

Implementing Enterprise Surveys in Latin America and the Caribbean¹

Methodology of the Enterprise Surveys

Beginning in 2005, the World Bank's Private Sector Development Vice Presidency undertook an evaluation of its Enterprise Surveys program and decided to shift to a global survey approach from a country level approach. The global approach would enable the institution to both study regional business environments and substantiate international comparisons. To date, over 65,000 firms in 119 countries have been surveyed using this global methodology. The result is full comparability of data across countries and regions.²

The World Bank has conducted many survey type studies of the private sector, dating back to the 1980s. However, most of these studies focused on specific issues in one country. In many instances, surveys aimed to address only specific, short-term goals, and were therefore limited in scope, for instance studying only a few manufacturing sectors or only large firms. These short-term goals limited the uses of the information and the possibility of comparative analysis with other surveys.

The global systematic approach of the World Bank Enterprise Survey program has now addressed these issues, providing business environment indicators that are comparable across countries. This approach is based on the following principles:

1. The Enterprise Analysis Unit (EAU) implements surveys worldwide to provide the public good of information. The Unit's findings are made public, while the anonymity of respondents is preserved. The target audience is World Bank Group staff, World Bank clients, researchers, and the general public. However, the general public has access to aggregate indicators only. All information collected is released as soon as its quality and accuracy have been certified by the EAU.
2. Regional implementation of the survey guarantees homogeneity of implementation, indicators, and methodology, as well as economies of scale in management. The result is full comparability of data across countries and regions.

3. A consistent definition of the survey's sampling universe of inference in every country ensures data comparability. This universe consists of the nonagricultural, formal, private sector economy. Based on the International Industrial Classification (revision 3.1), it includes the following sectors:

- Manufacturing (D).
- Construction (F).
- Wholesale and retail trade and repair services (G).
- Hotels and restaurants (H).
- Transport, storage, and communications (I).
- A subsector of computer and related activities (72)

Only firms with five or more employees are included, and firms with 100 percent state ownership are excluded. Only registered firms are included, and registration is defined as registration for taxation purposes.

4. In each country the sample design of the Enterprise Surveys follows a stratified, random sampling strategy in all countries, where the sample of firms is divided into L mutually exclusive and exhaustive strata. The L strata are based on three elements: geographical location, firm size, and sector of activity (Table 1). Stratification supports analyses at each level, and increases the precision of overall estimates.

Sample Design

To enable statistically robust analyses, the optimal sample size for each level of stratification is defined to achieve a minimum level of precision of 7.5 percent for 90 percent confidence intervals for estimates of population proportions (percentages) and estimates of the mean of the logarithm of sales. The optimal sample size is 120 firms for each level of stratification.³

Stratification by firm size divides the population into three strata: small (5-19 employees), medium-size (20-99 employees), and large firms (100 or more employees).

Geographical distribution is defined to reflect the distribution of nonagricultural economic activity in each country. For most countries, this implies including areas typically clustered in and around main urban centers.

Stratification by sector of activity is based on the size of the economy, as measured by Gross National Income (GNI) in 2008. Very small countries (less than \$15 billion GNI) are stratified into two groups: manufacturing and the rest of the nonagricultural economy. Small countries (\$15 billion to \$100 billion) are stratified into retail, manufacturing, and the rest of the nonagricultural economy. For medium-size countries (\$100 billion to \$500 billion), the four most important manufacturing industries are grouped into a stratum, the remaining manufacturing industries are grouped into another, and retail and the rest of the nonagricultural economy compose the final two strata. Finally, for large countries (GNI greater than \$500 billion) six or more manufacturing industries are selected as individual strata, each one on its own; the remaining manufacturing industries are grouped into a residual stratum. Among services, retail and other selected sectors (such as IT and wholesale) are singled out as strata on their own, and the remaining services sectors are grouped into a residual “other services” stratum.

A key goal of the Enterprise Surveys is to collect panel data by interviewing the same enterprises in sequential rounds. Whenever a previous round of an Enterprise Survey is available, focus is placed on collecting panel data. To ensure the new sample is also representative of the current economy, the presence of panel firms is capped at 50% of any given cell. Consequently, each cell is designed to be one-half panel and one-half fresh (previously non-interviewed) firms. However, the full sample of the first wave of the survey is contacted to determine whether each firm is still in operation or if they exited the market, were acquired by other firm, merged with other firm, etc. Within each cell, panel firms that are actually interviewed are randomly selected.

In the 2010 round of Enterprise Surveys in Latin America and the Caribbean, 15 of the countries had a previous round in 2006—Argentina, Bolivia, Chile, Colombia, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Republica Bolivariana de Venezuela, and Uruguay. Though prior survey rounds in Brazil (2003) and Costa Rica (2005) were not implemented under the global methodology of the Enterprise Surveys,

efforts were made to re-contact enterprises there as well. In all, 3,356 of the firms surveyed (including in Brazil and Costa Rica) were panel firms.

Representativeness of the ES Samples

The sampling methodology of the Enterprise Surveys is designed to generate samples suitable for achieving two main objectives: to benchmark the investment climate of individual economies around the developing world; and to analyze firm performance and derive data to determine how the business environment affects productivity and job creation.

