- *Doing Business* measures aspects of business regulation affecting small and medium-size domestic firms defined based on standardized case scenarios and located in the largest business city of 190 economies. In addition, for 11 economies a second city is covered.
- *Doing Business* covers 11 areas of business regulation. Ten of these areas—starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency—are included in the ease of doing business score and ease of doing business ranking. *Doing Business* also measures features of labor market regulation, which is not included in these two measures.
- *Doing Business* relies on four main sources of information: the relevant laws and regulations, *Doing Business* respondents, the governments of the economies covered and World Bank Group regional staff.
- Over the past 16 years more than 43,800 professionals in 190 economies have assisted in providing the data that inform the *Doing Business* indicators.
- *Doing Business* data are widely used by governments, researchers, international organizations and think tanks to guide policies, conduct research and develop new indexes.
- There are no methodological changes in *Doing Business 2019* data.

About *Doing Business*

Doing Business is founded on the principle that economic activity benefits from clear and coherent rules: rules that set out strong property rights, facilitate the resolution of disputes and provide contractual partners with protections against arbitrariness and abuse. Such rules are much more effective in promoting growth and development when they are efficient, transparent and accessible to those for whom they are intended. The strength and inclusivity of the rules also have a crucial bearing on how societies distribute the benefits and finance the costs of development strategies and policies.

Good rules create an environment where new entrants with drive and innovative ideas can get started in business and where productive firms can invest, expand and create new jobs. The role of government policy in the daily operations of small and medium-size domestic firms is a central focus of the *Doing Business* data. The objective is to encourage regulation that is efficient, transparent and easy to implement so that businesses can thrive and promote economic and social progress. *Doing Business* data focus on the 11 areas of regulation affecting small and medium-size domestic firms in the largest business city of an economy. The project uses standardized case studies to provide objective, quantitative measures that can be compared across 190 economies.

FACTORS DOING BUSINESS MEASURES

Doing Business captures several important dimensions of the regulatory environment affecting domestic firms. It provides quantitative indicators on regulation for starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency (table 2.1). *Doing Business* also measures features of labor market regulation which are reported as a separate section and not included in the ranking.

How the indicators are selected

The design of the *Doing Business* indicators has been informed by theoretical insights gleaned from extensive research and the literature on the role of institutions in enabling economic development.[1] In addition, the background papers developing the methodology for each of the *Doing Business* indicator sets have established the importance of the rules and regulations that *Doing Business* focuses on for such economic outcomes as trade volumes, foreign direct investment (FDI), market capitalization in

TABLE 2.1 What *Doing Business* measures—11 areas of business regulation

Indicator set	What is measured
Starting a business	Procedures, time, cost and paid-in minimum capital to start a limited liability company for men and women
Dealing with construction permits	Procedures, time and cost to complete all formalities to build a warehouse and the quality control and safety mechanisms in the construction permitting system
Getting electricity	Procedures, time and cost to get connected to the electrical grid, the reliability of the electricity supply and the transparency of tariffs
Registering property	Procedures, time and cost to transfer a property and the quality of the land administration system for men and women
Getting credit	Movable collateral laws and credit information systems
Protecting minority investors	Minority shareholders' rights in related-party transactions and in corporate governance
Paying taxes	Payments, time and total tax and contribution rate for a firm to comply with all tax regulations as well as postfiling processes
Trading across borders	Time and cost to export the product of comparative advantage and import auto parts
Enforcing contracts	Time and cost to resolve a commercial dispute and the quality of judicial processes for men and women
Resolving insolvency	Time, cost, outcome and recovery rate for a commercial insolvency and the strength of the legal framework for insolvency
Labor market regulation	Flexibility in employment regulation and aspects of job quality

stock exchanges and private credit as a percentage of GDP.[2]

The choice of the 11 sets of *Doing Business* indicators has also been guided by economic research and firm-level data, specifically data from the World Bank Enterprise Surveys.[3] These surveys provide data highlighting the main obstacles to business activity as reported by entrepreneurs from more than 136,880 companies in 139 economies. Access to finance and access to electricity, for example, are among the factors identified by the surveys as important to businesses—inspiring the design of the *Doing Business* indicators on getting credit and getting electricity.

