest number of payments and the second-highest time to comply.

Time	Payments
285 hrs	34.7

TTCR	PFI
47.3%	56.2

Middle East

Two economies in the region introduced VAT in 2018. Because this was implemented through the use of online systems, the region continues to have the lowest time to comply.

Time	Payments
155 hrs	15.3

TTCR	PFI
24.5%	50.0

EU & EFTA

This continues to be the most efficient region for post-filing processes and the easiest in which to file and pay taxes. In 2018, the number of payments indicator and the TTCR both shrank slightly.

Time	Payments
161 hrs	10.9

TTCR	PFI
38.9%	83.1

Central Asia & Eastern Europe

This region has seen the most reforms since 2004, with the time to comply decreasing by 264 hours. In 2018, though the number of payments indicator dropped significantly, by three payments, the improvements in time to comply were minimal.

Time	Payments
219 hrs	13.9

TTCR	PFI
33.0%	68.6

Asia-Pacific

Continuing progress in online filing and payment in the region has led to modest but sustained reductions in the time to comply and number of payments indicators.

Time	Payments
191 hrs	21.1

TTCR	PFI
36.6%	57.4

3. The economies included in each region are listed in the appendix. Further information on the regions, including historical trend data, is available at www.pwc.com/payingtaxes.

In 2018, there were some significant changes in the regional averages for our four *Paying Taxes* indicators.

Comparing the geographic regions

In 2018, there were some significant changes in the regional averages for our four *Paying Taxes* indicators, as shown in Figures 1 to 4.

Time to comply

The most significant changes in the time to comply were in South America, where it decreased overall by 27 hours, and the Middle East, largely due to changes in VAT. In the Middle East, both Saudi Arabia and the United Arab Emirates introduced VAT, but because these are administered electronically, the average time to comply for the region increased by just 11 hours. In Brazil, almost 500 hours were cut from the time to comply, but the impact on the region was lessened by increased compliance obligations for VAT in Venezuela, RB. In Asia-Pacific and Central America & the Caribbean, modest but sustained improvements in the time to comply were observed as earlier reforms to online filing and payment systems continued to make it easier to pay taxes.

Number of payments

South America was the only region to see an increase in the number of payments. This was a result of Venezuela's move from monthly to weekly reporting requirements for VAT; the country does not have an online filing and payment system.

Most of the other regions saw reductions in the number of payments indicator, with Central Asia & Eastern Europe showing the biggest decreases. This was driven by the Kyrgyz Republic and Israel, where, although online filing and payment systems had been available previously, the majority of businesses embraced electronic payments only in 2018.

The more modest reductions in other regions were largely due to the ongoing implementation of, and improvements in, electronic filing and payment systems.

Figure 1: Comparison of time to comply components by region (hours), 2018 vs. 2017

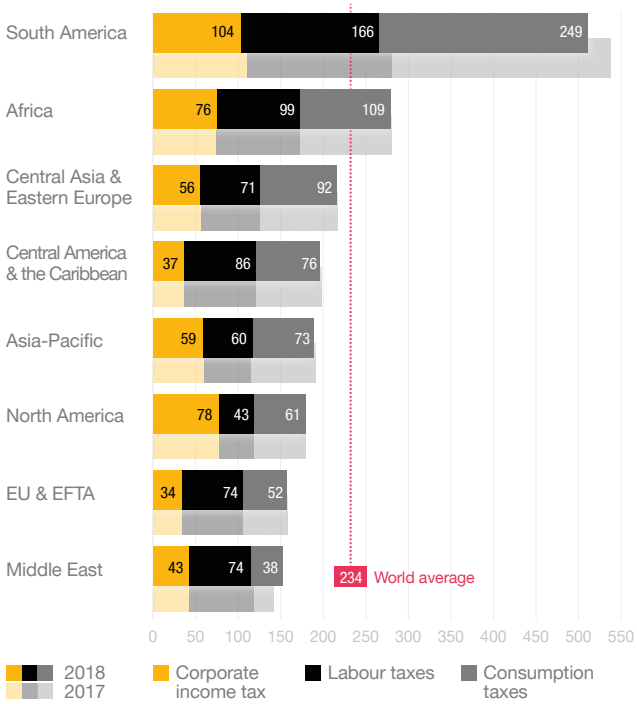
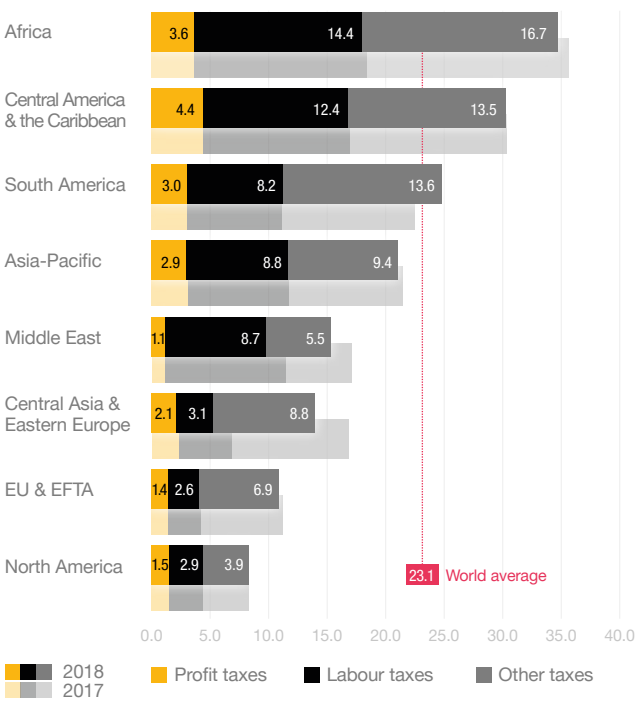


Figure 2: Comparison of number of payments components by region, 2018 vs. 2017



Note: Some of the figures in this chart have been rounded. **Source:** *Paying Taxes 2020* data

Total Tax and Contribution Rate

In most regions, there was little or no movement in the average TTCR, as the small movements in individual economies largely cancelled each other out. North America saw the biggest reduction in TTCR, as the recent US tax reform cut the statutory rate of corporate income tax from 35% to 21%. The small reduction in the EU & EFTA region was driven mainly by the shift of the social security burden from employers to employees in Romania.

Africa saw an overall increase in TTCR thanks to changes to certain levies in Ghana that effectively moved them from being value-added taxes to being cascading sales taxes. The impact of these was partially counteracted by a reduced corporate income tax rate in The Gambia.

Post-filing index

The Middle East saw a significant increase in its post-filing index score, as VAT was introduced in Saudi Arabia and the United Arab Emirates, and consequently, VAT refunds are now available to our case study company in these countries. Central Asia & Eastern Europe also saw an improved average post-filing score, driven by Turkey's exemption of capital purchases from VAT and Armenia's extension of VAT refunds to our case study company for the first time. Africa also saw improvements in its post-filing processes, as Côte d'Ivoire introduced an online management system for VAT refunds and Tunisia implemented risk-based tax audits.

Figure 3: Comparison of Total Tax and Contribution Rate (TTRC) components by region (%), 2018 vs. 2017

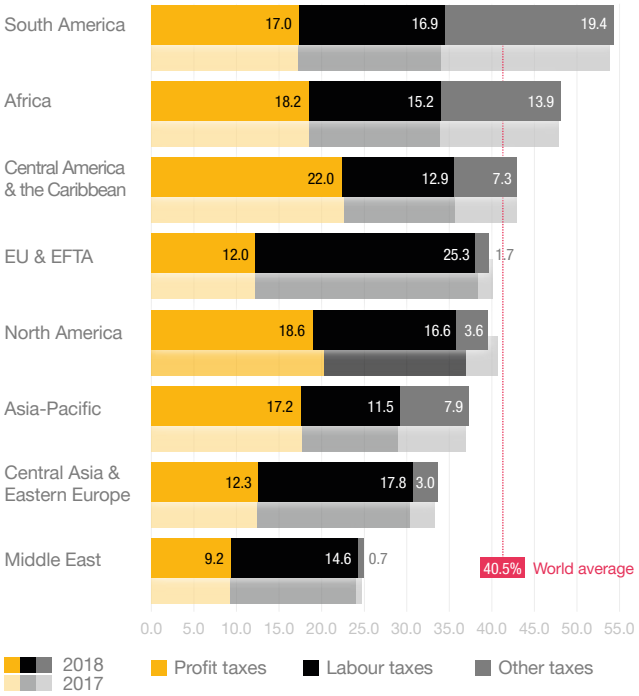
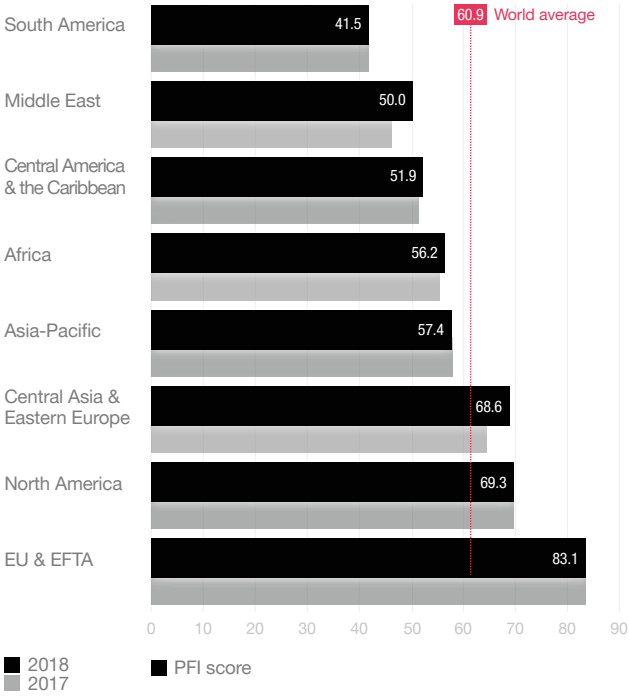


Figure 4: Regional comparison of the post-filing index, 2018 vs. 2017



Note: Some of the figures in this chart have been rounded. **Source:** *Paying Taxes 2020* data

Chapter 1 – The advantage of automation: Sustained focus on technology makes paying taxes significantly easier

On average, every year it becomes easier for a medium-sized domestic business to comply with its tax obligations. Across the 190 economies[4] covered by *Paying Taxes 2020*, there has been a 16% drop in the number of payments indicator since 2012, and over the same period, the average time spent by our case study company in meeting its main tax obligations has fallen by 10%. This is usually a result of increased and more efficient automation of both the filing and the payment systems.

Many economies, however, have seen far greater improvements in the ease of paying taxes, and in 2018, we saw some particularly significant changes, which we discuss below.

At the same time, a handful of economies have made it harder for taxpayers to meet their tax compliance obligations. In some cases, particularly where new taxes have been introduced to meet a government's fiscal policy, an increase in the compliance burden may have been unavoidable. In others, a failure to invest in digital technologies has resulted in a tax system that is more difficult to comply with than is the case in comparable countries.

Well-designed and efficiently implemented electronic systems can greatly reduce the time and effort required by businesses to meet their tax obligations and can also offer significant benefits for tax authorities.

The Organisation for Economic Co-operation and Development's (OECD's) 2019 report on tax administration[5] confirms the increase in investments that tax authorities are making in digital technologies to:

1. facilitate the filing and payment of taxes
2. increase and automate the analysis of data from taxpayers and third parties
3. improve communications between taxpayers and tax administrations.

According to the OECD data, the use of digital contact channels (online, email, digital assistance) continued to increase from 2016 to 2017, while traditional channels continued to decrease (e.g., in-person contacts were down 15%). In 2017, more than 40 administrations said they were using or planning to use artificial intelligence.

Figure 5: Changes in global average number of payments

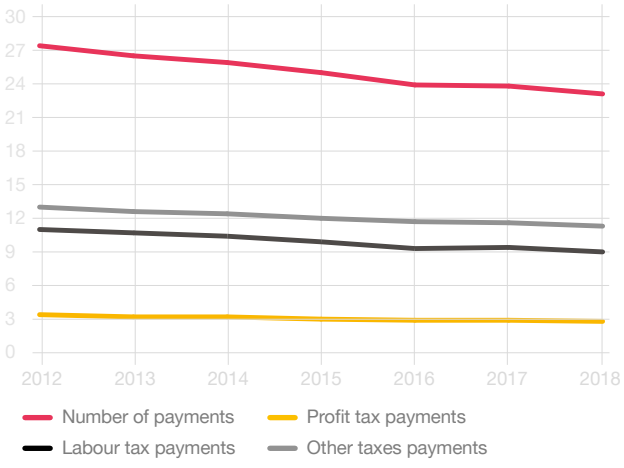
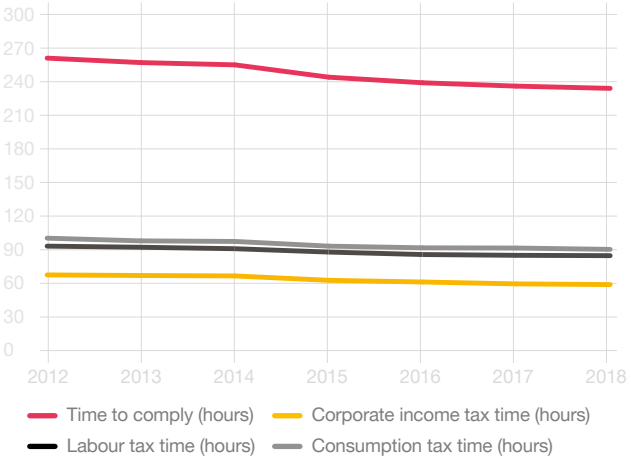


Figure 6: Changes in global average time to comply



Note: Some of the figures in this chart have been rounded. **Source:** *Paying Taxes 2020* data

4. In 2012, 189 economies were included in the World Bank's *Doing Business* report. Somalia has been included since 2014 but does not affect the *Paying Taxes* data, as there is insufficient practice to be able to score the economy.
5. OECD Tax Administration, *Comparative Information on OECD and Other Advanced and Emerging Economies*, OECD Publishing, 2019: https://doi.org/10.1787/74d162b6-en.

Electronic payments for tax are increasing in popularity

As shown in Figure 5, the rate of change in the number of payments indicator has increased noticeably in 2018 compared to 2017, as great strides have been made in the adoption of online systems in several economies. In Table 1 we set out the economies which showed the greatest improvements in the number of payments indicator in 2018. In some of these, notably Côte d'Ivoire, Israel and Pakistan, electronic payment was available in 2017, if not before, but companies had been slow to use it in practice.

When it comes to implementing online payments, tax authorities need to work with other organisations to ensure that payment systems are widely accepted and are available in a format that is convenient to the taxpayer. This will almost certainly require the involvement of banks and potentially telecommunications companies to ensure that Internet connections are reliable and that payments can also be made from mobile devices. Cultural barriers may also need to be overcome if taxpayers have a mistrust of online payments.

Although governments always have the option of making online payments mandatory, if they do this before the necessary systems are in place and working reliably, they run the risk of increasing discontent with the tax system and potentially lowering the chances of people complying with their tax obligations in a timely manner.

In Côte d'Ivoire, the general director of the tax administration made online tax filing mandatory for medium-sized and large enterprises, but not before testing out the system. Prior to that, online filing and payment had been voluntary, and weekly training was provided by the tax administration to encourage adoption of online systems. The success of the online payment systems is due in large part to their integration within the declaration system and the fact that all banks in Côte d'Ivoire are connected to and familiar with the online payment system.

The Government still faces challenges in broadening the reach of the online filing and payment system beyond the capital, where Internet access is reliable, and some of these are outside the control of the tax authority because connections in more rural areas can be limited.

In Indonesia, although online filing and payment have been available for some time, it is only recently that the requirement to file hard copy documentation has been removed. This has reduced the number of payments indicator, because when all filing is exclusively online, it is counted together as only one payment under the *Paying Taxes* methodology, even if there are more payments in practice.

The number of payments indicator

The number of payments indicator reflects the total number of payments made with respect to taxes and mandatory contributions, the method of payment, and the frequency of payment during the tax year. Where a tax is filed and paid electronically by a majority of medium-sized taxpayers, with no requirement to file hard copies of tax returns or supporting documentation, we include one payment in the payments indicator, even if payments are more frequent in practice.

