

Ease of doing business and distance to frontier

2007 2012 2011
2005 2009 2004
2008 2006 2010 2013

This year's report presents results for 2 aggregate measures: the aggregate ranking on the ease of doing business and the distance to frontier measure. The ease of doing business ranking compares economies with one another, while the distance to frontier measure benchmarks economies to the frontier in regulatory practice, measuring the absolute distance to the best performance on each 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 doing business ranking can show only relative change.

EASE OF DOING BUSINESS

The ease of doing business index ranks economies from 1 to 185. For each economy the ranking is calculated as the simple average of the percentile rankings on each of the 10 topics included in the index in *Doing Business 2013*: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency. The employing workers indicators are not included in this year's aggregate ease of doing business ranking. In addition to this year's ranking, *Doing Business* presents a comparable ranking for the previous year, adjusted for any changes in methodology as well as additions of economies or topics.¹

Construction of the ease of doing business index

Here is one example of how the ease of doing business index is constructed. In Finland it takes 3 procedures, 14 days and 4% of property value in fees to register a property. On these 3 indicators Finland ranks in the 6th, 16th and 39th percentiles. So on average Finland ranks in the 20th percentile on the ease of registering property. It ranks in the 30th percentile on starting a business, 28th percentile on getting credit, 24th percentile on paying taxes, 13th percentile on enforcing contracts, 5th percentile on trading across borders and so on. Higher rankings indicate simpler regulation and stronger protection of property rights. The simple average of Finland's percentile rankings on all topics is 21st. When all economies are ordered by their average percentile rankings, Finland stands at 11 in the aggregate ranking on the ease of doing business.

More complex aggregation methods—such as principal components and unobserved components—yield a ranking nearly identical to the simple average used by *Doing Business*.² Thus *Doing Business* uses the simplest method: weighting all topics equally and, within each topic, giving equal weight to each of the topic components.³

If an economy has no laws or regulations covering a specific area—for example, insolvency—it receives a “no practice” mark. Similarly, an economy receives a “no practice” or “not possible” mark if regulation exists but is never used in practice or if a competing regulation prohibits such practice. Either way, a “no practice” mark

TABLE 21.1 Correlations between economy rankings on *Doing Business* topics

	Dealing with construction permits	Registering property	Getting credit	Protecting investors	Paying taxes	Trading across borders	Enforcing contracts	Resolving insolvency	Getting electricity
Starting a business	0.34	0.30	0.44	0.60	0.40	0.40	0.40	0.44	0.28
Dealing with construction permits		0.24	0.19	0.21	0.41	0.49	0.23	0.36	0.49
Registering property			0.37	0.33	0.37	0.29	0.50	0.38	0.26
Getting credit				0.49	0.26	0.38	0.43	0.49	0.22
Protecting investors					0.39	0.36	0.30	0.41	0.22
Paying taxes						0.50	0.33	0.42	0.46
Trading across borders							0.36	0.55	0.58
Enforcing contracts								0.46	0.24
Resolving insolvency									0.32

Source: *Doing Business* database.

puts the economy at the bottom of the ranking on the relevant indicator.

The ease of doing business index is limited in scope. It does not account for an economy's proximity to large markets, the quality of its infrastructure services (other than services related to trading across borders and getting electricity), the strength of its financial system, the security of property from theft and looting, macroeconomic conditions or the strength of underlying institutions.

Variability of economies' rankings across topics

Each indicator set measures a different aspect of the business regulatory environment. The rankings of an economy can vary, sometimes significantly, across indicator sets. The average correlation coefficient between the 10 indicator sets included in the aggregate ranking is 0.37, and the coefficients between any 2 sets of indicators range from 0.19 (between dealing with construction permits and getting credit) to 0.60 (between starting a business and protecting investors). These correlations suggest that economies rarely score universally well or universally badly on the indicators (table 21.1).

Consider the example of Canada. It stands at 17 in the aggregate ranking on the ease of doing business. Its ranking is 3 on starting a business, and 4 on both resolving insolvency and protecting investors. But its ranking is only 62 on enforcing contracts, 69 on dealing with construction permits and 152 on getting electricity.

Figure 1.2 in the executive summary illustrates the degree of variability in each economy's performance across the different areas of business regulation covered by *Doing Business*. The figure draws attention to economies with a particularly uneven performance by showing the distance between the average of the highest 3 topic rankings and the average of the lowest 3 for each of 185 economies across the 10 topics included in this year's aggregate ranking. While a relatively small distance between these 2 averages suggests a broadly consistent approach across the areas of business regulation measured by *Doing Business*, a relatively large distance suggests a more uneven approach, with greater room for improvement in some areas than in others.

Variation in performance across the indicator sets is not at all unusual. It reflects differences in the degree of priority that government authorities give to particular

areas of business regulation reform and the ability of different government agencies to deliver tangible results in their area of responsibility.

Economies that improved the most across 3 or more *Doing Business* topics in 2011/12

Doing Business 2013 uses a simple method to calculate which economies improved the most in the ease of doing business. First, it selects the economies that in 2011/12 implemented regulatory reforms making it easier to do business in 3 or more of the 10 topics included in this year's ease of doing business ranking.⁴ Twenty-three economies meet this criterion: Benin, Burundi, Costa Rica, the Czech Republic, Georgia, Greece, Guinea, Kazakhstan, Korea, Lao PDR, Liberia, Mongolia, the Netherlands, Panama, Poland, Portugal, Serbia, the Slovak Republic, Slovenia, Sri Lanka, Ukraine, the United Arab Emirates and Uzbekistan. Second, *Doing Business* ranks these economies on the increase in their ranking on the ease of doing business from the previous year using comparable rankings.