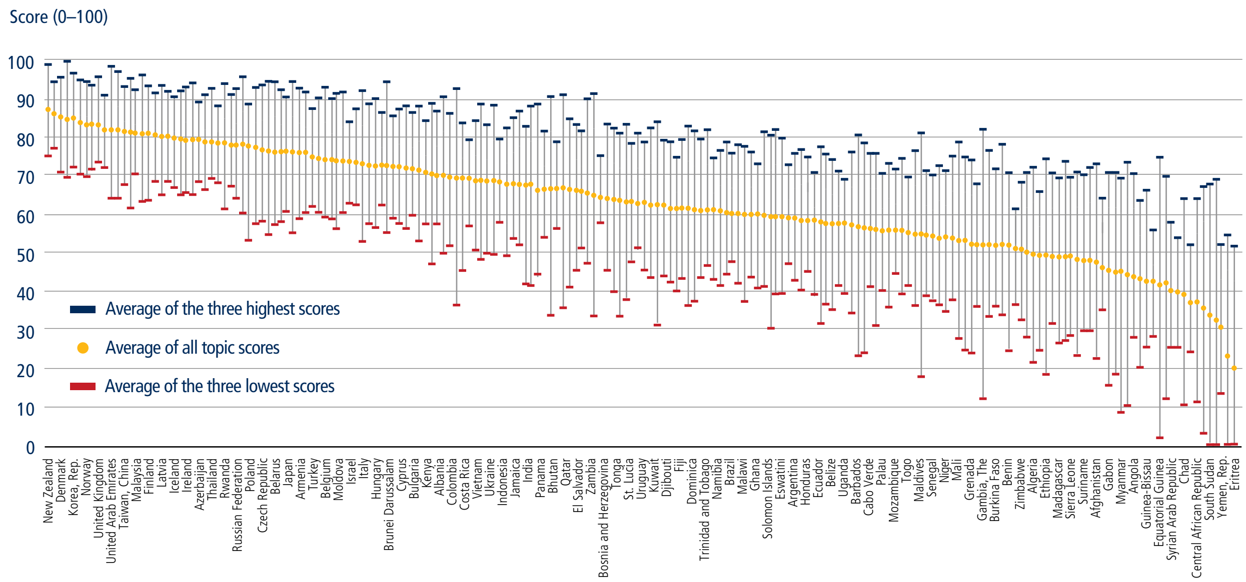
Some *Doing Business* indicators give a higher score for more regulation and better-functioning institutions (such as courts or credit bureaus). Higher scores are given for stricter disclosure requirements for related-party transactions, for example, in the area of protecting minority investors. Higher scores are also given for a simplified way of applying regulation that keeps compliance costs for firms low—such as by easing the burden of business start-up formalities with a one-stop shop or through a single online portal. Finally, the scores reward economies that apply a risk-based approach to regulation as a way to address social and environmental concerns—such as by imposing a greater regulatory burden on activities that pose a high risk to the population and a lesser one on lower-risk activities. Thus, the economies that rank highest on the ease of doing business are not those where there is no regulation, but those where governments have managed to create rules that facilitate interactions in the marketplace without needlessly hindering the development of the private sector.

The ease of doing business score and ease of doing business ranking

To provide different perspectives on the data, *Doing Business* presents data both for individual indicators and for two aggregate measures: the ease of doing business score and the ease of doing business ranking. The ease of doing business score aids in assessing the absolute level of regulatory performance and how it improves over time. The individual indicator scores show the distance of each economy to the best regulatory performance observed in each of the indicators across all economies in the *Doing Business* sample since 2005 or the third year in which data were collected for the indicator. The best regulatory performance is set at the highest possible value for indicators calculated as scores, such as the strength of legal rights index or the quality of land administration index. This underscores the gap between a particular economy's performance and the best regulatory performance at any point in time and is used to assess the absolute change in the economy's regulatory environment over time as measured by *Doing Business* (see the chapter on the ease of doing business score and ease of doing business ranking). The ranking on the ease of doing business complements the ease of doing business score by providing information about an economy's performance in business regulation relative to the performance of other economies as measured by *Doing Business*.

Doing Business uses a simple averaging approach for weighting component indicators, calculating rankings and determining the ease of doing business score.[4] Each topic covered by *Doing Business* relates to a different aspect of the business regulatory environment. The scores and rankings of each economy vary considerably across topics, indicating that a strong performance by an economy in one area of regulation can coexist with weak performance in another (figure 2.1). One way to assess the variability of an economy's regulatory performance is to look at its scores across topics (see the country tables). Qatar, for example, has an overall ease of doing business score of 65.89, meaning that it is about two-thirds of the way from the worst to the best performance. It scores highly at 99.44 on paying taxes, 87.67 on starting a

FIGURE 2.1 An economy's regulatory environment may be more business-friendly in some areas than in others



Source: Doing Business database.
Note: The scores reflected are those for the 10 *Doing Business* topics included in this year's aggregate ease of doing business score. The figure is illustrative only; it does not include all 190 economies covered by this year's report. See the country tables for the scores for each *Doing Business* topic for all economies.

business and 83.27 on registering property. At the same time, it has a score of 28.33 for protecting minority investors, 38.12 for resolving insolvency and 40 for getting credit.

FACTORS *DOING BUSINESS* DOES NOT MEASURE

Many important policy areas are not covered by *Doing Business*; even within the areas it covers its scope is narrow (table 2.2). *Doing Business* does not measure the full range of factors, policies and institutions that affect the quality of an economy's business environment or its national competitiveness. It does not, for example, capture aspects of macroeconomic stability, development of the financial system, market size, the incidence of bribery and corruption or the quality of the labor force.

TABLE 2.2 Examples of areas not covered by *Doing Business*

Macroeconomic stability
Development of the financial system
Quality of the labor force
Incidence of bribery and corruption
Market size
Lack of security

The focus is deliberately narrow even within the relatively small set of indicators included in *Doing Business*. The time and cost required for the logistical process of exporting and importing goods is captured in the trading across borders indicators, for example, but they do not measure the cost of tariffs or of international transport. *Doing Business* provides a narrow perspective on the infrastructure challenges that firms face, particularly in the developing world, through these indicators. It does not address the extent to which inadequate roads, rail, ports and communications may add to firms' costs and undermine competitiveness (except to the extent that the trading across borders indicators indirectly measure the quality of ports and border connections). Similar to the indicators on trading across borders, all aspects of commercial legislation are not covered by those on starting a business or protecting minority investors. Given that *Doing Business* measures only a few features of each area that it covers, business regulatory reforms should not focus only on these narrow areas and should be evaluated within a broader perspective.

