

Data notes

The indicators presented and analyzed in *Doing Business* measure business regulation and the protection of property rights—and their effect on businesses, especially small and medium-size domestic firms. First, the indicators document the degree of regulation, such as the number of procedures to start a business or to register and transfer commercial property. Second, they gauge regulatory outcomes, such as the time and cost to enforce a contract, go through bankruptcy or trade across borders. Third, they measure the extent of legal protections of property, for example, the protections of investors against looting by company directors or the range of assets that can be used as collateral according to secured transactions laws. Fourth, they measure the flexibility of employment regulation. Finally, a set of indicators documents the tax burden on businesses. For details on how the rankings on these indicators are constructed, see Ease of doing business, page 79.

The data for all sets of indicators in *Doing Business 2009* are for June 2008.¹ Three new economies—The Bahamas, Bahrain and Qatar—were added to the sample, now comprising 181 economies.

METHODOLOGY

The *Doing Business* data are collected in a standardized way. To start, the *Doing Business* team, with academic advisers, designs a survey. The survey uses a

simple business case to ensure comparability across economies and over time—with assumptions about the legal form of the business, its size, its location and the nature of its operations. Surveys are administered through more than 6,700 local experts, including lawyers, business consultants, accountants, freight forwarders, government officials and other professionals routinely administering or advising on legal and regulatory requirements (table 12.1). These experts have several (typically 4) rounds of interaction with the *Doing Business* team, involving conference calls, written correspondence and visits by the team. For *Doing Business 2009* team members visited 73 economies to verify data and recruit respondents. The data from surveys are subjected to numerous tests for robustness, which lead to revisions or expansions of the information collected.

The *Doing Business* methodology offers several advantages. It is transparent, using factual information about what laws and regulations say and allowing multiple interactions with local respondents to clarify potential misinterpretations of questions. Having representative samples of respondents is not an issue, as the texts of the relevant laws and regulations are collected and answers checked for accuracy. The methodology is inexpensive and easily replicable, so data can be collected in a large sample of economies. Because standard assumptions are used in the data collection, comparisons and benchmarks are

valid across economies. Finally, the data not only highlight the extent of specific regulatory obstacles to doing business but also identify their source and point to what might be reformed.

LIMITS TO WHAT IS MEASURED

The *Doing Business* methodology has 5 limitations that should be considered when interpreting the data. First, the collected data refer to businesses in the economy's largest business city and may not be representative of regulation in other parts of the economy. To address this limitation, subnational *Doing Business* indicators were created for 6 economies in 2007/08: China, Colombia, Egypt, Morocco, Nigeria and the Philippines.² Six other subnational studies are under way, in Central Asia, Southeast Europe, Indonesia, the Russian Federation, Southeast Asia and Ukraine. And some existing studies are updated annually, such as those in India, Mexico and Pakistan. These subnational studies point to significant differences in the speed of reform and the ease of doing business across cities in the same economy.

Second, the data often focus on a specific business form—generally a limited liability company (or its legal equivalent) of a specified size—and may not be representative of the regulation on other businesses, for example, sole proprietorships. Third, transactions described in a standardized case scenario refer to a specific set of issues and may not represent the full set of issues a business encounters. Fourth, the measures of time involve an element of judgment by the expert respondents. When sources indicate different estimates, the time indicators reported in *Doing Business* represent the median values of several responses given under the assumptions of the standardized case.

Finally, the methodology assumes that a business has full information on what is required and does not waste time when completing procedures. In practice, completing a procedure may take longer if the business lacks information or is unable to follow up promptly.

TABLE 12.1

How many experts does *Doing Business* consult?

Indicator set	Number of contributors
Starting a business	1,166
Dealing with construction permits	739
Employing workers	810
Registering property	907
Getting credit	1,033
Protecting investors	653
Paying taxes	862
Trading across borders	817
Enforcing contracts	767
Closing a business	727

Alternatively, the business may choose to disregard some burdensome procedures. For both reasons the time delays reported in *Doing Business 2009* could differ from the perceptions of entrepreneurs reported in the World Bank Enterprise Surveys or other perception surveys.

CHANGES IN WHAT IS MEASURED

The methodology for one of the *Doing Business* topics—getting credit—improved this year. Three main changes were made, affecting only the strength of legal rights index. First, a standardized case scenario with specific assumptions was introduced to bring this indicator into line with other *Doing Business* indicators. Second, the indicator now focuses not on tangible movable collateral, such as equipment, but on revolving movable collateral, such as accounts receivable and inventory. Third, the indicator no longer considers whether management remains in place during a reorganization procedure, better accommodating economies that adopt reorganization procedures similar to Chapter 11 reorganization or *redressement* procedures in civil law systems.

DATA CHALLENGES AND REVISIONS

Most laws and regulations underlying the *Doing Business* data are available on the *Doing Business* website at <http://www.doingbusiness.org>. All the sample surveys and the details underlying the indicators are also published on the website. Questions on the methodology and challenges to data can be submitted through the website's "Ask a Question" function at <http://www.doingbusiness.org>.

Doing Business publishes 8,900 indicators each year. To create these indicators, the team measures more than 52,000 data points, each of which is made available on the *Doing Business* website. Data time series for each indicator and economy are available on the website, beginning with the first year the indicator or economy was included in the report. To provide a comparable time series for research, the data set is back-calculated to adjust for changes in methodology and any revisions in data due to corrections. The website also makes available all original data sets used for background papers. The correction rate between *Doing Business 2008* and *Doing Business 2009* was 6%.

STARTING A BUSINESS

Doing Business records all procedures that are officially required for an entrepreneur to start up and formally operate an industrial or commercial business. These include obtaining all necessary licenses and permits and completing any required notifications, verifications or inscriptions for the company and employees with relevant authorities (table 12.2).

After a study of laws, regulations and publicly available information on business entry, a detailed list of procedures is developed, along with the time and cost of complying with each procedure under normal circumstances and the paid-in minimum capital requirements. Subsequently, local incorporation lawyers and government officials complete and verify the data.

Information is also collected on the sequence in which procedures are to be completed and whether procedures may be carried out simultaneously. It is assumed that any required information is readily available and that all agencies involved in the start-up process function without corruption. If answers by local experts differ, inquiries continue until the data are reconciled.

To make the data comparable across economies, several assumptions about the business and the procedures are used.

ASSUMPTIONS ABOUT THE BUSINESS

The business:

- Is a limited liability company. If there is more than one type of limited liability company in the economy, the limited liability form most popular among domestic firms is chosen. Information on the most popular form is obtained from incorporation lawyers or the statistical office.
- Operates in the economy's largest business city.
- Is 100% domestically owned and has 5 owners, none of whom is a legal entity.
- Has start-up capital of 10 times income per capita at the end of 2007, paid in cash.

Economy characteristics

GROSS NATIONAL INCOME (GNI) PER CAPITA

Doing Business 2009 reports 2007 income per capita as published in the World Bank's *World Development Indicators 2008*. Income is calculated using the Atlas method (current US\$). For cost indicators expressed as a percentage of income per capita, 2007 GNI in local currency units is used as the denominator. GNI data were not available from the World Bank for The Bahamas, Bahrain, Puerto Rico, Qatar and the United Arab Emirates. In these cases GDP or GNP per capita data and growth rates from the International Monetary Fund's World Economic Outlook database, the Economist Intelligence Unit 2008 country profiles

and the U.S. State Department 2008 country profiles were used.

REGION AND INCOME GROUP

Doing Business uses the World Bank regional and income group classifications, available at <http://www.worldbank.org/data/countryclass>. Throughout the report the term *rich economies* refers to the high-income group, *middle-income economies* to the upper-middle-income group and *poor economies* to the lower-middle-income and low-income groups.

POPULATION

Doing Business 2009 reports midyear 2007 population statistics as published in *World Development Indicators 2008*.

TABLE 12.2

What does starting a business measure?**Procedures to legally start and operate a company (number)**

- Preregistration (for example, name verification or reservation, notarization)
- Registration in the economy's largest business city
- Postregistration (for example, social security registration, company seal)

Time required to complete each procedure (calendar days)

- Does not include time spent gathering information
- Each procedure starts on a separate day
- Procedure completed once final document is received
- No prior contact with officials

Cost required to complete each procedure (% of income per capita)

- Official costs only, no bribes
- No professional fees unless services required by law

Paid-in minimum capital (% of income per capita)

- Deposited in a bank or with a notary before registration begins

Source: Doing Business database.