Selecting the economies that implemented regulatory reforms in at least 3 topics and improved the most in the aggregate ranking is intended to highlight

economies with ongoing, broad-based reform programs.

DISTANCE TO FRONTIER MEASURE

A drawback of the ease of doing business ranking is that it can measure the regulatory performance of economies only relative to the performance of others. It does not provide information on how the absolute quality of the regulatory environment is improving over time. Nor does it provide information on how large the gaps are between economies at a single point in time.

The distance to frontier measure is designed to address both shortcomings, complementing the ease of doing business ranking. This measure illustrates the distance of an economy to the “frontier,” and the change in the measure over time shows the extent to which the economy has closed this gap. The frontier is a score derived from the most efficient practice or highest score achieved on each of the component indicators in 9 *Doing Business* indicator sets (excluding the employing workers and getting electricity indicators) by any economy since 2005. In starting a business, for example, New Zealand has achieved the highest performance on the time (1 day), Canada and New Zealand on the number of procedures required (1), Slovenia on the cost (0% of income per capita) and Australia and 90 other economies on the paid-in minimum capital requirement (0% of income per capita) (table 21.2).

Calculating the distance to frontier for each economy involves 2 main steps. First, individual indicator scores are normalized to a common unit: except for the total tax rate, each of the 28 component indicators y is rescaled to $(\max - y)/(\max - \min)$, with the minimum value (min) representing the frontier—the highest performance on that indicator across all economies since 2005. For the total tax rate, consistent with the calculation of the rankings, the frontier is defined as the total tax rate corresponding to the 15th percentile based on the overall

distribution of total tax rates for all years. Second, for each economy the scores obtained for individual indicators 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.⁵

The difference between an economy's distance to frontier score in 2005 and its score in 2012 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 at that time.

The maximum (max) and minimum (min) observed values are computed for the 174 economies included in the *Doing Business* sample since 2005 and for all years (from 2005 to 2012). The year 2005 was chosen as the baseline for the economy sample because it was the first year in which data were available for the majority of economies (a total of 174) and for all 9 indicator sets included in the measure. To mitigate the effects of extreme outliers in the distributions of the rescaled data (very few economies need 694 days to complete the procedures to start a business, but many need 9 days), the maximum (max) is defined as the 95th percentile of the pooled data for all economies and all years for each indicator. The exceptions are the getting credit, protecting investors and resolving insolvency indicators, whose construction precludes outliers.

Take Ghana, which has a score of 67 on the distance to frontier measure for 2012. This score indicates that the economy is 33 percentage points away from the frontier constructed from the best performances across all economies and all years. Ghana was further from the frontier in 2005, with a score of 54. The difference between the scores shows an improvement over time.

The distance to frontier measure can also be used for comparisons across

TABLE 21.2 What is the frontier in regulatory practice?

Topic and indicator	Frontier
Starting a business	
Procedures (number)	1
Time (days)	1
Cost (% of income per capita)	0
Minimum capital (% of income per capita)	0
Dealing with construction permits	
Procedures (number)	6
Time (days)	25
Cost (% of income per capita)	0.2
Registering property	
Procedures (number)	1
Time (days)	1
Cost (% of property value)	0
Getting credit	
Strength of legal rights index (0–10)	10
Depth of credit information index (0–6)	6
Protecting investors	
Extent of disclosure index (0–10)	10
Extent of director liability index (0–10)	9
Ease of shareholder suits index (0–10)	10
Paying taxes	
Payments (number per year)	3
Time (hours per year)	0 ^a
Total tax rate (% of profit)	27.5 ^b
Trading across borders	
Documents to export (number)	2
Time to export (days)	5
Cost to export (US\$ per container)	390
Documents to import (number)	2
Time to import (days)	4
Cost to import (US\$ per container)	317
Enforcing contracts	
Procedures (number)	21
Time (days)	120
Cost (% of claim)	0.1
Resolving insolvency	
Recovery rate (cents on the dollar)	94.4

a. The time of 0 hours refers to Maldives, where the 3 major taxes covered by the paying taxes indicators did not exist until 2011.

b. The frontier total tax rate differs from the threshold set for the indicator this year. See the data notes for more details.

Source: *Doing Business* database.

economies in the same year, complementing the ease of doing business ranking. For example, Ghana stands at 64 this year in the ease of doing business ranking, while Peru, which is 29 percentage points from the frontier, stands at 43.

NOTES

1. In case of revisions to the methodology or corrections to the underlying data, the data are back-calculated to provide a comparable time series since the year the relevant economy or topic was first included in the data set. The time series is available on the *Doing Business* website (<http://www.doingbusiness.org>). Six topics and more than 50 economies have been added since the inception of the project. Earlier rankings on the ease of doing business are therefore not comparable.
2. See Djankov and others (2005). Principal components and unobserved components methods yield a ranking nearly identical to that from the simple average method because both these methods assign roughly equal weights to the topics, since the pairwise correlations among indicators do not differ much. An alternative to the simple average method is to give different weights to the topics, depending on which are considered of more or less importance in the context of a specific economy.
3. A technical note on the different aggregation and weighting methods is available on the *Doing Business* website (<http://www.doingbusiness.org>).
4. *Doing Business* reforms making it more difficult to do business are subtracted from the total number of those making it easier to do business.
5. This represents a change from last year's report, where 100 represented the lowest performance and 0 the frontier.