

Ten years of in-depth analysis on tax systems in 189 economies. A look at recent developments and historical trends.

# Paying Taxes 2016



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***Methodology and  
example calculations for  
each of the Paying Taxes  
sub-indicators***

*Paying Taxes* records the taxes and mandatory contributions that a medium-size domestic company must pay in a given year as well as measuring the administrative burden of paying taxes and contributions. The project was developed and implemented as part of the *Doing Business* project by the World Bank Group in co-operation with PwC. Taxes and contributions measured include corporate income and other profit taxes, social contributions and labour taxes paid by the employer, property taxes, property transfer taxes, dividend tax, capital gains tax, financial transactions tax, waste collection taxes, vehicle and road taxes, and any other small taxes or fees.

*Paying Taxes* measures all taxes and contributions that are government mandated (at any level – federal, state or local) and that apply to the standardised business and have an impact in its financial statements. In doing so, *Paying Taxes* goes beyond the traditional definition of a tax. As defined for the purposes of government national accounts, taxes include only compulsory, unrequited payments to general government. *Paying Taxes* departs from this definition because it measures imposed charges that affect business accounts, not government accounts, with the main difference relating to labour contributions. The *Paying Taxes* measure includes government-mandated contributions paid by the employer to a required private pension fund or workers' insurance fund. The indicator includes, for example, Australia's compulsory superannuation guarantee and workers' compensation insurance. For the purpose of calculating the Total Tax Rate (defined later on), only taxes borne are included.

For example, value added taxes are generally excluded (provided they are not irrecoverable) because they do not affect the accounting profits of the business – that is, they are not reflected in the income statement. They are, however, included for the purpose of the compliance measures (time and payments), as they add to the burden of complying with the tax system.

The *Paying Taxes* study uses the *Doing Business* case study scenario to measure the taxes and contributions paid by a standardised business and the complexity of an economy's tax compliance system. This case study scenario uses a set of financial statements and assumptions about transactions made over the course of the year. In each economy tax experts from a number of different firms (including PwC) compute the taxes and mandatory contributions due in their jurisdiction based on the standardised case study facts. Information is also compiled on the frequency of filing and payments, as well as on the time taken to comply with tax laws in an economy. To make the data comparable across economies, several assumptions about the business and the taxes and contributions are used.

### ***Assumptions about the business***

The business:

- Is a limited liability, taxable company. If there is more than one type of limited liability company in the economy, the limited liability form most common among domestic firms is chosen. The most common form is reported by incorporation lawyers or the statistical office.
- Started operations on 1 January 2013. At that time the company purchased all the assets shown in its balance sheet and hired all its workers.
- Operates in the economy's largest business city and the second largest business city for large economies, defined as those with a population of more than 100 million. These economies include: Bangladesh, Brazil, China, India, Indonesia, Japan, Mexico, Nigeria, Pakistan, the Russian Federation, and the United States.
- Is 100% domestically owned and has five owners, all of whom are individuals.
- At the end of 2013, has a start-up capital of 102 times income per capita.
- Performs general industrial or commercial activities. Specifically, it produces ceramic flowerpots and sells them at retail. It does not participate in foreign trade (no import or export) and does not handle products subject to a special tax regime, for example, alcohol or tobacco.
- At the beginning of 2014, owns two plots of land, one building, machinery, office equipment, computers and one truck and leases one truck.
- Does not qualify for investment incentives or any benefits apart from those related to the age or size of the company.
- Has 60 employees – four managers, eight assistants and 48 workers. All are nationals, and one manager is also an owner. The company pays for additional medical insurance for employees (not mandated by any law) as an additional benefit. In addition, in some economies reimbursable business travel and client entertainment expenses are considered fringe benefits. Where applicable, it is assumed that the company pays the fringe benefit tax on this expense or that the benefit becomes taxable income for the employee. The case study assumes no further salary additions for meals, transportation, education or others. Therefore, even when such benefits are frequent, they are not added to or removed from the taxable gross salaries to arrive at the labour tax or contribution calculation.
- Has a turnover of 1,050 times income per capita.
- Makes a loss in the first year of operation.
- Has a gross margin (pre-tax) of 20% (that is, sales are 120% of the cost of goods sold).
- Distributes 50% of its net profits as dividends to the owners at the end of the second year.
- Sells one of its plots of land at a profit at the beginning of the second year.
- Is subject to a series of detailed assumptions on expenses and transactions to further standardise the case study. All financial statement variables are proportional to income per capita. For example, the owner who is also a manager spends 10% of income per capita on travelling for the company (20% of these owner's expenses are purely private, 20% are for entertaining customers and 60% for business travel).