In addition, if a tax is filed and paid jointly with another tax, then only one payment is included in the payments indicator. In order for a tax to be treated as being jointly filed and paid with another tax, they must both be filed on the same form, and both taxes must be included in the same single payment.

As with the other indicators, where a reform is implemented partway through the year, its impact is prorated. A move to mandatory electronic filing in August 2018, for example, for tax that is filed and paid monthly, would reduce the payments indicator by four in 2018 and by a further seven payments in 2019.

Table 1: Largest reductions in the number of payments indicator in 2018

Côte d'Ivoire

-38 payments

Online filing was introduced in 2017 and became mandatory for certain taxpayers in 2018, resulting in reductions in the number of payments indicator for VAT, business licence tax, tax on real estate for developed and undeveloped land, payroll tax, CIT, and special tax on equipment.

Kyrgyz Republic

-37 payments

The stand-alone tax on interest was incorporated into CIT. Online filing and payment were introduced for VAT, CIT, and employee and employer pensions.

Israel

-22 payments

Online filing and payment of VAT and social security contributions has been available for six or seven years, but did not become widespread until 2018.

Indonesia

-16 payments

Online filing and payment of VAT and social security contributions has been available for some time. Since April 2018, no hard copy backup/payment receipt has been required.

Jordan

-14 payments

Online filing was widely used for GST from mid-2017, but take-up was lower for other taxes owing in part to system glitches. Online filing was made mandatory from 1 January 2018 for personal income tax and social security contributions. Online payment has been widespread since 2017 for all three taxes.

Pakistan

-13 payments

Several alternative delivery channels (ADCs) for payments were introduced in March 2018, allowing payments directly from commercial bank accounts via Internet banking websites, ATMs, mobile banking and call centres. VAT and CIT are now paid and filed online.

Bahrain

-11 payments

An electronic system for social security contributions has been in place for a number of years. The Labour Ministry automatically sends a monthly invoice to each employer with details of the payment to be made. Recently the use of electronic payments to settle the invoices has increased.

Cyprus

-11 payments

In 2018, electronic filing and payment for social security contributions were confirmed to be used by a majority of the taxpayers that had profiles similar to that of the case study company.

Kenya

-11 payments

Since February 2018, the use of online filing and payment systems has been mandatory for social security contributions.

Note: *VAT* refers to value-added tax. *CIT* refers to corporate income tax. *GST* refers to a goods and services tax.

Table 2: Largest increases in the number of payments indicator in 2018

Venezuela, RB

+28 payments

As of September 2018, the VAT system moved from monthly filing to weekly filing. Two payments are required each week — an advance payment based on the VAT for the previous week and a final payment for the week in question.

Nepal

+7 payments

As noted in last year's report, a new labour tax, which is filed and paid monthly, was introduced in August 2017, increasing the number of payments. This increase was partially offset by the combination of the provincial and municipal vehicle taxes into a single payment.

Papua New Guinea

+6 payments

As noted in last year's report, the payment of the superannuation contribution every two weeks is being enforced, whereas previously it had been made monthly. The training levy imposed on salaries was abolished, reducing payments by one.

Ghana

+5 payments

As of August 2018, two new levies, which are filed and paid jointly on a monthly basis, have increased the number of payments. Online filing and payment is not recognised for the levies.

Azerbaijan

+2 payments

In 2018, unemployment insurance, levied on both employers and employees, was introduced. The insurance is filed jointly, online, but separate electronic payments are made for the employers' and employees' contributions, increasing the number of payments indicator by two.

Malaysia

+1 payment

A new employment insurance system, which is filed and paid online, was introduced in 2018.

Saudi Arabia

+1 payment

VAT was introduced in 2018 and is filed and paid online.

United Arab Emirates

+1 payment

VAT was introduced in 2018 and is filed and paid online.

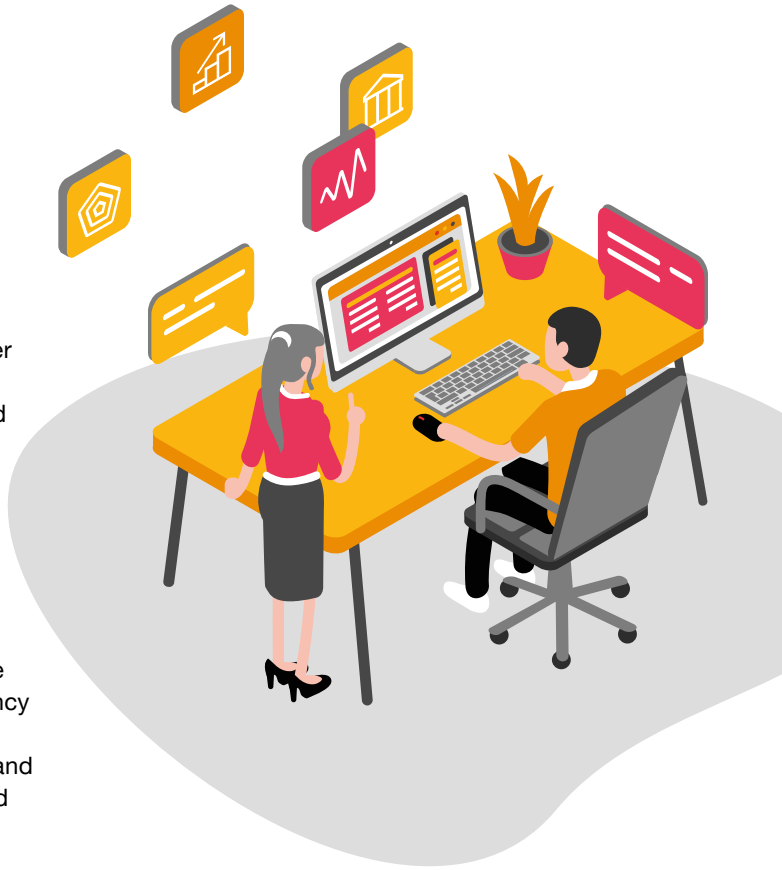
United Kingdom

+1 payment

As of 2018, the case study company has to automatically enrol all employees into a private pension scheme in addition to paying social security contributions to the Government.

Note: *VAT* refers to value-added tax.

There are two main reasons for increases in the number of payments: the introduction of new taxes and the increasing frequency of filing and paying existing taxes.



Looking at the increases in the number of payments indicator in Table 2, we see there are two main reasons for the increases: the introduction of new taxes and the increasing frequency of filing and paying existing taxes.

Where taxes have been introduced using online payment and filing systems, the impact on the number of payments indicator is minimal, adding just one payment per tax in Malaysia, Saudi Arabia, the United Arab Emirates and the United Kingdom, and two in Azerbaijan, which has separate payments for employers' and employees' unemployment insurance contributions. New taxes in Ghana and Nepal had a greater impact, as these are not filed and paid online.

In Venezuela, RB, and Papua New Guinea, there were no new taxes, but there were increases in the frequency of filing and paying VAT and superannuation contributions, respectively.[6] If it were possible to file and pay both these taxes online, the filing frequency could have been increased without affecting the number of payments indicator and with less of an impact on the tax compliance burden for taxpayers.

Venezuela is a special case. Not only was there a move from monthly to weekly filing and payment of VAT, but two VAT payments are now required each week — an advance payment and a final payment. The new requirements are a way for the Government to secure tax revenues, which is not surprising given the political and economic turmoil in the country. But this has resulted in a substantial increase in the compliance burden. Venezuela currently has the highest number of payments indicator, at 99, and it is expected to increase further as the full impact of the VAT changes is felt in 2019.

But Venezuela is not alone in wanting to ensure it collects VAT revenues in a timely manner. Many other economies have been able to introduce electronic filing and payment systems for VAT that have the potential to reduce the compliance burden on taxpayers, reduce fraud and provide governments with better information. This will also allow them to monitor compliance in a more efficient way, often in real time.

6. In Papua New Guinea, it became necessary in 2017 to pay the superannuation contribution every two weeks rather than every month, as it had been paid previously. The impact of this increase on the number of payments indicator was prorated and split between 2017 and 2018.

Improved electronic systems reduce time to comply

The global average time to comply has shown only a modest reduction in 2018; however, there have been significant changes in individual economies (see Table 3).

In absolute terms, the greatest reduction in the time to comply was in Brazil, but the country still has some catching up to do. The time to comply in Brazil went down from 2,600 hours in 2004 to 1,958 hours in 2016, and dropped to 1,501 hours in 2018 — a reduction of 23% in three years. Nevertheless, our case study company still requires longer to comply with its main tax obligations in Brazil than anywhere else in the world, and the time to comply in Brazil is still 476 hours higher than in Bolivia, which has the next-longest time to comply, 1,025 hours.

Simply introducing technology is not enough. Brazil has had an electronic bookkeeping system and an online filing and payment system, known as SPED (*Sistema Público de Escrituração Digital*), for more than a decade. But thanks to the underlying complexity of the Brazilian tax system, this has had limited impact on the time to comply. Taxes are levied in Brazil at federal, state and municipal levels, and there are three main taxes on consumption. So although SPED has matured since its introduction, and there have been other steps by businesses in the digitisation and automation of their tax administration processes, underlying complexity has prevented Brazil from reaching a time to comply that is comparable to the global average. The Brazilian Government is currently considering proposals to simplify the indirect tax regime in the country.[7] If the proposals are adopted, they could have a substantial effect on the time to comply, although a significant programme of reform may well require a long transition period for its implementation.

Vietnam also saw a reduction of 23% in its time to comply between 2017 and 2018. Similar to the situation in Brazil, the reduction is the product of ongoing and sustained improvements in the digital technology used by businesses and the tax authority. Notably, in Vietnam more businesses use advanced accounting software, which allows them to calculate their taxes using data automatically uploaded from accounting systems. The Vietnamese tax authorities have also improved their own systems and are beginning to use cloud computing.

In Senegal, the introduction of online filing and payment has removed the need for taxpayers to go in person to the tax office, which represents a considerable time savings. This contrasts with Chad, where a new requirement for businesses to pay taxes through local banks has made the payment process more burdensome, as it necessitates repeated visits to the tax office to obtain payment forms, hand over proof of payment from the bank and then collect a receipt from the tax office.

Where there are increases in the time to comply, they are most often due to the introduction of new taxes, which is not necessarily a negative development. Such taxes are often needed to raise the tax revenues required by government to meet its spending commitments. In many cases these bring economies into line with the vast majority of economies that already have similar taxes. For example, as discussed on page 24, Saudi Arabia and the United Arab Emirates introduced VAT in an effort to reduce their reliance on revenues from natural resources. Nepal and Timor-Leste introduced social security contributions, which are already in place in more than 80% of economies.

The critical consideration for economies when introducing new taxes is how to make them as efficient as possible to comply with, and to take advantage of appropriate technologies. It is not uncommon for taxpayers to take longer to comply with new taxes, but the times will often decrease as the new systems bed down, wrinkles get ironed out and taxpayers become more familiar with the process. For example, in 2018 the time to comply fell in both the Bahamas, which introduced VAT in 2015, and India, which introduced a goods and services tax (GST) in 2017.

7. ITR Staff, "Brazil aims to reform complex tax system," *International Tax Review*, 22 August 2019: https://www.internationaltaxreview.com/article/b1gtv5h2rdftqc/brazil-aims-to-reform-complex-tax-system.

Table 3: Largest changes in the time to comply in 2018

Brazil

-457 hours

Increased stability of the electronic bookkeeping systems, combined with fewer changes, reduced the time to comply.

Vietnam

-114 hours

Improvements in the tax administration's central management system, greater use of advanced accounting software and simplifications to the amount of information submitted with VAT returns reduced the time to comply.

The Bahamas

-42 hours

Since the introduction of VAT in 2015, the system has become increasingly advanced. Combined with the single rate and broad base, this significantly reduced the time required to comply with VAT.

Jordan

-30 hours

Improvements to the online filing and payment system for PIT and social security contributions helped; now the system is mandatory.

Senegal

-25 hours

As of August 2018, taxpayers have been required to file and pay VAT online, eliminating time-consuming in-person visits to the tax office. Much of the VAT liability is calculated automatically using data uploaded from accounting systems.

India

-24 hours

Following the reforms to GST in 2017, a number of improvements have been made to the relevant online filing and payment systems (see page 25).

Venezuela, RB

+128 hours

Venezuela, RB, moved from monthly to weekly VAT returns. In the absence of online filing and payment systems, this has increased the time to comply.

United Arab Emirates

+104 hours

VAT was introduced on 1 January 2018 (see page 24).

Timor-Leste

+78 hours

Social security contributions were introduced in 2017 and took effect in 2018. Online filing and payment are not available for the tax.

Saudi Arabia

+72 hours

VAT was introduced on 1 January 2018 (see page 24).

Chad

+68 hours

VAT now has to be paid in person at a local bank. This entails several in-person visits to the bank and the tax authority.

In addition, PIT moved from a single flat rate to four progressive rates. Because the tax cannot be filed online, this increased the time to calculate the tax.

Note: *CIT* refers to corporate income tax. *GST* refers to goods and services tax. *PIT* refers to personal income tax. *VAT* refers to value-added tax.

A range of different digital technologies exists for administering VAT

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Looking across the different VAT systems in *Paying Taxes* and drawing on the experience of our VAT network, we have identified four broad stages in the adoption of technology for the administration of VAT (see pages 22 and 23).

In Level I, in which economies make minimal use of technology, although VAT returns may be prepared using software, there is little or no integration between accounting software and tax-filing processes. Typically, this makes VAT compliance a burdensome and largely manual process for taxpayers, and presents a greater risk of fraud and error. The economies that are at this stage in the development of their systems, such as Venezuela, RB; Bolivia; and Gabon, are likely to have longer times to comply with consumption taxes.

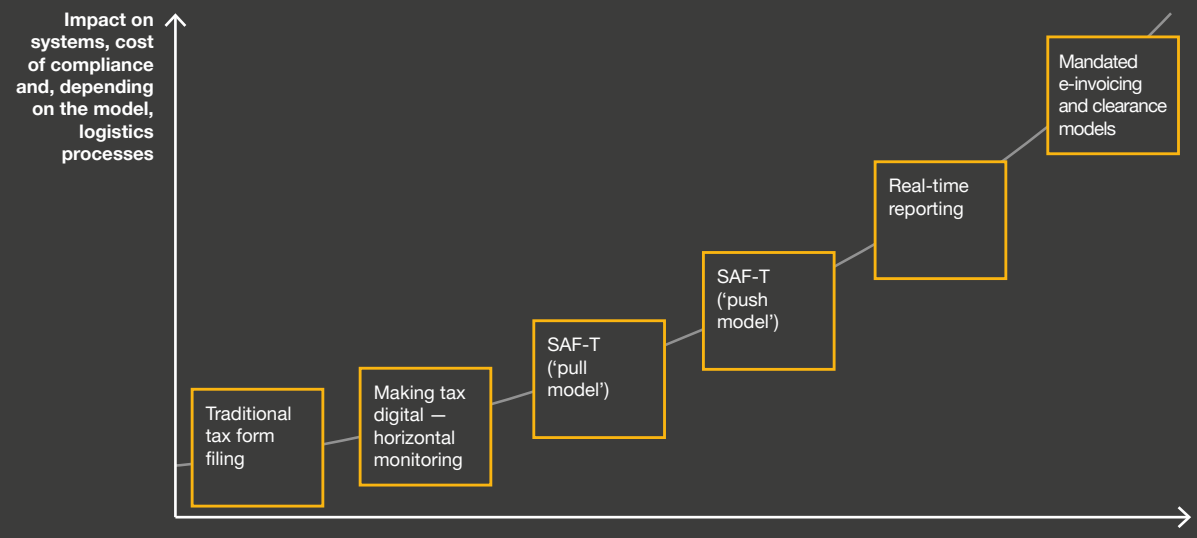
There might be several barriers that prevent tax administrations from moving to the next stage of development, including a lack of funding or political will to invest in new systems, insufficient telecommunications infrastructure, or a cultural reluctance to move away from paper-based systems. Although these barriers can be considerable, the potential of online systems to reduce errors and provide better oversight should not be underestimated.

