

Paying Taxes 2019

Fourteen years of data and analysis of tax systems in 190 economies: how is technology affecting tax administration and policy?

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Foreword

The world is changing with unprecedented speed, driven by megatrends, including demographic change, the shift of economic power to emerging countries, climate change and urbanisation. But it is the developments in technology that are changing lives beyond recognition, day by day. Technology is transforming the nature of jobs that are available and the skills needed to do them. This, in turn, is likely to require greater investment in human capital, especially in learning and development. Some economies are already beginning to grapple with these challenges, but for developing economies in particular, there is a mountain to climb.

The **World Bank's World Development Report 2019, The Changing Nature of Work, and PwC's Workforce of the Future** report show just how fundamental technological developments will be to the way in which societies and economies operate. They are also fundamental to the evolution of tax systems – both in how economies raise revenues and what they levy taxes on. For more than a decade, *Paying Taxes*, as part of the World Bank's Doing Business project, has compared tax systems across 190 economies, highlighting how technology is changing the way taxes are administered and collected, using a medium-sized case study company as the basis for the comparison. Year by year, more and more businesses are able to file and pay their taxes online, resulting in substantial savings in time and cost.

In this report, we look at how new tax software, real-time reporting systems and data analytics are changing the way companies meet their tax compliance obligations and how tax authorities monitor and enforce those obligations. We examine the balance between labour and income taxes as economies consider the effect of the changes on the nature of work and the impact this has on revenue streams. We also look at some of the different approaches taken by tax authorities to tax audits and to the provision of training for both tax officers and taxpayers.

Although in many respects, the world is changing faster than ever, at a global level, our case study company has this year seen very little change in the average ease of paying taxes. This seeming stability masks considerable developments taking place in individual economies which cancel out at a global level. Some economies, which were already using advanced technology for tax administration, have continued

to improve their systems to the benefit of both taxpayers and tax authorities, recording significant decreases in the time it takes to prepare, file and pay taxes. Others, though, are lagging behind and have introduced new taxes without the advantages of modern technology, thereby increasing the compliance burdens on taxpayers.

The impact of technology goes far beyond tax administration; it will also affect the income streams that are available to be taxed. We are already seeing technology driving changes in the employment skills which are needed, in business and employment models and in the ways in which businesses operate across geographic boundaries. All of these changes may mean governments need to reassess how they raise taxes from the available sources of income and wealth.

In recent years, *Paying Taxes* has shown that, globally, labour taxes and profit taxes account for similar proportions of the taxes borne by our case study company, as measured by the Total Tax and Contribution Rate (TTCR), but this might change in the future if governments adjust their tax strategy in response to the changing nature of the tax base. For example, we have seen this year that some governments have implemented changes to corporate income tax (CIT) that are intended to encourage domestic and foreign investment.¹ Others have sought to lower the costs of employment by reducing the rates of social security contributions (SSC).

Some governments, on the other hand, are increasing tax rates. If governments are to invest in the human capital of their populations, then, as discussed in the World Bank's *World Development Report 2019*, many may wish to consider increasing the amount of tax they raise as a proportion of gross domestic product (GDP), particularly in lower-income countries where tax-to-GDP ratios are below the global average.²

Changing tax rates or adjusting the balance between direct and indirect taxes are two possible ways to increase tax revenues. Another way is to make tax systems as simple as possible to comply with and then enforce the rules in a way that is fair, transparent and proportionate. Simple, coherent, well-understood and properly administered tax systems can help to lower the barriers for businesses to move from the informal to the formal sector. This, in turn, broadens the tax base and has the potential to raise tax revenues without increasing tax rates.

Within *Paying Taxes*, the enforcement of the tax system is considered through the lens of the post-filing index. The index considers two events that could trigger additional reviews (which may include a formal tax audit): claiming a value-added tax (VAT) refund in the case of a capital purchase and correcting a CIT return. The duration and extent of those reviews, however, will be affected by the underlying tax system and the working practices of the tax authority. In this report, we consider some specific examples of issues that may prolong or complicate tax audits in some economies but which would be considered uncontroversial in others. We also look at the training and education that tax authorities provide to their own staffs and to taxpayers to help both sides understand and comply with tax obligations.

By providing a robust comparison of the taxation of business in 190 economies, *Paying Taxes* helps governments and businesses understand if their tax systems are keeping pace with global change and learn from what others are doing. It can increase trust and understanding between taxpayers and tax authorities by improving the understanding of where systems are working well and where there is room for improvement.

We hope that this report will be of value to all those interested in improving tax systems whether they work 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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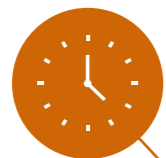
Key findings from the *Paying Taxes 2019*

data*

The global average results for our case study company are almost unchanged from last year, and yet 113 economies recorded tax reforms.

237 hours
Time to comply

▼ DOWN 2 HOURS FROM 2016



Time

23.8

Number of payments

▼ DOWN 0.2 FROM 2016



Payments

40.4%

Total Tax & Contribution Rate

— THE SAME AS 2016



TTCR

59.6/100

Post-filing index

▲ INCREASED BY 0.2 FROM 2016



PFI



Technology

is already making tax compliance easier in many economies, but more can be done to unlock its full potential.

84 hours

Since 2004, the global average time to comply has fallen by 84 hours.

High-performing economies use

- Real-time reporting systems
- Pre-populated tax returns
- Machine-learning tax accounting systems

10.3 payments

The global average number of payments has fallen by 10.3 since 2004.



Labour and profit taxes

have each accounted for around 40% of the Total Tax and Contribution Rate since 2008 – will this continue?

39 economies

The labour tax component of the Total Tax and Contribution Rate rose in 39 economies, and fell in 17.

17 economies

37 economies

In 2017, the profit tax component of the Total Tax and Contribution Rate fell in 58 economies, and rose in 37.

58 economies

13 points

The average Total Tax and Contribution Rate is around 13 percentage points higher for low-income economies than high- and middle-income ones.



Audits and disputes

can be some of the most difficult interactions between taxpayers and tax officers.

The following four components are each given a score out of 100 and averaged to give the post-filing index score.

19.6 hours

to comply with a VAT refund.

29.0 weeks

to obtain the refund.

15.1 hours

to comply with the correction of a corporate income tax return.

26.1 weeks

to complete a corporate income tax correction.

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

www.pwc.com/payingtaxes

The post-filing index is a score out of

100

The higher the score, the more efficiently taxpayers receive VAT refunds and correct corporate income tax returns.

Improving tax officers' skills is vital for a well-functioning tax system.

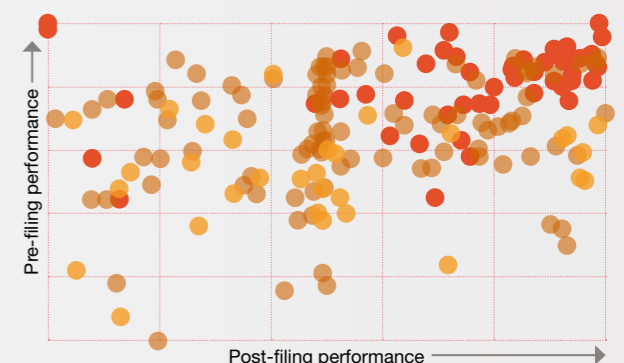
97%

97% of economies provide training to tax officers.

35%

35% of economies offer regular, periodic training to tax officers.

High-income economies are most likely to perform well in both pre-filing and post-filing processes – but there are exceptions.

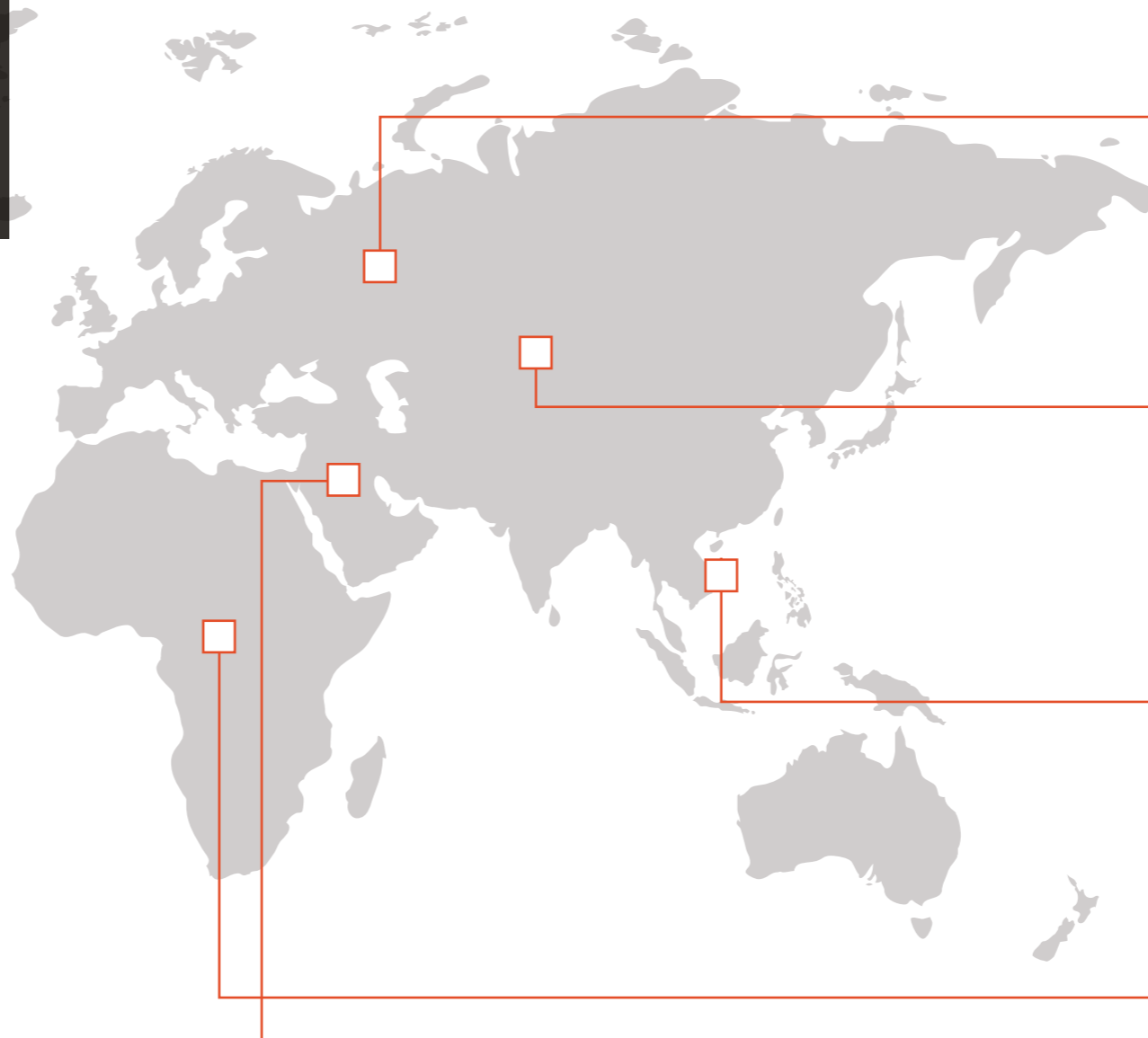


*The most recent data in *Paying Taxes 2019* relates to the calendar year ended 31 December 2017

Pre-filing performance is a simple average of the scores of the time to comply and number of payments indicators.

World average for 2017

Time to comply	Payments	Total Tax & Contribution Rate (TTCR)	Post-Filing Index (PFI)
237 hours	23.8	40.4%	59.6



EU & EFTA

With the most efficient post-filing processes, this region is the easiest in which to pay taxes – but the time to comply increased in 2017 for the first time, although only by one hour.

Time	161
Payments	11.9
TTCR	39.3
PFI	82.4

Central Asia & Eastern Europe

This is the most reformed region since 2004, with the time to comply falling by 263 hours and the number of payments by 39.2.

Time	220
Payments	15.9
TTCR	32.8
PFI	62.4

Asia Pacific

Since 2004, the region's time to comply has dropped by 75 hours and the number of payments by 5.4, resulting in all three pre-filing indicators being below the global average.

Time	197
Payments	21.9
TTCR	36.4
PFI	56.9

Africa

Since 2004, the average TTCR has decreased from 69.7% to 47.6%, following the abolition of cascading sales taxes – despite this, the region has the second-highest TTCR.

Time	285
Payments	35.5
TTCR	47.0
PFI	56.0

North America

This region has the lowest number of payments, as all three countries – Canada, Mexico and the US – have online filing and payment systems for all taxes.

Time	182
Payments	8.2
TTCR	39.1
PFI	69.3

Central America & the Caribbean

Solid progress in introducing electronic payments has reduced the number of payments indicator by 14.1 since 2004, but 65% of the economies in the region have more payments than the world average.

Time	203
Payments	29.8
TTCR	42.3
PFI	51.2

South America

This is the most difficult region in which to pay taxes, as 83% of the economies have a higher time to comply than the world average, and a VAT refund is available to the case study company in only two economies.