### Assumptions about the taxes and contributions

- All the taxes and contributions recorded are those paid in the second year of operation (calendar year 2014). A tax or contribution is considered distinct if it has a different name or is collected by a different agency. Taxes and contributions with the same name and agency, but charged at different rates depending on the business, are counted as the same tax or contribution.
- The number of times the company pays taxes and contributions in a year is the number of different taxes or contributions multiplied by the frequency of payment (or withholding) for each tax. The frequency of payment includes advance payments (or withholding) as well as regular payments (or withholding).

### The Paying Taxes sub-indicators Tax payments

The tax payments sub-indicator reflects the total number of taxes and contributions paid, the method of payment, the frequency of payment, the frequency of filing and the number of agencies involved for this standardised case study company during the second year of operation. It includes taxes withheld by the company, such as sales tax, value added tax and employee-borne labour taxes. These taxes are traditionally collected by the company from the consumer or employee on behalf of the tax agencies. Although they do not affect the income statements of the company, they add to the administrative burden of complying with the tax system and so are included in the tax payments measure.

The number of payments takes into account electronic filing. Where full electronic filing and payment is allowed and it is used by the majority of medium-size businesses, the tax is counted as paid once a year even if filings and payments are more frequent. For payments made through third parties, such as tax on interest paid by a financial institution or fuel tax paid by a fuel distributor, only one payment is included even if payments are more frequent.

Table A1.1

#### Azerbaijan: Number of payments

Tax type	World Bank indicator	Actual payments	Notes
Corporate income tax	1	4	Paid and filed online
Value added tax (VAT)	1	12	Paid and filed online
Employer paid – social security contribution	1	12	Paid and filed online
Property tax	1	4	Paid and filed online
Land tax	1	2	Paid and filed online
Vehicle tax	1	1	
Fuel tax	1	1	
Employee paid – social security contributions	0	12	Paid jointly
Employee paid – labour tax	0	12	Paid jointly
<b>Total</b>	<b>7</b>	<b>60</b>	

## Time

Time is recorded in hours per year. The sub-indicator measures the time taken to prepare, file and pay three major types of taxes and contributions: corporate income tax, value added or sales tax, and labour taxes, including payroll taxes and social contributions. Preparation time includes the time to collect all information necessary to compute the tax payable and to calculate the amount payable. If separate accounting books must be kept for tax purposes – or separate calculations made – the time associated with these processes is included.

This extra time is included only if the regular accounting work is not enough to fulfil the tax accounting requirements. Filing time includes the time to complete all necessary tax return forms and file the relevant returns at the tax authority. Payment time considers the hours needed to make the payment online or in person. Where taxes and contributions are paid in person, the time includes delays while waiting.

Table A1.2

### Zambia: Time to comply

Tax type	Corporate income tax	Labour taxes	Consumption tax	Total
<b>Compliance process</b>				
<b>Preparation</b>				
Data gathering from internal sources (for example accounting records) if held	16	10	6	
Additional analysis of accounting information to highlight tax sensitive items	12	-	4	
Actual calculation of tax liability including data inputting into software/spreadsheets or hard copy records	6	-	-	
Time spent maintaining/updating accounting systems for changes in tax rates and rules	1	-	-	
Preparation and maintenance of mandatory tax records if required	3	-	-	
<b>Total</b>	<b>38</b>	<b>10</b>	<b>10</b>	<b>58</b>
<b>Filing</b>				
Completion of tax return forms	6	8	6	
Time spent submitting forms to tax authority, which may include time for electronic filing, waiting time at tax authority office etc.	9	36	9	
<b>Total</b>	<b>15</b>	<b>44</b>	<b>15</b>	<b>74</b>
<b>Payment</b>				
Calculations of tax payments required including if necessary extraction of data from accounting records	-	-	15	
Analysis of forecast data and associated calculations if advance payments are required	4	6	-	
Time to make the necessary tax payments, either online or at the tax authority office (include time for waiting in line and travel if necessary)*	-	-	-	
<b>Total</b>	<b>4</b>	<b>6</b>	<b>15</b>	<b>25</b>
<b>Grand total</b>	<b>57</b>	<b>60</b>	<b>40</b>	<b>157</b>

\*The time required to make tax payments is negligible and is included within the filing time.