The introduction of some form of online filing and payment (Level II) will generally lead to a reduction in the compliance burden for taxpayers. This reduction depends to some extent on the underlying complexity of the tax system, the type of online processes introduced and how the system is implemented. Some of the most recent examples of online systems, with a related reduction in the number of payments indicator, are those in Côte d'Ivoire, Kyrgyz Republic and Indonesia (see Table 1, page 15).

As well as reducing the time to comply, online systems offer other benefits, such as reductions in error rates and a greater ability for tax authorities to analyse data, which can improve risk assessments and audits.

If tax administrations and taxpayers are to reap the full benefits of online systems, proper implementation and administration is critical. The *Paying Taxes* data shows examples in which the full benefits of online systems have not been realised because, although they may have existed for some time, they are not used by the majority of taxpayers.

Tax authorities may be tempted to make online systems mandatory from the outset; however, this can create considerable pressure on the implementation date and provides little opportunity to limit the impact of any teething troubles. A more gradual rollout allows tax authorities to learn from their experience before mandating the system's use by all companies.



Source: PwC, 2019

The move to real-time systems can provide significant benefits for tax administrations, including greater control over taxpayer data and enhanced fraud prevention.

In conjunction with online systems for filing and paying VAT, some tax administrations within the EU and beyond have adopted standardised formats for reporting tax information known as SAF-T (or Standard Audit File for Tax; it is based on a model developed by the OECD, which can be implemented as a 'push' or 'pull' system by countries). Though these make use of technology and enable a safer and more reliable system for exchange of data between tax administrations and taxpayers, they are not usually integrated systems, and they add an extra step to the transmission of data between taxpayers and tax authorities. These files typically contain information that goes beyond pure transactional and invoice information, and enable governments to perform e-audits of the structured data sets.

The move to real-time systems (Level III, which requires close integration of taxpayers' and tax administrations' technology solutions) can provide significant benefits, including greater control over taxpayer data and enhanced fraud prevention. Some of the notable examples are Spain ('SII' [Immediate Information Supply] real-time invoices), Italy (mandatory business-to-government, business-to-business and business-to-consumer invoicing via the Government-run SDI [*Sistema di Interscambio*] portal) and Hungary (reporting of e-invoice information via its KOBAK system). Similarly, Poland is replacing the traditional VAT return with the transactional data provided from the SAF-T in a move to further simplify taxpayer compliance. Although real-time systems can be extremely beneficial, they require considerable investment in design and implementation.

Some economies are assessing and even piloting the next level of cutting-edge technologies (Level IV) that can be applied for VAT. Notably, in Kazakhstan the use of blockchain for administering a portion of VAT receipts is already in the final phase and shows promising results. In the UK, blockchain technology is being evaluated within the UK tax administration HMRC (Her Majesty's Revenue and Customs) in conjunction with the broader HMRC plan to make tax digital for businesses (MTDfB), to close the VAT gap and to facilitate split payments of VAT. Also, the European Commission's Directorate-General for Taxation and Customs has started to explore the use of blockchain technology as a potential foundation for the Digital Single Market.

The security and reliability offered by blockchain technology are very attractive for the administration of VAT, but a widely applicable solution has yet to be developed.

The move towards more digital VAT systems, as we have seen, has already been a significant success for those tax authorities that have embraced technology. Tax administrations have to consider what level of technology is appropriate for them, given the complexity of their tax system, the availability of the IT infrastructure and the sophistication of their taxpayers. The introduction of any new technology for administering tax will require significant planning and coordination, and we encourage tax administrations to consult widely with their taxpayers and with other tax administrations that are already further along the path of technological change.

The evolution of the digital administration of VAT

Technology is a key driver in the successful administration of VAT, as it provides greater efficiency for both taxpayers and tax administrations. It can help reduce errors and combat fraud, as well as link VAT information directly to accounting systems and provide more detailed information in a more timely manner. We set out below four key stages in the evolution of the digital administration of VAT.

Level I: Minimal use of technology

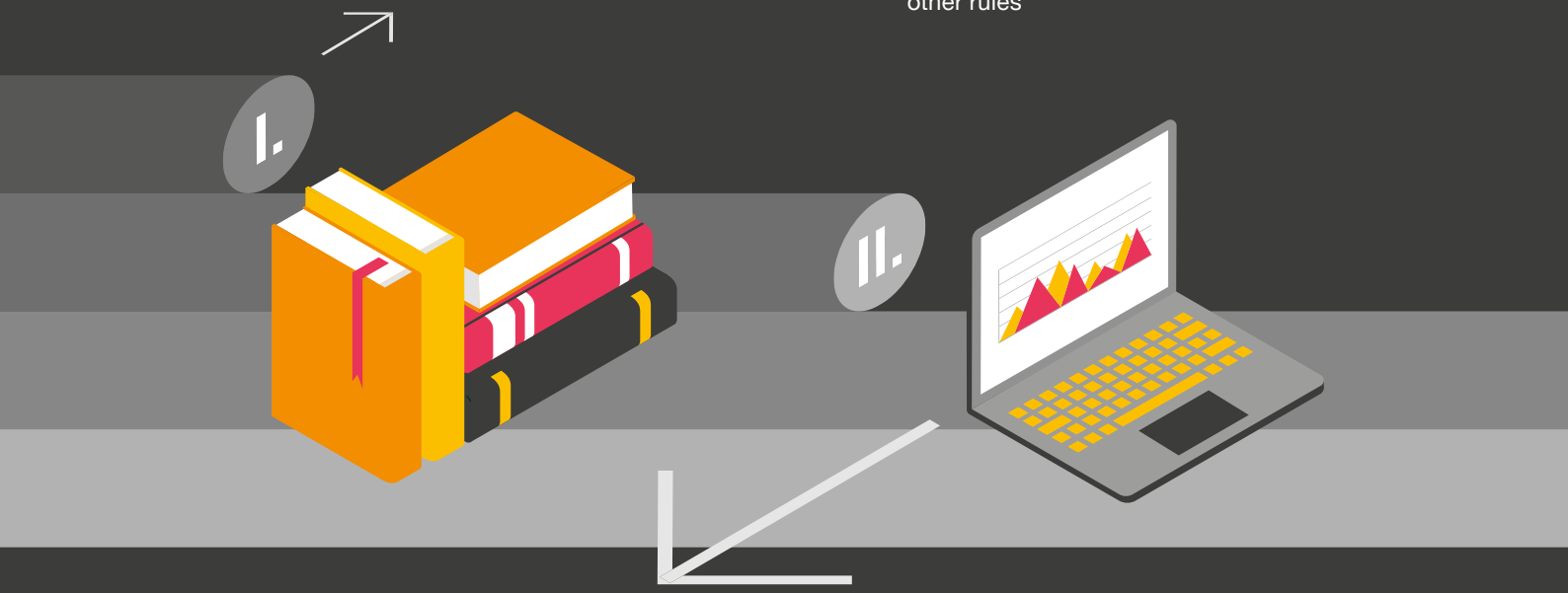
There is little to no use of specific technology in administering VAT.

Arguments for:

- No technology infrastructure needed
- No specialist software needed
- Low setup and maintenance costs
- Companies' accounting systems do not have to be adapted to communicate with tax administration systems

Arguments against:

- Prone to manual errors
- Few risk controls
- Greater risk of fraud and other related offences
- Cumbersome process involving lots of paper
- Burdensome process can deter voluntary tax compliance
- More interactions with the tax authority, which could provide opportunities for fraud/coercion
- Delays between transactions and tax authorities receiving information
- Difficult to implement changes to tax rates and other rules



Level II: Technology as a tool — online filing and payment systems

VAT is filed and paid online, often through an online portal run by the tax authority, with varied degrees of integration between companies' and tax administrations' systems.

Arguments for:

- Increased efficiency for both parties
- Greater control over data and information
- Greater ability for tax authorities to monitor compliance and risks
- Greater possibilities for tax authorities to monitor trends in data
- Better anti-fraud mechanisms in place without additional compliance burdens
- Fewer errors
- Easier to implement changes to the tax system
- Potentially a promoter of voluntary compliance

Arguments against:

- Larger up-front capital investments in infrastructure
- Requires a coordinated effort across different levels to ensure successful implementation and operation
- Ongoing maintenance costs
- Businesses may need to adjust their systems to fit with tax administrations' systems
- Greater flow of highly sensitive information
- Potential risks involving security, robustness and integrity of the data
- Risk of cyber-attacks and other related technological risks

Level III: Advanced technology — real-time or near-real-time filing, mandated e-invoicing and payment systems

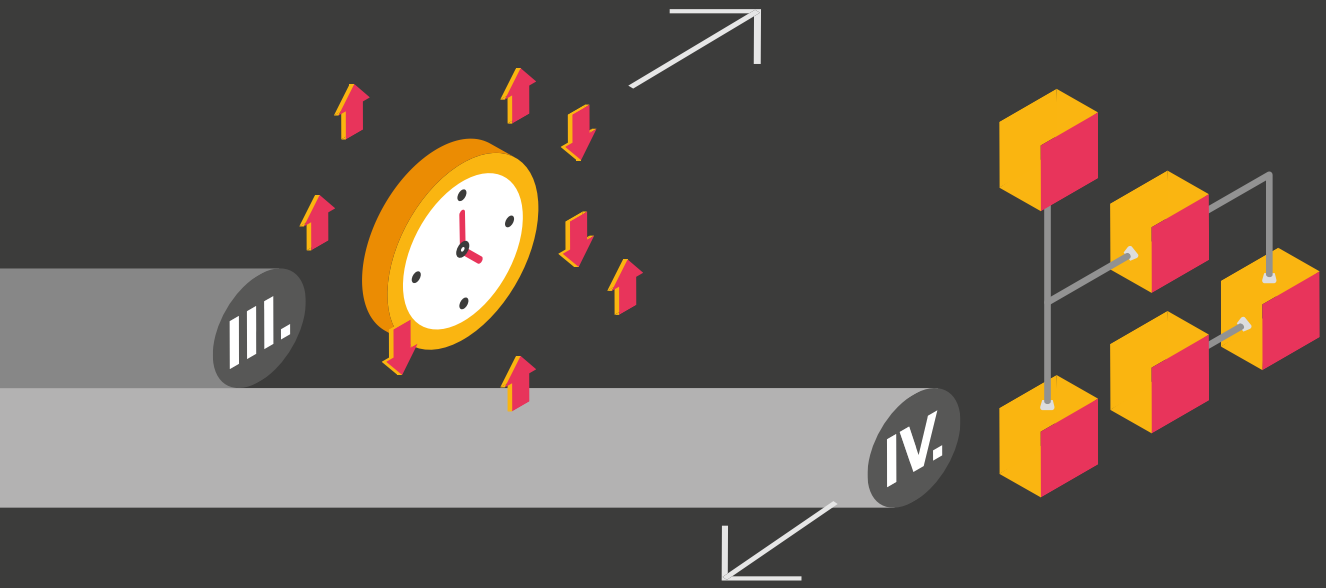
In such systems, businesses share information on underlying transactions directly with tax authorities, usually integrating accounting systems very closely with tax administrations' systems.

Arguments for:

- More granular and regular levels of information
- More alignment across various taxes and additional records
- Ability to profile taxpayers against expectations
- Ability to analyse data for trends and risk assessment
- Considerable potential to reduce fraud by matching input and output VAT, and increased collection and tax revenue for governments
- Legal certainty regarding invoice compliance (depending on the implemented model)
- Cost reduction over time (due to high-volume transactions)
- Archiving and ancillary reporting requirements are often reduced

Arguments against:

- Initial upgrades of accounting systems and technical implementation can be expensive and time consuming
- Requires extensive planning, coordination and communication with taxpayers in the implementation phase. The transition can create business disruption if it's too short or not properly planned
- Requires extensive ongoing maintenance
- Requires increased training of the current workforce
- Necessitates increased data quality and tax determination capabilities
- Necessitates a robust, reliable and extensive IT infrastructure
- Requirements may affect logistical flows, e.g., when preclearance is required



Level IV: Technologies of the future

New technologies, including blockchain, artificial intelligence and big data, have the potential to further increase the reliability and timeliness of VAT administration and to reduce fraud, but many systems are still in their infancy.

Arguments for:

- Greater control over taxpayer information
- Enhanced transparency across all stakeholders
- Secure and reliable environment for exchanging highly sensitive information
- End-to-end transaction monitoring
- Real-time VAT monitoring
- Potential to automate business rules, e.g., VAT refunds
- Puts the economy at the forefront of the innovation landscape

Arguments against:

- Many technologies are still in development
- Likely to require significant structural and operational change
- Requires a long-term strategy for tax compliance management
- May require new or amended tax laws
- Will require change management within the tax administration

Introduction of VAT in the United Arab Emirates and Saudi Arabia

Saudi Arabia VAT compliance time

72 hours

UAE VAT compliance time

104 hours

In 2017, the six Gulf Cooperation Council (GCC) member states agreed, through the GCC VAT treaty, to introduce a VAT system. The United Arab Emirates (UAE) and Saudi Arabia introduced VAT on 1 January 2018, and Bahrain did so on 1 January 2019.

The introduction of VAT was driven by the GCC governments' social and economic policy goals of reducing reliance on hydrocarbon revenues and ensuring alternative sustainable revenues. The income from the new revenue stream is expected to enhance the governments' budgets and thus allow them to increase investment in growing industries and to stimulate the economy.

The GCC VAT Treaty provides a common framework of key VAT principles, which is implemented by each of the GCC member states through local VAT legislation. The treaty allows for a certain level of flexibility in relation to the VAT treatment of specific VAT sectors and other administrative matters.

The GCC member states took different approaches to the implementation of VAT registration processes for businesses. In the UAE, all businesses with taxable supplies in excess of AED 375,000 (US$102,000) had to be registered by the start of 2018. Saudi Arabia phased in VAT registrations by asking businesses with annual taxable supplies below SAR 1m (US$270,000) but above the mandatory VAT registration threshold of SAR 375,000 (US$100,000) to register by the end of 2018. Larger businesses had to be registered from the start of 2018. Bahrain also applied a phased approach for VAT registration.

It takes the *Paying Taxes* case study company 72 hours to comply with VAT in Saudi Arabia and 104 hours in the UAE. This is in line with the global average of 90 hours and somewhat higher than the EU & EFTA average of 52 hours.

Given that most European countries have long-established VAT systems, it is not surprising that newly introduced systems may take longer to comply with.

The difference in the time to comply between Saudi Arabia and the UAE could be a result of several factors. For example, the VAT regime in the UAE has some specific complexities as more supplies are zero-rated, there are more exemptions, and special schemes such as designated zones have been introduced. Furthermore, the UAE has requested the reporting of output VAT by emirates. The process of registering as a taxpayer is not included within the time to comply, which looks only at the time to prepare, file and pay taxes, but it can present a considerable burden for businesses. Saudi Arabia automatically registered businesses based on existing registration for income (or Zakat) taxes, whereas in the UAE businesses had to submit registrations themselves.

In both the UAE and Saudi Arabia, the majority of VAT processes can be carried out online, including filing and amending returns, claiming refunds and issuing penalties.

Although neither government's VAT portal is directly integrated with businesses' accounting software to provide real-time data as in some other jurisdictions, the relevant authorities are analysing electronic data from VAT returns to help select taxpayers for tax audits and inspections.

We expect that the UAE and Saudi Arabia will continue to enhance and further automate their VAT processes and operations. In addition, they are likely to focus on the implementation of the intra-GCC rules and related systems aiming at further facilitating and monitoring intra-GCC trade.

GST in India: Keeping up the pace

2017 GST compliance time

275 hours

2018 GST compliance time

252 hours

In *Paying Taxes 2020*, we see the positive impact of the first full year of the introduction of the Goods and Services Tax (GST) in India. When GST was introduced on 1 July 2017, the time to comply initially increased, but as systems continue to be improved, compliance is becoming easier. In 2018, the time to comply decreased from 275 to 252 hours. The time to comply remains higher than it had been before the introduction of GST, however, as the system is not without complexity.

Introducing GST was a bold move, given the scale of the subcontinent and the number of businesses affected. The intention was to free up the movement of goods and credit across the country and make it easier to do business. GST, although still in its infancy, is showing signs of being a beneficial tax reform that has resulted in substantial standardisation and simplification of processes.