Doing Business does not attempt to quantify all costs and benefits of a particular law or regulation to society as a whole. The paying taxes indicators measure the total tax and contribution rate, which, in isolation, is a cost to businesses. However, the indicators do not measure—nor are they intended to measure—the benefits of the social and economic programs funded with tax revenues. Measuring the quality and efficiency of business regulation provides only one input into the debate on the regulatory burden associated with achieving regulatory objectives, which can differ across economies. *Doing Business* provides a starting point for this discussion and should be used in conjunction with additional data sources. Other World Bank Group databases that provide comprehensive data related to some areas of *Doing Business* include: Women, Business and the Law, which measures legal restrictions on women's economic opportunities in 189 economies; the Logistic Performance Index, which benchmarks the performance of trade logistics in 160 economies; the World Governance Indicators, which provides data on different dimensions of governance in 214 economies; and Country Policy and Institutional Assessments, which measure the quality of policies and institutions in International Development Association (IDA) economies.[5]

ADVANTAGES AND LIMITATIONS OF THE METHODOLOGY

The *Doing Business* methodology is designed to be an easily replicable way to benchmark specific characteristics of business regulation—how they are implemented by governments and experienced by private firms on the ground. Its advantages and limitations should be understood when using the data (table 2.3).

Ensuring comparability of the data across a global set of economies is a central consideration for the *Doing Business* indicators, which are developed using standardized case scenarios with specific assumptions. One such assumption is the location of a standardized business—the subject of the *Doing Business* case study—in the largest business city of the economy. The reality is that business regulations and their enforcement may differ within a country, particularly in federal states and large economies. But gathering data for every relevant jurisdiction in each of the 190 economies covered by *Doing Business* is infeasible. Nevertheless, where policy makers are interested in generating data at the local level, beyond the largest business city, and learning from local good practices, *Doing Business* has complemented its global indicators with subnational studies (box 2.1). Also, coverage was extended to the second largest business city in economies with a population of more than 100 million (as of 2013) in *Doing Business 2015*.

Doing Business recognizes the limitations of the standardized case scenarios and assumptions. But while such assumptions come at the expense of generality, they also help to ensure the comparability of data. Some *Doing Business* topics are complex, and so it is important that the standardized cases are defined carefully. For example, the standardized case scenario usually involves a limited liability company or its legal equivalent. There are two reasons for this assumption. First, private limited liability companies are the most prevalent business form (for firms with more than one owner) in many economies around the world. Second, this choice reflects the focus of *Doing Business* on expanding opportunities for entrepreneurship: investors are encouraged to venture into business when potential losses are limited to their capital participation.

Another assumption underlying the *Doing Business* indicators is that entrepreneurs have knowledge of and comply with applicable regulations. In practice, entrepreneurs may not be aware of what needs to be done or how to comply with regulations and may lose considerable time trying to find out. Alternatively, they may intentionally avoid compliance—by not registering for social security, for example. Firms may opt for bribery and other informal arrangements intended to bypass the rules where regulation is particularly onerous—an aspect that helps explain differences between the de jure data provided by *Doing Business* and the de facto insights offered by the World Bank Enterprise Surveys.[6] Levels of informality tend to be higher in economies with particularly burdensome regulation. Compared with their formal sector counterparts, firms in the informal sector typically grow more slowly, have poorer access to credit and employ fewer workers—and these workers remain outside the protections of labor law and, more generally, other legal protections embedded in the law.[7] Firms in the informal sector are also less likely to pay taxes. *Doing Business* measures one set of factors that help explain the occurrence of informality and provides policy makers with insights into potential areas of regulatory reform.

TABLE 2.3 Advantages and limitations of the *Doing Business* methodology

Feature	Advantages	Limitations
Use of standardized case scenarios	Makes data comparable across economies and methodology transparent	Reduces scope of data; only regulatory reforms in areas measured can be systematically tracked
Focus on largest business city[a]	Makes data collection manageable (cost-effective) and data comparable	Reduces representativeness of data for an economy if there are significant differences across locations
Focus on domestic and formal private sector	Keeps attention on formal sector—where regulations are relevant and firms are most productive	Unable to reflect reality for informal sector—important where that is large—or for foreign firms facing a different set of constraints
Reliance on expert respondents	Ensures that data reflect knowledge of those with most experience in conducting types of transactions measured	Indicators less able to capture variation in experiences among entrepreneurs
Focus on the law	Makes indicators "actionable"—because the law is what policy makers can change	Where systematic compliance with the law is lacking, regulatory changes will not achieve full results desired

a. In economies with a population of more than 100 million as of 2013, *Doing Business* covers business regulation in both the largest and second largest business city.

BOX 2.1 Subnational *Doing Business* indicators: the European Union series

Doing Business in the European Union is a series of subnational reports being produced by the World Bank Group at the request of and funded by the European Commission's Directorate-General for Regional and Urban Policy (DG REGIO). A first edition, covering 22 cities in Bulgaria, Hungary and Romania, was released in 2017. This year, 25 more cities in Croatia, the Czech Republic, Portugal and the Slovak Republic were benchmarked (see map). The next study in the subnational series will cover 24 cities in Greece, Ireland and Italy. The ambition is to continue this series until all member states with at least 4 million inhabitants have been covered. The focus of the series is on indicator sets that measure the complexity and cost of regulatory processes as well as the strength of legal institutions, affecting five stages in the life of a small to medium-size domestic firm: starting a business, dealing with construction permits, getting electricity, registering property and enforcing contracts through a local court.