Time	547
Payments	22.6
TTCR	52.5
PFI	41.5

Middle East

This region has the lowest TTCR and time to comply, but these may increase as new taxes are introduced in several economies to reduce reliance on revenues from hydrocarbons.

Time	144
Payments	17.1
TTCR	24.4
PFI	44.6

Please see the **appendix** for details of which economies are in each region.



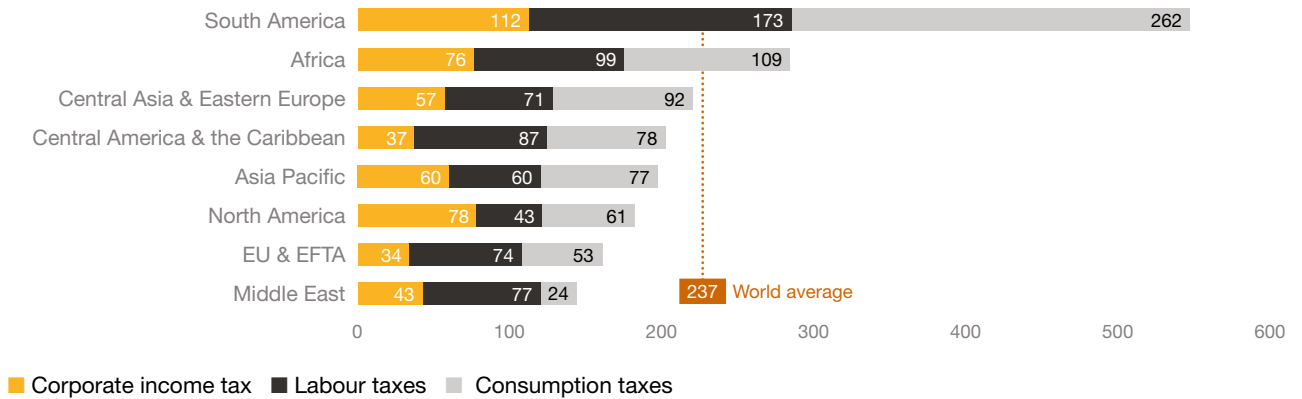


Comparing the geographic regions

In the following charts (Figures 1 to 4) we compare the average results for 2017 for each of the four indicators by geographic region. The TTCR, time to comply and payments indicators are broken down into their components by tax types.

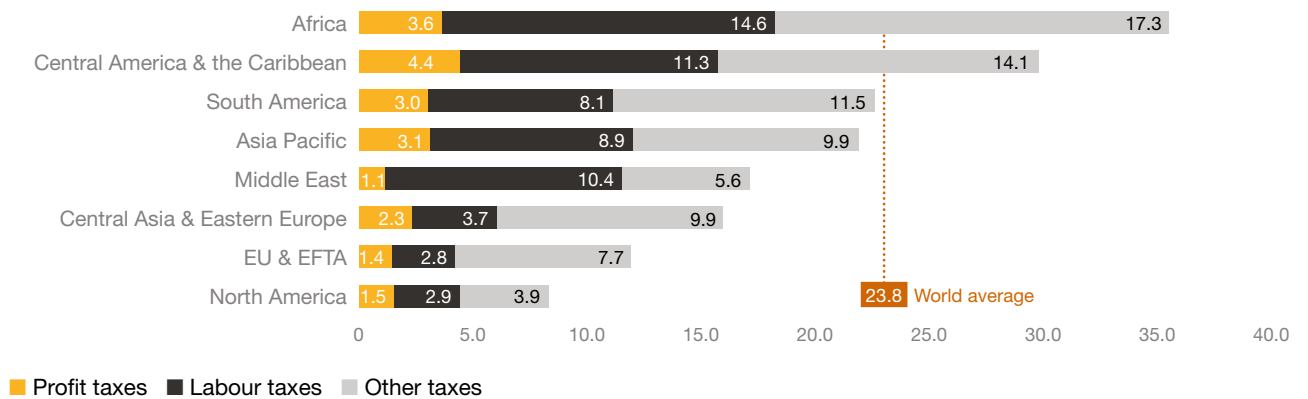
For more information on the regions, the economies within them and historical trend data, please see www.pwc.com/payingtaxes.

Figure 1: Time to comply components by region (hours)



Note: Some of the figures shown in this chart have been rounded. Source: *Paying Taxes 2019* data.

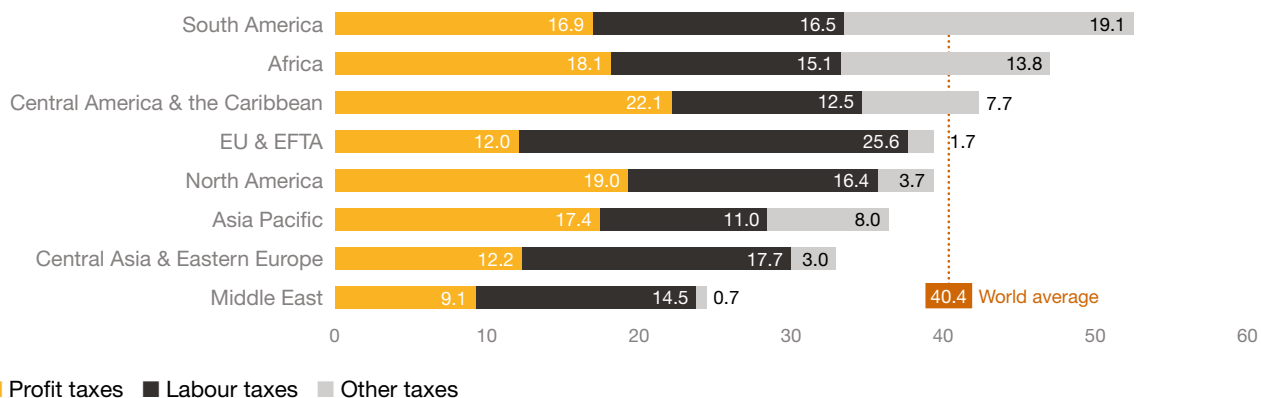
Figure 2: Number of payments components by region



Note: Some of the figures shown in this chart have been rounded. Source: *Paying Taxes 2019* data.

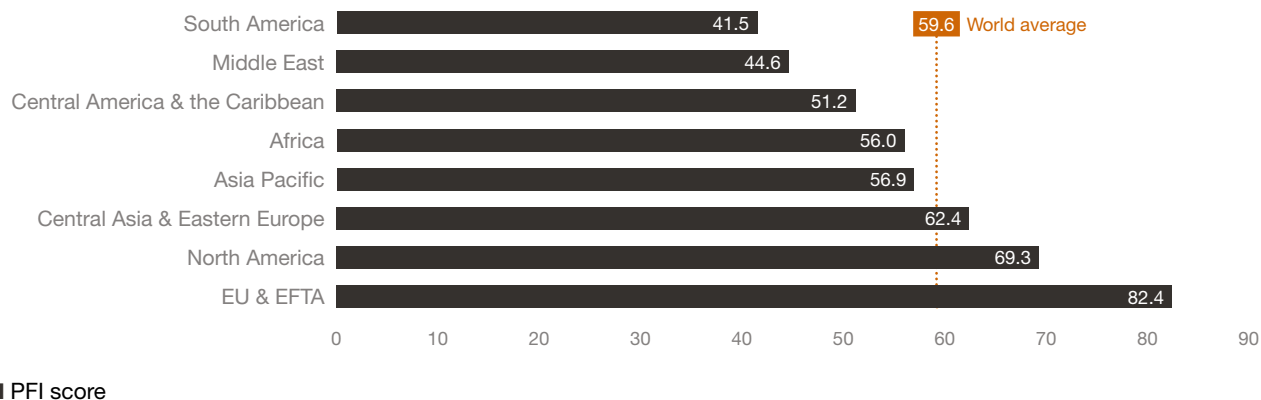


Figure 3: Total Tax & Contribution Rate components by region (%)

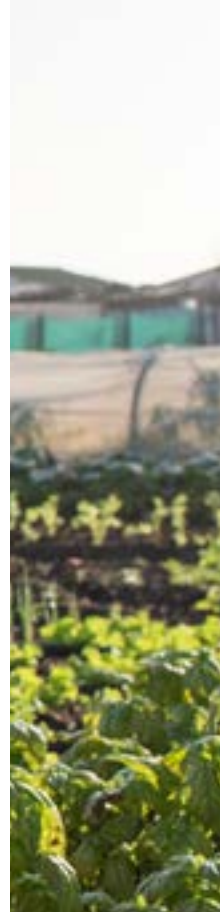


Note: Some of the figures shown in this chart have been rounded. Source: *Paying Taxes 2019* data.

Figure 4: Regional comparison of the post-filing index



Note: Some of the figures shown in this chart have been rounded. Source: *Paying Taxes 2019* data.



Unlocking technology's potential

Chapter 1



The steady reduction in both the number of hours it takes to file taxes and the number of payments companies have to make reflects the increasing use of technology across the world both by companies and tax authorities. Since 2004, which is the first year for which we have *Paying Taxes* data, the global average for the time to file has decreased by 84 hours³, and the number of tax payments has reduced by 10.3. As the costs of technology fall, more companies are using tax software, and more tax authorities are creating easier-to-use online portals to simplify compliance.

Technology alone is not sufficient to improve performance. It is a tool, and its effectiveness is determined by how it is used. The simpler a tax system is, the more amenable it is to digitalisation. An economy's IT infrastructure, such as the availability of broadband Internet or 4G mobile networks and the level of computer literacy of the population will affect the implementation of online tax systems. There may also be political and cultural barriers that prevent technology from being used to its full potential, especially in economies with manual systems and significant informal activity. As technology becomes more sophisticated, however, it can also cope with greater levels of complexity, and we already see examples of that.

Although the overall rate of change has slowed in recent years (see Figure 5), behind this steady progress, there are significant differences in how technology is used and implemented. Some advanced economies continue to push

the boundaries, but integrating new electronic systems has also increased filing times as both the tax authorities and businesses come to grips with change. This has meant that the significant improvements in some economies are offset by the lack of progress in others.

The overall results give us insight into both the power of technology and its challenges. More economies report decreases in time to comply and number of payments than report increases in these indicators, but when we look at the economies where there have been changes in the indicators, we see that this is only the third year since the start of the study when the average increase in time and payments exceeds the average decrease.⁴

³ The trend includes data only for the 174 economies that have been part of *Paying Taxes* since 2004.

⁴ The other years were 2005 and 2012.

Time to comply and number of payments indicators

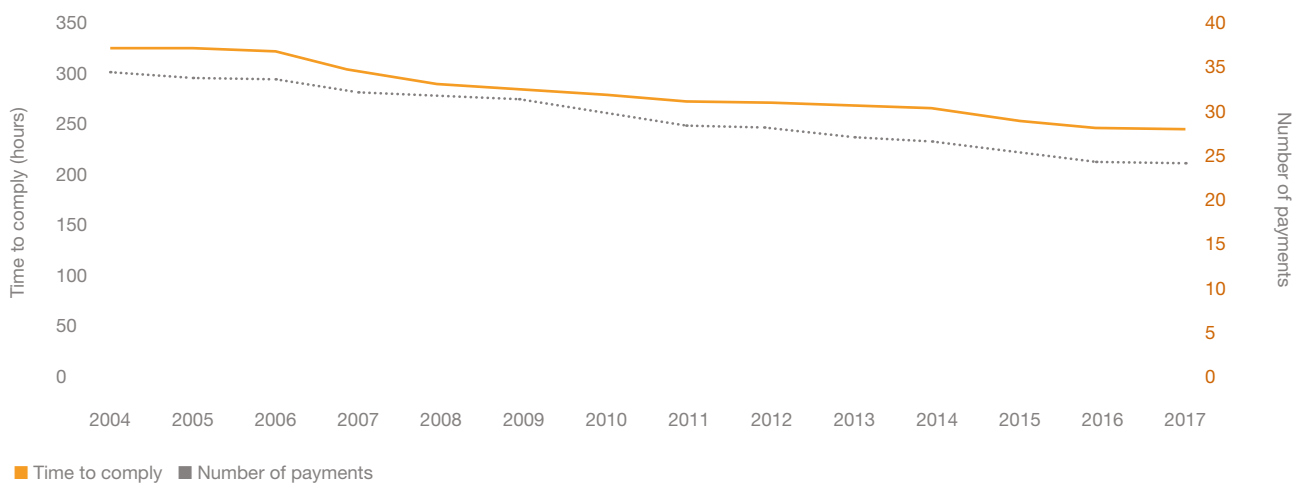
The time to comply indicator reflects the number of hours it takes to prepare, file and pay (or withhold) corporate income tax (CIT), value added (VAT) or sales tax and labour taxes, including payroll taxes and mandatory social contributions (in hours per year) for our case study company.

The payments indicator reflects the total number of taxes and contributions paid, 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.



If we use the time to comply and payments indicators to split economies into three groups – those that are technologically advanced, those in technological transition and those with a limited adoption of technology⁵ – we can identify some common characteristics that contribute to these results. We also highlight some of the economies that have shown the greatest changes in the time to comply and/or number of payments this year.

Figure 5: Changes in global average time to comply and number of payments



Note: The trend includes data only for the 174 economies that have been part of *Paying Taxes* since 2004.