- Performs general industrial or commercial activities, such as the production or sale to the public of products or services. The business does not perform foreign trade activities and does not handle products subject to a special tax regime, for example, liquor or tobacco. It is not using heavily polluting production processes.
- Leases the commercial plant and offices and is not a proprietor of real estate.
- Does not qualify for investment incentives or any special benefits.
- Has at least 10 and up to 50 employees 1 month after the commencement of operations, all of them nationals.
- Has a turnover of at least 100 times income per capita.
- Has a company deed 10 pages long.

PROCEDURES

A procedure is defined as any interaction of the company founders with external parties (for example, government agencies, lawyers, auditors or notaries). Interactions between company founders or company officers and employees are not counted as procedures. Procedures that must be completed in the same building but in different offices are counted as separate procedures. If founders have to visit the same office several times for

different sequential procedures, each is counted separately. The founders are assumed to complete all procedures themselves, without middlemen, facilitators, accountants or lawyers, unless the use of such a third party is mandated by law. If the services of professionals are required, procedures conducted by such professionals on behalf of the company are counted separately. Each electronic procedure is counted separately. If 2 procedures can be completed through the same website but require separate filings, they are counted as 2 procedures.

Both pre- and postincorporation procedures that are officially required for an entrepreneur to formally operate a business are recorded.

Procedures required for official correspondence or transactions with public agencies are also included. For example, if a company seal or stamp is required on official documents, such as tax declarations, obtaining the seal or stamp is counted. Similarly, if a company must open a bank account before registering for sales tax or value added tax, this transaction is included as a procedure. Shortcuts are counted only if they fulfill 4 criteria: they are legal, they are available to the general public, they are used by the majority of companies, and avoiding them causes substantial delays.

Only procedures required of all businesses are covered. Industry-specific

procedures are excluded. For example, procedures to comply with environmental regulations are included only when they apply to all businesses conducting general commercial or industrial activities. Procedures that the company undergoes to connect to electricity, water, gas and waste disposal services are not included.

TIME

Time is recorded in calendar days. The measure captures the median duration that incorporation lawyers indicate is necessary to complete a procedure with minimum follow-up with government agencies and no extra payments. It is assumed that the minimum time required for each procedure is 1 day. Although procedures may take place simultaneously, they cannot start on the same day (that is, simultaneous procedures start on consecutive days). A procedure is considered completed once the company has received the final document, such as the company registration certificate or tax number. If a procedure can be accelerated for an additional cost, the fastest procedure is chosen. It is assumed that the entrepreneur does not waste time and commits to completing each remaining procedure without delay. The time that the entrepreneur spends on gathering information is ignored. It is assumed that the entrepreneur is aware of all entry regulations and their sequence from the beginning but has had no prior contact with any of the officials.

COST

Cost is recorded as a percentage of the economy's income per capita. It includes all official fees and fees for legal or professional services if such services are required by law. Fees for purchasing and legalizing company books are included if these transactions are required by law. The company law, the commercial code and specific regulations and fee schedules are used as sources for calculating costs. In the absence of fee schedules, a government officer's estimate is taken as an official source. In the absence of a

government officer's estimate, estimates of incorporation lawyers are used. If several incorporation lawyers provide different estimates, the median reported value is applied. In all cases the cost excludes bribes.

PAID-IN MINIMUM CAPITAL

The paid-in minimum capital requirement reflects the amount that the entrepreneur needs to deposit in a bank or with a notary before registration and up to 3 months following incorporation and is recorded as a percentage of the economy's income per capita. The amount is typically specified in the commercial code or the company law. Many economies have a minimum capital requirement but allow businesses to pay only a part of it before registration, with the rest to be paid after the first year of operation. In Germany in June 2008, the minimum capital requirement for limited liability companies was €25,000, of which at least €12,500 was payable before registration. The paid-in minimum capital recorded for Germany is therefore €12,500, or 42.2% of income per capita. In Serbia the minimum capital requirement was €500, of which only half needed to be paid before registration. The paid-in minimum capital recorded for Serbia is therefore €250, or 7% of income per capita.

The data details on starting a business can be found for each economy at <http://www.doingbusiness.org>. This methodology was developed in Djankov and others (2002) and is adopted here with minor changes.

DEALING WITH CONSTRUCTION PERMITS

Doing Business records all procedures required for a business in the construction industry to build a standardized warehouse. These procedures include submitting all relevant project-specific documents (for example, building plans and site maps) to the authorities; obtaining all necessary clearances, licenses, permits and certificates; completing all

TABLE 12.3

What does dealing with construction permits measure?

Procedures to legally build a warehouse (number)

- Submitting all relevant documents and obtaining all necessary clearances, licenses, permits and certificates
- Completing all required notifications and receiving all necessary inspections
- Obtaining utility connections for electricity, water, sewerage and a land telephone line
- Registering the warehouse after its completion (if required for use as collateral or for transfer of warehouse)

Time required to complete each procedure (calendar days)

- Does not include time spent gathering information
- Each procedure starts on a separate day
- Procedure completed once final document is received
- No prior contact with officials

Cost required to complete each procedure (% of income per capita)

- Official costs only, no bribes

Source: *Doing Business* database.

required notifications; and receiving all necessary inspections. *Doing Business* also records procedures for obtaining connections for electricity, water, sewerage and a fixed land line. Procedures necessary to register the property so that it can be used as collateral or transferred to another entity are also counted (table 12.3). The survey divides the process of building a warehouse into distinct procedures and calculates the time and cost of completing each procedure in practice under normal circumstances.

Information is collected from experts in construction licensing, including architects, construction lawyers, construction firms, utility service providers and public officials who deal with building regulations, including approvals and inspections. To make the data comparable across economies, several assumptions about the business, the warehouse project and the utility connections are used.

ASSUMPTIONS ABOUT THE CONSTRUCTION COMPANY

The business (BuildCo):

- Is a limited liability company.
- Operates in the economy's largest business city.
- Is 100% domestically and privately owned.
- Has 5 owners, none of whom is a legal entity.
- Is fully licensed and insured to carry out construction projects, such as building warehouses.

- Has 60 builders and other employees, all of them nationals with the technical expertise and professional experience necessary to obtain construction permits and approvals.
- Has at least 1 employee who is a licensed architect and registered with the local association of architects.
- Has paid all taxes and taken out all necessary insurance applicable to its general business activity (for example, accidental insurance for construction workers and third-person liability insurance).
- Owns the land on which the warehouse is built.

ASSUMPTIONS ABOUT THE WAREHOUSE

The warehouse:

- Will be used for general storage activities, such as storage of books or stationery. The warehouse will not be used for any goods requiring special conditions, such as food, chemicals or pharmaceuticals.
- Has 2 stories, both above ground, with a total surface of approximately 1,300.6 square meters (14,000 square feet). Each floor is 3 meters (9 feet, 10 inches) high.
- Has road access and is located in the periurban area of the economy's largest business city (that is, on the fringes of the city but still within its official limits).

- Is not located in a special economic or industrial zone. The zoning requirements for warehouses are met by building in an area where similar warehouses can be found.
- Is located on a land plot of 929 square meters (10,000 square feet) that is 100% owned by BuildCo and is accurately registered in the cadastre and land registry.
- Is a new construction (there was no previous construction on the land).
- Has complete architectural and technical plans prepared by a licensed architect.
- Will include all technical equipment required to make the warehouse fully operational.
- Will take 30 weeks to construct (excluding all delays due to administrative and regulatory requirements).

ASSUMPTIONS ABOUT THE UTILITY CONNECTIONS

The electricity connection:

- Is 10 meters (32 feet, 10 inches) from the main electricity network.
- Is a medium-tension, 3-phase, 4-wire Y, 140-kVA connection. Three-phase service is available in the construction area.
- Will be delivered by an overhead service, unless overhead service is not available in the periurban area.
- Consists of a simple hookup unless installation of a private substation (transformer) or extension of network is required.
- Requires the installation of only one electricity meter.

BuildCo is assumed to have a licensed electrician on its team to complete the internal wiring for the warehouse.

The water and sewerage connection:

- Is 10 meters (32 feet, 10 inches) from the existing water source and sewer tap.
- Does not require water for fire protection reasons; a fire extinguishing system (dry system) will be used instead. If a wet fire protection system is required by law,

it is assumed that the water demand specified below also covers the water needed for fire protection.