### Total Tax Rate

The Total Tax Rate measures the amount of taxes and mandatory contributions borne by the business in the second year of operation, expressed as a share of commercial profit. *Paying Taxes 2016* reports the Total Tax Rate for calendar year 2014. The total amount of taxes borne is the sum of all the different taxes and contributions payable after accounting for allowable deductions and exemptions. The taxes withheld (such as personal income tax) or collected by the company and remitted to the tax authorities (such as value added tax, sales tax or goods and service tax) but not borne by the company are excluded. The taxes included can be divided into five categories: profit or corporate income tax, social contributions and labour taxes paid by the employer (in respect of which all mandatory contributions are included, even if paid to a private entity such as a required pension fund), property taxes, turnover taxes and other taxes (such as municipal fees and vehicle and fuel taxes).

The Total Tax Rate is designed to provide a comprehensive measure of the cost of all the taxes a business bears. It differs from the statutory tax rate, which merely provides the factor to be applied to the tax base. In computing the Total Tax Rate, the actual tax payable is divided by commercial profit.

Commercial profit is essentially net profit before all taxes borne. It differs from the conventional profit before tax, reported in financial statements. In computing profit before tax, many of the taxes borne by a firm are deductible. In computing commercial profit, these taxes are not deductible. Commercial profit therefore presents a clear picture of the actual profit of a business before any of the taxes it bears in the course of the fiscal year.

Commercial profit is computed as sales minus cost of goods sold, minus gross salaries, minus administrative expenses, minus other expenses, minus provisions, plus capital gains (from the property sale), minus interest expense, plus interest income and minus commercial depreciation.

To compute the commercial depreciation, a straight-line depreciation method is applied, with the following rates: 0% for the land, 5% for the building, 10% for the machinery, 33% for the computers, 20% for the office equipment, 20% for the truck and 10% for business development expenses. Commercial profit amounts to 59.4 times income per capita.

Table A1.3

#### Poland: Total Tax Rate

	PLN '000	PLN '000
Profit before tax (PBT)		1,743
Add back above the line taxes borne		
Social security contributions	448	
National disabled fund	67	
Labour fund and guarantee employee fund	68	
Transport tax	1	
Property tax	22	
		606
Commercial profit (profit before all taxes borne)		2,349
Corporate income tax on PBT after necessary adjustments	(340)	
Above the line taxes borne	(606)	
Total taxes borne		(946)
Profit after tax		1,403
<b>Total Tax Rate = Total taxes borne/commercial profit</b>		<b>40.3%</b>

The methodology for calculating the Total Tax Rate is broadly consistent with the Total Tax Contribution framework<sup>74</sup> developed by PwC and the calculation within this framework for taxes borne. But while the work undertaken by PwC is usually based on data received from the largest companies in the economy, *Doing Business* focuses on a case study for a standardised medium-size company.

From *Paying Taxes 2014*, fuel tax has not been considered for the purpose of the Total Tax Rate calculations because of the difficulty of computing these taxes in a consistent way across all of the economies covered. The amounts involved are also in most cases very small. Fuel taxes continue to be counted in the number of payments.

### ***The base for the financial statements and GNIpc***

The case study company's financial statements are based upon the gross national income per capita (GNIpc) in each economy. Turnover, for example, is assumed to be 1,050 times GNIpc giving, after deducting various expenses, a commercial profit of 59.4 times GNIpc. For the years 2004 to 2011 the GNIpc value for 2005 has been used. For the years 2012, 2013 and 2014 the 2012 value in each economy has been used so that the study reflects more accurately the current economic conditions. In the future the GNIpc will be updated every three years.

In some economies updating the GNIpc to the 2012 value was not sufficient to bring the salaries of all the case study employees up to the minimum wage thresholds that exist in those economies. In those instances an additional multiple of two or three times the GNIpc has been used.