Source: *Paying Taxes 2019* data

⁵ For this analysis we converted the time to comply and the number of payments to a score of 0–100 using the World Bank’s ease of doing business scoring methodology. We then took an average of the two scores, ranked the economies in order and split them into three equal sized groups.



Well-planned reforms allow taxpayers time to plan, prepare and consult with tax authorities.

Technologically advanced economies

Some of the most technologically advanced economies have had electronic filing and payment in place for more than a decade. Some economies are now using cutting-edge techniques, such as big data, analytics, artificial intelligence and machine learning. In other economies, large reductions in the time to file and the number of payments are the result of past investments in both technology and planning.

Top-performing economies often demonstrate some or all of these characteristics:

- Tax returns are pre-populated by automatically exporting data from accounting software.
- Machine learning and artificial intelligence are used to identify tax-sensitive transactions.
- (Near) real-time tax systems compare information from different counterparties to enable rapid verification of transactions, minimise errors and protect against fraud.
- Well-planned reforms allow taxpayers time to plan, prepare and consult with tax authorities.
- Taxpayers benefit from simplified regulations and easy access to clear, timely information through email or phone contact, websites, e-learning and virtual assistants.
- IT infrastructure is high speed and widespread, such as fibre optic broadband networks and 4G coverage.

China

2016	2017
207 hours 9 payments	142 hours 7 payments

China has experienced a very substantial reduction both in time to comply and payments from 832 hours and 37 payments in 2004 to 142 hours and 7 payments today. This trend has accelerated in recent years with the introduction of the Golden Tax III Project and a significant overhaul of the tax system, including the removal of the business tax and the digitalisation of VAT compliance, and was accompanied by major education programmes for taxpayers and the transition of the tax authorities to a more customer-focussed model.

Although technology has greatly eased the tax compliance burden in China, the tax system still retains elements of inherent complexity due, in part, to the high rates of social security contributions (SSCs) and the number of different taxes, especially on property transfers.

Hong Kong SAR, China

2016	2017
45 hours 3 payments	35 hours 3 payments

Hong Kong's time to comply has always been significantly lower than the world average, due, in part, to the absence of VAT or goods and services tax (GST). Even so, technological innovations reduced the time to comply by a further 10 hours in 2017 as more companies adopted intelligent digital systems for accounting and tax functions. The relative simplicity and stability of tax regulations and digitalisation of the entire tax work stream also contribute to Hong Kong's high performance in *Paying Taxes*.

Norway

2016	2017
83 hours 4 payments	79 hours 5 payments

As an early adopter of electronic filing and payment, Norway had only four tax payments until 2017, when it added a new property tax. Although all municipalities in Norway had an option to levy a property tax, this power had not been exercised in Oslo for many years. Following a change in the political allegiance of Oslo City Council, the tax was introduced to fund the city's public services. Property taxes are often used to raise revenues to fund the local government but, as in Oslo, are often also based on property valuations which can be difficult and time-consuming to determine and give rise to disagreements between taxpayers and tax authorities. Once a value has been agreed upon, however, a property tax can be relatively easy to administer; although, the amounts raised are often low.

Planning for efficiency: Spain and Poland

While technology has the potential to reduce the administrative burden on taxpayers and to make tax systems more robust, the introduction of new technology can increase the time to comply in the short term. This year we have seen changes in the time to comply with VAT in both Spain and Poland arising in part from the introduction of new technology. The countries have opted for different systems and are at different stages in their implementations as explained below.

Spain

2017

148 hours,
9 payments

2016

152 hours,
9 payments

VS

Poland

2017

334 hours,
7 payments

2016

258 hours,
7 payments

Both Spain and Poland have taken steps to increase their control over, and the robustness, of their VAT systems and to reduce VAT fraud by increasing taxpayer reporting requirements. For Spain, the new system has reduced the time to comply with VAT obligations by 4.5 hours, to 30.5 hours. In Poland, the VAT time to comply has increased by 76 hours to 172 hours.

Given that both countries are trying to improve the effectiveness of their VAT systems, why is the impact so different?

Spain's VAT reporting solution is the Immediate Supply of Information (SII) system. This sophisticated system is closely integrated with businesses' own accounting systems to facilitate the reporting of data to tax authorities within a few days of the transactions. The system allows input VAT reclaimed by a customer to be easily matched with the output VAT paid by the supplier. This should, in principle, also lead to quicker VAT refunds.

Poland introduced the Standard Audit File for Tax (SAF-T), which is an electronic format for the transfer of data to tax authorities. This has been coupled with a change from quarterly to monthly VAT reporting and changes to the reverse-charge mechanism to account for VAT on intra-European Community supplies. SAF-T is intended to facilitate more effective tax audits through quicker identification of errors.

The Spanish system is saving time because, once implemented, it produces a highly automated environment. It follows, however, a long and potentially costly implementation period which required many taxpayers to update their systems and compliance processes to ensure that they met all the requirements of SII.

The Polish SAF-T system is less automated than the SII and so has been quicker to implement. But it requires manual work and, therefore, more time to extract the relevant data and prepare and process the monthly reports. Also, the switch to monthly reporting and other changes in tax law add to the compliance burden. Over time, however, it is hoped that the time to comply will reduce if, as is expected, SAF-T becomes more automated.

Spain, therefore, has a complex and potentially costly, but highly automated, system which was difficult to implement but, now in place, is efficient to run. In Poland, we have a system which was simpler to introduce but is more time-consuming to operate, especially when combined with other changes to Polish VAT law. The Polish system, however, is expected to increase in efficiency over time as it becomes more automated.





Integrating new systems is challenging. Despite a reduced need to visit tax offices, not every process is available online.

Economies in technological transition

Many economies have made significant advances in introducing new technology, including the ability to file and pay taxes online, and the availability of better accounting and tax software. Integrating these new systems has been challenging.

Average performers often demonstrate the following characteristics:

- Tax systems have been partially digitalised, but may still have excessive information requirements, and regulations may change frequently.
- Some aspects of tax return preparation have been automated, such as tax authority-approved spreadsheets or software that allows automatic computations, but automatic data transfer between accounting and tax systems is lacking.
- Electronic payment is possible for at least some taxes. For example, some authorities encourage mobile payments, but cultural or infrastructure barriers limit take-up.
- Despite a reduced need to visit tax offices, not every process is available online.
- New software and IT communications infrastructure are rolled out slowly, perhaps because of concerns around affordability.
- Online calculators and guidance are available to taxpayers, but direct access to tax office advisers is limited, in many cases because of a lack of resources.

Bahamas		In 2015, a new VAT system was introduced, which at the time made paying taxes more complex. In 2017, the wider use of and greater familiarity with the electronic platform decreased the time to comply by 36 hours and lowered the payments by 11. The country's relatively small population and well-developed technology infrastructure may have helped to accelerate adoption.
2016 233 hours 31 payments	2017 197 hours 20 payments	
India		In 2017, multiple central and state indirect taxes were merged into one with the introduction of the GST system. The transition however led to some administrative, operational and systems issues that increased the time to comply. For example, the rules for filing and paying GST and for determining the GST rates were not always clearly communicated, there were issues with the functioning of the online portal and not all the rules were synchronised prior to the introduction of GST.
2016 216 hours 14 payments	2017 275 hours 12 payments	
Japan		Despite its reputation for advanced technology and its relatively low time to comply, Japan has lagged behind many other economies in adopting digital payments. Corporate taxpayers have increased their use of the digital tax payment system (i.e., Internet banking, online credit card payments), but many corporate tax payments are still made via banks, in part to avoid the fees incurred on credit card payments. Japan, with no changes from 2016, illustrates how corporate cultural preferences can affect tax administration.
2016 130 hours 30 payments	2017 130 hours 30 payments	
Sri Lanka		Sri Lanka made paying taxes easier by introducing an online system (RAMIS) for filing returns for all types of taxes, including withholding tax and tax deductions under pay as you earn (PAYE). In 2017, with the wider use of online filing, the time to comply and the payments have been reduced, especially for VAT returns. There were two reasons behind this reduction: (a) taxpayers became familiar with the new system, and (b) after a one-time registration, the subsequent process is largely automated.
2016 162 hours 47 payments	2017 129 hours 36 payments	



Even where online filing and payments are available, uptake by taxpayers may be low.

Economies with a limited adoption of technology

Some economies have managed only a limited adoption of technology, and, in some cases, where new taxes have been introduced without the benefit of online filing and payment, the indicators have worsened significantly. The factors that inhibit the introduction of technology, such as low levels of literacy or lack of IT infrastructure, may be inherent to the state of development of particular economies and beyond the control of the tax authority. These economies have the potential to learn from those with more advanced systems, and, indeed, some are making improvements, but even where online filing and payment are available, uptake by taxpayers may be low.

Poor performers share these characteristics:

- There are barriers to e-filing and online payments, such as lack of political will, insufficient technology infrastructure and continued legal requirements for hard-copy documentation.
- Where different bodies (federal union, states and municipalities) have rights to levy taxes, the lack of coordination between bodies can result in multiple reporting.
- Although some economies have introduced simpler registration and verification procedures for taxpayers with the aim of reducing the informal economy, administrative constraints, complicated registration processes and paper filing limit the impact of the new measures.
- Complex tax regulations and the introduction of new taxes make the implementation of e-filing difficult.
- No clear strategy is in place for improving tax regimes, approval mechanisms within government and tax authorities are slow, and administrative capacity is limited.

Côte d'Ivoire		
2016 270 hours 63 payments	2017 205 hours 63 payments	The time to prepare and file CIT and VAT dropped 65 hours in 2017 as a result of the effective introduction of an e-filing system for large and medium companies. The time to comply had not changed noticeably until 2017, when the tax authority made significant progress in reducing the administrative burden. The implementation of electronic payment of taxes is expected to improve the tax system in future.
Gabon		
2016 488 hours 26 payments	2017 632 hours 50 payments	With the intention of increasing tax revenues, two new taxes were introduced: a tax for professional training of 0.5% on annual gross salaries and the Special Solidarity Contribution (CSS) calculated as 1% of VAT sales. The CSS replaced a tax on mobile phones. Although electronic filing and payment platforms already exist in Gabon, these new taxes do not yet make use of this technology, which has led to increases in the time to comply and payment indicators.
Panama		
2016 417 hours 52 payments	2017 408 hours 36 payments	Although online payment is available, it is not widely used by taxpayers. In 2017, CIT, real estate tax and VAT could all be paid electronically, and increased adoption has reduced the number of payments by 16. Preparing and filing tax returns is still very time-consuming – for example, requiring the taxpayer to confirm the tax identification number of suppliers in an annex to the CIT return.
Papua New Guinea		
2016 199 hours 32 payments	2017 203 hours 39 payments	Papua New Guinea requires compulsory superannuation contributions for citizen employees. In 2017, the rules requiring those contributions to be paid and filed fortnightly rather than monthly were more consistently applied than they had been previously. Because this reporting cannot be done online, the number of payments increased by seven, to a total of 39.
Togo		
2016 216 hours 49 payments	2017 159 hours 49 payments	Togo made paying taxes easier by introducing an online platform for filing CIT and VAT. This reduced the time to comply by 57 hours, while payments remained unchanged. As the online systems expand to incorporate payment, the number of payments is expected to fall.

Technology is transforming the way businesses and governments approach tax

The *Paying Taxes* results this year underline the benefits that technology can bring to taxpayers and tax authorities alike. They also show that new systems can be time-consuming to implement and, once they're in place, taxpayers need a period of adjustment to become familiar with them. Some of these barriers, however, can be reduced through proper planning, consultation with taxpayers, thorough testing and a phased approach to implementation.

The use of technology in tax compliance is a hot topic for governments and businesses. Regardless of size and sector, all businesses are having to come to grips with technology. For the smallest businesses, this may be a transition from keeping receipts in a 'shoebox' to recording transactions on spreadsheets. For the largest businesses, spreadsheets are yesterday's technology, and sophisticated data mining and analysis tools are being used to extract data from central accounting systems, to analyse it and to present it in different ways to meet a range of business requirements. As governments increasingly push the burden of compliance to taxpayers, all businesses need to leverage technology to meet as efficiently as possible the demands placed upon them.

Tax departments in large businesses are having to increase the data and digital capabilities of their tax departments, while for smaller companies, user-friendly tax software or computer desktop automation tools may allow tax compliance to be automated and embedded in the day-to-day business administration. Technology can also reduce the time needed for repetitive compliance tasks, which can free up time to understand and address the complexities of changing legislation, and manage the challenges that modern businesses face in many areas of tax.

Similarly, tax authorities need to ensure that they have the appropriate skills and resources, not only to develop online systems but also to analyse the data that comes from them. As highlighted in this report, we are already seeing real-time and near-real-time systems that match VAT collected by suppliers with VAT refunds claimed by businesses. As such systems evolve, tax authorities will be able to more easily identify unusual transactions as they happen and to notify taxpayers immediately – similar to the way your credit card provider notifies you when its algorithms identify potentially fraudulent charges on your account.