Indian GST has multiple tiers of tax rates for goods and services, and it can be levied and collected nationally, by Indian states and by the union territories, but it is coordinated centrally. The smallest businesses are exempt from GST, and different compliance mechanisms are available, depending on the size of the business.

Multiple state and central taxes were subsumed into GST, with the goal of making tax compliance easier, and the Government's proactive approach helped iron out initial difficulties. Practical concerns raised by taxpayers were addressed through notifications, circulars and clarifications.

When the GST portal initially failed to cope with the number of forms filed, the system was simplified. The implementation of certain legal provisions was also delayed to give businesses time to adapt. The implementation of the mechanism for monitoring the movement of goods and the implementation of online matching of suppliers' and buyers' invoices were phased. The technology has now been upgraded to automate compliance-related processes, and the return format is being revamped to further simplify compliance. The Government is also using new technology to implement e-invoicing, which is an essential tool in addressing revenue leakage.

GST has led to increased formalisation of the economy and is part of the Government's goal of digitising the Indian economy. The resulting flow of information will eventually improve the collection of both direct and indirect taxes through better tax compliance and increased transparency of the tax system.

The move to GST is seen as a catalyst in achieving the Government's stated agenda of making it easier to do business in India. Indian businesses will also need to adapt to the changing business environment and support the Government if GST is to continue to be successful. Keeping up to date with the changes in technology and providing feedback on issues arising from the new tax system will go a long way to further refine the efficiency and efficacy of the GST system.

Chapter 2 – World Bank Group commentary: From paper to electronic tax returns and tax compliance simplification

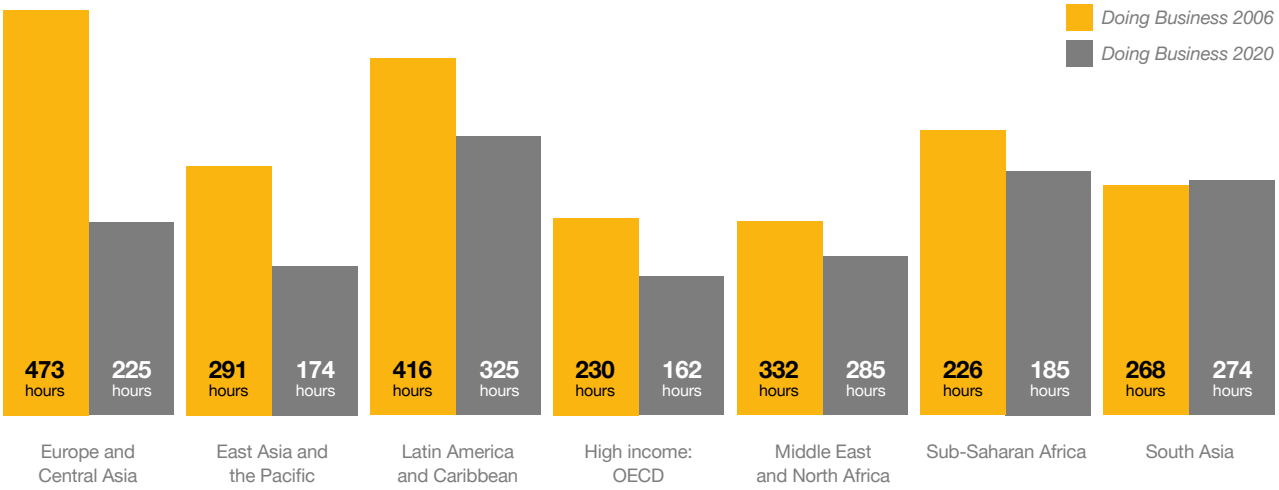
The introduction of electronic systems for filing and paying taxes has cut tax compliance times globally. Electronic filing (e-filing) and electronic payment (e-payment) are the processes of submitting tax returns and payments over the Internet. E-filing and e-payment have various benefits that have made the tax preparation process easier for businesses, including the ability to file a tax return from one's office at a convenient time and the ability to prepopulate tax returns with data already held by the tax administration. The United States was the first economy to introduce e-filing, in 1986, followed by Australia in 1987.[8]

The use of electronic tax filing and payment systems has risen sharply since 2004,[9] when only 43 of the 174 economies measured by *Doing Business* had an online system for filing and paying taxes. Fifteen years later, this number has more than doubled (to 106) as economies have shifted from filing taxes manually and paying them in person to filing tax returns electronically and paying taxes online.

The economies of Europe and Central Asia[10] show the most notable progress (see Figure 7). The average compliance time in this region fell from 473 hours per year in 2004 to 225 hours in 2018 mainly because of the use of e-filing and e-payment in addition to the simplifying and streamlining of the tax systems of the individual economies.

Since *Doing Business 2006*, 63 economies have introduced online platforms for filing tax returns including online payment modules. Europe and Central Asia, and East Asia and the Pacific, were the two most proactive regions in introducing such systems. The Organisation for Economic Co-operation and Development (OECD) high-income group has the highest share of economies (97%) using e-filing or e-payments, whereas sub-Saharan Africa has the lowest (17%). Factors inhibiting the adoption of technology by tax administrations and taxpayers include low literacy levels, unreliable information technology (IT) infrastructure, and poor availability of suitable accounting and tax preparation software. *Doing Business* data shows, however, that the use of online systems for tax filing and payment resulted in efficiency gains in several economies in sub-Saharan Africa in 2017–18, including Côte d'Ivoire, Kenya, Mauritius and Togo.

Figure 7: The Europe and Central Asia region has made the most notable progress in reducing tax compliance time
Average time (hours per year)



Note: In South Asia, tax compliance time in *Doing Business 2020* is higher than time in *Doing Business 2006* because of Maldives, which in *Doing Business 2013* introduced three major taxes — business profit taxes, value-added tax, and pension contributions — which resulted in compliance time in Maldives going up from 0 to 391 hours. **Source:** *Doing Business* database

8. Anna A. Che Azmi and Yusniza Kamarulzaman, "Adoption of tax e-filing: A conceptual paper," *African Journal of Business Management*, 2010.
9. *Doing Business* data for 2004–05 was published in *Doing Business 2006*.
10. In this report, the World Bank puts countries into slightly different geographic regions than PwC does (see Appendix). For more on the World Bank groupings, see: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519.

A tax system that is simple at every level is more likely to perform better. In addition to e-filing and e-payment systems — which have now been in existence for years in many economies — policymakers are exploring other digital technology reforms to improve tax compliance. *Doing Business 2020* collected new data on the implementation of some of these reforms, including the use of prepopulated tax returns, electronic invoices (e-invoices) and the existence of a comprehensive tax administration online portal.

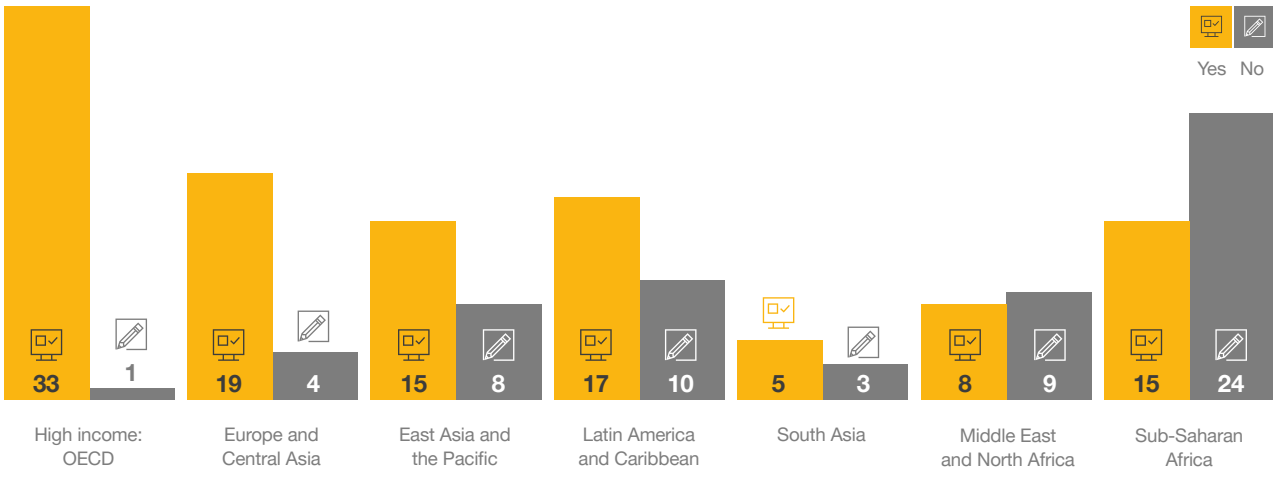
Tax returns that are prepopulated by the tax administration reduce preparation time for taxpayers. The main responsibility of taxpayers when filing such tax returns is checking the numbers, adding any missing information, and signing and submitting the return. The benefits of prepopulated tax returns include faster information and refund processing, the elimination of errors, and more certainty in the reporting of certain items.[11] Most OECD high-income economies — which have annual compliance times of 159 hours on average — provide prepopulated tax returns. In contrast, nearly one-third of sub-Saharan African economies do not use prepopulated tax returns as of *Doing Business 2020*; the region's average compliance time is 281 hours.

The data also shows a wider implementation of mandatory e-invoices globally for value-added tax (VAT). E-invoices, the digital equivalent of paper invoices, ensure the digital exchange and processing of payment requests between suppliers and buyers.

E-invoices have several benefits compared with paper invoices: they are less prone to errors, cut opportunities for fraud and reduce processing costs. E-invoices improve accuracy and transparency by allowing the invoice data to be drawn directly from the taxpayer's accounting systems, thereby strengthening internal controls. Because data is collected from both parties in a transaction where VAT is payable, an e-invoice system provides the tax authorities with a more complete picture of the activities and income of the taxpayer.

E-invoices have gained popularity in the European Union, with many countries — including Denmark, the Netherlands, Spain and Sweden — adopting legislation enabling government administrations to accept electronic invoices in compliance with European Directive 2014/55/EU.[12] Economies in the OECD high-income group are at the forefront of invoice digitisation, with almost all countries requiring companies to use electronic invoices (see Figure 8). For developing economies, VAT is a major source of government revenues. However, many economies in Latin America and the Caribbean, and sub-Saharan Africa, have not yet implemented the required technology for e-invoicing owing to infrastructure constraints. Data must be easily collected and verified with minimal intervention and a strong degree of interoperability between various systems. Rwanda, however, is in the process of implementing a good e-invoice system. The authorities are currently in the process of replacing physical electronic billing machines (EBMs) — in use since 2003 — with Internet-based software that will be offered free to all VAT-registered taxpayers. The use of the new software is slowly gaining traction.

Figure 8: Economies in the OECD high-income group are at the forefront of invoice digitisation
Number of economies offering e-invoicing



Source: *Doing Business* database

11. The Organisation for Economic Co-operation and Development (OECD), *Using Third Party Information Reports to Assist Taxpayers Meet their Return Filing Obligations — Country Experiences with the Use of Pre-populated Personal Tax Returns*, March 2006: https://www.oecd.org/tax/administration/36280368.pdf.
12. The full text of European Directive 2014/55/EU is available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0055.

All tax administrations in the OECD high-income group, South Asia, and Europe and Central Asia make use of online tax portals.

Various types of electronic invoicing systems are in use around the world. Tax administrations can opt to use platforms enabling trading partners to exchange electronic documents over a specific network (for example, Pan-European Public Procurement Online [PEPPOL]). This is the case in Denmark, Sweden and, most recently, Singapore. Another option is to use XML formats; in this model, taxpayers convert invoices into a government-defined XML format and transmit them via an online portal, as in Italy and the Slovak Republic, for example.[13] Lastly, tax administrations can employ online cash register (OCR) initiatives whereby retailers are required to use OCR software to upload sales data to the tax administration portal instantly. The Republic of Korea and the Russian Federation both use this system.

The use of big data created by e-invoice systems has brought about improvements in both the use of information for compliance purposes and the amount of VAT collected by tax administrations. In Korea, for example, the introduction of an OCR system resulted in 96.5% of transactions being recorded via a cash receipt with the tax administration by 2016.[14] Similarly, in Mexico — where all invoices must be issued in a Government-mandated XML format — the Government has successfully relied on electronic solutions to detect both errors and fraud in tax reporting and has increased the amount of VAT collected.[15]

Tax authorities have reacted to businesses' move toward e-filing and e-payment by diversifying the services provided by their online tax portals. All tax administrations in the OECD high-income group, South Asia, and Europe and Central Asia make use of online tax portals. Tax administrations in sub-Saharan Africa, and East Asia and the Pacific, lag behind.

Online tax portals that are easy to navigate offer taxpayers a direct source of information. They remove the need for government representatives to be available to taxpayers in person or via telephone to provide information. In Singapore, for example, the Inland Revenue Authority provides taxpayers with a virtual assistant, 'Ask Jamie,' which responds interactively to questions from the public.

Most tax portals in all regions offer taxpayers the possibility of e-filing. However, online tax calculators are more widely offered in the economies in the OECD high-income group. Germany, for example, offers taxpayers an interactive wage and income tax calculator for the period 2002–19. Similarly, Israel provides taxpayers with an income tax simulator and an income tax calculator for individual taxpayers. Some tax administrations in Europe and Central Asia (including Russia, Uzbekistan and Moldova) offer taxpayers the ability to access information on their past filing and payment history. A trend that is gaining popularity worldwide is the use of social media by tax administrations to be more accessible to taxpayers. Some tax portals allow taxpayers to follow them on Facebook or Twitter, for example, the United States' Internal Revenue Service (@IRSnews) and Finland's tax administration (@taxFinland).

Technology is changing how taxes are administered. More and more companies are using tax software, and more and more tax authorities are creating easier-to-use online portals that can simplify tax compliance. Tax administrations worldwide have sought to introduce and continuously enhance their online systems in the past 15 years to improve their efficiency and facilitate more comprehensive and faster risk assessment and compliance checks on returns. This efficiency, in turn, has also benefitted taxpayers by easing the compliance burden.

13. OECD, *Technology Tools to Tackle Tax Evasion and Tax Fraud*, 2017: https://www.oecd.org/tax/crime/technology-tools-to-tackle-tax-evasion-and-tax-fraud.htm.
14. OECD, *Implementing Online Cash Registers. Benefits, Considerations and Guidance*, 28 March 2019: http://www.oecd.org/ctp/implementing-online-cash-registers-benefits-considerations-and-guidance.htm.
15. For more information, see CFDI (*Comprobantes Fiscal Digital por Internet*) at https://cfdi.edicomgroup.com/en/cfdi-al-dia-en/cfdi-mexicos-electronic-invoicing-model-thats-become-a-reference-across-all-of-latin-america/.

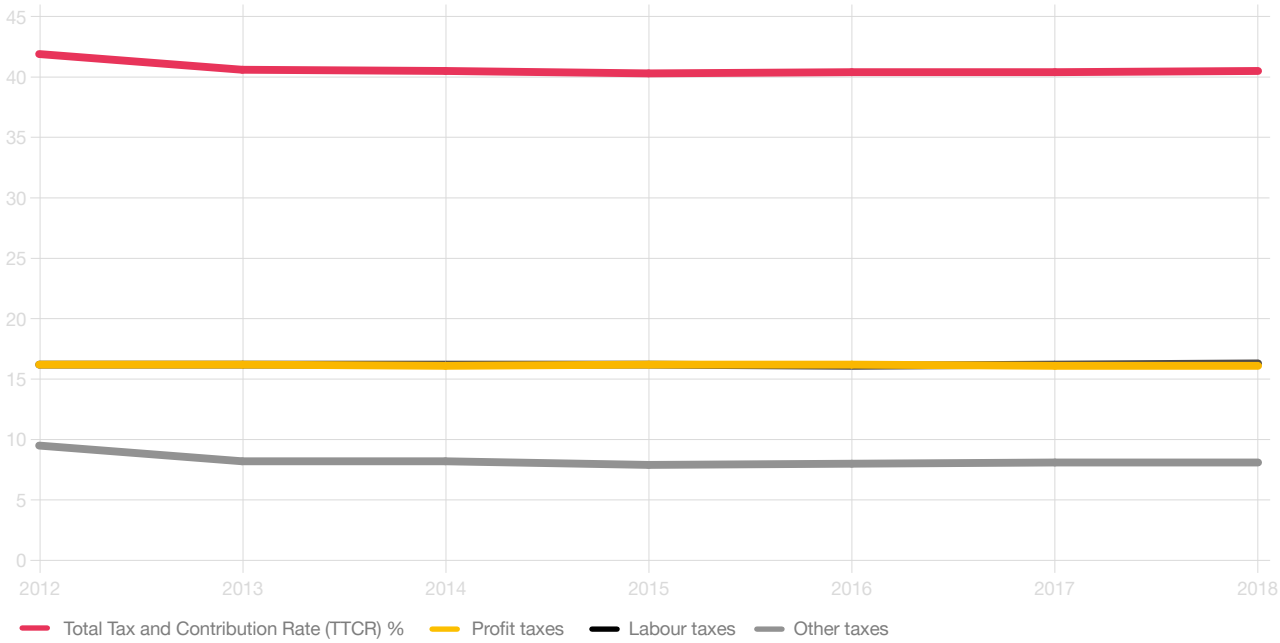
Chapter 3 – Tax policy responses to a changing world

Governments around the world are constantly faced with fiscal policy challenges as they seek to deliver public services. They may have urgent issues to address, such as meeting budget deficits, fighting the informal economy and increasing voluntary compliance, or more long-term and strategic goals, such as addressing trends in the digital economy and the way people work.