- Has an average water use of 662 liters (175 gallons) a day and an average wastewater flow of 568 liters (150 gallons) a day.
- Has a peak water use of 1,325 liters (350 gallons) a day and a peak wastewater flow of 1,136 liters (300 gallons) a day.
- Will have a constant level of water demand and wastewater flow throughout the year.

The telephone connection:

- Is 10 meters (32 feet, 10 inches) from the main telephone network.
- Is a fixed land line.

PROCEDURES

A procedure is any interaction of the company's employees or managers with external parties, including government agencies, notaries, the land registry, the cadastre, utility companies, public and private inspectors and technical experts apart from in-house architects and engineers. Interactions between company employees, such as development of the warehouse plans and inspections conducted by employees, are not counted as procedures. Procedures that the company undergoes to connect to electricity, water, sewerage and telephone services are included. All procedures that are legally or in practice required for building a warehouse are counted, even if they may be avoided in exceptional cases.

TIME

Time is recorded in calendar days. The measure captures the median duration that local experts indicate is necessary to complete a procedure in practice. It is assumed that the minimum time required for each procedure is 1 day. Although procedures may take place simultaneously, they cannot start on the same day (that is, simultaneous procedures start on consecutive days). If a procedure can be accelerated legally for an additional cost, the fastest procedure is chosen. It

is assumed that BuildCo does not waste time and commits to completing each remaining procedure without delay. The time that BuildCo spends on gathering information is ignored. It is assumed that BuildCo is aware of all building requirements and their sequence from the beginning.

COST

Cost is recorded as a percentage of the economy's income per capita. Only official costs are recorded. All the fees associated with completing the procedures to legally build a warehouse are recorded, including those associated with obtaining land use approvals and preconstruction design clearances; receiving inspections before, during and after construction; getting utility connections; and registering the warehouse property. Nonrecurring taxes required for the completion of the warehouse project also are recorded. The building code, information from local experts and specific regulations and fee schedules are used as sources for costs. If several local partners provide different estimates, the median reported value is used.

The data details on dealing with construction permits can be found for each economy at <http://www.doingbusiness.org>.

EMPLOYING WORKERS

Doing Business measures the regulation of employment, specifically as it affects the hiring and firing of workers and the rigidity of working hours.

In 2007 improvements were made to align the methodology for the employing workers indicators with the International Labour Organization (ILO) conventions. Only 4 of the 188 ILO conventions cover areas measured by *Doing Business*: employee termination, weekend work, holiday with pay and night work. The methodology was adapted to ensure full consistency with these 4 conventions. It is possible for an economy to receive the highest score on the ease of employing

workers and comply with all relevant ILO conventions (specifically, the 4 related to *Doing Business*)—and no economy can achieve a better score by failing to comply with these conventions.

The ILO conventions covering areas related to the employing workers indicators do not include the ILO core labor standards—8 conventions covering the right to collective bargaining, the elimination of forced labor, the abolition of child labor and equitable treatment in employment practices. *Doing Business* supports the ILO core labor standards and this year includes information on their ratification. *Doing Business* does not measure or rank ratification or compliance with ILO conventions.

The data on employing workers are based on a detailed survey of employment regulations that is completed by local lawyers and public officials. Employment laws and regulations as well as secondary sources are reviewed to ensure accuracy. To make the data comparable across economies, several assumptions about the worker and the business are used.

ASSUMPTIONS ABOUT THE WORKER

The worker:

- Is a 42-year-old, nonexecutive, full-time, male employee.
- Has worked at the same company for 20 years.
- Earns a salary plus benefits equal to the economy's average wage during the entire period of his employment.
- Is a lawful citizen who belongs to the same race and religion as the majority of the economy's population.
- Resides in the economy's largest business city.
- Is not a member of a labor union, unless membership is mandatory.

ASSUMPTIONS ABOUT THE BUSINESS

The business:

- Is a limited liability company.
- Operates in the economy's largest business city.
- Is 100% domestically owned.
- Operates in the manufacturing sector.
- Has 201 employees.

- Is subject to collective bargaining agreements in economies where such agreements cover more than half the manufacturing sector and apply even to firms not party to them.
- Abides by every law and regulation but does not grant workers more benefits than mandated by law, regulation or (if applicable) collective bargaining agreement.

RIGIDITY OF EMPLOYMENT INDEX

The rigidity of employment index is the average of 3 subindices: a difficulty of hiring index, a rigidity of hours index and a difficulty of firing index (table 12.4). All the subindices have several components. And all take values between 0 and 100, with higher values indicating more rigid regulation.

The difficulty of hiring index measures (i) whether fixed-term contracts are prohibited for permanent tasks; (ii) the maximum cumulative duration of fixed-term contracts; and (iii) the ratio of the minimum wage for a trainee or first-time employee to the average value added per worker.⁴ An economy is assigned a score of 1 if fixed-term contracts are prohibited for permanent tasks and a score of 0 if they can be used for any task. A score of 1 is assigned if the maximum cumulative duration of

fixed-term contracts is less than 3 years; 0.5 if it is 3 years or more but less than 5 years; and 0 if fixed-term contracts can last 5 years or more. Finally, a score of 1 is assigned if the ratio of the minimum wage to the average value added per worker is 0.75 or more; 0.67 for a ratio of 0.50 or more but less than 0.75; 0.33 for a ratio of 0.25 or more but less than 0.50; and 0 for a ratio of less than 0.25. In the Central African Republic, for example, fixed-term contracts are prohibited for permanent tasks (a score of 1), and they can be used for a maximum of 4 years (a score of 0.5). The ratio of the mandated minimum wage to the value added per worker is 0.62 (a score of 0.67). Averaging the 3 values and scaling the index to 100 gives the Central African Republic a score of 72.

The rigidity of hours index has 5 components: (i) whether night work is unrestricted; (ii) whether weekend work is unrestricted; (iii) whether the workweek can consist of 5.5 days; (iv) whether the workweek can extend to 50 hours or more (including overtime) for 2 months a year to respond to a seasonal increase in production; and (v) whether paid annual vacation is 21 working days or fewer. For each of these questions, if the answer is no, the economy is assigned a score of 1; otherwise a score of 0 is as-

TABLE 12.4

What does employing workers measure?

Difficulty of hiring index (0–100)

- Applicability and maximum duration of fixed-term contracts
- Minimum wage for trainee or first-time employee

Rigidity of hours index (0–100)

- Restrictions on night work and weekend work
- Allowed maximum length of the workweek in days and hours, including overtime
- Paid annual vacation days

Difficulty of firing index (0–100)

- Notification and approval requirements for termination of a redundant worker or group of redundant workers
- Obligation to reassign or retrain and priority rules for redundancy and reemployment

Rigidity of employment index (0–100)

- Simple average of the difficulty of hiring, rigidity of hours and difficulty of firing indices

Firing cost (weeks of salary)

- Notice requirements, severance payments and penalties due when terminating a redundant worker, expressed in weeks of salary

Source: *Doing Business* database.

signed. For example, the Czech Republic imposes restrictions on night work (a score of 1) and weekend work (a score of 1), allows 6-day workweeks (a score of 0), permits 50-hour workweeks for 2 months (a score of 0) and requires paid vacation of 20 working days (a score of 0). Averaging the scores and scaling the result to 100 gives a final index of 40 for the Czech Republic.

The difficulty of firing index has 8 components: (i) whether redundancy is disallowed as a basis for terminating workers; (ii) whether the employer needs to notify a third party (such as a government agency) to terminate 1 redundant worker; (iii) whether the employer needs to notify a third party to terminate a group of 25 redundant workers; (iv) whether the employer needs approval from a third party to terminate 1 redundant worker; (v) whether the employer needs approval from a third party to terminate a group of 25 redundant workers; (vi) whether the law requires the employer to reassign or retrain a worker before making the worker redundant; (vii) whether priority rules apply for redundancies; and (viii) whether priority rules apply for reemployment. For the first question an answer of yes for workers of any income level gives a score of 10 and means that the rest of the questions do not apply. An answer of yes to question (iv) gives a score of 2. For every other question, if the answer is yes, a score of 1 is assigned; otherwise a score of 0 is given. Questions (i) and (iv), as the most restrictive regulations, have greater weight in the construction of the index.