All of these changes mean that more and more data is being transmitted digitally between taxpayers and tax authorities and, in the case of multinational companies, between tax authorities. All parties, therefore, need to ensure that the data is correct and properly protected, and that all parties understand its use. Transparency around how data is to be used is critical to building trust between taxpayers and tax authorities.

The use of technology affords many possibilities to improve tax compliance by making processes more efficient and more robust. To derive the maximum benefits from it, however, governments need to work with one another, and with taxpayers, to ensure that best practices are shared, that the rules for the collection and use of data are transparent and that, as far as possible, there is a degree of coherence between systems in different countries to facilitate compliance for businesses operating in more than one country.



Christopher Kong

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The uneven global impact of the changing tax burden for business

Chapter 2



Governments change their tax systems, tax rates and even what is taxed for a variety of reasons, including increasing tax revenues, promoting growth and innovation, reducing employment costs and reducing reliance on non-tax revenues. To quantify the effects of such changes on the total amount of tax paid by businesses, *Paying Taxes* measures the tax cost borne by our case study company using the Total Tax and Contribution Rate (TTCR). This is the sum of all the taxes and mandatory social contributions⁶ paid expressed, as a percentage of the company's commercial profit. The commercial profit is the profit before all taxes borne.

At a global level, the average TTCR of 40.4% is unchanged this year. But at the level of individual economies, there have been significant changes. In some cases, these have increased an economy's TTCR; in other cases, they have reduced it. The same is true for the taxes that make up the TTCR. For the past decade, labour and corporate income taxes have accounted for a similar share of TTCR and together account for 80% of taxes borne. The remaining 20% comes from a variety of taxes (see Figure 6). Over the life of *Paying Taxes* we have seen a tendency for individual economies to increase labour taxes rather than to reduce them, while, conversely, the tendency has been to reduce profit taxes. The impact of many of the changes, however, has been small, resulting in the very stable global averages.

What does this mean for business? Businesses need to keep track of changes in tax rates and tax bases because they affect employment and other costs, as well as compliance burdens. Businesses are better able to plan for tax changes if they are announced in advance and are part of a coherent long-term strategy. Here we explore the economies where governments are changing the rules for both income and labour taxes and why.



⁶ Within mandatory social payments is included, for example, the Italian *trattamento di fine rapporto* (TFR) which employers are required by law to accrue based on each individual's monthly wage. The amount is paid at the end of the 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 ordinary tax rules. Other examples include the superannuation guarantee and workers' compensation in Australia and the pension and occupational health insurance in Switzerland.

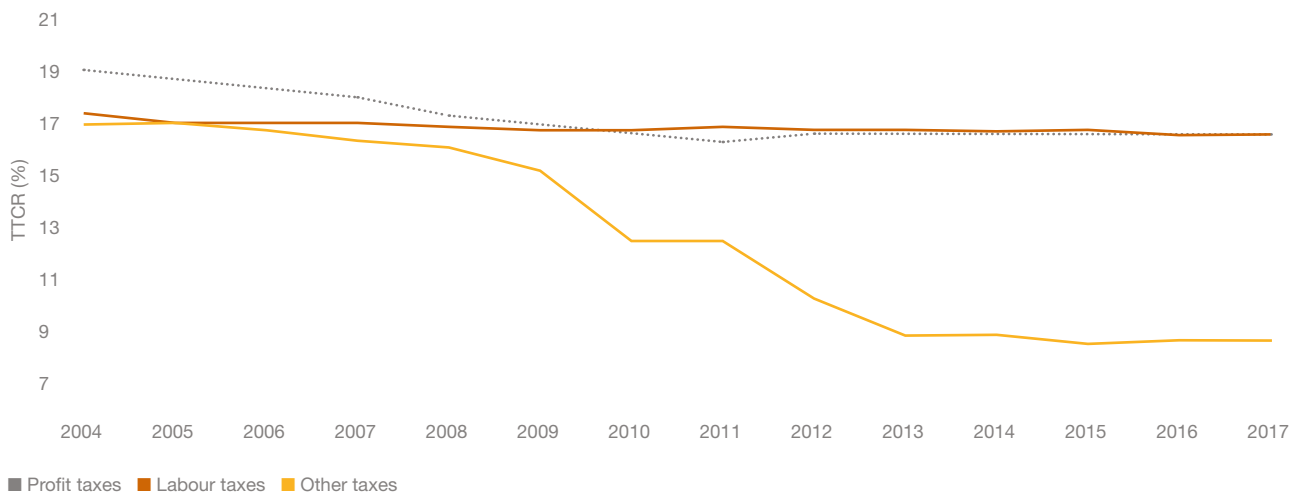
What is the Total Tax and Contribution Rate?

As shown in the simplified example to the right, 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	€ 000	€ 000
Profit before tax (PBT)		1000
<i>Add back above-the-line taxes borne</i>		
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 = 220/1275		17.3%
Labour tax TTCR = 235/1275		18.4%
Other taxes TTCR = 40/1275		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.

Figure 6: Changes in the global average TTCR by tax type



Note: The trend includes data only for the 174 economies that have been part of *Paying Taxes* since 2004.
Source: *Paying Taxes 2019* data

Outliers test the TTCR trend

Although the global average TTCR has been fairly stable for a number of years – the majority of economies (106) have a TTCR within the range of 30% to 50% – we have seen a number of economies making significant changes in 2017, and we highlight some of them in the table below. These changes demonstrate the nature and extent of the latest round of tax reforms. Italy and Georgia are particularly interesting examples as they have made changes that move them away from the centre ground.

At 48.0%, Italy's TTCR was higher than average in 2016. In 2017, the TTCR increased to 53.1% due to a combination of tax reforms. The increase was driven by a reduction in the SSC exemptions for newly hired employees. The exemptions had been introduced in 2015 with the aim of increasing employment, but in 2017 the rates for new employees returned to standard levels following a change in Italy's economic policy. The impact of the changes to SSC was partially mitigated by a reduction in the statutory rate of CIT from 27.5% to 24% and the availability of increased tax depreciation which gives a 40% uplift to the deductible tax cost of many assets.

Economy	Change in TTCR	Driven by
France	Reduction from 62.6% to 60.4%	France has the highest labour tax component of TTCR globally at 49.7%. This was reduced slightly from 51.1% in 2016. In addition, the corporate income tax rate on the first EUR 75,000 of profit was reduced to 28% from 33.33% in 2017.
Georgia	Reduction from 16.4% to 9.9%	Corporate income tax is now levied only on distributed profits rather than on all taxable profits.
Hungary	Reduction from 46.4% to 40.3%	In 2017 the statutory rate of social security taxes paid by employers fell from 27% to 22% and the starting rate of corporate income tax fell from 10% to 9%. Further reductions in employers' social security contributions are planned as part of an ongoing strategy to increase investment by businesses, raise wages and increase consumer spending, thereby increasing revenues from indirect taxes. At the same time, Hungary is implementing a real-time system to improve VAT compliance.
Italy	Increase from 48.0% in 2016 to 53.1% in 2017	Italy's increase resulted from a combination of three main changes. The SSC exemption for newly hired employees was reduced. The resulting increase in labour taxes was partially offset by a reduction in the statutory rate of income tax from 27.5% to 24% and the introduction of super depreciation equal to 140% of the acquisition costs of new assets.
Nepal	Increase from 29.6% to 36.7%	The introduction of a new labour contribution (gratuity contribution) and medical and accident insurance paid by the employer increased the TTCR.
Oman	Increase from 23.9% in 2016 to 27.4% in 2017	The basic corporate income tax rate increased from 12% to 15% and the tax exemption on the first OMR 30,000 of taxable profits was eliminated. These changes are part of Oman's overall strategy to diversify its revenue base away from oil revenues which has also led to increases in withholding taxes on several income streams and the introduction of VAT is planned for 2019.
Ukraine	Increase from 37.8% to 41.7%	An increase in the minimum wage increased the amount of unified social contribution paid by employers. This lessens the impact of a reduction in the rate of the contribution, which came into effect in 2016.
Uzbekistan	Reduction from 38.3% to 32.1%	The minimum level of employers' unified social payments was reduced for small and medium sized companies as part of a package of measures intended to promote economic growth. The broader measures included lifting foreign currency restrictions to facilitate international trade and thus increase the size of the formal sector, bringing more businesses and individuals into the tax net.

On the other end of the spectrum, Georgia, despite having a low TTCR of 16.4% in 2016, significantly reduced the profit tax component of its TTCR by levying CIT only on distributed profits rather than on all taxable profits. The Georgian government hopes this approach will encourage foreign direct investment and promote entrepreneurship and growth through increased reinvestment of profits. An impact assessment carried out prior to the reform suggested that tax revenues would decrease initially, but would then increase over time.⁷ The new Georgian CIT model replicates the Estonian model; however, Estonia has a labour tax TTCR of 38.8%, whereas Georgia currently levies no SSCs. Reforms are planned to introduce SSCs in Georgia in 2019. It will be interesting to see whether Georgia's radical reform programme produces an increase in tax revenues as expected.

US tax reform: One of the most significant tax reforms in 2017 occurred in the United States, but as these did not take effect until 2018, they do not affect the *Paying Taxes* data for the tax year measured in this report. We will assess the impact next year.

Profit taxes versus labour taxes – globally stable, locally shifting

As highlighted in the earlier examples, some economies have increased the profit tax component of the TTCR, while others have reduced it. Most of these shifts have resulted in only minor changes in the TTCR. In 2017, the greatest reduction in profit tax rates came from Georgia and the greatest increase from Oman. In both cases, the changes are part of broader government tax strategies: for Georgia, the intention is to increase investment and economic growth, and Oman aims to increase tax revenues and thereby reduce reliance on oil revenues.

Overall, in 2017, the profit tax component of the TTCR decreased in 58 economies and increased in 37. Indeed, for all but one year since 2004, we have seen more economies decreasing the profit tax component of the TTCR than increasing it. Despite these many changes, the profit tax component of the average global TTCR has been remarkably stable and fell by only 0.1 percentage points in the last year.

Although changing the statutory CIT rate is the most obvious way to change the profit tax component of the TTCR, we have seen many other reforms over the years. These include the following:

- amending loss carryforward provisions
- taxing distributed profits rather than all taxable profits
- changing capital allowance rates and regimes
- reducing or increasing thresholds for tax-exempt income
- amending capital gains tax rates and allowable deductions
- changing the deductibility of expenses and provisions.

In contrast to profit taxes, in all but one year since 2007, more economies have increased the labour tax component of TTCR than have reduced it. In 2017, the labour tax component of the TTCR fell in 17 economies, but increased in 39. The biggest reduction was in Uzbekistan and the biggest increase in Italy. The overall global increase in the labour tax component of the TTCR in 2017, however, was only 0.1 percentage points.

As with profit taxes, changing the headline rates of tax is just one way to affect the labour tax component of the TTCR. Some other changes we have seen include the following:

- changes to statutory employer social security contributions SSC rates
- revising minimum wage levels, which has a knock-on effect on tax take
- changes to the floors/ceilings for SSCs
- imposition of employer pension and other fund contributions
- introduction of new employer insurance contributions (e.g., medical, unemployment insurance) and other taxes and contributions
- use of solidarity contributions to respond to specific events
- shifting the burden of SSCs between employers and employees

⁷ USAID 2016, *Governing for Growth (G4G) in Georgia, Regulatory Impact Assessment on Estonian CIT Model Implementation in Georgia*



Balancing the labour tax burden

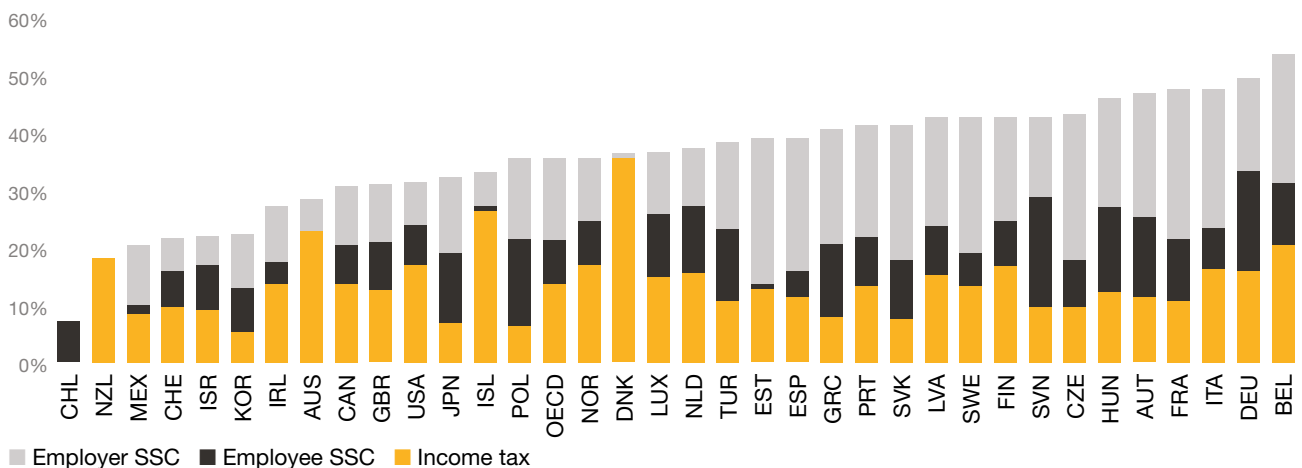
Taxes on labour usually include three elements: personal income tax, employer social security contributions and employee social security contributions. The balance between these varies substantially between economies.