### ***Expanding the sample of cities covered for large economies***

Since its inception the World Bank Group's *Doing Business* study has focused on the largest business city of each economy. Depending on the indicator and the size of the economy, this focus can be a limitation in extrapolating results to the economy level. As the subnational *Doing Business* reports prepared by the World Bank have shown, the indicators measuring the procedures, time and cost to complete a transaction (such as the dealing with construction permits indicators) tend to show more variation across cities within an economy than do indicators capturing features of the law applicable nationwide (such as the protecting minority investors or resolving insolvency indicators). Moreover, this limitation is likely to be more important in larger economies – where the largest business city is likely to represent a smaller share of the overall economy – and in those with greater regional diversity in business practices.

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<sup>74</sup> [www.pwc.com/totalexcontribution](http://www.pwc.com/totalexcontribution)

To address this issue, from 2015, *Doing Business* including the *Paying Taxes* indicator has expanded its sample of cities in large economies, defined as those with a population of more than 100 million in 2013. These include: Bangladesh, Brazil, China, India, Indonesia, Japan, Mexico, Nigeria, Pakistan, the Russian Federation and the United States. For each of these economies the sample now includes the second largest business city. Population size was used as the criterion for selecting these economies for two main reasons: First, economies with a large population, because of their size and diversity, are more likely to have differences in performance on indicators. Second the larger the population in an economy, the larger the number of people who can benefit from improvements in business regulation.

Within each economy the second city was also selected on the basis of population size and must be in a different metropolitan area from the largest business city (see Table A1.4).<sup>75</sup>

For an economy represented by two cities, both sets of data for the sub-indicators are available and are disclosed in Appendix 3. Both cities are also included in the economy's ranking calculation.

**Table A1.4**

<b>Economy</b>	<b>Cities</b>
Bangladesh	Dhaka, Chittagong
Brazil	Sao Paulo, Rio de Janeiro
China	Shanghai, Beijing
India	Mumbai, Delhi
Indonesia	Jakarta, Surabaya
Japan	Tokyo, Osaka
Mexico	Mexico City, Monterrey
Nigeria	Lagos, Kano
Pakistan	Karachi, Lahore
Russian Federation	Moscow, St. Petersburg
USA	New York City, Los Angeles

<sup>75</sup> Where the second and third largest cities were very close in population size, the GDP of the city or relevant state was used to determine which city was the second largest business city.

### Calculation of scores and ranking for economies with two cities covered

For each of the 11 economies for which a second city is included, the distance to frontier score is calculated as the population-weighted average of the distance to frontier scores for the two cities covered (Table A1.5). This is done for the scores for each of the component sub-indicators: number of payments, time and Total Tax Rate.

The table below shows the city data for the eleven economies.

Table A1.5

Economy	Population	Weight	Total Tax Rate (%)	Time to comply (hours)	Number of payments
Bangladesh Dhaka	14,730,537	78%	31.6	302	21.0
Bangladesh Chittagong	4,106,060	22%	31.6	302	21.0
<b>Bangladesh</b>	-	-	<b>31.6</b>	<b>302</b>	<b>21.0</b>
Brazil Sao Paulo	19,659,808	61%	69.1	2600	10.0
Brazil Rio de Janeiro	12,373,884	39%	69.4	2600	9.0
<b>Brazil</b>	-	-	<b>69.2</b>	<b>2600</b>	<b>9.6</b>
China Shanghai	19,979,977	55%	67.2	261	9.0
China Beijing	16,189,572	45%	68.5	261	9.0
<b>China</b>	-	-	<b>67.8</b>	<b>261</b>	<b>9.0</b>
India Mumbai	19,421,983	47%	60.6	243	33.0
India Delhi	21,935,142	53%	60.6	243	33.0
<b>India</b>	-	-	<b>60.6</b>	<b>243</b>	<b>33.0</b>
Indonesia Jakarta	9,629,953	78%	29.7	234	54.0
Indonesia Surabaya	2,768,199	22%	29.7	234	54.0
<b>Indonesia</b>	-	-	<b>29.7</b>	<b>234</b>	<b>54.0</b>
Japan Tokyo	36,833,979	65%	51.3	330	14.0
Japan Osaka	19,491,722	35%	51.4	330	14.0
<b>Japan</b>	-	-	<b>51.3</b>	<b>330</b>	<b>14.0</b>
Mexico Mexico City	20,131,688	83%	51.7	286	6.0
Mexico Monterrey	4,112,643	17%	51.7	286	6.0
<b>Mexico</b>	-	-	<b>51.7</b>	<b>286</b>	<b>6.0</b>
Nigeria Lagos	10,780,986	77%	33.4	956	59.0
Nigeria Kano	3,220,929	23%	33.3	747	59.0
<b>Nigeria</b>	-	-	<b>33.3</b>	<b>908</b>	<b>59.0</b>
Pakistan Karachi	14,080,737	65%	32.5	594	47.0
Pakistan Lahore	7,487,415	35%	32.8	594	47.0
<b>Pakistan</b>	-	-	<b>32.6</b>	<b>594</b>	<b>47.0</b>
Russian Federation Moscow	11,461,264	70%	47.1	168	7.0
Russian Federation Saint Petersburg	4,871,556	30%	46.8	168	7.0
<b>Russian Federation</b>	-	-	<b>47.0</b>	<b>168</b>	<b>7.0</b>
United States New York	18,365,262	60%	45.9	175	11.0
United States Los Angeles	12,160,151	40%	40.9	175	10.0
<b>United States</b>	-	-	<b>43.9</b>	<b>175</b>	<b>10.6</b>