In Tunisia, for example, redundancy is allowed as grounds for termination (a score of 0). An employer has to both notify a third party (a score of 1) and obtain its approval (a score of 2) to terminate a single redundant worker, and has to both notify a third party (a score of 1) and obtain its approval (a score of 1) to terminate a group of 25 redundant workers. The law mandates retraining or alternative placement before termination (a score of 1). There are priority

rules for termination (a score of 1) and reemployment (a score of 1). Adding the scores and scaling to 100 gives a final index of 80.

FIRING COST

The firing cost indicator measures the cost of advance notice requirements, severance payments and penalties due when terminating a redundant worker, expressed in weeks of salary. If the firing cost adds up to 8 or fewer weeks of salary, a score of 0 is assigned for the purposes of calculating the aggregate ease of doing business ranking. If the cost adds up to more than 8 weeks of salary, the score is the number of weeks. One month is recorded as 4 and 1/3 weeks. In Mauritius, for example, an employer is required to give 3 months' notice before a redundancy termination, and the severance pay for a worker with 20 years of service equals 5 months of wages. No penalty is levied. Altogether, the employer pays the equivalent of 35 weeks of salary to dismiss the worker.

The data details on employing workers can be found for each economy at <http://www.doingbusiness.org>. This methodology was developed in Botero and others (2004) and is adopted here with minor changes.

REGISTERING PROPERTY

Doing Business records the full sequence of procedures necessary for a business (buyer) to purchase a property from another business (seller) and to transfer the property title to the buyer's name so that the buyer can use the property for expanding its business, use the property as collateral in taking new loans or, if necessary, sell the property to another business (table 12.5). The process starts with obtaining the necessary documents, such as a copy of the seller's title if necessary, and conducting due diligence if required. The transaction is considered complete when the buyer can use the property as collateral for a bank loan.

Every procedure required by law or necessary in practice is included, whether it is the responsibility of the seller or the buyer or must be completed by a third party on their behalf. Local property lawyers, notaries and property registries provide information on procedures as well as the time and cost to complete each of them.

To make the data comparable across economies, several assumptions about the parties to the transaction, the property and the procedures are used.

ASSUMPTIONS ABOUT THE PARTIES

The parties (buyer and seller):

- Are limited liability companies.
- Are located in the periurban area of the economy's largest business city.
- Are 100% domestically and privately owned.
- Have 50 employees each, all of whom are nationals.
- Perform general commercial activities.

ASSUMPTIONS ABOUT THE PROPERTY

The property:

- Has a value of 50 times income per capita. The sale price equals the value.
- Is fully owned by the seller.
- Has no mortgages attached and has been under the same ownership for the past 10 years.
- Is registered in the land registry or cadastre, or both, and is free of title disputes.
- Is located in a periurban commercial zone, and no rezoning is required.
- Consists of land and a building. The land area is 557.4 square meters (6,000 square feet). A 2-story warehouse of 929 square meters (10,000 square feet) is located on the land. The warehouse is 10 years old, is in good condition and complies with all safety standards, building codes and other legal requirements. The property of land and building will be transferred in its entirety.
- Will not be subject to renovations or additional building following the purchase.

- Has no trees, natural water sources, natural reserves or historical monuments of any kind.
- Will not be used for special purposes, and no special permits, such as for residential use, industrial plants, waste storage or certain types of agricultural activities, are required.
- Has no occupants (legal or illegal), and no other party holds a legal interest in it.

PROCEDURES

A procedure is defined as any interaction of the buyer or the seller or their agents (if an agent is legally or in practice required) with external parties, including government agencies, inspectors, notaries and lawyers. Interactions between company officers and employees are not considered. All procedures that are legally or in practice required for registering property are recorded, even if they may be avoided in exceptional cases. It is assumed that the buyer follows the fastest legal option available and used by the majority of property owners. Although the buyer may use lawyers or other professionals where necessary in the registration process, it is assumed that it does not employ an outside facilitator in the registration process unless legally or in practice required to do so.

TIME

Time is recorded in calendar days. The measure captures the median duration that property lawyers, notaries or registry officials indicate is necessary to complete a procedure. It is assumed that the minimum time required for each procedure is 1 day. Although procedures may take place simultaneously, they cannot start on the same day. It is assumed that the buyer does not waste time and commits to completing each remaining procedure without delay. If a procedure can be accelerated for an additional cost, the fastest legal procedure available and used by the majority of property owners is chosen. If procedures can be undertaken simultaneously, it is assumed that they are. It is assumed that the parties

TABLE 12.5

What does registering property measure?

Procedures to legally transfer title on immovable property (number)

- Preregistration (for example, checking for liens, notarizing sales agreement, paying property transfer taxes)
- Registration in the economy's largest business city
- Postregistration (for example, filing title with municipality)

Time required to complete each procedure (calendar days)

- Does not include time spent gathering information
- Each procedure starts on a separate day
- Procedure completed once final document is received
- No prior contact with officials

Cost required to complete each procedure (% of property value)

- Official costs only, no bribes
- No value added or capital gains taxes included

Source: Doing Business database.

involved are aware of all regulations and their sequence from the beginning. Time spent on gathering information is not considered.

COST

Cost is recorded as a percentage of the property value, assumed to be equivalent to 50 times income per capita. Only official costs required by law are recorded, including fees, transfer taxes, stamp duties and any other payment to the property registry, notaries, public agencies or lawyers. Other taxes, such as capital gains tax or value added tax, are excluded from the cost measure. Both costs borne by the buyer and those borne by the seller are included. If cost estimates differ among sources, the median reported value is used.

The data details on registering property can be found for each economy at <http://www.doingbusiness.org>.

GETTING CREDIT

Doing Business constructs measures of the legal rights of borrowers and lenders and the sharing of credit information. The first set of indicators describes how well collateral and bankruptcy laws facilitate lending. The second set measures the coverage, scope, quality and accessibility of credit information available through public and private credit registries (table 12.6).

The data on the legal rights of borrowers and lenders are gathered through a survey of financial lawyers and verified through analysis of laws and regulations as well as public sources of information on collateral and bankruptcy laws. The data on credit information sharing are built in 2 stages. First, banking supervision authorities and public information sources are surveyed to confirm the presence of public credit registries and private credit information bureaus. Second, when applicable, a detailed survey on the public or private credit registry's structure, law and associated rules is administered to the credit registry. Survey responses are verified through several rounds of follow-up communication with respondents as well as by contacting third parties and consulting public sources. The survey data are confirmed through teleconference calls or on-site visits in all economies.

STRENGTH OF LEGAL RIGHTS INDEX

The strength of legal rights index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. Two case scenarios are used to determine the scope of the secured transactions system, involving a secured borrower, the company ABC, and a secured lender, BizBank.

Several assumptions about the secured borrower and lender are used:

- ABC is a domestic, limited liability company.
- ABC has its headquarters and only base of operations in the economy's largest business city.
- To fund its business expansion plans, ABC obtains a loan from BizBank for an amount up to 10 times income per capita in local currency.
- Both ABC and BizBank are 100% domestically owned.

The case scenarios also involve assumptions. In case A, as collateral for the loan, ABC grants BizBank a nonpossessory security interest in one category of revolving movable assets, for example, its accounts receivable or its inventory. ABC wants to keep both possession and ownership of the collateral. In economies in which the law does not allow nonpossessory security interests in movable property, ABC and BizBank use a fiduciary transfer-of-title arrangement (or a similar substitute for nonpossessory security interests).

In case B, ABC grants BizBank a business charge, enterprise charge, floating charge or any charge or combination of charges that gives BizBank a security interest over ABC's combined assets (or as much of ABC's assets as possible). ABC keeps ownership and possession of the assets.

The strength of legal rights index includes 8 aspects related to legal rights in collateral law and 2 aspects in bankruptcy law. A score of 1 is assigned for each of the following features of the laws:

- Any business may use movable assets as collateral while keeping possession of the assets, and any financial institution may accept such assets as collateral.
- The law allows a business to grant a nonpossessory security right in a single category of revolving movable assets (such as accounts receivable or inventory), without requiring a specific description of the secured assets.
- The law allows a business to grant a nonpossessory security right in substantially all of its assets, without requiring a specific description of the secured assets.
- A security right may extend to future or after-acquired assets and may extend automatically to the products, proceeds or replacements of the original assets.
- General description of debts and obligations is permitted in collateral agreements and in registration documents, so that all types of obligations and debts can be secured by stating a maximum rather than a specific amount between the parties.
- A collateral registry is in operation that is unified geographically and by asset type and that is indexed by the name of the grantor of a security right.
- Secured creditors are paid first (for example, before general tax claims and employee claims) when a debtor defaults outside an insolvency procedure.