For example, as shown in Figure 7, in Belgium, Italy and France, the burden of SSCs falls much more heavily on employers rather than on employees, whereas in Slovenia, Poland, Germany, Israel and the Netherlands, the opposite is true. In Chile, employees bear the full burden of social security, while in Australia and New Zealand, employees' share of SSCs is zero, because the labour taxes rely heavily on personal income tax.

As *Paying Taxes* focusses on taxes from a company perspective, the TTCR includes only the labour taxes and mandatory social contributions borne by the company. This includes social contributions required by law but paid to private institutions, such as insurance providers, rather than to the state. The TTCR does not include the taxes and contributions borne by the employees.

One way of changing the labour tax component of the TTCR is to reduce employer social security contributions, but this may not change the overall labour tax burden if the employee contribution is increased to compensate. Romania, for example, has been restructuring its SSCs for a number of years. In October 2014, the rate of employers' social security contributions was reduced, lowering the total employer contribution rate from 28.45% to 23.45%. On 1 January 2018⁸, employers' SSCs were reduced to 2.25% while the employees' SSCs were increased from 16.5% to 35% and the personal income tax rate was reduced from 16% to 10%. In the absence of any adjustments to salaries, these changes would result in a reduction of around 20% in employers' total labour cost and a reduction of around 20% in employees' net salaries. It was however left to employers to decide whether or not to increase gross salaries thereby maintaining their labour costs and the net salaries of employees.

Figure 7: Average tax wedge as a percentage of labour costs for workers earning the average wage in 2017



Note: Single individual without children at the income level of the average worker. Source: OECD Taxing Wages Database.

8 <https://www.pwc.ro/en/tax-legal/alerts/fiscal-code-amendments3.html>

What drives an economy's tax strategy?

The TTCR is a company-level view of the tax system and demonstrates the impact on businesses of changes in a government's tax strategy. Macroeconomic factors such as expected levels of economic growth, budget deficits, demographic changes, non-tax revenues and the split of tax revenues between different tax types are likely to inform the tax strategy itself.

One important macroeconomic measurement is tax revenues as a percentage of GDP. As shown in Figure 8, economies with low levels of income tend to have lower tax-to-GDP ratios.

But that does not mean the tax burden on businesses is less. If we look at the average TTCR by income group (see Figure 9),

we can see that the average TTCR in low-income economies is around 13 percentage points higher than in middle- and high-income economies.

Lower-income economies may decide to take measures to increase their tax to GDP ratios, as suggested in the World Bank's *World Development Report 2019*, as a means to fund investment in human capital. If this happens, we may see a downward shift in the TTCRs in low-income economies if governments seek to lower rates but broaden tax bases or reduce direct tax in favour of indirect taxes. To date, the largest reductions in TTCR have been due to cascading sales taxes being abolished, mainly in low-income African economies and in most cases replaced with VAT. Currently, only Comoros retains a cascading sales tax.

Figure 8: Tax revenues are lower in developing countries

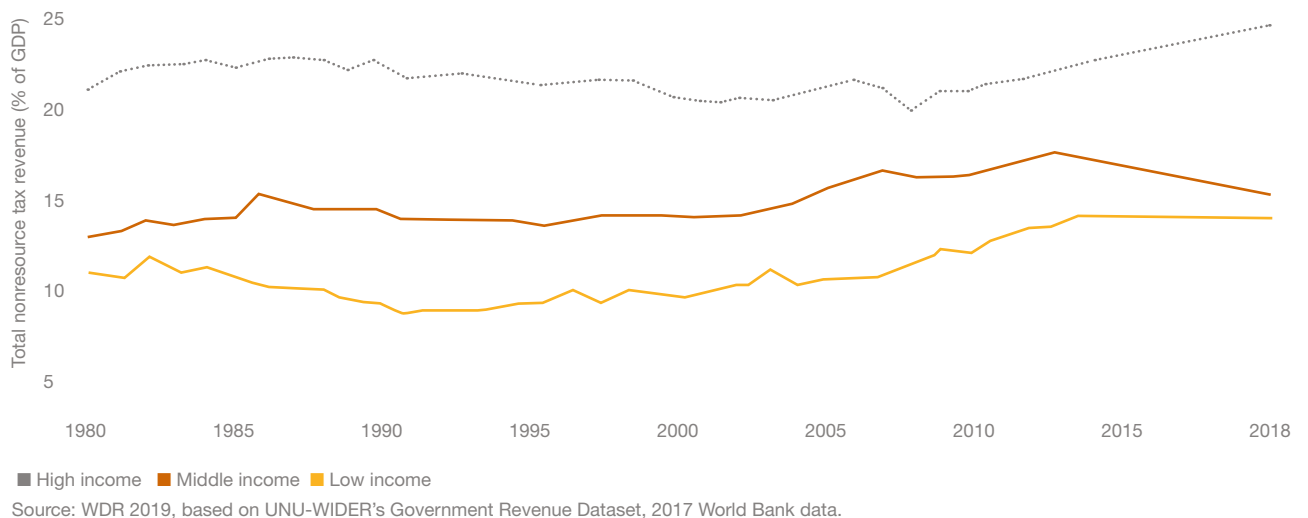


Figure 9: Changes in the average TTCR by income group

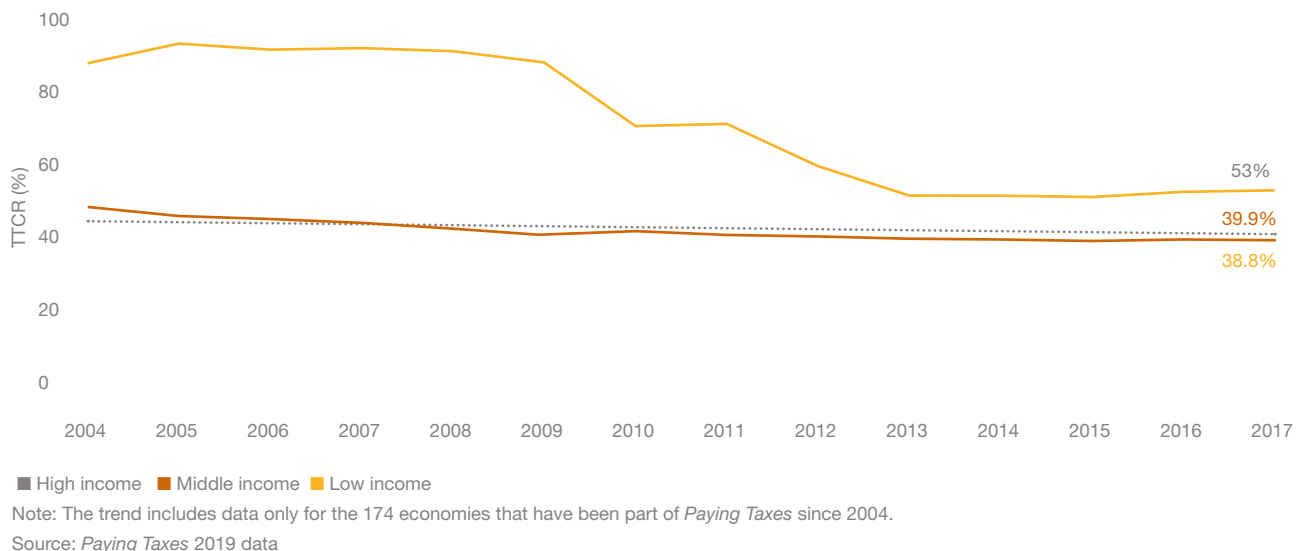
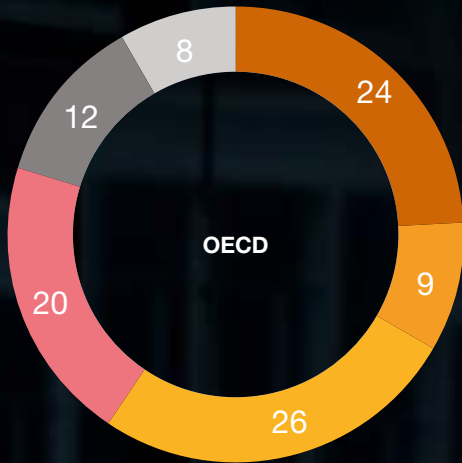


Figure 10: Tax structure for OECD averages in 2015 (%)



- Personal income tax
- Corporate income taxes
- Social security contribution
- Value-added taxes
- Other taxes on goods and services
- Other taxes

Source: OECD Global Revenue Statistics Database

What the TTCR doesn't measure

As a business view of taxes, the TTCR includes only those taxes borne by our medium-sized case study company, such as corporate income tax and employers' social security contributions. It does not include the taxes that businesses collect on behalf of others, such as personal income tax or VAT. These taxes are administered by business but are borne by employees and customers.

Significant amounts of tax revenues are derived from taxes not measured by the TTCR. Within the OECD, for example, as shown in Figure 10, almost one-third of tax revenue is derived from indirect taxes, such as VAT or other taxes on goods and services; and almost one-quarter arises from personal income tax. SSCs account for just over one-quarter of tax revenues for OECD countries, but this includes both the employees' and employers' share. This split of revenues between different tax bases is another important consideration for tax policy.

Global trends: a PwC perspective

A number of global trends, including demographic change, a shift of economic power to emerging countries, climate change, urbanisation and, above all, changes in technology, could affect how governments seek to raise taxes in the future. With this in mind, we have asked two experts to give their views on how the TTCR picture might change in future.

Global trends will require governments to re-examine their tax policy

The best tax regimes are nimble and responsive to changes in the structure of their economies. The next few years are likely to provide a test of these attributes, as significant disruptive forces are likely to take hold. At PwC, we think the biggest disruption will come from artificial intelligence (AI) and its effects on the labour market. The narrative about robots stealing our jobs is already so familiar as to feel clichéd, but it is not without foundation. Our research has suggested that up to 60% of roles in manufacturing in the OECD held by those with low educational attainment could be automated in the next 20 years.⁹ That said, AI is also likely to spur the creation of entirely new occupations in a variety of sectors, including healthcare, education and professional services.

These shifts will have far-reaching implications for tax revenues, especially in economies with a focus on labour taxes. We have also identified a group of countries with high vulnerability to job displacement from AI¹⁰; typical features of these territories include high levels of industry and a lack of flexibility in the labour market. Governments in these economies should already be thinking of how to retrain workers at high risk of displacement by automation. Economies with high levels of technology already embedded and strong education systems are well equipped to thrive.

The outlook for TTCR, therefore, depends on the balance between profit taxes and labour taxes, and the economy's exposure to technology-related disruption. The intersection between technology and other major trends also needs to be considered. Income tax revenue will come under pressure from an ageing population, as more and more pensioners need to be supported by fewer and fewer workers. Finally, there may be some scope for a rise in 'other' taxation. Governments around the world are likely to explore new taxes on environmental degradation, property and wealth in the coming years as they grapple with challenges posed by inequality and the scarcity of resources.



Dr Jonathan Gillham

Director, Economics,
PwC UK





Look before you leap: How should tax policy respond to the rise of technology?

Although the balance of taxation could shift away from labour over the long term because of the impact of global megatrends, such as AI, policymakers should think carefully before adjusting the tax system to prepare for such a transition.

Policymakers should be mindful of the increasing tax burdens on capital. Although research from the World Bank's *Global Investment Competitiveness Report* has shown that fundamentals such as market size, political stability and regulatory quality matter more to investors than tax competitiveness; poorly communicated or incoherent tax policy changes could nevertheless discourage investment. Indeed, the OECD's recent work on tax certainty highlighted that, when making investment and location decisions, businesses care more about the certainty of rates than about the tax rate itself.

Analysis also suggests that job losses caused by rising automation are likely to be partly offset by job creation in areas related to, and benefitting from, the new technologies. This could partially mitigate erosion of the labour tax base. Moreover, job losses at the lower end of the income distribution are unlikely to create significant threats to the labour tax base because of the progressivity of many income tax and social security systems.

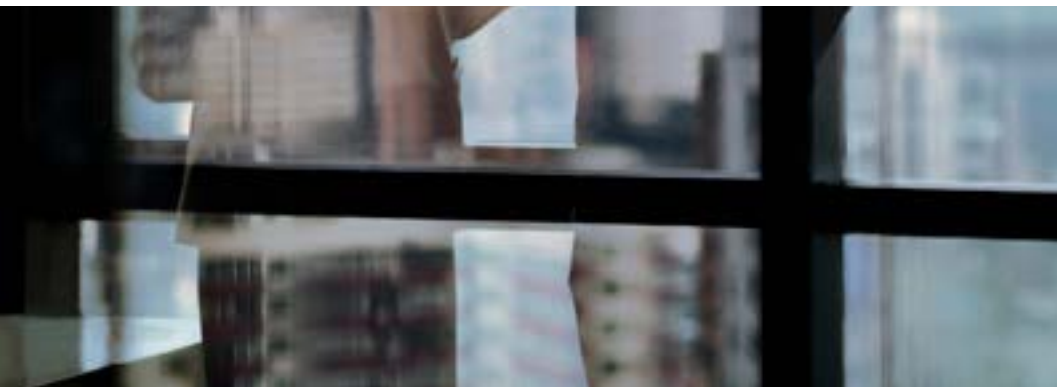
Thinking more broadly, there may be better ways to temper any impact on government revenue without introducing fundamental changes to the tax system. For instance, many governments fail to undertake systematic and transparent assessments of the value for money generated by tax incentives. Reforming unproductive and inefficient tax reliefs could offset any government revenue losses from rising levels of automation while also reducing complexity and improving the efficiency of the tax system.