Source: United Nations, Department of Economic and Social Affairs, Population Division, World Urbanization Prospects, 2014 Revision, "File 12: Population of Urban Agglomerations with 300,000 Inhabitants or More in 2014, by Country, 1950-2030 (thousands)." Available at <http://esa.un.org/unpd/wup/CD-ROM/Default.aspx>.

### **Ranking calculation and the distance to frontier measure**

Prior to *Paying Taxes 2015*, the economies were ranked using a simple average of the percentile rankings for each of the sub-indicators, but with a threshold applied to the Total Tax Rate.

From *Paying Taxes 2015*, the ease of paying taxes ranking is based on the distance to frontier score rather than on the percentile rank. The distance to frontier score benchmarks economies with respect to a measure of regulatory best practice – showing the gap between each economy’s performance and the best performance on each indicator. The frontier is set at the lowest number that has occurred in the study for each sub-indicator with the exception of the Total Tax Rate, for which a threshold has been established (more details below). For time, the frontier is defined as the lowest time recorded among all economies in the *Doing Business* sample that levy the three major taxes – profit tax, labour tax including mandatory contributions and VAT or sales tax. The ranking based on the distance to frontier score is highly correlated with that based on the percentile rank, but the distance to frontier score captures more information than the percentile rank as it shows not only how economies are ordered but also how far apart they are.

The ranking of economies on the ease of paying taxes is determined by sorting their distance to frontier scores on paying taxes, rounded to 2 decimals. These scores are the simple average of the distance to frontier scores for each of the sub-indicators (number of payments, time and Total Tax Rate) with a threshold being applied to the Total Tax Rate sub-indicator. The threshold is defined as the total tax rate at the 15th percentile of the overall distribution for all years included in the analysis up to and including *Doing Business 2015*, which is 26.1%. All economies with a total tax rate below this threshold receive the same score as the economy at the threshold. Additionally, above the threshold the Total Tax Rate is included in the ranking in a non-linear fashion (see below).

The threshold is not based on any economic theory of an ‘optimal tax rate’ that minimises distortions or maximises efficiency in an economy’s overall tax system. Instead, it is mainly empirical in nature, set at the lower end of the distribution of tax rates levied on medium-size enterprises in the manufacturing sector as observed through the paying taxes indicators. This reduces the bias in the total tax rate indicator toward economies that do not need to levy significant taxes on companies like the *Doing Business* standardised case study company because they raise public revenue in other ways – for example, through taxes on foreign companies, through taxes on sectors other than manufacturing or from natural resources (all of which are outside the scope of the methodology).

### **The World Bank Group distance to frontier measure**

This report presents in Appendix 3 the results for two aggregate benchmark measures: the distance to frontier measure and the ease of doing business ranking, which since *Paying Taxes 2015*, has been based on the distance to frontier measure. The ease of doing business ranking, including the ranking for *Paying Taxes*, compares economies with one another; while the distance to frontier score benchmarks economies with respect to regulatory best practice, showing the absolute distance to the best performance on each *Doing Business* indicator. Both measures can be used for comparisons over time. When compared across years, the distance to frontier measure shows how much the regulatory environment for local entrepreneurs in each economy has changed over time in absolute terms, while the ease of paying taxes ranking can show only how economies have changed relative to one another.