- Secured creditors are paid first (for example, before general tax claims and employee claims) when a business is liquidated.
- Secured creditors are not subject to an automatic stay or moratorium on enforcement procedures when a debtor enters a court-supervised reorganization procedure.
- The law allows parties to agree in a collateral agreement that the lender may enforce its security right out of court.

The index ranges from 0 to 10, with higher scores indicating that collateral and bankruptcy laws are better designed to expand access to credit.

DEPTH OF CREDIT INFORMATION INDEX

The depth of credit information index measures rules affecting the scope, accessibility and quality of credit information available through either public or private credit registries. A score of 1 is assigned for each of the following 6 features of the public registry or the private credit bureau (or both):

- Both positive credit information (for example, loan amounts and pattern of on-time repayments) and negative information (for example, late payments, number and amount of defaults and bankruptcies) are distributed.
- Data on both firms and individuals are distributed.
- Data from retailers, trade creditors or utility companies as well as financial institutions are distributed.
- More than 2 years of historical data are distributed. Registries that erase data on defaults as soon as they are repaid obtain a score of 0 for this indicator.
- Data on loans below 1% of income per capita are distributed. A registry must have a minimum coverage of 1% of the adult population to score a 1 for this indicator.
- Regulations guarantee borrowers the right to access their data in the largest registry in the economy.

TABLE 12.6

What does getting credit measure?

Strength of legal rights index (0–10)

- Protection of rights of borrowers and lenders through collateral and bankruptcy laws
- Security interest is a nonpossessory one in movable assets

Depth of credit information index (0–6)

- Scope and accessibility of credit information distributed by public and private credit registries
- Quality of data distributed by public and private credit registries

Public credit registry coverage (% of adults)

- Number of individuals and firms listed in a public credit registry as percentage of adult population

Private credit bureau coverage (% of adults)

- Number of individuals and firms listed in a private credit bureau as percentage of adult population

Source: Doing Business database.

The index ranges from 0 to 6, with higher values indicating the availability of more credit information, from either a public registry or a private bureau, to facilitate lending decisions. If the registry is not operational or has coverage of less than 0.1% of the adult population, the score on the depth of credit information index is 0.

In Turkey, for example, both a public and a private registry operate. Both distribute positive and negative information (a score of 1). The private bureau distributes data only on individuals, but the public registry covers firms as well as individuals (a score of 1). The public and private registries share data among financial institutions only; no data are collected from retailers or utilities (a score of 0). The private bureau distributes more than 2 years of historical data (a score of 1). The public registry collects data on loans of \$3,493 (44% of income per capita) or more, but the private bureau collects information on loans of any value (a score of 1). Borrowers have the right to access their data in both the private and the public registry (a score of 1). Summing across the indicators gives Turkey a total score of 5.

PUBLIC CREDIT REGISTRY COVERAGE

The public credit registry coverage indicator reports the number of individuals and firms listed in a public credit registry with information on repayment history, unpaid debts or credit outstanding from the past 5 years. The number is expressed as a percentage of the adult population (the population aged 15 and above according to the World Bank's *World Development Indicators 2008*). A public credit registry is defined as a database managed by the public sector, usually by the central bank or the superintendent of banks, that collects information on the creditworthiness of borrowers (persons or businesses) in the financial system and makes it available to financial institutions. If no public registry operates, the coverage value is 0.

PRIVATE CREDIT BUREAU COVERAGE

The private credit bureau coverage indicator reports the number of individuals and firms listed by a private credit bureau with information on repayment history, unpaid debts or credit outstanding from the past 5 years. The number is expressed as a percentage of the adult population (the population aged 15 and above according to the World Bank's *World Development Indicators 2008*). A private credit bureau is defined as a private firm or nonprofit organization that maintains a database on the creditworthiness of borrowers (persons or businesses) in the financial system and facilitates the exchange of credit information among banks and financial institutions. Credit investigative bureaus and credit reporting firms that do not directly facilitate information exchange among banks and other financial institutions are not considered. If no private bureau operates, the coverage value is 0.

The data details on getting credit can be found for each economy at <http://www.doingbusiness.org>. This methodology was developed in Djankov, McLiesh and Shleifer (2007) and is adopted here with minor changes.

PROTECTING INVESTORS

Doing Business measures the strength of minority shareholder protections against directors' misuse of corporate assets for personal gain. The indicators distinguish 3 dimensions of investor protection: transparency of related-party transactions (extent of disclosure index), liability for self-dealing (extent of director liability index) and shareholders' ability to sue officers and directors for misconduct (ease of shareholder suits index) (table 12.7). The data come from a survey of corporate lawyers and are based on securities regulations, company laws and court rules of evidence.

To make the data comparable across economies, several assumptions about the business and the transaction are used.

ASSUMPTIONS ABOUT THE BUSINESS

The business (buyer):

- Is a publicly traded corporation listed on the economy's most important stock exchange. If the number of publicly traded companies listed on that exchange is less than 10, or if there is no stock exchange in the economy, it is assumed that buyer is a large private company with multiple shareholders.
- Has a board of directors and a chief executive officer (CEO) who may legally act on behalf of buyer where permitted, even if this is not specifically required by law.
- Is a food manufacturer.
- Has its own distribution network.

ASSUMPTIONS ABOUT THE TRANSACTION

- Mr. James is buyer's controlling shareholder and a member of buyer's board of directors. He owns 60% of buyer and elected 2 directors to buyer's 5-member board.
- Mr. James also owns 90% of seller, a company that operates a chain of retail hardware stores. Seller recently closed a large number of its stores.
- Mr. James proposes to buyer that it purchase seller's unused fleet of trucks to expand buyer's distribution of its food products. Buyer agrees. The price is equal to 10% of buyer's assets and is higher than the market value.
- The proposed transaction is part of the company's ordinary course of business and is not outside the authority of the company.
- Buyer enters into the transaction. All required approvals are obtained, and all required disclosures made (that is, the transaction is not fraudulent).
- The transaction is unfair to buyer. Shareholders sue Mr. James and the other parties that approved the transaction.

TABLE 12.7

What does protecting investors measure?**Extent of disclosure index (0–10)**

- Who can approve related-party transactions
- Disclosure requirements in case of related-party transactions

Extent of director liability index (0–10)

- Ability of the shareholders to hold the interested party and the approving body liable in case of related-party transactions
- Available legal remedies (damages, repayment of profits, fines and imprisonment)
- Ability of shareholders to sue directly or derivatively

Ease of shareholder suits index (0–10)

- Documents and information available during trial
- Direct access to internal documents of the company and use of a government inspector without filing a suit in court

Strength of investor protection index (0–10)

- Simple average of the extent of disclosure, extent of director liability and ease of shareholder suits indices

Source: Doing Business database.

EXTENT OF DISCLOSURE INDEX

The extent of disclosure index has 5 components:

- What corporate body can provide legally sufficient approval for the transaction. A score of 0 is assigned if it is the CEO or the managing director alone; 1 if the board of directors or shareholders must vote and Mr. James is permitted to vote; 2 if the board of directors must vote and Mr. James is not permitted to vote; 3 if shareholders must vote and Mr. James is not permitted to vote.
- Whether immediate disclosure of the transaction to the public, the regulator or the shareholders is required. A score of 0 is assigned if no disclosure is required; 1 if disclosure on the terms of the transaction but not Mr. James's conflict of interest is required; 2 if disclosure on both the terms and Mr. James's conflict of interest is required.
- Whether disclosure in the annual report is required. A score of 0 is assigned if no disclosure on the terms of the transaction is required; 1 if disclosure on the terms of the transaction but not Mr. James's conflict of interest is required; 2 if disclosure on both the terms and Mr. James's conflict of interest is required.

- Whether disclosure by Mr. James to the board of directors is required. A score of 0 is assigned if no disclosure is required; 1 if a general disclosure of the existence of a conflict of interest is required without any specifics; 2 if full disclosure of all material facts relating to Mr. James's interest in the buyer-seller transaction is required.
- Whether it is required that an external body, for example, an external auditor, review the transaction before it takes place. A score of 0 is assigned if no; 1 if yes.