Alternatively, reducing levels of informal economic activity could broaden the tax base, generating additional government revenue. Even small measures to promote formalisation, such as simplification or improvement of taxpayer guides to reduce tax compliance costs, can provide a vital boost to government revenues.



Amal Larhlid

Head, Global Fiscal Policy, PwC UK



Post-filing processes and domestic disputes

Chapter 3



Now in its third year, the *Paying Taxes* post-filing index provides insight into the tax compliance burden that a business may face once it has filed its tax returns. Specifically, it looks at the process of obtaining a VAT refund and of correcting a corporate income tax return. It also considers any additional reviews, including tax audits, that are likely to arise as a result of these processes.

Lengthy or cumbersome processes can severely affect a company's operations, from disrupting cash flow to diverting resources to respond to questions from the tax authority. Although there has been little change in the average global post-filing index score, the adoption of new technology is beginning to improve the efficiency of post-filing processes in some economies, while at the other end of the scale – mostly in lower-income economies – scores remain low, with long, drawn-out processes. In the coming years, however, as more economies use online systems to match VAT claimed by customers on their purchases with VAT collected by suppliers and use data analytics to target their tax audits and reviews, we may see improvements in post-filing processes.

In this chapter, we look at the different components of the post-filing process and at some audit issues in economies where the pre-filing indicators of time to comply and the number of payments have improved significantly since 2004.

The post-filing index is a score out of 100 where 100 represents the most efficient process and zero the least efficient process. The index is made up of four components which are defined in the following section and each of which also has 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 corporate income tax, then the relevant components are omitted.¹¹ 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.



¹¹ In the study, 27 out of 190 economies have no VAT regimes, and in a further four economies, VAT does not apply to capital purchases. There are nine with no CIT regimes.

The components of the post-filing index

In 2017, the global average post-filing index score increased very slightly, from 59.4 to 59.6.

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

Looking at the components of the post-filing index on average around the world it takes our case study company 19.6 hours to comply with a VAT refund claim and 29.0 weeks to obtain the refund. The average time to comply with the CIT correction is 15.1 hours, and for those 79 economies where there would be a review in more than 25% of cases, the review lasts on average 27.6 weeks. The global average time to complete a CIT correction is 26.1 weeks, as this includes five economies that would not have a review but would have to wait a short time before making the additional tax payment.



Post-filing index for 2017

The tax processes that underlie the post-filing index are unlikely to change frequently; for an economy to extend or restrict the availability of VAT refunds, for example, is relatively rare. It can also take many years for economies to change their approach to tax audits and even longer for the approach to become embedded at a local level within tax authorities.

We have, however, seen some significant changes. For example, in 2017, the Arab Republic of Egypt extended VAT cash refunds to manufacturers in respect of capital investments, while Vietnam recently removed VAT cash refunds owing to cash constraints on the government. The knock-on impact on companies' cash flows can be significant.

For the VAT refund components, the best-performing economies are those which 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 where the VAT refund can be claimed as part of the regular VAT filing with no additional information requirements. Tax authorities are increasingly using technology to match input VAT reclaimed by companies on their purchases with the output VAT collected by suppliers and paid to tax authorities. Such systems have the potential to reduce delays in making refunds and to minimise the need to audit individual refund claims.

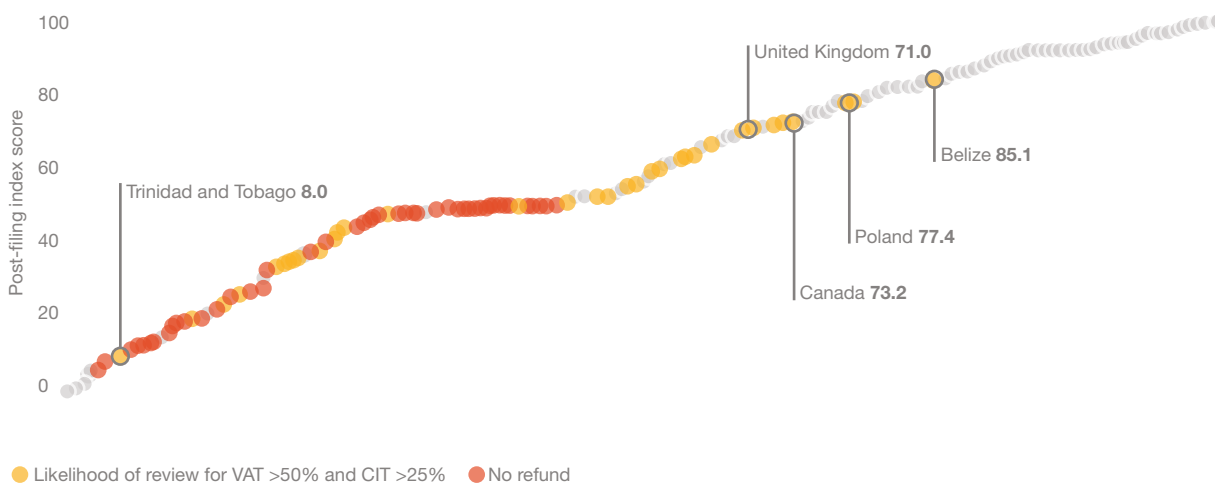
For the correction of the CIT error, the best-performing economies are those where the correction of the tax return requires minimal administrative work and where the company would be selected for additional review in less than 25% of cases.

The overall profile of economies ranked by their post-filing score, highlighting some of the characteristics that give rise to the scores, is shown in Figure 11.

The economies shown in yellow are those where review times are taken into account for both VAT and CIT, as these are where in more than 50% of cases a company making a VAT refund request would be selected for additional review, and where in more than 25% of cases, a company with a CIT correction would be subject to additional review. In the top-scoring economies, the case study company would not be selected for additional review, for either VAT or CIT. There are, however, several economies where additional reviews are taken into account in their post-filing processes, but which still have scores above the global average. For example, Belize has an index score of 85.1 while having reviews for both VAT and CIT. Other examples include Poland and Canada, with post-filing scores of 77.4 and 73.2, respectively. This suggests that it is possible for reviews to be carried out efficiently.

The economies shown in orange in Figure 11 are those where a VAT refund is not available for our case study company, and such economies receive a score of zero for the VAT component of the post-filing index. These economies all have an index score below 50.

Figure 11: Post-filing score for all economies



Note: Bahrain, Kuwait, Marshall Islands, Micronesia, Fed. Sts., Palau, Qatar and United Arab Emirates have no VAT or CIT regime. Each point on the chart represents a different economy.

Source: PwC *Paying Taxes 2019* data

Pre-filing vs. post-filing performance – is there a link?

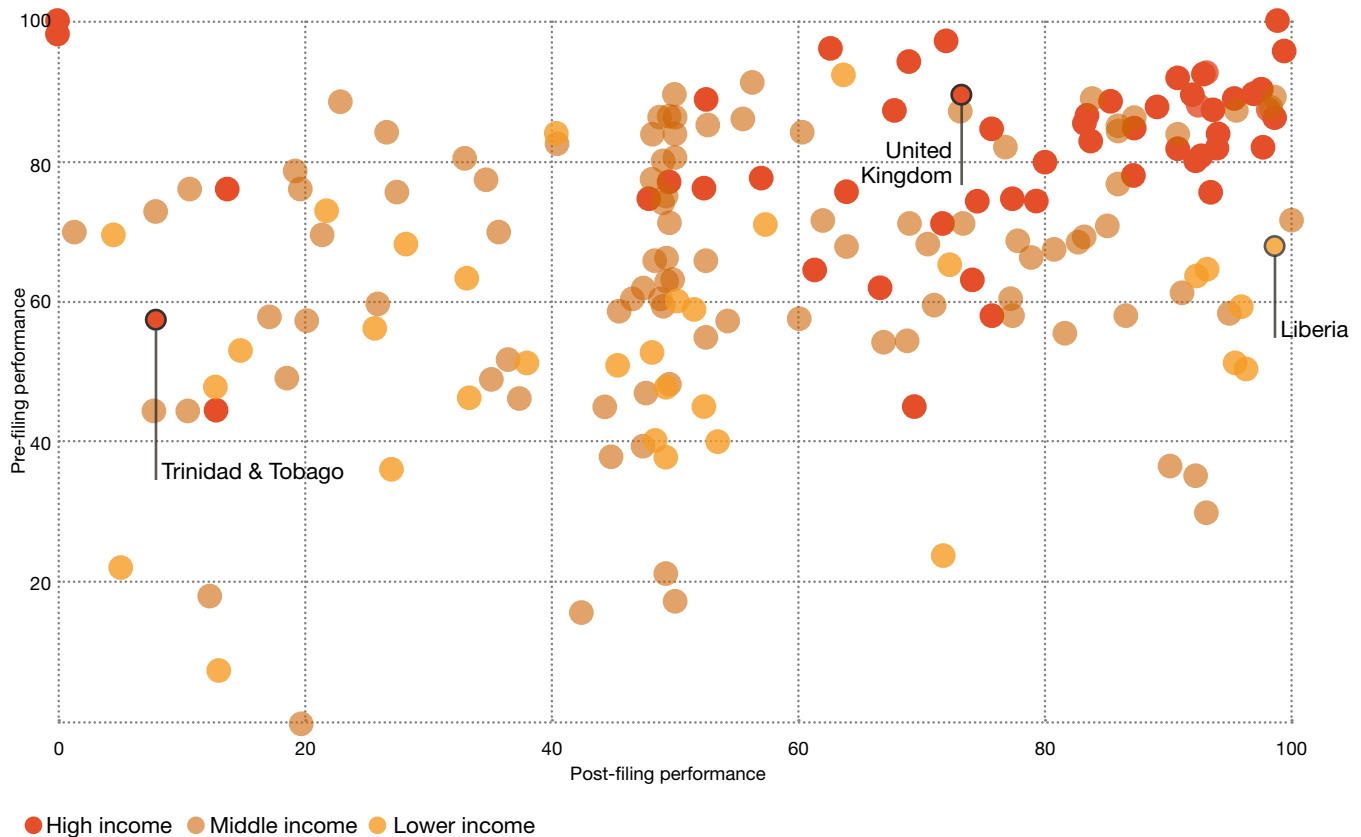
Within *Paying Taxes*, we measure the pre-filing compliance performance of economies using the time to comply and payments indicators. If we convert the data for each indicator to a score of zero to 100 using the World Bank’s ease of doing business scoring methodology,¹² and take a simple average of the two scores, we can determine a pre-filing compliance score. In Figure 12, we compare these scores with the results from the post-filing index. As one might expect, the high-income economies are the best performers in both pre- and post-filing scores. However, there are economies at both ends of the spectrum in which the performance of their pre- and post-filing processes vary significantly. By looking at some specific examples, we can explore what this might mean for real businesses.

Even efficient tax systems can underperform on some measures. The United Kingdom, for example, does well on pre-filing with a time to comply of 105 hours and 8 payments. Its post-filing index of 71.0, however, is nearer the middle

of the spectrum, largely because of the correction of the corporate income tax return being subject to audit that would last around 8 months. This time is split between waiting for the audit to start after submitting the correction, the duration of the audit itself and the time between the end of the audit fieldwork and the receipt of the notification of the outcome of the audit. The company would, however, only spend around three hours preparing information for the auditor. This suggests that it is relatively efficient to obtain the information needed to answer the auditor’s questions, which is in line with the pre-filing processes being efficient.

Another high-income economy, Trinidad and Tobago, has the opposite problem. Its audit processes are burdensome compared to its pre-filing processes. The economy scores relatively well on pre-filing, 57.6, just below the global average of 69.0. However, its post-filing score is towards the very bottom of the spectrum, at just 8.0. The low post-filing score arises mainly because the request for a VAT cash refund would be subject to additional review, as would a correction to the CIT return, and this could last more than 32 weeks.

Figure 12: Pre-and post-filing score matrix for all economies



Note: Bahrain, Kuwait, Marshall Islands, Micronesia, Fed. Sts., Palau, Qatar and United Arab Emirates have no VAT or CIT regime.

Source: PwC analysis

12 For an explanation of how ease of doing business scores are calculated, see: <http://www.doingbusiness.org/content/dam/doingBusiness/media/Annual-Reports/English/DB19-Chapters/DB19-Score-and-DBRankings.pdf>

From the low-income economies, Liberia is among the 10 highest-performing economies in the post-filing index and does well on pre-filing with a score of 68.0. Liberia has no VAT regime, so the post-filing index only measures the CIT components of the economy. In Liberia, it would take our study company only three hours to correct its CIT return, and such a correction is unlikely to be subject to additional review. Liberia is planning to introduce VAT in 2019. This is likely to impact the VAT component of the post-filing index in future editions of *Paying Taxes*.