Having a robust tax system that promotes a sustainable taxpaying culture is an important element in any economy. A culture of voluntary compliance can be seen as a measure of taxpayer morale. The Organisation for Economic Co-operation and Development's (OECD's) 2019 report on tax morale[16] underscored the fact that transparency and communication with the public on the use of tax revenues are cornerstones of a sustainable tax system. How governments reform tax systems can significantly affect the profile of taxes borne by businesses.

In *Paying Taxes*, we use the Total Tax and Contribution Rate (TTCR) to measure how much tax businesses pay. This is defined as the sum of all the taxes and mandatory social contributions paid,[17] expressed as a percentage of the company's commercial profit. The commercial profit is the profit before all taxes borne. Over time we have seen significant changes in the tax policies governments use to raise the funds necessary to meet their obligations, even if the average TTCR rates have remained stable. The global average TTCR for 2018 is 40.5%, showing a very slight increase from 40.4% in 2017 (see Figure 9), which continues the five-year trend of little movement.

Figure 9: Changes in the global average TTCR and TTCR by tax type



Note: Some of the figures in this chart have been rounded. **Source:** *Paying Taxes 2020* data

16. OECD, *Tax Morale: What Drives People and Businesses to Pay Tax?*, OECD Publishing, Paris, 2019: https://doi.org/10.1787/f3d8ea10-en.

17. The Italian *trattamento di fine rapporto* (TFR), which employers are required by law to accrue based on each individual's monthly wage, is an example of a mandatory social contribution. The amount is paid at the end of a working relationship, and the employee has the choice to allocate the TFR to a pension fund or to receive part of it in the form of salary, subject to the ordinary tax rules. Other examples are the superannuation guarantee and workers' compensation in Australia and the pension and occupational health insurance in Switzerland.

Table 4: Largest changes in the TTCR indicator in 2018

Economy		Change in TTCR	
Romania		**Reduction** 40.0% to 20.0%	Six taxes and contributions borne by employers on labour were eliminated. Employers are now subject only to a 2.25% labour insurance contribution, while the overall tax burden on employees for social security taxes went from 16.5% to 35.0% of gross salary (see page 34).
The Gambia		**Reduction** 56.6% to 48.4%	The CIT rate decreased from 30% to 27%, and the minimum tax rate levied on turnover decreased from 1.5% to 1%.
United States		**Reduction** 43.8% to 36.6%	A programme of tax reforms was adopted as of 1 January 2018. The top progressive rate of CIT applicable to the case study company decreased from 34% to a flat rate of 21%, and the corporate alternative minimum tax was repealed (see page 35).
China		**Reduction** 64.0% to 59.2%	In 2018, a preferential CIT rate for certain small enterprises was implemented. This cut taxable income by 50% and introduced a CIT rate of 20%, giving an effective tax rate of 10%, compared with the previous rate of 25%.
Morocco		**Reduction** 49.8% to 45.8%	The CIT rate changed from a flat rate of 30% to progressive rates of 31%, 20% and 10%, based on taxable income brackets.
Ghana		**Increase** 32.4% to 55.4%	Two levies that previously had been recoverable for businesses were made irrecoverable. This effectively changed the levies from taxes on added value to cascading sales taxes. In addition, the standard VAT rate was lowered to 12.5% (see page 35).
Guinea		**Increase** 61.4% to 69.3%	Although the minimum flat tax rate was reduced from 3% to 1.5%, the minimum amount of flat tax payable by large enterprises increased. The *Paying Taxes* case study company is considered a large enterprise for these purposes, so its TTCR increased.
Mali		**Increase** 48.3% to 54.5%	A new tax, the solidarity contribution, was levied at a rate of 0.5% of business turnover. The tax is paid jointly with VAT and is filed in the same return.
Timor-Leste		**Increase** 11.2% to 17.3%	A social security contributions scheme was introduced. Employers pay contributions at the rate of 6% of gross salaries and employees at the rate of 4%.
Italy		**Increase** 53.1% to 59.1%	The social security contribution exemption for employees hired in 2016 no longer applies to the case study company, because all employees were hired in 2017.

Note: *VAT* refers to value-added tax. *CIT* refers to corporate income tax.

The impact of policy changes on business

The change in the global average TTCR is relatively small, but it reflects the net impact of some significant changes, both increases and decreases, in individual economies. The biggest increases were in low- and lower-middle-income economies, notably Ghana, Guinea, Mali and Timor-Leste, as shown in Table 4. Romania, an upper-middle-income country, saw the biggest decrease in TTCR, as the burden of social security was shifted from employers to employees. In this chapter, we look in more detail at some of the largest changes in TTCR and the wider landscape that might influence such policy decisions.

Although the majority of the changes that affected the TTCR in 2018 follow trends that we have seen in previous years, such as reductions in corporate income tax (CIT) rates to attract investment or increases in social security contributions to help provide benefits for citizens, the changes in the tax systems in Romania and Ghana stand out because of the size of the impact they have had on their TTCRs. In the US, the tax reform reflected a long-held view that the US corporate income tax rate was uncompetitive. These changes represent three different types of fiscal policy decisions governments can take to further their political agendas.

What is the Total Tax and Contribution Rate?

As shown in the simplified example below, the TTCR is a measure of all the taxes borne expressed as a percentage of commercial profit, which is the profit before all taxes borne. In the example, we also show how the profit, labour and 'other' tax components of the TTCR are calculated.

Total Tax and Contribution Rate example	Currency Thousands	Currency Thousands
Profit before tax		**1,000**
Add back above-the-line taxes borne		
Social security contributions	235	
Property tax	25	
Vehicle tax	15	
		275
Commercial profit (i.e., profit before all taxes borne)		**1,275**
Corporate income tax	(220)	
Above-the-line taxes borne	(275)	
Total taxes borne		(495)
Profit after tax		780
TTCR = total taxes borne/ commercial profit		**38.8%**
Profit tax TTCR = 220/1,275		17.3%
Labour tax TTCR = 235/1,275		18.4%
Other taxes TTCR = 40/1,275		3.1%

The TTCR includes only the taxes and mandatory social payments that are a cost to the company, such as CIT, employers' SSCs, profit taxes and other taxes. It excludes the taxes that a business collects and pays on behalf of others, such as VAT, which is ultimately a cost to its customers, or employees' SSCs, which are the responsibility of its employees.

Note: *CIT* refers to corporate income tax. *SSC* refers to social security contributions.

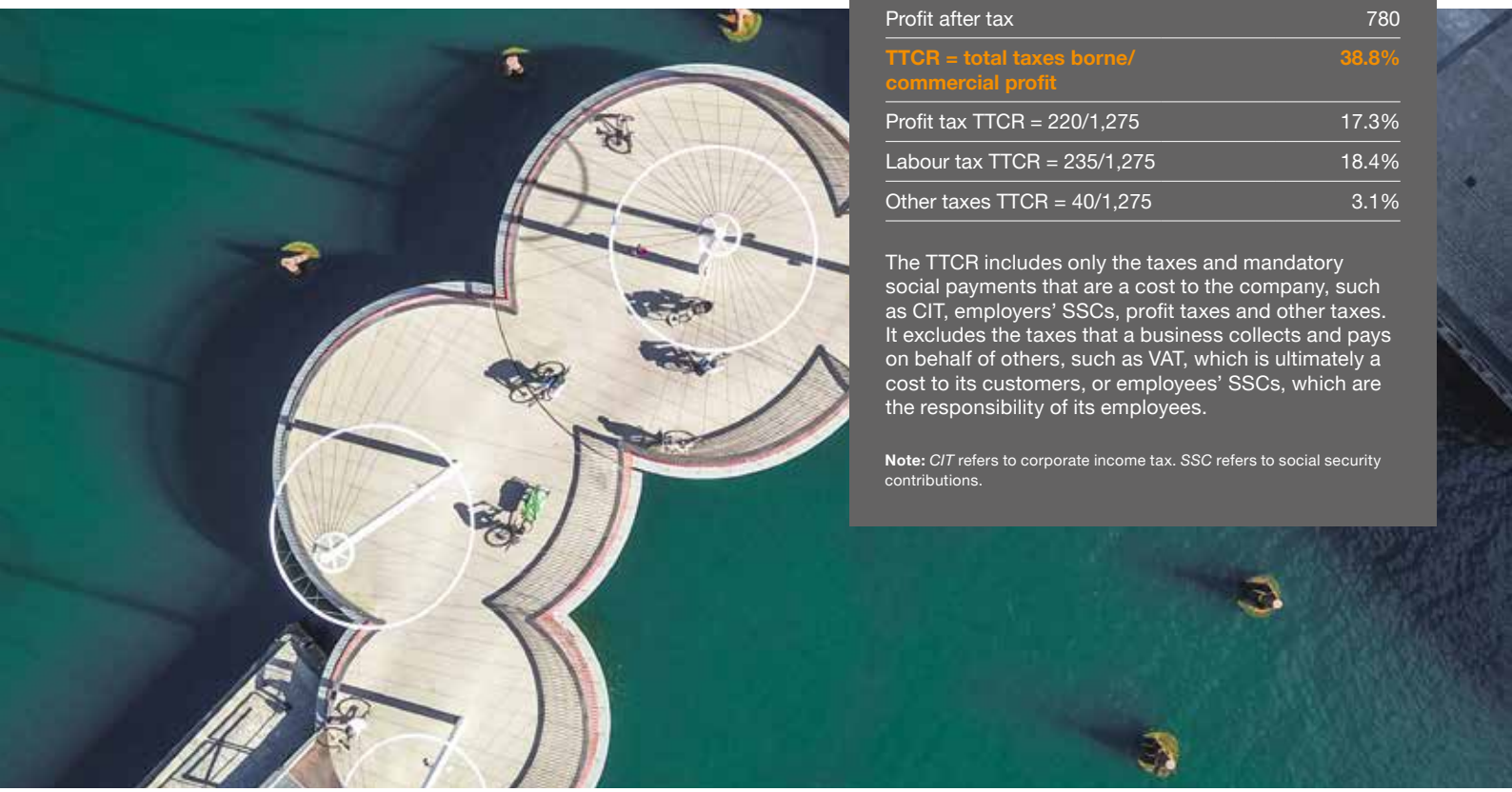


Table 5: Change in Romania's rate of social security contributions (SSCs) between 2017 and 2018

	2017		2018
Employer SSCs	22.75% of gross salary	↘	2.25% of gross salary
Employee SSCs	16.5% of gross salary	↗	35% of gross salary
Total SSCs cost	39.25%	↘	37.25%

Romania

A major shift in the burden of social security contributions (SSCs) from employees to employers reduced Romania's TTCR by 20 percentage points in 2018. This could be seen as a positive outcome for business, but it is important to understand the underlying change, its broader economic impact and how it has played out in practice. There were some unintended consequences for many businesses in Romania, especially those in the technology sector, and the Government left the burden-sharing decisions up to businesses.

Up until 2018, the burden of employee SSCs was split relatively equally between employers and employees. In 2018, it shifted almost entirely to employees. The Government eliminated six labour taxes borne by the employers and introduced a new work insurance contribution of 2.25% of gross salaries. Simultaneously, employees' SSCs were increased from 16.5% to 35.0% of gross salaries. The overall impact was a reduction in the total SSC rates of 2 percentage points (see Table 5).

Prior to the change in the SSC regime, the labour tax element of the total TTCR was 25.8%, but this was reduced to 3.4% in 2018 for businesses. This would, however, reduce overall employment costs only if businesses chose not to gross up salaries by the 20% necessary to maintain the net incomes of their employees. Given the low unemployment rates in Romania and a lack of skilled workers, this was not a realistic choice for most businesses. The average labour tax element of the total TTCR in the EU & EFTA region was 25.3% in 2018, and the global average was 16.3%. The reform in Romania is a significant move away from the global norms.

As the TTCR measures only the taxes borne by businesses, we do not see the impact of the change on employees. Furthermore, the *Paying Taxes* methodology that is used to calculate labour tax impact keeps the salary of employees constant over time to allow us to compare different tax regimes. If the salary of employees in Romania had remained constant, the increase in their social security contributions would have reduced their taxable income by around 22% and their net pay by around 17% once the concurrent reduction in the income tax rate from 16% to 10%[18] is taken into account. The expectation of the Romanian Government, however, was that businesses would increase the gross salary of their employees by around that amount, resulting in minimal change to both businesses' employment costs and employees' take-home pay.

In practice it was left to the employers to decide whether or not they would compensate employees for the potential reduction in their net salaries. We understand that the majority of companies did increase gross salaries as expected.[19] Some companies, however, initially decided to compensate employees through other means, such as bonuses or other allowances. These alternative forms of compensation were more popular in the first year of the reform but were often phased out as it became clear that the reform was there to stay.

The reform had an unexpected impact on the technology sector. In a bid to encourage growth in this sector, certain technology employees were exempt from personal income tax. Under the new SSC regime, for these employees to receive the same net salary as before, employers would have had to increase gross salaries by 28%, increasing their total labour costs by 7%.[20] In most other industries the overall total labour costs were flat. The SSC reform, therefore, had an adverse impact on a sector that other tax policies had sought to incentivise.

18. PwC calculations.

19. PwC Romania Research. *PwC HR Barometer*, October 2019.

20. PwC calculations.

US TTCR

2017		2018
43.8%	↘	36.6%

Ghana TTCR

2017		2018
32.4%	↗	55.4%

The United States

In December 2017, the United States passed the Tax Cut and Jobs Act, which was the biggest overhaul of the US federal income tax system in more than 30 years. It lowered tax rates for businesses and individuals and modernised the US international tax rules. This is the first year its effects are seen in *Paying Taxes*.

The headline rate of CIT fell from 35% to 21%. This reduced the TTCR of the case study company by 7.2 percentage points, from 43.8% to 36.6%.

The US tax reform, however, was broader in scope than a simple reduction in CIT. For example, there is no longer a tax deduction for domestic production activities. There is a new 30% limitation on net business interest expense and an 80% limitation on the utilisation of net operating losses, with an indefinite carryforward period. The tax system moved to a territorial system with a 100% dividend exemption, provided certain threshold requirements are satisfied, with a one-time 'toll' charge on foreign accumulated earnings. Incentives were introduced for US manufacturing and services sold or provided abroad (so-called FDII [Foreign Derived Intangible Income]) and new anti-base erosion measures (e.g., GILTI [Global Intangible Low-taxed Income] and BEAT [Base Erosion and Anti-Abuse Tax]) were introduced. In addition, the reform called for the implementation of new anti-hybrid rules. The new legislation is extremely complex and its implications are still being evaluated by international businesses as we wait for guidance in the form of proposed and final regulations.

For domestic companies, such as our case study company, however, the impact has been more limited and centres on the reduction in the headline rate of CIT. The reform did not, however, simplify US tax rules. It could be argued that the system has become even more complicated, as the new rules need to be applied to an already complex tax framework.