The index ranges from 0 to 10, with higher values indicating greater disclosure. In Poland, for example, the board of directors must approve the transaction and Mr. James is not allowed to vote (a score of 2). Buyer is required to disclose immediately all information affecting the stock price, including the conflict of interest (a score of 2). In its annual report buyer must also disclose the terms of the transaction and Mr. James's ownership in buyer and seller (a score of 2). Before the transaction Mr. James must disclose his conflict of interest to the other directors, but he is not required to provide specific information about it (a score of 1). Poland does not require an external body to review the transaction (a score of 0). Adding these numbers gives Poland a score of 7 on the extent of disclosure index.

EXTENT OF DIRECTOR LIABILITY INDEX

The extent of director liability index has 7 components:

- Whether a shareholder plaintiff is able to hold Mr. James liable for damage the buyer-seller transaction causes to the company. A score of 0 is assigned if Mr. James cannot be held liable or can be held liable only for fraud or bad faith; 1 if Mr. James can be held liable only if he influenced the approval of the transaction or was negligent; 2 if Mr. James can be held liable when the transaction is unfair or prejudicial to the other shareholders.
- Whether a shareholder plaintiff is able to hold the approving body (the CEO or board of directors) liable for damage the transaction causes to the company. A score of 0 is assigned if the approving body cannot be held liable or can be held liable only for fraud or bad faith; 1 if the approving body can be held liable for negligence; 2 if the approving body can be held liable when the transaction is unfair or prejudicial to the other shareholders.
- Whether a court can void the transaction upon a successful claim by a shareholder plaintiff. A score of 0 is assigned if rescission is unavailable or is available only in case of fraud or bad faith; 1 if rescission is available when the transaction is oppressive or prejudicial to the other shareholders; 2 if rescission is available when the transaction is unfair or entails a conflict of interest.
- Whether Mr. James pays damages for the harm caused to the company upon a successful claim by the shareholder plaintiff. A score of 0 is assigned if no; 1 if yes.
- Whether Mr. James repays profits made from the transaction upon a successful claim by the shareholder plaintiff. A score of 0 is assigned if no; 1 if yes.

- Whether fines and imprisonment can be applied against Mr. James. A score of 0 is assigned if no; 1 if yes.
- Whether shareholder plaintiffs are able to sue directly or derivatively for damage the transaction causes to the company. A score of 0 is assigned if suits are unavailable or are available only for shareholders holding more than 10% of the company's share capital; 1 if direct or derivative suits are available for shareholders holding 10% or less of share capital.

The index ranges from 0 to 10, with higher values indicating greater liability of directors. To hold Mr. James liable in Panama, for example, a plaintiff must prove that Mr. James influenced the approving body or acted negligently (a score of 1). To hold the other directors liable, a plaintiff must prove that they acted negligently (a score of 1). The unfair transaction cannot be voided (a score of 0). If Mr. James is found liable, he must pay damages (a score of 1) but he is not required to disgorge his profits (a score of 0). Mr. James cannot be fined or imprisoned (a score of 0). Direct suits are available for shareholders holding 10% or less of share capital (a score of 1). Adding these numbers gives Panama a score of 4 on the extent of director liability index.

EASE OF SHAREHOLDER SUITS INDEX

The ease of shareholder suits index has 6 components:

- What range of documents is available to the shareholder plaintiff from the defendant and witnesses during trial. A score of 1 is assigned for each of the following types of documents available: information that the defendant has indicated he intends to rely on for his defense; information that directly proves specific facts in the plaintiff's claim; any information relevant to the subject matter of the claim; and any information that may lead to the discovery of relevant information.
- Whether the plaintiff can directly examine the defendant and witnesses during trial. A score of 0 is assigned

if no; 1 if yes, with prior approval of the questions by the judge; 2 if yes, without prior approval.

- Whether the plaintiff can obtain categories of relevant documents from the defendant without identifying each document specifically. A score of 0 is assigned if no; 1 if yes.
- Whether shareholders owning 10% or less of the company's share capital can request that a government inspector investigate the buyer-seller transaction without filing suit in court. A score of 0 is assigned if no; 1 if yes.
- Whether shareholders owning 10% or less of the company's share capital have the right to inspect the transaction documents before filing suit. A score of 0 is assigned if no; 1 if yes.
- Whether the standard of proof for civil suits is lower than that for a criminal case. A score of 0 is assigned if no; 1 if yes.

The index ranges from 0 to 10, with higher values indicating greater powers of shareholders to challenge the transaction. In Greece, for example, the plaintiff can access documents that the defendant intends to rely on for his defense and that directly prove facts in the plaintiff's claim (a score of 2). The plaintiff can examine the defendant and witnesses during trial, though only with prior approval of the questions by the court (a score of 1). The plaintiff must specifically identify the documents being sought (for example, the buyer-seller purchase agreement of July 15, 2006) and cannot just request categories (for example, all documents related to the transaction) (a score of 0). A shareholder holding 5% of buyer's shares can request that a government inspector review suspected mismanagement by Mr. James and the CEO without filing suit in court (a score of 1). Any shareholder can inspect the transaction documents before deciding whether to sue (a score of 1). The standard of proof for civil suits is the same as that for a criminal case (a score of 0). Adding these numbers gives Greece a score of 5 on the ease of shareholder suits index.

STRENGTH OF INVESTOR PROTECTION INDEX

The strength of investor protection index is the average of the extent of disclosure index, the extent of director liability index and the ease of shareholder suits index. The index ranges from 0 to 10, with higher values indicating more investor protection.

The data details on protecting investors can be found for each economy at <http://www.doingbusiness.org>. This methodology was developed in Djankov, La Porta, López-de-Silanes and Shleifer (2008).

PAYING TAXES

Doing Business records the taxes and mandatory contributions that a medium-size company must pay in a given year, as well as measures of the administrative burden of paying taxes and contributions. Taxes and contributions measured include the profit or corporate income tax, social contributions and labor taxes paid by the employer, property taxes, property transfer taxes, dividend tax, capital gains tax, financial transactions tax, waste collection taxes and vehicle and road taxes.

Doing Business measures all taxes and contributions that are government mandated (at any level—federal, state or local), apply to the standardized business and have an impact in its income statements. In doing so, *Doing Business* 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 (table 12.8). *Doing Business* departs from this definition because it measures imposed charges that affect business accounts, not government accounts. The main differences relate to labor contributions and value added tax. The *Doing Business* 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

TABLE 12.8

What does paying taxes measure?**Tax payments for a manufacturing company in 2007 (number per year)**

- Total number of taxes and contributions paid, including consumption taxes (value added tax, sales tax or goods and service tax)
- Method and frequency of payment

Time required to comply with 3 major taxes (hours per year)

- Hours to prepare, file and pay profit taxes, consumption taxes and labor taxes and contributions
- Collecting information to compute tax payable
- Completing tax return forms, filing with proper agencies
- Arranging payment or withholding
- Preparing separate tax accounting books, if required

Total tax rate (% of profit)

- Profit or corporate income tax
- Social contributions and labor taxes paid by the employer
- Property and property transfer taxes
- Dividend, capital gains and financial transactions taxes
- Waste collection, vehicle, road and other taxes

Source: *Doing Business* database.

compulsory superannuation guarantee and workers' compensation insurance. It excludes value added taxes from the total tax rate because they do not affect the accounting profits of the business—that is, they are not reflected in the income statement.

Doing Business has prepared a case scenario to measure the taxes and contributions paid by a standardized business and the complexity of an economy's tax compliance system. This case scenario uses a set of financial statements and assumptions about transactions made over the year. Tax experts in each economy compute the taxes and contributions due in their jurisdiction based on the standardized case facts. Information is also compiled on the frequency of filing, tax audits and other costs of compliance. The project was developed and implemented in cooperation with PricewaterhouseCoopers.

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 popular among domestic firms is chosen. The most popular form is reported by incorporation lawyers or the statistical office.

- Started operations on January 1, 2006. 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.
- Is 100% domestically owned and has 5 owners, all of whom are natural persons.
- Has a start-up capital of 102 times income per capita at the end of 2006.
- 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, liquor or tobacco.
- At the beginning of 2007, owns 2 plots of land, 1 building, machinery, office equipment, computers and 1 truck and leases 1 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—4 managers, 8 assistants and 48 workers. All are

nationals, and 1 manager is also an owner.