How do audit issues vary around the world?

Given the relatively straightforward profile of our case study company, it is remarkable how much variation we see in the time required to provide information to tax auditors following a CIT correction. Some of this will be due to differences in the use of technology. It should be quicker to locate and analyse data from an electronic system than from a largely manual system that relies heavily on hard-copy records. There are, however, other factors that can complicate post-filing reviews, including formal audits, such as the clarity of the underlying tax law, the extent to which the tax authority provides guidance on specific issues, the application of materiality thresholds and the approach of individual tax officers.

Although enforcing compliance with tax obligations is a central function of tax administrations, there is much that can be done to reduce the associated burden for both taxpayers and tax officers. Audit and other review processes that are complex, time-consuming and take months or years to conclude can result in significant costs on both sides. Drawing on experiences from PwC offices around the world, we have identified the following factors which can lead to lengthy and burdensome tax audits, and many of these can also increase pre-filing compliance times as taxpayers spend more time on compliance to prevent an audit:

- frequent and/or unexpected law and policy changes
- introduction of retrospective or retroactive legislation by tax authorities
- lack of transparency, impact assessments and consultation with the stakeholders on policy changes
- enforcement of rules by authorities in ways that exceed legislative powers
- lack of consistent interpretation of tax rules among different tax offices or tax officers
- poorly targeted incentives for tax authorities and their staffs that lead to costly audits, resulting in little additional revenue
- lack of a risk-based approach to selecting companies for tax audit, resulting in an inefficient allocation of tax authority resources
- inefficient or non-existent domestic dispute resolution mechanisms, such as appeal courts, special tax chambers/tribunals or tax ombudsmen
- issues of legal interpretation where local variations, potentially arising from translation issues, differ from international guidelines
- highly formalistic documentation requirements that require data to be provided in specific formats out of proportion with the underlying transaction.

Next, we set out some specific examples drawn from the experiences of PwC offices around the world of such audit issues from economies that have electronic filing and payment for some, if not all, taxes and which have shown improvement in their time to comply over the lifetime of *Paying Taxes*. They also all score highly on the corporate income tax elements of the post-filing index, as it is quick to correct a CIT return, and there is a low chance that the case study company would be subject to an additional review in any one year. That said, it appears that within each economy there are a number of issues that are often raised by tax authorities as part of audits and which may give rise to uncertainty. In general, the matters highlighted are related to laws that are unclear or to inconsistent approaches by tax officers – such matters are unlikely to be able to be resolved by technology.

Example 1

Although the economy has a straightforward procedure for tax audits, these can be extremely burdensome in practice. Relatively common items, such as the deductibility of overhead costs, are frequently challenged by tax authorities. There is also a very low threshold (approx. US\$12,000) of criminal prosecution for tax evasion. The absence of an independent forum/body to review tax appeals also contributes to lengthy and inefficient audit processes.

Example 2

Unclear tax legislation leads to inconsistency in the way different tax auditors treat the same underlying transaction(s). For example, one tax officer may allow certain deductible expenses, while another one would not. In addition, as tax advice provided by the tax authority is not binding for either tax officers or taxpayers, there are examples of the tax authority providing companies with advice which is subsequently not followed.

Example 3

Taxpayers are required by law to issue an adjusting invoice (debit note/credit note) if the terms of the transaction change after the original invoice has been issued. In complying with this law, taxpayers open themselves to an increased risk of audit, even where there is no change to the underlying subject of the invoices, as tax authorities are more likely to audit companies that frequently submit adjusted returns.

Example 4

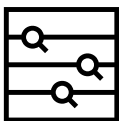
If a company has an in-house lawyer, tax authorities may challenge the validity of external legal fees on the basis that the in-house lawyer should have been able to carry out the legal service. Similarly, to claim the relevant tax deduction, companies may be asked to disclose the reports that are prepared by external consultants, even though these can be highly confidential in nature.





World Bank Group commentary: lessons learned

Chapter 4



The main role of tax authorities is to ensure compliance with tax laws. How a tax authority interacts with taxpayers and tax officers affects the degree of voluntary compliance and the public perception of the tax authority's efficiency. Taxpayers who know their rights and receive the necessary information and support to help them meet their tax obligations are more willing to comply voluntarily.¹³ Skilled, trained and committed tax officers are more likely to act professionally in their interactions with taxpayers.¹⁴

Data collected this year as part of *Paying Taxes* suggests that training initiatives are beneficial to both the tax authorities and the taxpayers. Training for tax officers¹⁵ and taxpayer education¹⁶ can be provided through a variety of channels: seminars, online learning programmes, call centres and pilot tests can improve voluntary compliance and create a well-informed public.

The research covered the frequency and type of training to tax officers and how changes in the tax administration are communicated to tax officers. Data was also collected on taxpayer education, including the ways legal and administrative changes are communicated to the public and the means used by taxpayers to obtain information from tax authorities.

Training, however, is not systematic for either tax officers or taxpayers. Only 35% of tax authorities in the 157 economies where *Doing Business* collected data provided regular training to their tax officers. The most common way for taxpayers to receive information from tax authorities is via tax rulings. The second-most popular means is via call centres.

13 Kira Reuben, Alex. 2017. "An Evaluation of Governments' Initiatives in Enhancing Small Taxpayers' Voluntary Tax Compliance in Developing Countries." *International Journal of Academic Research in Accounting, Finance and Management Sciences* 7(1): 253-267.

14 Bird, Richard M. 2004. "Administrative Dimensions of Tax Reform." *Asia-Pacific Tax Bulletin* 10 No.3:134-50.

15 Training for tax officials means providing tax officers with the right skills and competencies to perform their jobs properly.

16 Taxpayer education includes training on how to pay taxes and how to understand tax laws through different government programmes to encourage tax-compliant behavior.

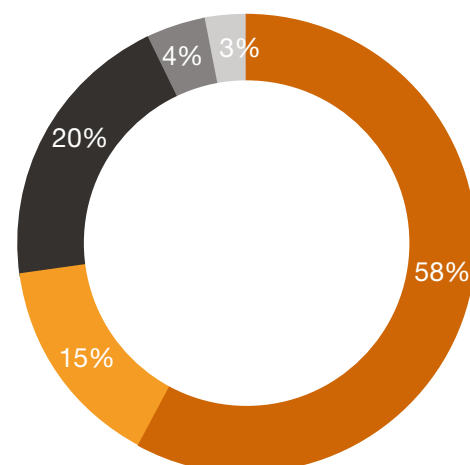


Why is it relevant to train tax officers?

Tax officers play a key role in facilitating the adoption of a service-oriented attitude towards taxpayers. The systematic training of tax officers is, therefore, vital for a well-functioning tax system and the effective implementation of tax policies.¹⁷

Well-trained staff are more efficient and less prone to making errors when assessing tax dealings or assisting taxpayers. Tax officers typically undertake a series of training programmes and examinations to gain the qualifications required to perform their duties. Of the 157 economies included in this research, all but five economies¹⁸ offer training to tax officers. Globally, the norm is for tax authorities to offer training to tax officers when a legal or administrative change is introduced. Tax authorities have regular training in only a few cases (see Figure 13).

Figure 13: Most economies provide training for tax officers when a legal or administrative change is introduced



- Training provided only when a change is introduced
- Only periodic training
- Combination of periodic training and training when there is a change
- Training provided, but no data on frequency
- Training on an adhoc basis as necessary

17 OECD (Organisation for Economic Co-operation and Development). 2017. OECD Tax Administration 2017: Comparative Information on OECD and Other Advanced and Emerging Economies.

18 The economies that do not offer training to tax officials are Guinea-Bissau, Libya, St. Kitts and Nevis, Trinidad and Tobago, and United Arab Emirates.

Note: The sample is 152 economies. In Bahrain, Hong Kong SAR (China), Madagascar, Malta, Romania, Slovenia and Zambia, the research was not able to identify the frequency of training programmes.

Source: *Doing Business* database

For those economies that provide periodic training, either in isolation or in combination with training provided when there is an administrative or legal change, the frequency of the training is detailed in Table 1.

Table 1: Frequency of periodic training for tax officers

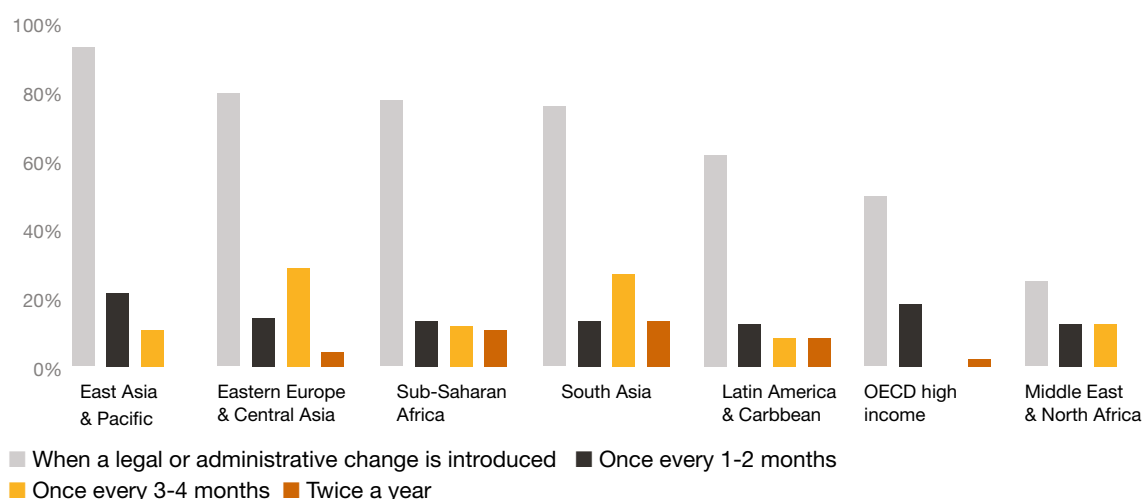
Frequency of training	Number of economies reporting only periodic training	Number of economies reporting periodic training and training when there is a change
Once in 1 – 2 months	9	14
Once every 3 – 4 months	7	10
Twice a year	7	6
Total	23	30

In 58% of the 152 economies with training programmes, the tax authority provides training to tax officers only when a legal or administrative change is introduced. In 15% of economies, tax authorities offer only periodic training that is not linked to administrative or legal change, while 20% of economies offer both periodic training and training linked to legal and legislative change. As Table 1 shows, where only periodic training is provided, there is a fairly even split as to whether it is provided every one to two months, every three to four months or twice a year. Where periodic training is combined with training in the event of a legal or administrative change, more frequent training is common. In Belgium, Canada, Denmark and the United Kingdom, training programmes are available to tax officers on an irregular basis and only when the need arises; however, the tax authorities in these economies provide staff with online manuals which are continually updated.

For example, Canada’s system values the ability of tax officers to perform independently. As such, tax auditors in Canada are responsible for formulating their own learning plans. Online learning guidelines include the training required at each level of the audit process and helping staff define their skill needs and create their learning plans. Newly hired tax auditors receive an introductory training and, later, on-the-job training, depending on specific needs. In Denmark, the revenue administration relies on exchanges of feedback from the private sector to the employees of the tax authority; this information flow is part of the training and development of the tax officers.

There is no variation in the frequency of the training programmes between regions. Tax authorities in all regions offer training to tax officers when a legal or administrative change is introduced (see Figure 14).

Figure 14: Tax authorities in all regions offer training to tax officers when a legal or administrative change is introduced
Share of economies (%)



Note: An economy can have one of the regular trainings in place and a training when a legal or administrative change is introduced.

Source: *Doing Business* database



China's local tax bureaus maintain a high-quality workforce by supporting their tax officers' professional development through routine training programmes. In China, tax officers receive regular training from their local tax bureaus. Specialised training sessions are also provided on an as-needed basis. When significant changes to tax policies are introduced, tax officers receive intensive technical training to ensure the implementation of the new policies.

A tax officer's skills should be matched to his or her responsibilities at the tax authority. In fact, issue-specific training seminars are the most common form of training. In 59% of the 152 economies that provide training to tax officers, this type of training is in place. In 56% of the 152 economies, there is a formal training process, and in 55% of the economies, there is induction training for new hires. In 37 economies, the data did not identify any specific type of training programme in place for tax officers. Although it is likely that training exists in these economies, it is not captured by the data because it is random. In the Russian Federation, training programmes for tax officers are conducted regularly (once every one to two months). The programmes are organised to address a specific issue as part of a larger training plan.

All member states of the EU provide training to tax officers. However, only 12 economies provide training programmes that target a specific tax issue. In addition to induction training programmes for new staff, Estonia's Tax and Customs Bureau offers specific training programmes to tax officers. In the Slovak Republic, the Education Academy

of the Slovak Financial Directorate facilitates mandatory technical training for tax officers, including both a basic induction and an advanced technical course. Each year's technical training is prepared by the Directorate in January in consultation with each individual tax official; at the end of the year, the Directorate reviews the plan.