Because many regulations and administrative measures are implemented or determined by local authorities, subnational *Doing Business* studies give a nuanced and comprehensive representation of the business regulatory system and the efficacy of the bureaucracy at the local administrative unit level. By providing a factual baseline, along with local examples of good practices, the studies promote peer learning—both within national boundaries and beyond—and convergence among locations toward regulatory good practices.

The results are revealing. The studies show that there remain substantial differences in the business environment both between and within EU member states. And these differences matter. A study that looked at cities in Italy, Poland, Romania and Spain found that firms located in places with a better business environment have a stronger performance in sales, employment and productivity growth as well as in investments.[a] Reducing the cost for local firms to do business would enhance their efficiency and competitiveness abroad and encourage investments, which are critical for regional growth. A European Commission report on competitiveness in low-income and low-growth regions also emphasizes the need to improve public administration and make procedures more transparent.[b]

The findings of the studies indicate how reform-minded officials can make tangible improvements by replicating good practices already existing in other cities in their country. For example, by adopting all the good practices found at the subnational level, all four member states benchmarked in 2018 would move substantially closer to the regulatory best performance.

The insights from the subnational *Doing Business in the European Union* series will be relevant for the individual country reports produced for the European Semester (the European Union's economic and fiscal policy coordination framework) and for the Cohesion Policy (the EU's main investment policy) and will be closely linked with the European Commission's "lagging regions" initiative, which studies constraints to growth and investment in the low-income and low-growth regions of the European Union.

a. Farole and others 2017.
b. European Commission 2017.

DATA COLLECTION IN PRACTICE

The *Doing Business* data are based on a detailed reading of domestic laws, regulations and administrative requirements as well as their implementation in practice as experienced by private firms. The report covers 190 economies—including some of the smallest and poorest economies, for which little or no data are available from other sources. The data are collected through several rounds of communication with expert respondents (both private sector practitioners and government officials), through responses to questionnaires, conference calls, written correspondence and visits by the team. *Doing Business* relies on four main sources of information: the relevant laws and regulations, *Doing Business* respondents, the governments of the economies covered and the World Bank Group regional staff (figure 2.2). For a detailed explanation of the *Doing Business* methodology, see the data notes at http://www.doingbusiness.org.

Relevant laws and regulations

The *Doing Business* indicators are based mostly on laws and regulations: approximately two-thirds of the data embedded in the *Doing Business* indicators are based on a reading of the law. In addition to filling out questionnaires, *Doing Business* respondents submit references to the relevant laws, regulations and fee schedules. The *Doing Business* team collects the texts of the relevant laws and regulations and checks the questionnaire responses for accuracy. The team will examine the civil procedure code, for example, to check the maximum number of adjournments in a commercial court dispute, and read the insolvency code to identify if the debtor can initiate liquidation or reorganization proceedings. These and other types of laws are available on the *Doing Business* law library website.[8] Since the data collection process involves an annual update of an established database, having a very large sample of respondents is not strictly necessary. In principle, the role of the contributors is largely advisory—helping the *Doing Business* team to locate and understand the laws and regulations. There are quickly diminishing returns to an expanded pool of contributors. This notwithstanding, the number of contributors rose by 70% between 2010 and 2018.

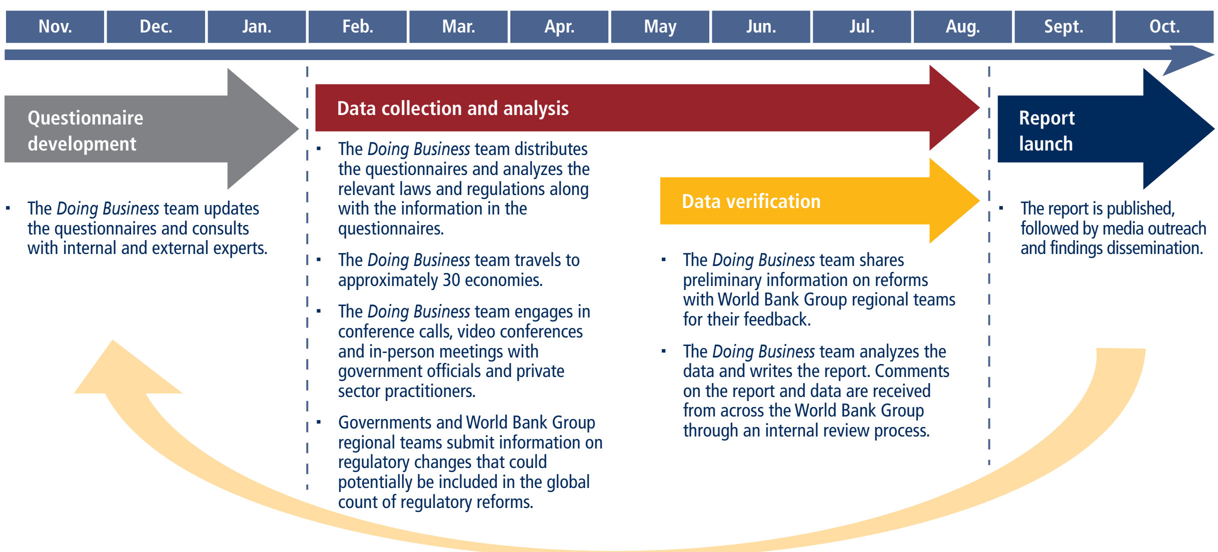
Extensive consultations with multiple contributors are conducted by the team to minimize measurement errors for the rest of the data. For some indicators—for example, those on dealing with construction permits, enforcing contracts and resolving insolvency—the time component and part of the cost component (where fee schedules are lacking) are based on actual practice rather than the law on the books. This introduces a degree of judgment by respondents on what actual practice looks like. When respondents disagree, the time indicators reported by *Doing Business* represent the median values of several responses given under the assumptions of the standardized case.