Ghana

The greatest movement in TTCR in 2018 was in Ghana, where a reform that came into effect partway through the year increased the TTCR from 32.4% to 55.4%. In substance, the reform changed certain taxes from recoverable VAT to irrecoverable sales taxes (see page 36 for more information on the differences between VAT and sales tax). The reform was intended to secure adequate resources for the health and education funds, as the existing Government revenues were felt to be insufficient.[21]

Prior to the reform, Ghana had a standard VAT rate of 15%, of which 2.5 percentage points were allocated directly to the Ghana Education Trust Fund (GETF). There was also a national health insurance levy (NHIL) of 2.5%, which was charged on the same tax base as the VAT, being invoice value. The majority of the NHIL and the VAT were recoverable by VAT-registered suppliers making zero-rated and/or standard-rated supplies if these taxes were incurred in making taxable supplies.

As of 1 August 2018, the standard VAT rate was reduced to 12.5%, a new GETF levy of 2.5% was introduced and the NHIL was reformed. Both the new GETF levy and the reformed NHIL are levied on invoice value, as VAT was prior to the reform, but neither are recoverable by businesses. Following the reform, VAT is charged on an increased tax base, which is the invoice value plus the value of the GETF levy and NHIL. This increases the costs to business of purchasing goods and services, because the combined 5% uplift in cost from the GETF levy and the NHIL cannot be reclaimed or offset against taxes charged to customers.

Ghana is not alone in facing challenges in increasing its tax revenues. According to the OECD, two-thirds of developing economies struggle to raise taxes equivalent to more than 15% of GDP, which is generally regarded as the minimum level to be able to operate a functioning government.[22] As discussed on pages 37–39, governments need to consider how they can meet these challenges through strategic and long-term policies to build sustainable tax systems.

21. See the mid-year fiscal policy review of the 2018 budget statement and economic policy of the Government of Ghana, paragraphs 227–229: http://mofep.gov.gh/publications/budget-statements.

22. OECD, *Tax Morale: What Drives People and Businesses to Pay Tax?*, OECD Publishing, Paris, 2019: https://doi.org/10.1787/f3d8ea10-en.

VAT vs. sales tax

Generally, economies have tended to move from sales taxes towards consumption taxes on added value, such as VAT and goods and services taxes (GST). Within the OECD, all countries levy VAT/GST, except the United States, where resale sales taxes are levied at a subnational state level.[23] When *Paying Taxes* was first published 14 years ago, sales taxes were still present in several low-income African economies. For example, the global average TTCR for the first three years of the study was over 50%. The largest reductions seen to date were driven by the abolition of cascading sales taxes in Africa. Since 2013, Comoros and Eritrea are the only African economies that have retained a cascading sales tax.

The most recent examples of newly introduced VAT systems are in Saudi Arabia, the United Arab Emirates, and the Bahamas. One of the main differences between VAT and sales taxes is their economic efficiency. Sales taxes can have a cascading effect when they are collected at each step in the value chain, effectively charging tax on the tax levied during the previous step. VAT is more economically efficient, as it is borne only by the end consumer and is levied on the cumulative value added at each stage in the value chain. But VAT is a more complex tax to administer and can be more open to fraud, owing to the necessity of offsetting or refunding the tax paid by businesses on their purchases. In Table 6 below we compare the two forms of taxation.

Table 6: The key differences between VAT and cascading sales tax

What is VAT?

- An indirect multi-stage tax levied only on the value added at each stage of production
- A more neutral form of taxation applicable to a broader base
- A cost that is not generally borne by businesses due to the ability to deduct input tax paid against output liability

What is sales tax?

- A single point tax levied on the total value of goods and services purchased at the moment of sale
- Simpler, more straightforward and easier to comply with
- Usually easier to collect and track

Disadvantages of VAT

- It requires robust accounting and is more complex to comply with
- Its effectiveness depends on the infrastructure available, including technology, and the efficiency of tax administrations in collecting VAT

Disadvantages of sales tax

- It is potentially distorting because of the cascading effect that can cause an increase in consumer prices
- There are limited or no input tax credits
- If refunds are not in place, it is potentially a regressive tax structure

23. OECD, *Consumption Tax Trends 2018: VAT/GST and Excise Rates, Trends and Policy Issues*, OECD Publishing, Paris, 2018: https://doi.org/10.1787/ctt-2018-en.

Successful tax reform needs clear strategy

Amal Larhlid
Partner,
Global Fiscal Policy,
PwC UK

Every year in *Paying Taxes*, we see significant tax policy reforms. This year, we witnessed VAT being introduced in Saudi Arabia and the United Arab Emirates, major changes to consumption taxes in Ghana, a shift in the labour tax burden in Romania and broader tax reforms in the US.

Tax reform can be one of the toughest political challenges governments face. Any reform will inevitably create winners and losers, and the backlash is sometimes enough to sap the reformers' resolve. Although the process is rarely without controversy, certain risks of tax reform can be mitigated by ensuring reforms are driven with four key principles in mind.

Stress certainty for business. Any successful tax reform needs to be coupled with certainty and stability. Both characteristics are critical in ensuring that businesses have the confidence to start up, grow and invest. An example of an effective reform effort was the Business Tax Roadmap, released by the UK Government in 2016. It signalled to UK businesses what the long-term plan and direction of tax policy were and allowed them to operate and invest within a stable tax environment.

Consider the future. Decisions about tax reform should have long-term horizons and balance the need for immediate change with future spending demands. This is increasingly important because in future, governments are likely to come under greater fiscal pressures due to the impact of demographic and climate changes. Longer-term strategic approaches to tax policymaking will have more impact than shorter-term measures. In general, measures that broaden the tax base, as many of the US reforms did, are seen as growth enhancing and sustainable because they reduce the scope for tax-driven economic distortions and special treatment for certain groups of taxpayers. They also help limit the size of the informal economy, which otherwise reduces the tax take and can significantly undermine tax morale for compliant taxpayers.

Keep it simple. Although this is easier said than done, any reform should focus on developing simple policy frameworks that are workable for government, business and individuals. The frameworks should be adaptable to changing business models and technologies. It is widely accepted that tax systems will need to change around the world. This fact has been highlighted by recent proposals for the taxation of the digital economy. Acknowledging and preparing for change during tax reforms will ensure tax systems are able to respond and operate as intended in the future. Similarly, measures that simplify the tax code, for example, by moving to flatter rate structures, make it easier for taxpayers to understand and contribute, and help the system appear fair and legitimate. If tax reforms are poorly designed, there is a risk they will leave taxpayers feeling frustrated, potentially discouraging them from engaging positively with the tax system and increasing the risk of less than full compliance.

Establish principles. Tax reforms should be delivered in an environment that balances the need for democratic political change with agreed-upon principles. New Zealand is frequently cited as an example of best practice in forming tax policy. The country operates under a bipartisan political consensus based on the principles of 'broad base, low rate' taxation, in which taxes are applied with limited exemptions and concessions, typically at relatively low rates. This is coupled with a formalised and consistent process of consultation on proposed changes. This framework has helped to promote wide public understanding of the principles that have shaped tax policy and ensured that all stakeholders have had the opportunity to provide input throughout the process to avoid many of the unintended consequences of rushed reforms.

We will continue to see more tax reforms internationally as we move into a more globalised, technology-enabled world. Considering the key principles above when embarking on tax reform will assist with creating a tax system that operates and serves society as intended.

Considering the key principles above when embarking on tax reform will assist with creating a tax system that operates and serves society as intended.

Tax systems must keep up with the shifting shape of employment

Julian Sansum, Partner, Employment and Equity, PwC UK

Modern economies are evolving quickly: traditional patterns of employment are changing for millions of workers, and innovations, including artificial intelligence (AI) and robotics, are set to radically reshape the demand for human labour. Against this shifting background, governments face complex decisions over how to ensure the sustainability of the labour taxes that have traditionally funded their social security systems.

This issue is thrown into sharp relief by major trends in many economies. Stable, long-term employer–employee relationships are being replaced by more flexible and fluid arrangements — roles that once would have been taken by employees are now filled by people who are classified as self-employed service providers. This shift naturally reduces employers' liability for labour taxes because self-employed workers are not entitled to all of the statutory benefits available to employees. And as self-employment has spread, the new breed of gig economy workers is developing relationships with multiple organisations, hugely complicating the job of recording their income and calculating overall tax liability.

One of the key challenges these changes create for governments is the complexity they introduce into the system. Governments find it far easier to track incomes and collect taxes when there is a smaller pool of employers than to do so by dealing directly with millions of self-employed individuals, each of whom may have multiple sources of income.

This pattern may help to explain the drive by some governments to reconsider the classification of employment relationships between employed, self-employed and other forms of employment and to clarify how these classifications are enforced. For tax authorities, there are often benefits in classifying individuals as employed; this will usually increase social security contributions from employers and employees compared with self-employment, and it makes the taxes easier to collect. Individuals are likely to benefit from greater employment rights. Companies may experience increased costs and greater uncertainty if they are held solely liable for any incorrect classification of employment relationships.

Other trends are also having a major impact. Big increases in average life expectancy over recent decades have greatly extended the time many people spend in retirement. Although governments are pushing up state pension ages, higher life expectancy naturally increases the cost of providing state pensions, reinforcing the imperative to ensure that the tax system that pays for them remains sustainable. This can result in efforts to raise more money, for example, by increasing pension contributions of people who are still of working age.

Another emerging threat to that sustainability comes from the spread of intelligent automation — principally AI and robotics — that could see millions of jobs replaced by machines over the next few decades. In some analyses,[24] the roles most under threat from automation are middle-income jobs, which are among the biggest tax contributors. As tech adoption hollows out these sections of the economy, governments will have to ensure major retraining programmes are put in place so the people displaced can retain their earning capacity and rejoin the workforce at similar levels of income. All this requires resources.

Automation increases the pressure on tax systems for other reasons as well. When companies replace human workers with machines, they naturally depress the government's tax take because rates of corporation tax — which will apply to profits from increased productivity and potentially lower costs — tend to be lower than rates of tax on income that workers would have paid. And this effect is difficult to counteract. Given that capital is mobile, the simple expedient of raising corporate taxes to recoup the potential loss risks encouraging companies to shift their activities to lower-tax jurisdictions.

Considering the pace and scale of the changes we are witnessing in labour markets, it is clear that reforms to labour taxes and laws will continue to be pressing issues for governments all over the world.

24. For more, see PwC UK, *How will automation impact jobs?*: https://www.pwc.co.uk/services/economics-policy/insights/the-impact-of-automation-on-jobs.html.

Tax alignment between countries should be a key consideration for governments

Dr Jonathan Gillham, Director, Economics, PwC UK

Changes in tax policy that are a reaction to global events usually take time to feed through to the *Paying Taxes* indicators, but we expect that governments will be contemplating fiscal policy adjustments in the current climate. The latest economic data shows that the risks of a global slowdown are rising. In the US, economic activity is under pressure from trade tariffs and the unwinding of a major fiscal stimulus. Brexit uncertainty hangs over Europe, and German manufacturing is weak. Yields on a large proportion of bond and credit markets are negative. In Asia, China's growth is also slowing.

During times of growing economic uncertainty, economies need to ensure their fiscal position is sustainable and budget deficits are manageable, because any downturn is likely to increase the deficit.

This is particularly relevant now as global interest rates remain low, leaving little room for further stimulus from monetary policy. Fiscal policy will, therefore, play a major role in cushioning economies. Positioning tax systems to undertake this role is important and requires careful advanced planning.

The politics of tax changes can be fraught at the best of times, and exacerbated in periods of uncertainty. This is particularly the case when economies try to rebalance the tax system away from politically popular but distortive taxes — on capital, the corporate sector or specific activities such as financial services — and towards unpopular but more economically efficient taxes on property and consumption, for example.

It is also important for governments to keep abreast of any tax policy changes being introduced by their major trading partners. The general trend over the past decade is for more of the world's trade to take place within organised blocs, such as the European Union (EU), the North American Free Trade Agreement (NAFTA) and Asia-Pacific Economic Cooperation (APEC) areas. As a larger proportion of trade has become internalised within these blocs — and the pace of trade between blocs has slowed — there is increasing danger associated with deviating significantly from what important trading partners are doing.

For example, a growing number of countries, including the Gulf Cooperation Council (GCC) member states, are adopting VAT and aligning their tax systems to facilitate VAT transfers. VAT is an economically efficient tax,[25] although it can be more complex to administer than a sales tax and can present more compliance issues. Some governments may, therefore, choose to use sales taxes. Cascading sales taxes are easier to administer, but unlike VAT, they hit every stage of the supply chain and ultimately lead to higher consumer prices. Governments that decide to go in a different direction, perhaps preferring a sales tax because it is easier to administer, risk introducing economic distortions.

If countries that are important trading partners operate a refundable VAT system, domestic companies are likely to restructure their supply chains to optimise their tax position. This can lead them to replace domestically sourced goods with foreign products, weakening local supply chains and widening the country's trade deficit because of the influx of cheaper imported products.

Similarly, countries whose economies depend on attracting significant flows of foreign labour and business investment may opt for lower personal and corporate taxes, and relatively higher taxes on consumption. These have a less visible impact on individual incomes and are less likely to discourage foreign workers and companies.

In their efforts to create an effective and economically efficient tax system, governments must tread carefully and pay special attention to ensuring any changes reflect the needs of their economy and avoid pushing it out of alignment with their country's major trading partners.

25. OECD, *Tax Policy Reform and Economic Growth*, OECD Tax Policy Studies, No. 20, OECD Publishing, Paris, 2010: https://doi.org/10.1787/9789264091085-en.

Chapter 4 – Improvements in post-filing processes

Preparing and filing tax returns is only part of the tax compliance burden faced by businesses. Some of the most complex processes arise after returns have been filed. In *Paying Taxes 2017*, *Doing Business* introduced the post-filing index to assess what businesses need to do to obtain a value-added tax (VAT) refund and to correct a corporate income tax return. This chapter looks at the changes that have taken place in the post-filing index over the past five years (2014–18).[26]

Although the overall post-filing index score has been very stable, we have seen significant changes at the economy level in both the VAT and corporate income tax (CIT) components of the index. As with all other tax compliance matters, technology is helping reduce the burden of post-filing processes. In general, high-income economies with higher levels of digitisation in their filing processes are most likely to perform well in both pre- and post-filing processes, although there are exceptions.

The post-filing index is expected to remain stable because changes to VAT refund regimes and approaches to CIT audits are relatively rare and can take several years to implement. Since 2014, only a few economies have extended or restricted refunds to our case study company, while others have improved their CIT audit processes by introducing better or more straightforward audit practices.

Because these processes require broad coordination and involvement of multiple stakeholders within the tax administration, they are unlikely to change frequently.

Any changes in the time taken by tax administrations to refund VAT or approve a CIT correction are also likely to have a cultural dimension, depending on how taxpayers are risk assessed and whether the prevailing ethos of tax administrations is one of facilitation or enforcement. The availability and use of technology also plays a role in providing data for risk assessments and reducing the opportunity for fraud.

There are several reasons that economies may restrict VAT refunds, including significant levels of fraud and a lack of fiscal resources to pay the refund. As technology continues to make it easier to verify that VAT has been paid, and therefore reduce the risk of fraudulent refund claims, it will be interesting to see if there are further improvements in the scores for the VAT refund components.

What is the post-filing index?

The post-filing index is a score from zero to 100, where zero represents the least efficient process and 100 the most efficient. The index is made up of four components (see page 42), and each of these also is given a score from zero to 100. The final score is the average of these four component scores.

If an economy does not have VAT (or the capital investment in the case study company is VAT-exempt) or CIT, then the relevant components are omitted. If an economy charges VAT, but a refund is not available to our case study company, the economy will score zero for the VAT components of the index.

For an economy to have a post-filing index score, it is not enough to have the legislative framework that allows for VAT refunds. *Paying Taxes* looks at the practical aspects of such mechanisms and whether or not they are used by taxpayers. Economies where the legislation allows for VAT refunds, but where evidence suggests that VAT refunds are almost never paid out in practice, receive a score of zero for this component of the index. These include The Gambia, Niger and Djibouti.

26. The post-filing index was introduced in *Paying Taxes 2017,* which relates to calendar year 2015. In that year, data was also collected for calendar year 2014.