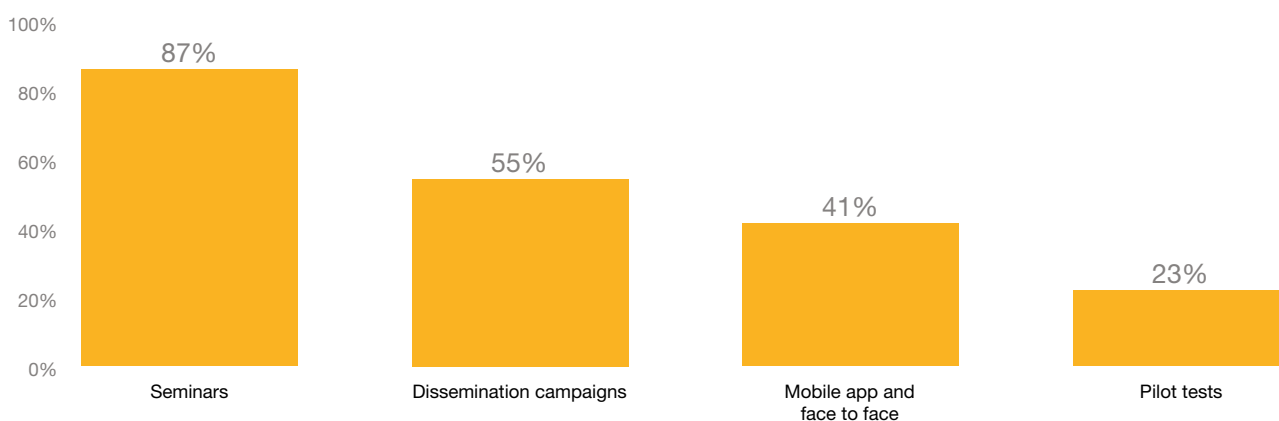
Communicating changes to tax officers

There are various ways to communicate regulatory or procedural changes at the tax authority to employees.

In 87% of economies, such changes are conveyed through seminars, while in 55% of economies, they are disseminated through social media or email and text message. In less than one-quarter of economies, changes are first introduced to tax officers in pilot schemes (see Figure 15). It is not just tax authorities that favour seminars as a means of providing training. As part of a wider focus on training, *Doing Business 2019* shows that seminars are also the most common means of informing staff of changes to regulations or processes at land registries.

Pilot tests let tax authorities identify and address potential challenges before full implementation. These pilot tests are most commonly implemented in tax authorities in South Asia and in the OECD high-income economies. This testing is used in only one economy in the Middle East and North Africa, and in less than 16% of economies in Latin America and the Caribbean.

Figure 15: Seminars are the most common channel for communicating changes to tax officers
Share of economies using communication channel (%)



Note: An economy can use multiple channels of communication, as noted earlier. We excluded economies from the sample where changes are not communicated or there is no data (11 economies). 'Seminars' refer to the use of classes for a group of people. 'Dissemination campaigns' refer to the use of social media or emails and text messages. 'Pilot tests' refer to the use of small-scale experiments or tests to introduce changes.

Source: *Doing Business* database

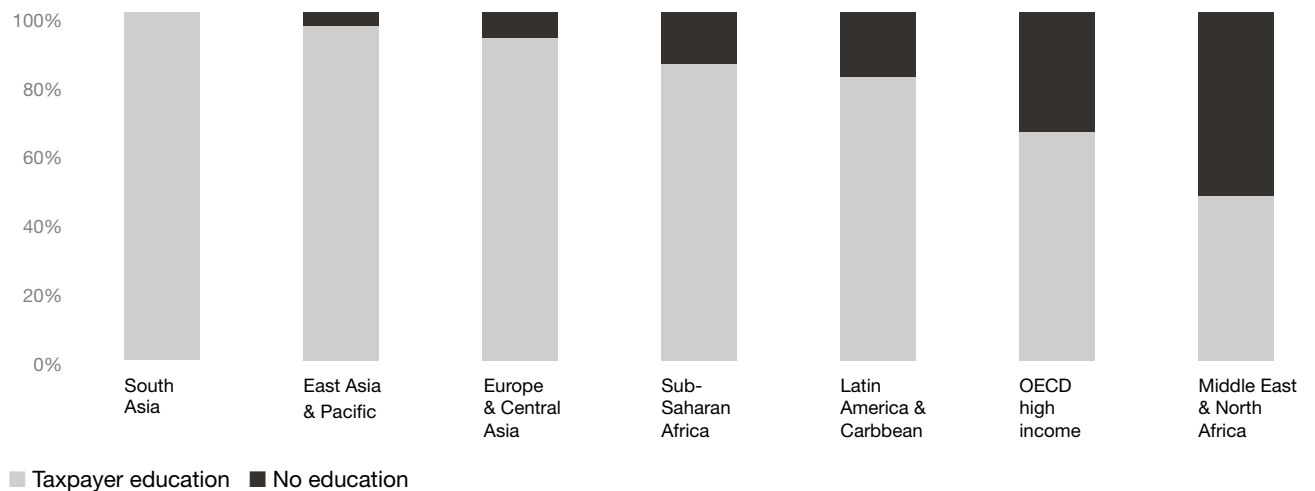
Why is it relevant to educate taxpayers?

Taxpayer education is becoming a core role of tax administrations as they position themselves as service providers and not only as tax collection agencies. Tax authorities use taxpayer education programmes to improve tax compliance¹⁹ and tax morale.²⁰

The data shows that education programmes for taxpayers are available in all regions globally. Of the 157 economies included in this research, 126 economies offer some type of education for taxpayers (see Figure 16). All economies in South Asia provide taxpayer education.



Figure 16: All economies in South Asia provide taxpayer education
Share of economies (%)



Note: The sample includes 157 economies.

Source: *Doing Business* database

Only 68% of economies in the high-income OECD group have education programmes for taxpayers. This may be because there is a well-established positive citizens' attitude towards paying taxes (i.e., a high tax morale). There is also evidence that efficient tax administrations focus on taxpayers' self-service options.²¹ Taxpayer education in these economies is done through online tutorials and guidelines that are disseminated via social media and on the websites of the tax authorities.

In most economies, the frequency of education programmes for taxpayers is not defined. That is, there are no regular education programmes available to taxpayers; rather, these programmes are implemented whenever a legal or administrative change is introduced. In 82% of the 126

economies in the sample that offer some type of education to taxpayers, they're provided when a legal or administrative change is introduced. Twenty-three economies provide education to taxpayers once every one to two months (this includes 13 economies that also have taxpayer education programmes when a legal or administrative change is introduced).

Mauritius is one place where taxpayer education programmes are offered every one to two months. In addition, the Taxpayer Education and Communication Department (TECD) of Mauritius has various initiatives to boost voluntary compliance. These include training programmes for teachers and students, and the celebration of National Taxpayer Day. The TECD also posts signboards at major government-

19 Mukhlis, Imam, Utomo Sugeng, Hadiq, Soesetio, Yuli. 2015. "The Role of Taxation Education on Taxation Knowledge and Its Effect on Tax Fairness as well as Tax Compliance on Handicraft SMEs Sectors in Indonesia." *International Journal of Financial Research* 6(4): 161-169.

20 OECD (Organisation for Economic Co-operation and Development). 2015. *OECD Building Tax Culture, Compliance and Citizenship: A Global Source Book on Taxpayer Education*.

21 Dohrmann, Thomas, Pinshaw, Garry. 2009. "The Road to Improved Compliance." McKinsey & Company.

funded sites stating, “Your taxes at work,” to demonstrate the benefits funded from taxpayers’ money. The TECD has a strong media presence. It holds regular press conferences and meetings which are covered in the press, on national radio and television and on local private radio channels.

Beijing’s tax bureau provides comprehensive education programmes to taxpayers on both a regular and an ad hoc basis using various channels. Online tutorials (such as seminars for employers to learn how to complete their returns) and in-person seminars and workshops are organised on an as-needed basis (for example, during individual tax return season or when new tax regulations are issued).

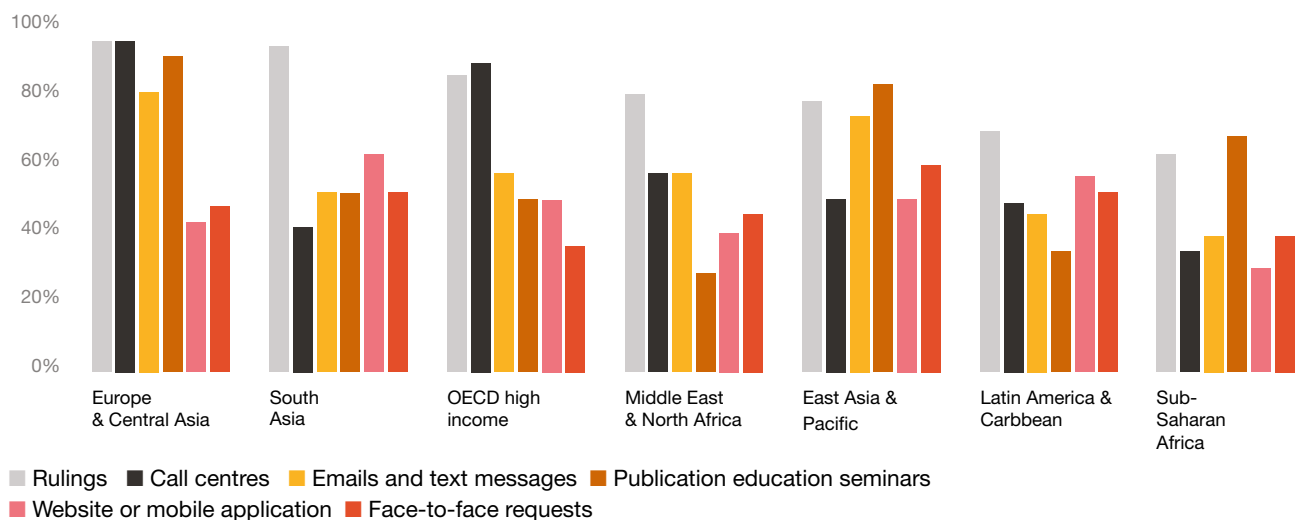
The South African Revenue Service (SARS) offers seminars to encourage businesses to register as taxpayers, emphasising the importance of good fiscal citizenship and teaching taxpayers how to become tax compliant. The SARS maintains a presence in shopping malls and other points of service, and reaches millions of taxpayers through TV and radio, especially during tax season.

Communicating changes and making information available to taxpayers

Data shows that providing materials (including guides, forms and legislation) on the website of the tax authority and using social media are the most common means by which tax authorities communicate changes in tax laws or regulations to taxpayers. Tax authorities rarely use pilot tests to educate taxpayers about regulatory changes. Just 27 of the 103 economies that communicate with taxpayers when a change is made conduct pilot tests before the full implementation of new processes.

Data was also collected on how taxpayers obtain information and advice from tax authorities. The research shows that the rulings are the most common way taxpayers obtain information from tax authorities (see Figure 17). Rulings are a means through which the tax administrations provide taxpayers with advice on how they will interpret the laws they administer in specific situations.²² Each economy has a different tax ruling system.

Figure 17: Rulings are the most common way taxpayers obtain information from tax authorities globally
Share of economies (%)



Note: An economy can have multiple channels used by taxpayers to obtain information from tax authorities.
Source: *Doing Business* database

Call centres are another popular means of obtaining information from the tax authority. About 80% of economies in Europe and Central Asia and the OECD high-income group use call centres to disseminate tax information. In the United States, nearly every tax issue can now be resolved online or by phone. Taxpayers have a telephone conversation with an agent first; in most cases, the taxpayer can then resolve his or her own issue using a self-service option. This has helped the US tax administration to reduce substantially its service costs, waiting times and time to resolve issues, and has resulted in a significant improvement in taxpayer satisfaction.²³

Mobile applications are a relatively new system used by tax authorities to offer some services. The applications allow taxpayers to file, pay and enquire 'on-the-go'.²⁴ The Peruvian Tax Administration, for example, launched its mobile application in 2015. Taxpayers can access a virtual tax guide 24/7, as well as other services, such as invoice issuing and database queries.

Brazil's tax authority uses mainly in-person communication with taxpayers with the goal of strengthening the relationship between the tax administration and the taxpayer. The idea behind it is to strengthen the relationship between the tax administration and the taxpayer, and to disseminate knowledge on tax regulations to increase voluntary compliance and social acceptance of taxes. Brazil's long-term taxpayer education plan is supported by university-based centres for accounting and tax support. Brazil also offers a long list of services, guides, forms and information on the revenue administration's website, as well as through mobile applications.

Training is essential to ensure public trust in the tax authority. Data collected for *Doing Business 2019* suggests that training and taxpayer education initiatives benefit both tax authorities and taxpayers. Access to such training and education can be provided through a variety of channels. Seminars, online learning programmes, call centres and pilot tests can improve voluntary compliance and create a well-informed public.

²³ McKinsey 2009.

²⁴ OECD 2017.



Appendix

For the purposes of geographic comparisons, the economies are split into regions 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; Macedonia, FYR; Moldova; Montenegro; 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, R.B.



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