Doing Business respondents

More than 43,800 professionals in 190 economies have assisted in providing the data that inform the *Doing Business* indicators over the past 16 years.[9] This year's report draws on the inputs of more than 13,800 professionals.[10] The *Doing Business* website shows the number of respondents for each economy and each indicator set.

Selected on the basis of their expertise in these areas, respondents are

FIGURE 2.2 How *Doing Business* collects and verifies the data



> *Doing Business* offers policy makers a benchmarking tool useful in stimulating policy debate.

professionals who routinely administer or advise on the legal and regulatory requirements in the specific areas covered by *Doing Business*. Because of the focus on legal and regulatory arrangements, most of the respondents are legal professionals such as lawyers, judges or notaries. In addition, officials of the credit bureau or registry complete the credit information questionnaire. Accountants, architects, engineers, freight forwarders and other professionals answer the questionnaires related to paying taxes, dealing with construction permits, trading across borders and getting electricity. Information that is incorporated into the indicators is also provided by certain public officials (such as registrars from the company or property registry).

The *Doing Business* approach is to work with legal practitioners or other professionals who regularly undertake the transactions involved. Following the standard methodological approach for time-and-motion studies, *Doing Business* breaks down each process or transaction, such as starting a business or registering a building, into separate steps to ensure a better estimate of time. The time estimate for each step is given by practitioners with significant and routine experience in the transaction.

There are two main reasons that *Doing Business* does not survey firms. The first relates to the frequency with which firms engage in the transactions captured by the indicators, which is generally low. For example, a firm goes through the start-up process once in its existence, while an incorporation lawyer may carry out 10 such transactions each month. The incorporation lawyers and other experts providing information to *Doing Business* are therefore better able to assess the process of starting a business than are individual firms. They also have access to current regulations and practices, while a firm may have faced a different set of rules when incorporating years before. The second reason is that the *Doing Business* questionnaires mostly gather legal information, which firms are unlikely to be fully familiar with. For example, few firms will know about all the main legal procedures involved in resolving a commercial dispute through the courts, even if they have gone through the process themselves. But a litigation lawyer should have little difficulty in providing the requested information on all the procedures.

Governments and World Bank Group regional staff

After receiving the completed questionnaires from the *Doing Business* respondents, verifying the information against the law and conducting follow-up inquiries to ensure that all relevant information is captured, the *Doing Business* team shares the preliminary descriptions of regulatory reforms with the Country Management Units (CMUs) of the World Bank Group in different regions. At a later stage, the team sends the final versions of the reform descriptions to the World Bank Group's Board of Executive Directors, which then informs the governments of the reforms in their economies. Through this process, government authorities and World Bank Group staff working on the economies covered by *Doing Business* can alert the team about, for example, regulatory reforms not reported by the respondents or additional achievements of regulatory reforms. In addition, the team responds formally to the comments of governments or regional staff and provides explanations of the scoring decisions.

Data adjustments

Information on data corrections is provided in the data notes available at the *Doing Business* website. A transparent complaint procedure allows anyone to challenge the data. From November 2017 to October 2018 the team received and responded to over 150 queries on the data.

USES OF THE *DOING BUSINESS* DATA

Doing Business was designed with two main types of users in mind: policy makers and researchers. It is a tool that governments can use to design sound business regulatory policies. Nevertheless, the *Doing Business* data are limited in scope and should be complemented with other sources of information. *Doing Business* focuses on a few specific rules relevant to the specific case studies analyzed. These rules and case studies are chosen to be illustrative of the business regulatory environment, but they are not a comprehensive description of that environment. By providing a unique data set that enables analysis aimed at better understanding the role of business regulation in economic development, *Doing Business* is also an important source of information for researchers.

Governments and policy makers

Doing Business offers policy makers a benchmarking tool useful in stimulating policy debate, both by exposing potential challenges and by identifying good practices and lessons learned. Despite the narrow focus of the indicators, the initial debate in an economy on the results they highlight typically turns into a deeper discussion on areas where business regulatory reform is needed, including areas well beyond those measured by *Doing Business*. In economies where subnational studies are conducted, the *Doing Business* indicators go one step further in offering policy makers a tool to identify good practices that can be adopted within their economies (see box 2.1).

Many *Doing Business* indicators can be considered "actionable." For example, governments can set the minimum capital requirement for new firms, invest in company and property registries to increase their efficiency, or improve the efficiency of tax administration by adopting the latest technology to facilitate the preparation, filing and payment of taxes by the business community. And they can undertake court reforms to shorten delays in the enforcement of contracts. But some *Doing Business* indicators capture procedures, time and costs that involve private sector participants, such as lawyers, notaries, architects, electricians or freight forwarders. Governments may have little influence in the short run over the fees these professions charge, though much can be achieved by strengthening professional licensing regimes and preventing anticompetitive behavior. And governments have no control over the geographic location of their economy, a factor that can adversely affect businesses.