- Has a turnover of 1,050 times income per capita.
- Makes a loss in the first year of operation.
- Has a gross margin (pretax) 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 during the second year.
- Has annual fuel costs for its trucks equal to twice income per capita.
- Is subject to a series of detailed assumptions on expenses and transactions to further standardize the case. All financial statement variables are proportional to 2005 income per capita. For example, the owner who is also a manager spends 10% of income per capita on traveling for the company (20% of this 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 paid in the second year of operation (fiscal 2007) are recorded. 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 one. The frequency of payment includes advance payments (or withholding) as well as regular payments (or withholding).

TAX PAYMENTS

The tax payments indicator reflects the total number of taxes and contributions paid, the method of payment, the frequency of payment and the number of agencies involved for this standardized case during the second year of operation. It includes consumption taxes paid by the company, such as sales tax or value added tax. These taxes are traditionally collected from the consumer 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 payments are more frequent. For taxes paid through third parties, such as tax on interest withheld at source by a financial institution or fuel tax paid by the fuel distributor, only one payment is included even if payments are more frequent. These are taxes withheld or paid at source where no filing is required of the company.

Where 2 or more taxes or contributions are filed for and paid jointly using the same form, each of these joint payments is counted once. For example, if mandatory health insurance contributions and mandatory pension contributions are filed for and paid together, only one of these contributions would be included in the number of payments.

TIME

Time is recorded in hours per year. The indicator measures the time taken to prepare, file and pay 3 major types of taxes and contributions: the corporate income tax, value added or sales tax and labor taxes, including payroll taxes and social contributions. Preparation time includes the time to collect all information necessary to compute the tax 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 fulfill the tax accounting requirements. Filing time includes the time to complete all necessary tax return forms and make all necessary calculations. Payment time considers the hours needed to make the payment online or at the tax authorities. Where taxes and contributions are paid in person, the time includes delays while waiting.

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. *Doing Business 2009* reports the total tax rate for fiscal 2007. 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 5 categories: profit or corporate income tax, social contributions and labor 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 small 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. Data for Sweden illustrate this (table 12.9).

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 com-

TABLE 12.9
Computing the total tax rate for Sweden

Type of tax (tax base)	Statutory rate (r)	Statutory tax base (b)	Actual tax payable (a)	Commercial profit ¹ (c)	Total tax rate (t)
		SKr	SKr	SKr	
			$a = r \times b$		$t = a/c$
Corporate income tax (taxable income)	28%	10,352,253	2,898,631	17,619,223	16.50%
Real estate tax (land and buildings)	0.38%	26,103,545	97,888	17,619,223	0.60%
Payroll tax (taxable wages)	32.28%	19,880,222	6,417,336	17,619,223	36.40%
Fuel tax (fuel price)	SKr 3.665 per liter	53,505 liters	196,095	17,619,223	1.10%
TOTAL			9,609,950		54.50%

1. Profit before all taxes borne.

Source: *Doing Business* database.

mercial 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.

This methodology is consistent with the Total Tax Contribution framework developed by PricewaterhouseCoopers. This framework measures taxes that are borne by companies and affect their income statements, as does *Doing Business*. But while PricewaterhouseCoopers bases its calculation on data from the largest companies in the economy, *Doing Business* focuses on a standardized medium-size company.

The data details on paying taxes can be found for each economy at <http://www.doingbusiness.org>. This methodology was developed in Djankov, Ganser, McLiesh, Ramalho and Shleifer (2008).

TRADING ACROSS BORDERS

Doing Business compiles procedural requirements for exporting and importing a standardized cargo of goods by ocean transport (table 12.10). Every official procedure for exporting and importing the goods is recorded—from the contractual agreement between the 2 parties to the delivery of goods—along with the time and cost necessary for completion. All documents needed by the trader for clearance of the goods across the border are also recorded. For exporting goods, procedures range from packing the goods at the factory to their departure from the port of exit. For importing goods, procedures range from the vessel's arrival at the port of entry to the cargo's delivery at the factory warehouse. The time and cost for ocean transport are not included. Payment is made by letter of credit, and the time, cost and documents required for the issuance of a letter of credit are taken into account.

Local freight forwarders, shipping lines, customs brokers, port officials and banks provide information on required documents and cost as well as the time to complete each procedure. To make the data comparable across economies, several assumptions about the business and the traded goods are used.

ASSUMPTIONS ABOUT THE BUSINESS

The business:

- Has 60 employees.
- Is located in the economy's largest business city.
- Is a private, limited liability company. It does not operate in an export processing zone or an industrial estate with special export or import privileges.
- Is domestically owned with no foreign ownership.
- Exports more than 10% of its sales.

ASSUMPTIONS ABOUT THE TRADED GOODS

The traded product travels in a dry-cargo, 20-foot, full container load. It weighs 10 tons and is valued at \$20,000. The product:

- Is not hazardous nor does it include military items.
- Does not require refrigeration or any other special environment.
- Does not require any special phytosanitary or environmental safety standards other than accepted international standards.

DOCUMENTS

All documents required per shipment to export and import the goods are recorded. It is assumed that the contract has already been agreed upon and signed by both parties. Documents required for clearance by government ministries, customs authorities, port and container terminal authorities, health and technical control agencies and banks are taken into account. Since payment is by letter of credit, all documents required by banks for the issuance or securing of a letter of credit are also taken into account. Documents that are renewed at least annually

TABLE 12.10

What does trading across borders measure?

Documents required to export and import (number)
<ul style="list-style-type: none"> • Bank documents • Customs clearance documents • Port and terminal handling documents • Transport documents
Time required to export and import (days)
<ul style="list-style-type: none"> • Obtaining all the documents • Inland transport • Customs clearance and inspections • Port and terminal handling • Does not include ocean transport time
Cost required to export and import (US\$ per container)
<ul style="list-style-type: none"> • Obtaining all the documents • Inland transport • Customs clearance and inspections • Port and terminal handling • Official costs only, no bribes or tariffs

Source: *Doing Business* database.

and that do not require renewal per shipment (for example, an annual tax clearance certificate) are not included.

TIME

The time for exporting and importing is recorded in calendar days. The time calculation for a procedure starts from the moment it is initiated and runs until it is completed. If a procedure can be accelerated for an additional cost and is available to all trading companies, the fastest legal procedure is chosen. Fast-track procedures applying to firms located in an export processing zone are not taken into account because they are not available to all trading companies. Ocean transport time is not included. It is assumed that neither the exporter nor the importer wastes time and that each commits to completing each remaining procedure without delay. Procedures that can be completed in parallel are measured as simultaneous. The waiting time between procedures—for example, during unloading of the cargo—is included in the measure.

COST

Cost measures the fees levied on a 20-foot container in U.S. dollars. All the fees associated with completing the procedures to export or import the goods are included. These include costs for documents, administrative fees for customs clearance and technical control, terminal handling charges and inland transport. The cost measure does not include customs tariffs and duties or costs related to ocean transport. Only official costs are recorded.

The data details on trading across borders can be found for each economy at <http://www.doingbusiness.org>. This methodology was developed in Djankov, Freund and Pham (forthcoming) and is adopted here with minor changes.

ENFORCING CONTRACTS

Indicators on enforcing contracts measure the efficiency of the judicial system in resolving a commercial dispute (table 12.11). The data are built by following the step-by-step evolution of a commercial sale dispute before local courts. The data are collected through study of the codes of civil procedure and other court regulations as well as surveys completed by local litigation lawyers (and, in a quarter of the economies, by judges as well). The name of the relevant court in each economy—the court in the largest business city with jurisdiction over commercial cases worth 200% of income per capita—is published at <http://www.doingbusiness.org>.

ASSUMPTIONS ABOUT THE CASE

- The value of the claim equals 200% of the economy's income per capita.
- The dispute concerns a lawful transaction between 2 businesses (Seller and Buyer), located in the economy's largest business city. Seller sells goods worth 200% of the economy's income per capita to Buyer. After Seller delivers the goods to Buyer, Buyer refuses to pay for the goods on the grounds that the delivered goods were not of adequate quality.