The components of the post-filing index

The index is made up of the following four equally weighted components; two relate to the process of obtaining a VAT refund and two to the correction of an inadvertent error in a corporate income tax return.

VAT refund scenario: Our case study company buys new machinery. The cost is so large that the input VAT paid on the purchase greatly exceeds the company's output VAT on sales in the period. The company, therefore, claims a cash refund of the excess input VAT. We measure the associated impact in two ways:

Time to comply with VAT refund (hours) includes:

- time spent preparing and submitting the refund claim
- time spent preparing information for the tax officers, if, in 50% or more of cases, a company that requests a VAT cash refund arising from a capital purchase would be selected for additional review

Time to obtain VAT refund (weeks) includes:

- time from purchase of the machine to the date of submission of the refund claim (this is equal to half the filing period)
- length of any mandatory period that the excess output VAT must be carried forward before a claim can be made
- time from the submission of the VAT refund claim to the date the refund is received. If a company that requests a VAT cash refund arising from a capital purchase would be selected for additional review in 50% or more of cases, the duration of the review is included in the time

CIT correction scenario: Our case study company makes a simple and inadvertent error in its tax return, resulting in an underpayment of 5% of the overall CIT liability. It voluntarily notifies the tax authority of the error after the deadline for filing the return and pays the additional tax due. We measure the associated impact in two ways:

Time to comply with a CIT correction (hours) includes:

- time spent preparing and submitting the correction
- time spent preparing information for the tax officers, if, in 25% or more of cases, a company that voluntarily reports an error in its CIT return and an underpayment of the tax due would be selected for additional review

Time to complete a CIT correction (weeks) includes:

- the length of time between submitting the correction and the receipt of the final outcome of the review, if, in 25% or more of cases, a company that voluntarily reports an error in its CIT return and an underpayment of the tax due would be selected for additional review
- the time the company has to wait before making the additional tax payment if it cannot be paid at the time the correction is submitted

↖ 60.9

In 2018, the global average post-filing index score increased slightly, from 59.9 to 60.9. In 2018, it took our case study company 18.2 hours to comply with a VAT refund claim and 27.3 weeks to obtain the refund. The average time to comply with the CIT correction was 14.6 hours, and for those 76 economies where there would be a review in more than 25% of cases, the review lasted on average 27.0 weeks. The global average time to complete a CIT correction was 25.5 weeks. This includes five economies[27] where the tax authorities make companies wait for a short time before allowing for additional payments. The fact that they have a waiting period does not indicate a review.

27. Denmark, Libya, Luxembourg, Myanmar and the Netherlands.

Since 2014, the post-filing score has increased in 31 economies and has dropped in 10.

Post-filing index 2018 vs. 2014

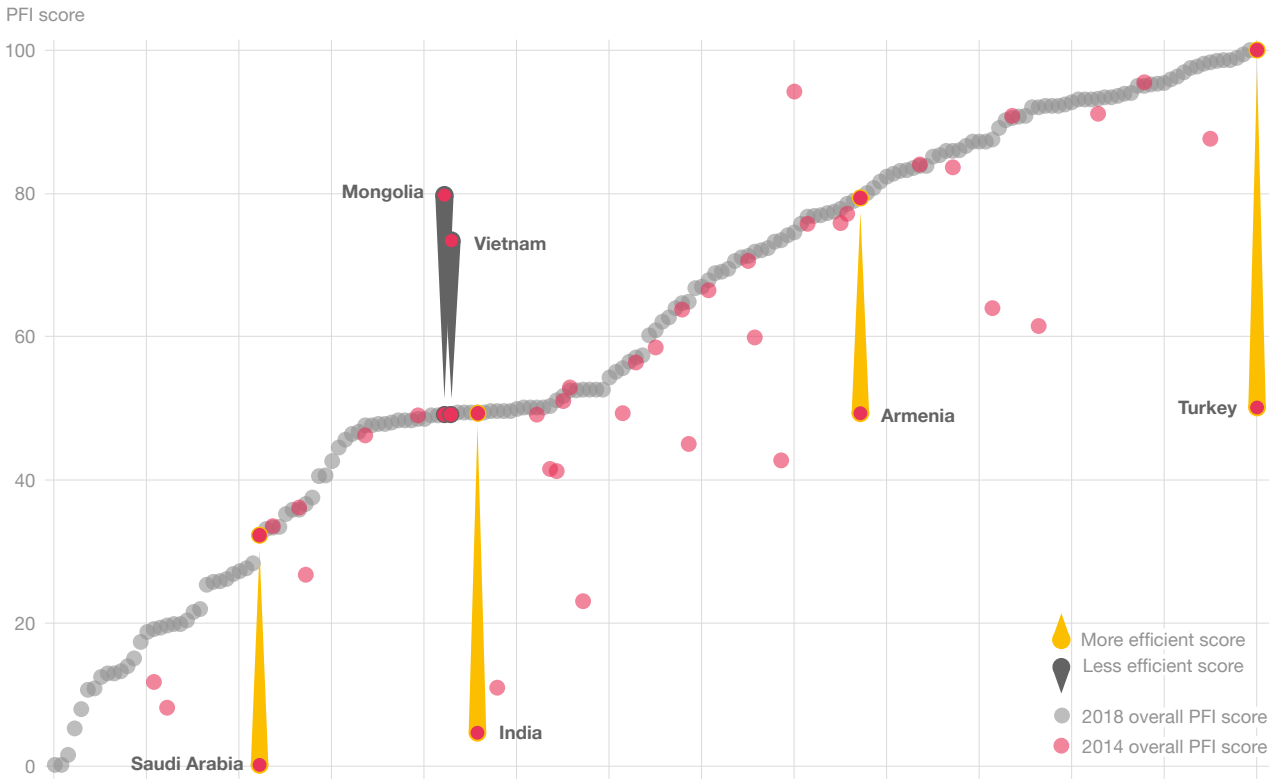
The global average post-filing index score increased from 58.9 in 2014 to 60.9 in 2018. Figure 10 sorts economies by their post-filing index score in 2018 and shows the movement in those scores since 2014. Since 2014, the post-filing score has increased in 31 economies and has dropped in 10. Some of the most significant movements are explained below.

Improvements in the post-filing index score

The introduction of VAT in 2018 helped improve the overall score for **Saudi Arabia** because the new VAT score compensated for a poor CIT score. Since 2014, it has taken our case study company around 70 hours to comply with the CIT correction in Saudi Arabia and more than 33 weeks to complete the correction. The time to comply with the VAT refund (16.5 hours) and the time to obtain the refund (23 weeks) are both below the global averages.

India has seen significant movement in the post-filing index, from a score of 4.5 in 2014 to a score of 49.3 in 2018. In 2014, it took more than 53 hours to comply with a CIT correction and more than 27 weeks to complete the correction. Administrative measures introduced in 2016 reduced the time to comply with a CIT correction to 3 hours and greatly decreased the likelihood of additional review. The 2016 reform included the introduction of the Income Computation and Disclosure Standards (ICDS), which helped standardise the computation of taxable income. Additionally, improved software further automated data gathering.

Figure 10: Post-filing index (PFI) score, 2018 vs. 2014



Note: For 2018, there are 183 economies scored on the PFI, though six economies are omitted from this chart, as they have no VAT or CIT regime (Bahrain, Kuwait, Marshall Islands, Micronesia, Fed. Sts., Palau and Qatar). For 2014, only the 41 economies with changes in their PFI score between 2014 and 2018 are shown, this excludes The Bahamas and the United Arab Emirates which introduced VAT between 2014 and 2018 and so had no score in 2014, but were scored in 2018.
Source: *Paying Taxes 2020* data

Turkey has had efficient CIT compliance processes since 2014: annually it takes just 1.5 hours to make a CIT correction, with a less than 25% probability that the correction will be subject to additional review. VAT refunds, however, were not available to our case study company, resulting in a score of zero for the VAT components of the index. As of 2018, capital purchases are exempt from VAT, so the case study company does not incur VAT buying new equipment and therefore has no VAT to reclaim. The VAT components of the post-filing index are thus not relevant, and the post-filing index score increased to 100, based solely on the CIT components.

In **Armenia**, VAT refunds were not available to our case study company in 2014, and the economy received a score of zero for the VAT components of the post-filing index. However, as the CIT processes were efficient, Armenia still managed an overall score of 49.1 in 2014, which was close to the average. Since 2018, Armenia has afforded cash refunds of VAT incurred on capital investments and, as a consequence, the post-filing index score increased to 79.4.

In 2018, in addition to the VAT reforms in Armenia and Turkey described, **China** also amended its legal framework to allow VAT refunds to certain industries under certain conditions. China now allows domestic companies operating in 19 industries to claim cash refunds of VAT. This includes companies, such as the case study company, that operate in the manufacturing industry. As well as meeting the industry criteria, companies must have an appropriate tax credit rating to be eligible for the refund.

As the reform came into effect only in August 2018, it was not possible this year to get a robust understanding of how long VAT refund processes are taking, so China was not scored on VAT refunds for this edition of *Paying Taxes*. We expect it will be scored in future years as experience of the refund process increases.

Reductions in the post-filing index score

Mongolia's overall post-filing index score of 79.7 in 2014 decreased to 49.1 in 2016, as the case study company was no longer allowed to deduct input VAT — the VAT charged on its purchases, as distinct from output VAT, which is charged on what it sells — incurred on capital expenditure. As a result, no VAT refund was available, and Mongolia scored zero on the VAT components of the post-filing index.

Similarly, in 2014, **Vietnam** had an overall post-filing index score of 73.3, because refunds were available to the case study company. The score dropped to 49.1 in 2016 following a reform that restricted VAT cash refunds to exporters.

Key changes in post-filing index score components

Having looked at the most significant movements in the overall post-filing index score in Figure 10, we separate out the movement within the VAT and CIT components in Figures 11 and 12. This helps identify interesting reforms in these two areas.

Changes in the VAT component

Figure 11 shows changes to the VAT component of the post-filing index between 2014 and 2018 for all the economies in the study. Though the average VAT score increased from 40.3 in 2014 to 42.0 in 2018, there were a few economies where the score fell.

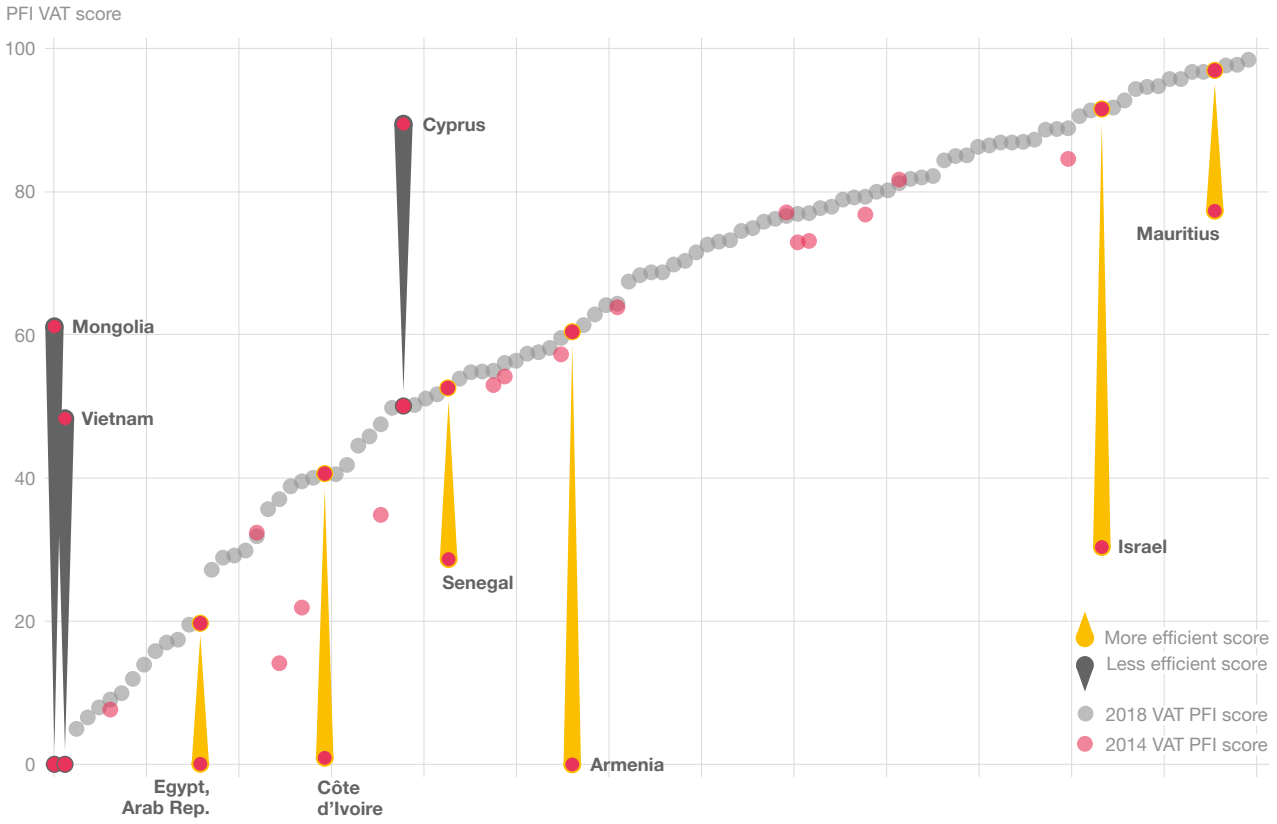
Changes in the VAT component score are usually due to one or more of the following:

- increased or restricted availability of a refund for the case study company because of the type of industry it is in or the type of business it conducts, e.g., a VAT refund may not be available in some economies to businesses that make only domestic supplies.
- a change in the extent to which refunds are made available in practice, even if in theory there is no change in the system.
- changes as to whether input VAT can be deducted against an output VAT liability, i.e., whether input VAT is a cost to the business.
- whether or not VAT is charged on capital purchases
- the likelihood of additional reviews triggered by a request for refund.
- improvements in technology or other administrative measures that make the refund process faster and less open to fraud.

For the VAT refund components, the best-performing economies are those that offer a cash refund in the shortest possible time, with the minimum amount of time being spent by taxpayers in providing information. The most efficient systems are those in which the VAT refund can be claimed as part of the regular VAT filing with no additional forms or information requirements.

Although **Egypt** made VAT refunds available to the case study company in 2017, the VAT refund process remains burdensome. It takes our case study company around 89 hours to comply with a refund application and more than 34 weeks to obtain the refund. As a result, the economy receives a score of 19.8 for the VAT components of the post-filing index.

Figure 11: Post-filing index (PFI) score of the VAT component, 2018 vs. 2014



Note: For 2018, the chart shows 105 economies with a VAT PFI score higher than zero and two economies with a score of zero. For 2014, only the 24 economies with changes in their VAT PFI score between 2014 and 2018 are shown, this excludes The Bahamas and the United Arab Emirates which introduced VAT between 2014 and 2018 and so had no score in 2014, but were scored in 2018. **Source:** *Paying Taxes 2020* data

VAT refunds have been available in **Côte d'Ivoire** since 2014, but the process was time consuming. It took our case study company more than 64 hours to comply with the refund application process and more than 54 weeks to obtain the refund. In 2018, the VAT refund process was significantly improved, as the tax administration put in place an online case management system for processing VAT cash refunds.

Similarly, in 2014, **Israel** had lengthy VAT refund processes. It took on average 34 hours to comply with the refund application process and 40 weeks to obtain the refund. This changed in 2015, when the entire VAT reporting system moved online, and as a result, from 2015 VAT refunds were processed more quickly. The time to comply with a refund is now just four hours, and obtaining the refund takes 7.5 weeks.

Unlike Vietnam and Mongolia, where the VAT refund score fell owing to changes in the availability of refunds, and the deductibility of VAT respectively, **Cyprus's** score fell as the refund process became less efficient. In 2016, Cyprus increased the frequency of VAT audits, including in cases of VAT cash refund requests. As a result, a refund request would be likely to lead to additional reviews by the tax authority and the time to obtain a VAT refund increased from 7.5 weeks in 2014 to 43.8 weeks in 2018.