While many *Doing Business* indicators are actionable, this does not necessarily mean that they are all "action-worthy" in a particular context. Business regulatory reforms are only one element of a strategy aimed at improving competitiveness and establishing a solid foundation for sustainable economic growth. There are many other important goals to pursue—such as effective management of public finances, adequate attention to education and training, adoption of the latest technologies to boost economic productivity and the quality of public services, and appropriate regard for air and water quality to safeguard public health. Governments must decide what set of priorities best suits their needs. To say that governments should work toward a sensible set of rules for private sector activity (as embodied, for example, in the *Doing Business* indicators) does not suggest that doing so should come at the expense of other worthy policy goals.

Over the past decade governments have increasingly turned to *Doing Business* as a repository of actionable, objective data providing unique insights into good practices worldwide as they have come to understand the importance of business regulation as a driving force of competitiveness. To ensure the coordination of efforts across agencies, economies such as Colombia, Malaysia and the Russian Federation have formed regulatory reform committees. These committees use the *Doing Business* indicators as one input to inform their programs for improving the business environment. More than 70 other economies have also formed such committees. In East Asia and the Pacific, they include Brunei Darussalam; Indonesia; the Republic of Korea; Myanmar; the Philippines; Sri Lanka; Taiwan, China; and Thailand. In the Middle East and North Africa: Algeria, the Arab Republic of Egypt, Israel, Kuwait, Morocco, Qatar, Saudi Arabia and the United Arab Emirates. In South Asia: Afghanistan, Bangladesh, India and Pakistan. In Europe and Central Asia: Albania, Azerbaijan, Croatia, Georgia, Kazakhstan, Kosovo, the Kyrgyz Republic, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Poland, Tajikistan, Turkey, Ukraine and Uzbekistan. In Sub-Saharan Africa: Benin, Burundi, the Comoros, the Democratic Republic of Congo, the Republic of Congo, Côte d'Ivoire, Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar, Malawi, Mali, Mauritius, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Sudan, Tanzania, Togo, Zambia and Zimbabwe. And in Latin America and the Caribbean: Argentina, Brazil, Chile, Costa Rica, the Dominican Republic, Guatemala, Jamaica, Mexico, Nicaragua, Panama, Peru and St. Lucia. Governments have reported more than 3,500 regulatory reforms, 1,116 of which have been informed by *Doing Business* since 2003.[11]

Many economies share knowledge on the regulatory reform process related to the areas measured by *Doing Business*. Among the most common venues for this knowledge sharing are peer-to-peer learning events—workshops where officials from different governments across a region or even across the globe meet to discuss the challenges of regulatory reform and to share their experiences.

Researchers

Doing Business data are widely used by researchers in academia, think tanks, international organizations and other institutions. Since 2003, thousands of researchers have utilized *Doing Business* data or its conceptual framework to analyze the impact of business regulation on various economic outcomes. This section provides a brief overview of studies published in the top 100 journals during the last 10 years or recently distributed as a working paper of a well-established institution.[12] The papers cited here are just a few examples of research done in the areas measured by *Doing Business*.[13] A comprehensive review of the literature is provided in the research chapters of *Doing Business 2014* and *Doing Business 2015*.

Regulation of firm entry is one of the most investigated areas of business regulation. The results of this body of research suggest that excessive regulation of entry increases the number of informal businesses and employment. A natural experimental study in Mexico found that reforms that simplified business registration increased registration by 5% and wage employment by 2.2%.[14] These reforms also resulted in 14.9% of informal business owners shifting to the

> *Thousands of researchers have utilized* Doing Business *data or its conceptual framework to analyze the impact of business regulation on various economic outcomes.*

formal economy.[15] In Portugal, reforms reducing the time and cost for company formalization increased the number of business start-ups by 17% and created seven new jobs per 100,000 inhabitants per month. These new start-ups were more likely to be female-owned, were smaller and headed by less experienced and less-educated entrepreneurs compared to others, suggesting that the reform created a more inclusive environment for aspiring entrepreneurs.[16]

Efficient and non-distortionary business regulations are crucial for productivity. A study on India, for example, shows that inefficient licensing and size restrictions cause a misallocation of resources, reducing total factor productivity (TFP) by preventing efficient firms from achieving their optimal scale and allowing inefficient firms to remain in the market.[17] The study concludes that removing these restrictions would boost TFP by 40-60%. In the European Union and Japan, implicit taxes on capital use were shown to reduce the average size of firms by 20%, output by 8.1% and output per firm by 25.6%.[18] A recent study on Côte d'Ivoire, Ethiopia, Ghana and Kenya demonstrates large productivity gains following the removal of firm-level distortions caused by uneven regulations and a poor business environment.[19] Research also shows that raising the efficiency level of bankruptcy laws in select OECD high-income economies to that of the United States would increase the TFP of the former by about 30% through a rise in bank loans to large firms.[20]

In many economies, companies engaged in international trade struggle with high trade costs arising from transport, logistics and regulations that impede their competitiveness and growth potential. With the *Doing Business* indicators on trading across borders, several empirical studies have assessed how trade costs affect the export and import performance of economies. A rich body of empirical research shows that efficient infrastructure and a healthy business environment are positively linked to export performance.[21] According to a study, a 1-day increase in transit time reduces exports by an average of 7% in Sub-Saharan Africa.[22] Another study found that a 1-day delay in transport time for landlocked economies and for time-sensitive agricultural and manufacturing products reduce trade by more than 1% for each day of delay.[23] Delays in customs clearance also negatively impact a firm's ability to export, particularly when goods are destined for new clients.[24] In economies with flexible entry regulations, a 1% increase in trade is associated with an increase of more than 0.5% in income per capita but has no positive income effects in economies with more rigid regulation.[25] Research has also shown that potential gains for consumers from import competition are reduced in economies with cumbersome regulation.[26]