The frontier is a score derived from the most efficient practice or highest score achieved on the *Paying Taxes* sub-indicators by any economy for all years included in the analysis up to and including *Doing Business 2015*. In *Paying Taxes*, for example, Hong Kong SAR, (China) and Saudi Arabia have achieved the highest performance on the number of payments (3 payments), Singapore on time (49 hours) and Solomon Islands on the Total Tax Rate (26.1%).

Calculating the distance to frontier for each economy involves two main steps. First, two of the *Paying Taxes* sub-indicators, number of payments and time, are rescaled to a common unit using a linear transformation:  $(\max - y)/(\max - \min)$ , with the minimum value (min) representing the frontier – the highest performance on that sub-indicator across all economies for all years included in the analysis up to and including *Doing Business 2015*. For the time to pay taxes the frontier is defined as the lowest time recorded among all economies that levy the three major taxes: profit tax, labour taxes and mandatory contributions, and value added tax (VAT) or sales tax. For the Total Tax Rate, consistent with the use of a threshold in calculating the rankings on this sub-indicator, the frontier is defined as the Total Tax Rate at the 15th percentile of the overall distribution of Total Tax Rates for all years included in the analysis up to and including *Doing Business 2015*.

Second, for each economy the scores obtained are aggregated through simple averaging into one distance to frontier score. An economy's distance to frontier is indicated on a scale from 0 to 100, where 0 represents the lowest performance and 100 the frontier. To mitigate the effects of extreme outliers in the distributions of the rescaled data, the worst performance (i.e. the max) is calculated after the removal of outliers.

The worst performance is defined as the 95th percentile for each component of the pooled data for all economies for all the years included in the analysis. All distance to frontier calculations are based on a maximum of five decimals. However, the ease of paying taxes ranking calculation is based on two decimals.

The difference between an economy's distance to frontier score in any previous year and its score on the *Paying Taxes* indicator for 2014 illustrates the extent to which the economy has closed the gap to the frontier over time. And in any given year the score measures how far an economy is from the highest performance. The distance to frontier measure can also be used for comparisons across economies in the same year, complementing the ease of paying taxes ranking.