- Seller sues Buyer to recover the amount under the sales agreement (that is, 200% of the economy's income per capita). Buyer opposes Seller's claim, saying that the quality of the goods is not adequate. The claim is disputed on the merits.
- A court in the economy's largest business city with jurisdiction over commercial cases worth 200% of income per capita decides the dispute.
- Seller attaches Buyer's goods prior to obtaining a judgment because Seller fears that Buyer may become insolvent during the lawsuit.
- Expert opinions are given on the quality of the delivered goods. If it is standard practice in the economy for parties to call witnesses or expert witnesses to give an opinion on the quality of the goods, the parties each call one witness or expert witness. If it is standard practice for the judge to appoint an independent expert to give an expert opinion on the quality of the goods, the judge does so. In this case the judge does not allow opposing expert testimony.
- The judgment is 100% in favor of Seller: the judge decides that the goods are of adequate quality and that Buyer must pay the agreed price (200% of income per capita).
- Buyer does not appeal the judgment. The judgment becomes final.
- Seller takes all required steps for prompt enforcement of the judgment. The money is successfully collected through a public sale of Buyer's movable assets (for example, office equipment).

PROCEDURES

The list of procedural steps compiled for each economy traces the chronology of a commercial dispute before the relevant court. A procedure is defined as any interaction between the parties, or between them and the judge or court officer. This includes steps to file the case, steps for trial and judgment and steps necessary to enforce the judgment.

The survey allows respondents to

record procedures that exist in civil law but not common law jurisdictions, and vice versa. For example, in civil law countries the judge can appoint an independent expert, while in common law countries each party submits a list of expert witnesses to the court. To indicate the overall efficiency of court procedures, 1 procedure is now subtracted for economies that have specialized commercial courts and 1 procedure for economies that allow electronic filing of court cases. Procedural steps that take place simultaneously with or are included in other procedural steps are not counted in the total number of procedures.

TIME

Time is recorded in calendar days, counted from the moment Seller files the lawsuit in court until payment. This includes both the days when actions take place and the waiting periods between. The average duration of different stages of dispute resolution is recorded: the completion of filing and service of process and of pretrial attachment (time to file the case), the issuance of judgment (time for the trial and obtaining the judgment) and the moment of payment (time for enforcement of judgment).

TABLE 12.11

What does enforcing contracts measure?

Procedures to enforce a contract (number)

- Any interaction between the parties in a commercial dispute, or between them and the judge or court officer
- Steps to file the case
- Steps for trial and judgment
- Steps to enforce the judgment

Time required to complete each procedure (calendar days)

- Measured in calendar days
- Time to file the case
- Time for trial and obtaining judgment
- Time to enforce the judgment

Cost required to complete each procedure (% of claim)

- No bribes
- Average attorney fees
- Court costs, including expert fees
- Enforcement costs

Source: Doing Business database.

COST

Cost is recorded as a percentage of the claim, assumed to be equivalent to 200% of income per capita. No bribes are recorded. Three types of costs are recorded: court costs, enforcement costs and average attorney fees. Court costs include all costs Seller must advance to the court or to the expert regardless of the final cost to Seller. Expert fees, if required by law or necessary in practice, are included in court costs. Enforcement costs are all costs Seller must advance to enforce the judgment through a public sale of Buyer's movable assets, regardless of the final cost to Seller. Average attorney fees are the fees Seller must advance to a local attorney to represent Seller in the standardized case.

The data details on enforcing contracts can be found for each economy at <http://www.doingbusiness.org>. This methodology was developed in Djankov and others (2003) and is adopted here with minor changes.

CLOSING A BUSINESS

Doing Business studies the time, cost and outcomes of bankruptcy proceedings involving domestic entities (table 12.12). The data are derived from survey responses by local insolvency practitioners and verified through a study of laws and regulations as well as public information on bankruptcy systems.

To make the data comparable across economies, several assumptions about the business and the case are used.

ASSUMPTIONS ABOUT THE BUSINESS

The business:

- Is a limited liability company.
- Operates in the economy's largest business city.
- Is 100% domestically owned, with the founder, who is also the chairman of the supervisory board, owning 51% (no other shareholder holds more than 5% of shares).
- Has downtown real estate, where it runs a hotel, as its major asset.

- Has a professional general manager.
- Has had average annual revenue of 1,000 times income per capita over the past 3 years.
- Has 201 employees and 50 suppliers, each of which is owed money for the last delivery.
- Borrowed from a domestic bank 5 years ago (the loan has 10 years to full repayment) and bought real estate (the hotel building), using it as security for the bank loan.
- Has observed the payment schedule and all other conditions of the loan up to now.
- Has a floating charge or mortgage, with the value of its principal being exactly equal to the market value of the hotel.

ASSUMPTIONS ABOUT THE CASE

The business is experiencing liquidity problems. The company's loss in 2007 reduced its net worth to a negative figure. There is no cash to pay the bank interest or principal in full, due tomorrow. The business therefore defaults on its loan. Management believes that losses will be incurred in 2008 and 2009 as well.

The bank holds a floating charge against the hotel in economies where floating charges are possible. If the law does not permit a floating charge but contracts commonly use some other provision to that effect, this provision is specified in the lending contract.

The business has too many creditors to negotiate an informal out-of-court workout. It has the following options: a judicial procedure aimed at the rehabilitation or reorganization of the business to permit its continued operation; a judicial procedure aimed at the liquidation or winding-up of the company; or a debt enforcement or foreclosure procedure aimed at selling the hotel either piecemeal or as a going concern, enforced either in court (or through a government authority like a debt collection agency) or out of court (for example, by appointing a receiver).

If an economy has had fewer than 5 cases a year over the past 5 years involving a judicial reorganization, judicial liq-

uidation or debt enforcement procedure, the economy receives a "no practice" mark. This means that creditors are unlikely to recover their debt through the legal process (in or out of court).

TIME

Time for creditors to recover their debt is recorded in calendar years. Information is collected on the sequence of procedures and on whether any procedures can be carried out simultaneously. Potential delay tactics by the parties, such as the filing of dilatory appeals or requests for extension, are taken into consideration.

COST

The cost of the proceedings is recorded as a percentage of the estate's value. The cost is calculated on the basis of survey responses by insolvency practitioners and includes court fees as well as fees of insolvency practitioners, independent assessors, lawyers and accountants. Respondents provide cost estimates from among the following options: a specific percentage or less than 2%, 2–5%, 5–8%, 8–11%, 11–18%, 18–25%, 25–33%, 33–50%, 50–75% and more than 75% of the value of the business estate.

TABLE 12.12

What does closing a business measure?

Time required to recover debt (years)
<ul style="list-style-type: none"> • Measured in calendar years • Appeals and requests for extension are included
Cost required to recover debt (% of estate)
<ul style="list-style-type: none"> • Measured as percentage of estate value • Court fees • Lawyers' fees • Independent assessors' fees • Accountants' fees
Recovery rate for creditors (cents on the dollar)
<ul style="list-style-type: none"> • Measures the cents on the dollar recovered by creditors • Present value of debt recovered • Official costs of the insolvency proceedings are deducted • Depreciation of assets is taken into account • Outcome for the business affects the maximum value that can be recovered

Source: *Doing Business* database.

RECOVERY RATE

The recovery rate is recorded as cents on the dollar recouped by creditors through the bankruptcy, insolvency or debt enforcement proceedings. The calculation takes into account whether the business emerges from the proceedings as a going concern as well as costs and the loss in value due to the time spent closing down. If the business keeps operating, no value is lost on the initial claim, set at 100 cents on the dollar. If it does not, the initial 100 cents on the dollar are reduced to 70 cents on the dollar. Then the official costs of the insolvency procedure are deducted (1 cent for each percentage of the initial value). Finally, the value lost as a result of the time the money remains tied up in insolvency proceedings is taken into account, including the loss of value due to depreciation of the hotel furniture. Consistent with international accounting practice, the depreciation rate for furniture is taken to be 20%. The furniture is assumed to account for a quarter of the total value of assets. The recovery rate is the present value of the remaining proceeds, based on end-2007 lending rates from the International Monetary Fund's *International Financial Statistics*, supplemented with data from central banks. The recovery rate for economies with "no practice" is zero.

This methodology was developed in Djankov and others (2006).

NOTES

1. The data for paying taxes refer to January–December 2007.
2. These are available at <http://www.subnational.doingbusiness.org>.
3. The average value added per worker is the ratio of an economy's GNI per capita to the working-age population as a percentage of the total population.