Even though *Doing Business* measures aspects of business regulation affecting domestic firms, several studies indicate that better business regulation is associated with higher levels of FDI.[27] Also, the impact of FDI on domestic investment depends on how business-friendly entry regulations are in the host economy. A study shows that FDI can crowd out domestic investment in economies with costly processes for starting a business.[28] Another study points out that economies with simpler processes for starting a business have higher international market integration on average.[29]

A well-designed insolvency framework is a vital determinant of debt recovery. A reform making bankruptcy laws more efficient in Colombia, for example, improved the recovery rate of viable firms significantly.[30] In India the establishment of debt recovery tribunals reduced non-performing loans by 28% and lowered interest rates on larger loans, suggesting that faster processing of debt recovery cases cut the cost of credit.[31] A recent study using *Doing Business* data showed that insolvency resolution is one of the main drivers behind "missing" corporate bond markets in many economies.[32]

More borrowers gain access to credit in economies with a robust legal system that supports the use of movable assets as collateral and a well-developed credit information sharing system. In a multi-economy study, the introduction of collateral registries for movable assets was shown to increase firms' access to finance by approximately 8%.[33] Creditors' ability to use movable assets, vis-à-vis real estate, is shown to increase the debt capacity of firms.[34] An in-depth review of global bank flows revealed that firms in economies with better credit information sharing systems and higher branch penetration evade taxes to a lesser degree.[35]

There is also a large body of work investigating the distortionary effects of high tax rates and cumbersome tax codes and procedures. After a tax reform in Brazil, business licensing among retail firms rose by 13%.[36] Research shows that a 10% reduction in tax complexity is comparable to a 1% reduction in effective corporate tax rates[37] and higher tax rates discourage entry.[38] A recent study finds that a lower tax compliance burden has a positive impact on the productivity of small and young firms.[39]

Labor market regulation—as measured by *Doing Business*—has been shown to have important implications for economies. According to one study, graduating from school during a time of adverse economic conditions has a persistent, harmful effect on workers' subsequent employment opportunities. The persistence of this negative effect is stronger in economies with stricter employment protection legislation.[40] Rigid employment protection legislation can also have negative distributional consequences. A study analyzing the labor market regulation literature points out that the impact of labor market regulation on productivity could be in either direction, and the magnitude of the impact is modest. The study provides clear evidence that labor market regulation equalizes the income of the covered workers, but youth, women and less-skilled workers generally are left outside this coverage and the benefits.[41]

Indexes

Doing Business identified 20 different data projects or indexes that use *Doing Business* as one of its sources of data.[42] Most of these projects or institutions use indicator level data and not the aggregate ease of doing business ranking. The indicator set most widely used is starting a business, followed by labor market regulation and paying taxes. These indexes typically combine *Doing Business* data with data from other sources to assess an economy along a particular aggregate dimension such as competitiveness or innovation. The Heritage Foundation's Index of Economic Freedom, for example, has used 22 *Doing Business* indicators to measure the degree of economic freedom in the world in four areas, including rule of law, government size, regulatory efficiency and market openness.[43] Economies that score better in these four areas also tend to have a high degree of economic freedom.

Similarly, the World Economic Forum uses *Doing Business* data in its Global Competitiveness Index to demonstrate how competitiveness is a global driver of economic growth. The organization also uses 13 *Doing Business* indicators in five indexes that measure institutions, product market efficiency, labor market efficiency, financial market development and business dynamism. These publicly accessible sources expand the general business environment data generated by *Doing Business* by incorporating it into the study of other important social and economic issues across economies and regions. They prove that, taken individually, *Doing Business* indicators remain a useful starting point for a rich body of analysis across different areas and dimensions in the research world.

WHAT IS NEXT?

The *Doing Business* team is developing a new indicator set—contracting with the government—that benchmarks the efficiency, quality, transparency, accountability and integrity of public procurement systems around the world. Public procurement refers to the process by which public authorities purchase goods or services from firms. Globally, public procurement accounts for between 10 and 25% of GDP on average, with governments cumulatively spending about $9.5 trillion in public contracts every year. The government is the biggest buyer on many national markets and the policy issues endorsed through public procurement can be a catalyst for economic development, innovation, employment and growth. Inefficient public procurement, on the other hand, is extremely costly. It compromises competition, thus raising the prices paid by governments for goods and services. Also, given the magnitude of the resources involved, the unique purchasing power of governments, the multitude of stakeholders and the complexity of processes, public procurement is particularly vulnerable to fraud and corruption. In the European Union alone, annual losses due to corruption in public procurement could equal approximately €5 billion ($5.7 billion), higher than the GDP of more than 30% of Sub-Saharan African economies.[44]

Data are collected using a questionnaire that follows the life cycle of a procurement contract in the road infrastructure sector. The questionnaire was built to reflect internationally-recognized good practices in public procurement, peer-reviewed and piloted in 18 economies in late 2017. The team is in the process of collecting data for approximately 85 economies with the aim of publishing the results in the *Doing Business* website by early 2019 alongside the indicator set's preliminary methodology. Data collection will then be scaled-up to the full *Doing Business* sample of 190 economies during the *Doing Business 2020* report cycle, when the indicators will be considered for inclusion in the *Doing Business* rankings.