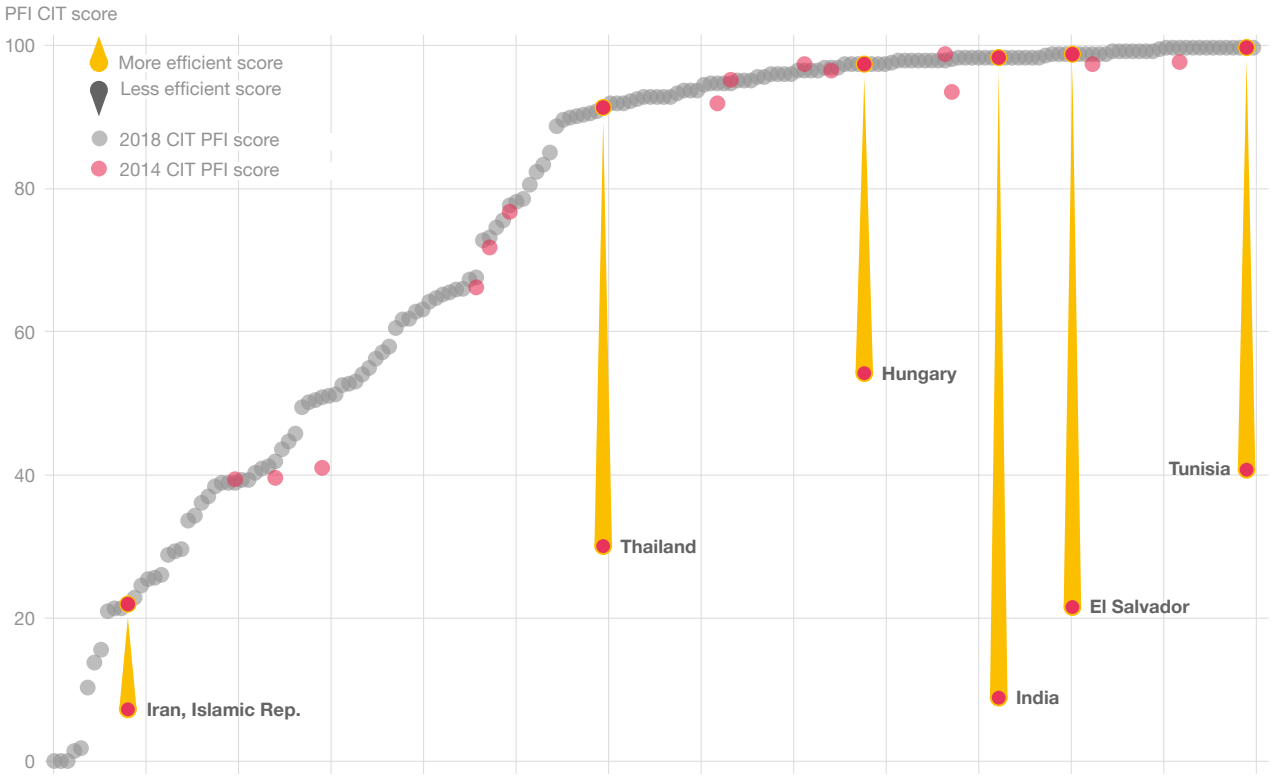
Changes in the CIT component

Figure 12 shows the economies with changes to the CIT component of their post-filing index score between 2014 and 2018. A number of economies have made improvements to their CIT components since the creation of the post-filing index, some of which are significant. Although a few have seen a deterioration in their CIT component scores, these drops have been minimal. The average CIT post-filing index score increased from 73.7 in 2014 to 75.8 in 2018.

The main drivers that affect the CIT component of the post-filing index are:

- the likelihood that the CIT correction will be subject to additional review.
- changes in the approaches to audits or reviews by the tax authority and the systems used, i.e., random audits versus risk-based audits.
- availability of online systems for filing, paying and correcting CIT returns.
- the extent to which technology is used to ease the CIT compliance process.

Figure 12: Post-filing index (PFI) score of the CIT component, 2018 vs. 2014



Note: For 2018, the chart shows 180 economies with a CIT PFI, though nine economies are omitted from this chart as they have no CIT regime. For 2014, only the 20 economies with changes in their CIT PFI score between 2014 and 2018 are shown. **Source:** *Paying Taxes 2020* data

For the correction of the CIT error, the best-performing economies are those in which the correction of the tax return requires minimal administrative work and in which the company would be selected for additional review in less than 25% of cases.

In **Tunisia**, prior to 2018, a correction of the CIT return usually resulted in additional reviews by the tax authority, and the time to complete the correction was more than 75 weeks. In 2018, however, with the introduction of a risk-based tax audit system, a CIT correction took just 1.5 hours, and this is not expected to result in additional reviews by the tax authority.

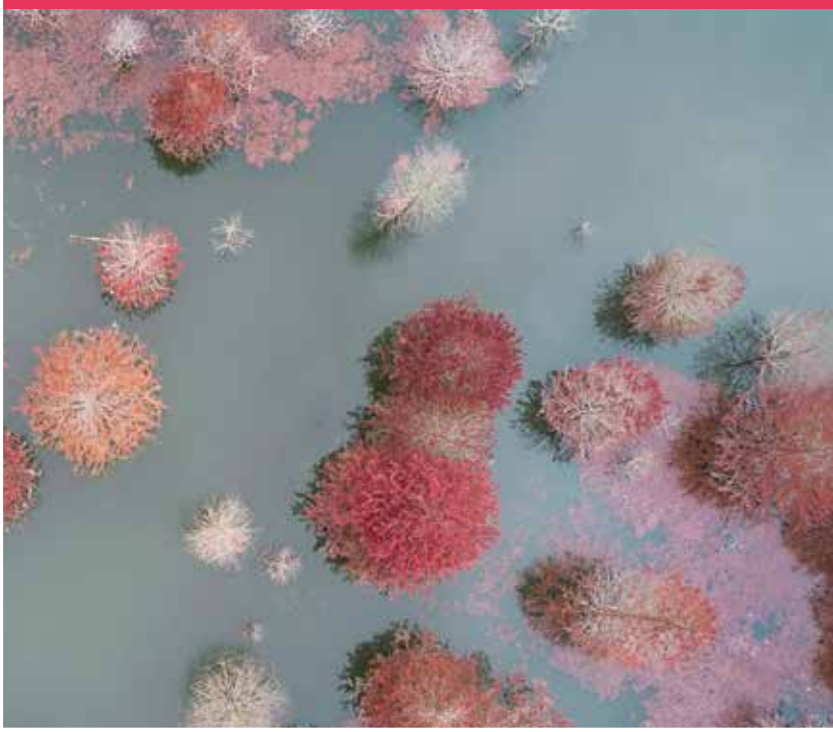
Similarly, in **El Salvador**, dealing with a CIT correction was burdensome up until 2016 and would take our case study company more than 47 weeks to complete. This included the additional reviews that would result from such corrections. In 2016, the tax administration changed its audit assessment criteria and moved towards focussing more on larger enterprises. The *Paying Taxes* case study company is considered a small to medium-sized enterprise; thus, the incidence of audits or additional reviews following a CIT correction significantly decreased. As a result, in 2018 it took only 2.5 hours for our case study company to comply with the correction.

In **Thailand** and **Hungary**, CIT compliance processes were significantly improved in 2016 when the tax authorities implemented an automatic risk-based system for selecting companies for audit. As a result, in Thailand, the time to comply with a correction decreased from 28 to 10.5 hours, and a correction no longer resulted in additional reviews by the tax authority. In Hungary, it decreased from 12 to four hours and no further reviews were necessary.

Iran had a score of 7.3 for the CIT component of the post-filing index score in 2014, because the time it took for the case study company to comply with a CIT correction was 48 hours — and the time it took to complete the correction — 38 weeks — was worse than the cutoff point for a zero score. These processes slightly improved in 2017, when an online system for filing and payment of taxes was introduced. Nonetheless, it still takes around 32 hours to comply with the correction, and time to complete the correction remains the same.

Between 2014 and 2018, there was limited movement in the post-filing index, but many of the economies that have made changes have seen significant improvements in their scores. Such changes, however, usually require substantial reforms to the overall tax administration, such as extending the availability of tax refunds or a change in the approach to the selection of companies for a tax audit. Improved technology has facilitated some of these reforms by providing better data to tax administrations and thus allowing them to improve risk assessment processes and reduce the opportunities for fraud. Technology has also sped up the processes of applying for VAT refunds and making CIT corrections.

Appendix



For the purposes of geographic comparisons, the economies are split into regions[28] as follows:

Africa

Algeria; Angola; Benin; Botswana; Burkina Faso; Burundi; Cabo Verde; Cameroon; Central African Republic; Chad; Comoros; Congo, Dem. Rep.; Congo, Rep.; Côte d'Ivoire; Djibouti; Egypt, Arab Rep.; Equatorial Guinea; Eritrea; Eswatini; Ethiopia; Gabon; Gambia, The; Ghana; Guinea; Guinea-Bissau; Kenya; Lesotho; Liberia; Libya; Madagascar; Malawi; Mali; Mauritania; Mauritius; Morocco; Mozambique; Namibia; Niger; Nigeria; Rwanda; São Tomé and Príncipe; Senegal; Seychelles; Sierra Leone; South Africa; South Sudan; Sudan; Tanzania; Togo; Tunisia; Uganda; Zambia; Zimbabwe.

Asia-Pacific

Afghanistan; Australia; Bangladesh; Bhutan; Brunei Darussalam; Cambodia; China; Fiji; Hong Kong SAR, China; India; Indonesia; Japan; Kiribati; Korea, Rep.; Lao PDR; Malaysia; Maldives; Marshall Islands; Micronesia, Fed. Sts.; Mongolia; Myanmar; Nepal; New Zealand; Pakistan; Palau; Papua New Guinea; Philippines; Samoa; Singapore; Solomon Islands; Sri Lanka; Taiwan, China; Thailand; Timor-Leste; Tonga; Vanuatu; Vietnam.

Central America & the Caribbean

Antigua and Barbuda; Bahamas, The; Barbados; Belize; Costa Rica; Dominica; Dominican Republic; El Salvador; Grenada; Guatemala; Haiti; Honduras; Jamaica; Nicaragua; Panama; Puerto Rico; St. Kitts and Nevis; St. Lucia; St. Vincent and the Grenadines; Trinidad and Tobago.

Central Asia & Eastern Europe

Albania; Armenia; Azerbaijan; Belarus; Bosnia and Herzegovina; Georgia; Israel; Kazakhstan; Kosovo; Kyrgyz Republic; Moldova; Montenegro; North Macedonia; Russian Federation; Serbia; Tajikistan; Turkey; Ukraine; Uzbekistan.

EU & EFTA

Austria; Belgium; Bulgaria; Croatia; Cyprus; Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Iceland; Ireland; Italy; Latvia; Lithuania; Luxembourg; Malta; Netherlands; Norway; Poland; Portugal; Romania; San Marino; Slovak Republic; Slovenia; Spain; Sweden; Switzerland; United Kingdom.

Middle East

Bahrain; Iran, Islamic Rep.; Iraq; Jordan; Kuwait; Lebanon; Oman; Qatar; Saudi Arabia; Syrian Arab Republic; United Arab Emirates; West Bank and Gaza; Yemen, Rep.

North America

Canada; Mexico; United States.

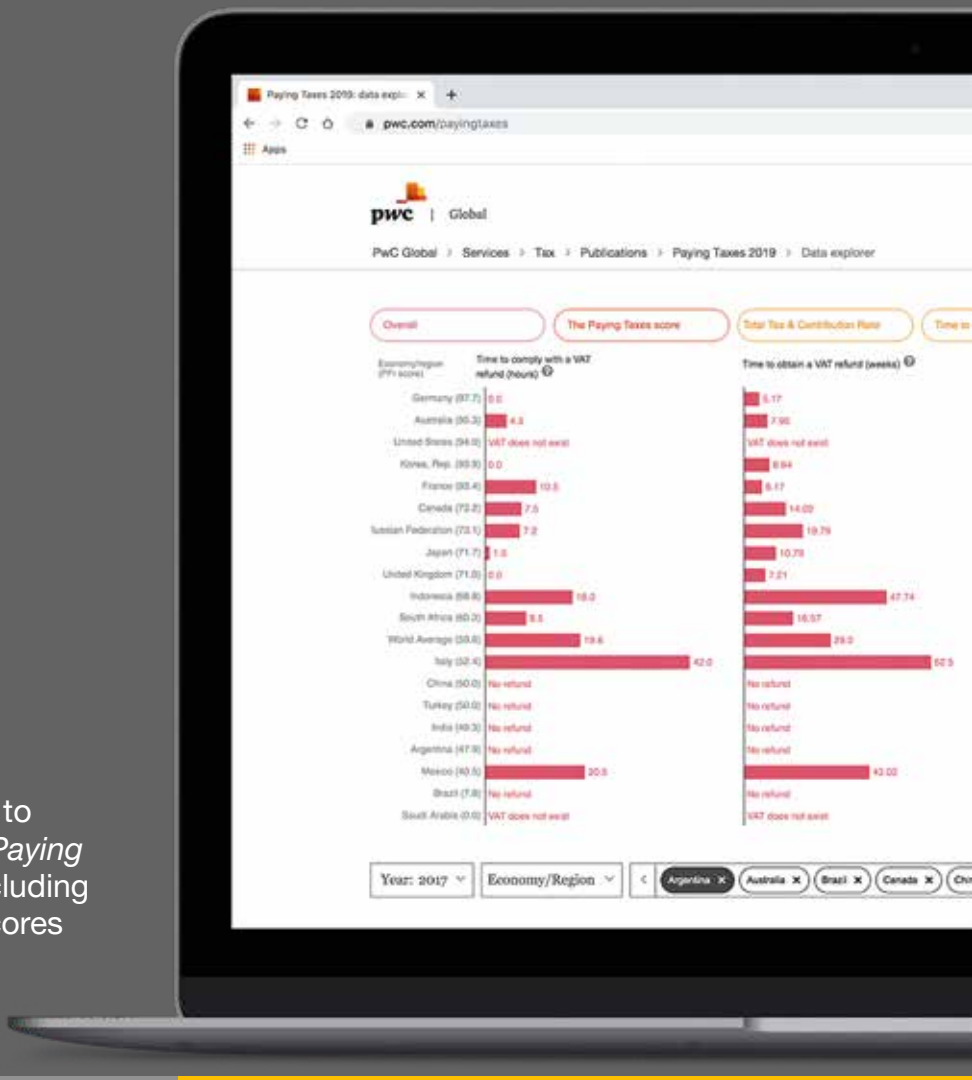
South America

Argentina; Bolivia; Brazil; Chile; Colombia; Ecuador; Guyana; Paraguay; Peru; Suriname; Uruguay; Venezuela, RB.

28. The World Bank puts countries into slightly different geographic regions. See https://datahelpdesk.worldbank.org/knowledgebase/articles/906519.

Paying Taxes online

Visit pwc.com/payingtaxes to see and download the full *Paying Taxes* data set for 2018, including the ease of paying taxes scores and rankings.



Use our data modeller tool to see data from all years of the study for all economies and selected regional and economic groups. The tool allows you to create and download your own comparison charts.

You can also see which economies had the biggest changes this year in the Total Tax and Contribution Rate and the time to comply and number of payments indicators.

4

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The Total Tax & Contribution Rate included in the survey by the World Bank Group has been calculated using the broad principles of the PwC methodology. The application of these principles by the World Bank Group has not been verified, validated or audited by PwC and, therefore, PwC cannot make any representations or warranties with regard to the accuracy of the information generated by the World Bank Group's models. In addition, the World Bank Group has not verified, validated or audited any information collected by PwC beyond the scope of *Doing Business Paying Taxes* data and, therefore, the World Bank Group cannot make any representations or warranties with regard to the accuracy of the information generated by PwC's own research.

The World Bank Group's *Doing Business Paying Taxes* ranking indicator includes three components in addition to the Total Tax & Contribution Rate. These estimate compliance costs by looking at hours spent each year on tax work and the number of tax payments made in a tax year, and evaluate and score certain post-filing compliance processes. These calculations do not follow any PwC methodology but do attempt to provide data which is consistent with the tax compliance cost aspect of the PwC Total Tax Contribution framework.

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