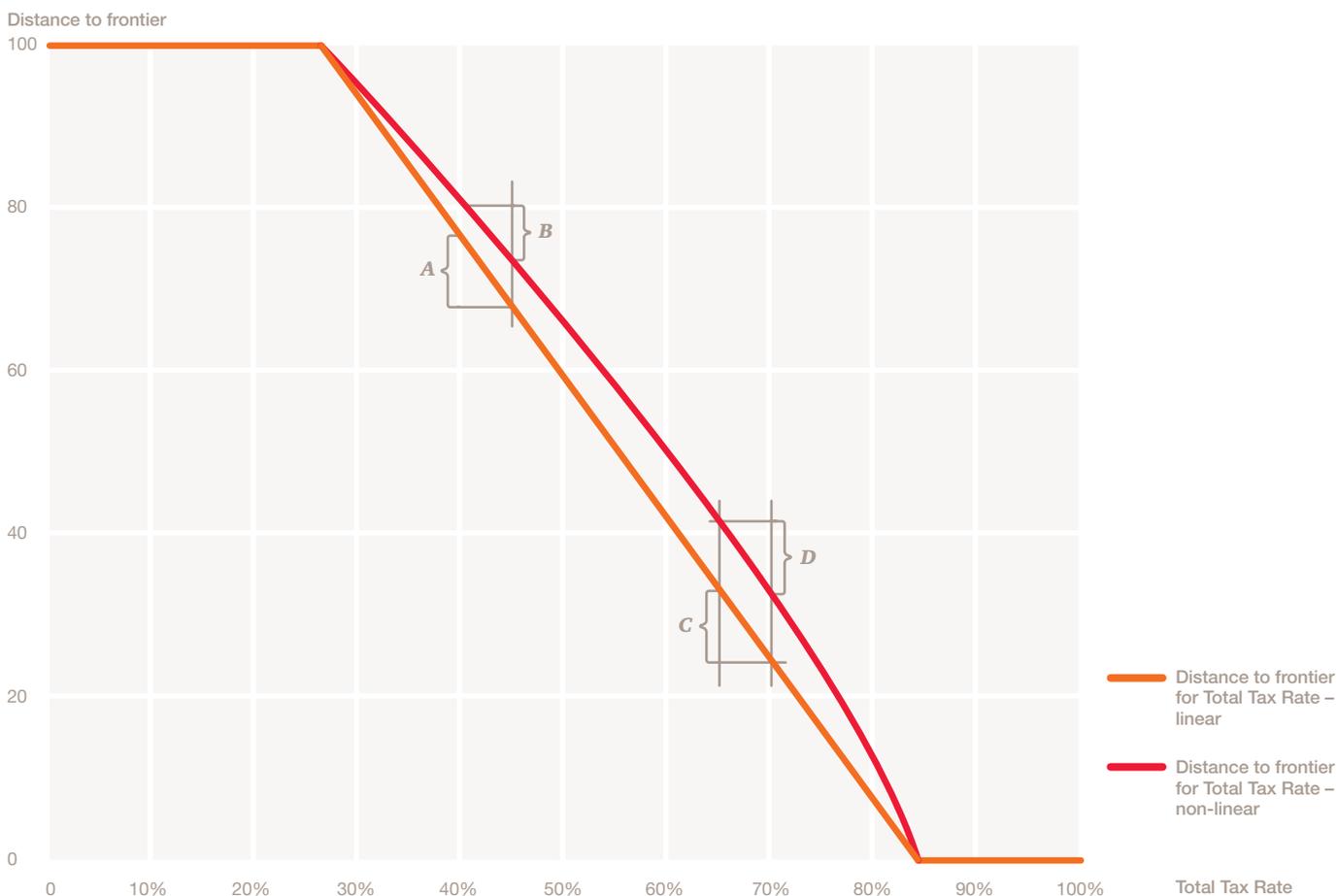
### ***Treatment of the Total Tax Rate***

Since *Paying Taxes 2015*, the Total Tax Rate component of the paying taxes indicator is transformed in a non-linear fashion before it enters the distance to frontier score for paying taxes. As a result of the non-linear transformation, an increase in the Total Tax Rate has a smaller impact on the distance to frontier score for the Total Tax Rate – and therefore on the distance to frontier score for paying taxes – for economies with a below-average Total Tax Rate than it would have in the calculation done in previous years (line B is smaller than line A in figure A1.1). And for economies with an extreme Total Tax Rate (a rate that is very high relative to the average), an increase has a greater impact on both these distance to frontier scores than before (line D is bigger than line C in Figure A1.1).

The non-linear transformation is not based on any economic theory of an 'optimal tax rate' that minimises distortions or maximises efficiency in an economy's overall tax system. Instead, it is mainly empirical in nature. The non-linear transformation along with the threshold reduces the bias in the indicator toward economies that do not need to levy significant taxes on companies like the *Doing Business* standardised case study company because they raise public revenue in other ways – for example, through taxes on foreign companies, through taxes on sectors other than manufacturing or from natural resources (all of which are outside the scope of the methodology). In addition, it acknowledges the need of economies to collect taxes from firms.

**Figure A1.1**

How the non-linear transformation affects the distance to frontier score for the Total Tax Rate



**Note:** The non-linear distance to frontier for the Total Tax Rate is equal to the distance to frontier for the Total Tax Rate to the power of 0.8.

**Source:** Doing Business database.

### Distance to frontier (DTF)

DTF for the time to comply and the number of payments is computed as:

$$100 * (max - y) / (max - min)$$

Where y := sub-indicator value for a given economy

DTF for the Total Tax Rate (TTR) is computed as:

$$TTR^{DTF} = 100 * [(max - y) / (max - min)]^{0.8}$$

For a TTR value below the 15th percentile, TTR<sup>DTF</sup> is set at 100.

The overall *Paying Taxes* DTF will then take the form;

$$Paying\ Taxes^{DTF} = 1/3 [TTR^{DTF} + Time_{DTF} + Payments^{DTF}]$$



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

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

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