Doing Business recognizes that the comparability of data over time is vital for both researchers and policy makers. The team has not, therefore, made any methodological changes in this year's data. This decision is also supported by the *Doing Business* External Audit Report 2018, which can be accessed at http://www.doingbusiness.org/.

NOTES

1. Djankov 2016.
2. These papers are available on the *Doing Business* website at http://www.doingbusiness.org/methodology.
3. For more on the World Bank Enterprise Surveys, see the website at http://www.enterprisesurveys.org.
4. For getting credit, indicators are weighted proportionally, according to their contribution to the total score, with a weight of 60% assigned to the strength of legal rights index and 40% to the depth of credit information index. In this way, each point included in these indexes has the same value independent of the component it belongs to. Indicators for all other topics are assigned equal weights. For more details, see the chapter on the ease of doing business score and ease of doing business ranking available at http://www.doingbusiness.org.
5. For more information on these databases, see their websites: Women, Business and the Law (https://wbl.worldbank.org/); Logistic Performance Index (https://lpi.worldbank.org/); World Governance Indicators (http://info.worldbank.org/governance/wgi/#home); Country Policy and Institutional Assessments (https://datacatalog.worldbank.org/dataset/country-policy-and-institutional-assessment).
6. Hallward-Driemeier and Pritchett 2015.
7. Schneider 2005; La Porta and Shleifer 2008.
8. For the law library, see the website at http://www.doingbusiness.org/law-library.
9. The annual data collection exercise is an update of the database. The *Doing Business* team and the contributors examine the extent to which the regulatory framework has changed in ways relevant for the features captured by the indicators. The data collection process should therefore be seen as adding each year to an existing stock of knowledge reflected in the previous year's report, not as creating an entirely new data set.
10. While about 13,800 contributors provided data for this year's report, many of them completed a questionnaire for more than one *Doing Business* indicator set. Indeed, the

total number of contributions received for this year's report is more than 17,200, which represents a true measure of the inputs received. The average number of contributions per indicator set and economy is more than seven. For more details, see http://www.doingbusiness.org/contributors/doing-business.
11. These are reforms for which *Doing Business* is aware that information provided by *Doing Business* was used in shaping the reform agenda.
12. The journal and institution rankings are from Research Papers in Economics (RePEc) and cover the last 10 years. They can be accessed at https://ideas.repec.org/top/top.journals.simple10.html and https://ideas.repec.org/top/top.inst.allbest10.html.
13. Since 2003, when the *Doing Business* report was first published, more than 3,400 research articles discussing how regulation in the areas measured by *Doing Business* influence economic outcomes have been published in peer-reviewed academic journals and 1,360 of these are published in the top 100 journals. Another 9,450 are published as working papers, books, reports, dissertations or research notes.
14. Bruhn 2011.
15. Bruhn 2013.
16. Branstetter and others 2014.
17. Hsieh and Klenow 2009.
18. Guner, Ventura and Xu 2008.
19. Cirera, Fattal Jaef and Maemir 2017.
20. Neira 2017.
21. Portugal-Perez and Wilson 2011.
22. Freund and Rocha 2011.
23. Djankov, Freund and Pham 2010.
24. Martincus, Carballo and Graziano 2015.
25. Freund and Bolaky 2008.
26. Amiti and Khandelwal 2011.
27. Corcoran and Gillanders 2015.
28. Munemo 2014.
29. Norbäck, Persson and Douhan 2014.
30. Giné and Love 2010.
31. Visaria 2009.
32. Becker and Josephson 2016.
33. Love, Martínez Pería and Singh 2016.
34. Calomiris and others 2017.
35. Beck, Lin and Ma 2014.
36. Monteiro and Assunção 2012.
37. Lawless 2013.
38. Belitski, Chowdhury and Desai 2016.
39. Dabla-Norris and others 2017.
40. Kawaguchi and Murao 2014.
41. Betcherman 2015.
42. The projects or indexes using *Doing Business* as a source of data are the following: Citi and Imperial College London's Digital Money Index; Cornell University and the World Intellectual Property Organization's Global Innovation Index (GII); DHL's Global Connectedness Index (GCI); Fraser Institute's Economic Freedom of the World (EFW) index; Heritage Foundation's Index of Economic Freedom (IEF); INSEAD's Global Talent Competitiveness Index (GTCI); International Institute for Management Development's World Competitiveness Yearbook; KPMG's Change Readiness Index (CRI); Legatum Institute's Legatum Prosperity Index; Millennium Challenge Corporation's Open Data Catalog; Oxford University's International Civil Service Effectiveness (InCiSE) Index; PricewaterhouseCoopers' Paying Taxes 2018: In-depth Analysis on Tax Systems in 190 Economies Report; TRACE's Bribery Risk Matrix; U.S. Chamber of Commerce's Global Rule of Law and Business Dashboard; University of Gothenburg's Quality of Government (QoG) Standard Dataset; and World Economic Forum's Enabling Trade Index (ETI), Global Competitiveness Index (GCI); Human Capital Index (HCI), Networked Readiness Index (NRI) and Travel and Tourism Competitiveness Index (TTCI).
43. For more on the Heritage Foundation's Index of Economic Freedom, see the website at http://heritage.org/index.
44. European Parliament 2016.