To achieve these objectives, representative samples are needed that can substantiate inferences for the nonagricultural, formal, private sector. Two major impediments are generally associated with generating representative samples of a target population: inaccurate sample design and non-response bias. Inaccurate sample design occurs when samples are designed using either inappropriate sampling methodology or incomplete information about the target population. Non-response bias can take the form of item non-response or survey non-response: the former occurs when sampled firms do not answer specific questions of the survey; the latter when firms fail to respond to the survey altogether.

Incomplete information about the target population can result in inaccurate sample design. To avoid this problem and ensure sample representativeness, a critical requirement for the Enterprise Surveys is the availability of a list that identifies every firm, establishment, and economic unit within the target population—the sample frame. Accurate sample frames ensure that each individual economic unit can be identified unambiguously.

Given the importance of sample frames, a careful evaluation of potential lists is made at the start of each survey. Sample frames are evaluated primarily for their completeness with respect to industry. In addition, the frames must be less than three years old, contain information about the number of employees, and include current contact information. Available sample frames may contain information that does not match perfectly with Enterprise Survey definitions, requiring adjustments to the standard methodology.

Sample frames are often incomplete or outdated, and missing information must be completed in order to locate establishments and confirm their characteristics. The suitability of a sample frame is determined through a careful validation process. Sometimes, particularly in very small countries, the validation process yields information that requires adjustments to universe figures. In Barbados, for instance, the validation process confirmed that more firms existed in a cell than previously reported in official numbers. In such cases, universe estimates are adjusted accordingly, subject to later refinement during the interview process. In many cases, identifying and obtaining a valid sample frame is a joint effort between the World Bank and the survey contractor. Such efforts may include consultation with local contacts, additional research, cooperation with the country's statistical agency and chambers of commerce, and visits by the World Bank Enterprise Surveys team.

To reduce item non-response, a strict quality control process identifies non-responses and contacts firms to complete the data. Item non-response issues are especially critical when it comes to accounting data, such as sales and costs, used to assess firm performance. To account for item non-response, when possible, the sampling strategy factors-in a 25 percent non-response rate per stratum, so that there are enough valid responses to compute performance indicators with the required precision level. This implies a total of 160 interviews per stratum. However, due to budget constraints and the fact that only medium-size and large countries have enough observations to complete 160 interviews per industry, this sample size adjustment is only implemented for those countries.

Another method to reduce item non-response is the use of a web application. Interviews with missing financial data are identified and the respondents are invited to provide the information through a private website. This method, used in 15 countries surveyed in the 2010 wave, resulted in a 1 percent increase in responses for sales data and a 3 percent increase in the number of firms for which total factor productivity could be computed.

Bias resulting from survey non-response is minimized by strict controls on the original sample selection and by using firm substitutions. For each sampled establishment, substitute firms are selected, by stratum, with exactly the same characteristics in terms of sector of activity,

size, and location. Potential substitutions are selected simultaneously with the original sample at the onset of the project to ensure the same probability of selection. Substitutions can be made only for well-justified reasons: establishments that are determined to be out of business, have changed their line of business such that they are no longer in the target population, cannot be located, cannot be motivated to finalize the appointment after several sincere attempts, or that simply refuse to participate. Substitutions are made only with World Bank approval.

Several measures are used in all countries to enhance participation and minimize non-response bias. A personalized invitation letter is sent to each selected firm a few weeks before the implementing contractor contacts them. The letter aims to motivate participation by describing the goals of the survey, providing the name of the implementing agency hired for the study, and reassuring potential respondents about the confidentiality of the information collected. Also, potential respondents are offered a summary report of the main findings from previous rounds of the survey in their country. Finally, to thank respondents for their participation, they receive a brief snapshot of their country, the Country Profile, based on the newly collected survey data.

In every country, implementing contractors, along with the Enterprise Surveys team, are required to work with local business associations or similar institutions to ensure broad-based participation in the survey. In a few countries, a media campaign is also used to encourage participation.

Questionnaire

A major challenge in implementing a global survey is dealing with business environment peculiarities. Homogeneous concepts and definitions are necessary to enable global comparisons, and the Enterprise Surveys therefore use a homogeneous, global questionnaire across all regions. Yet, this approach poses challenges when dealing with the characteristics of each country's business environment — challenges that must be considered when implementing the questionnaire. For example, in some countries, the banking system may offer particular forms of loans or accounts that may not be listed among the possible answers to global finance questions. These issues can be managed by working closely with the local contractors in charge of data collection to make sure that all key concepts are understood correctly by the interviewees.

Despite the drive to achieve homogeneity, a minimum of level of tailoring of the questionnaire is nonetheless desirable to reflect certain issues that are specific to each region or country. Indeed, one of the major challenges from a global perspective is the tradeoff between global comparability and coverage of issues at the regional or country level. This challenge is met by allocating about one-fourth of the questionnaire to reflect characteristics of the region and country.

A final challenge in designing a multicultural, firm-level survey is accounting for local sensibilities. For example, in some countries discussing gender issues in management or employment may be inappropriate, in others, questions about corruption or the use of bribes can be highly controversial. There are also differences in attitudes toward questions regarding the efficiency of government or the role it should play, and in the willingness of firms to reveal financial results. All of these challenges may limit the scope of issues that can be tackled globally and were considered when designing a homogeneous, global questionnaire.

The Enterprise Surveys questionnaire calls for a variety of qualitative and quantitative information, organized by topic into 14 sections:

- Section A – *Control Information*: information collected in the first stage of implementation.
- Section B – *General Information*: characteristics of the establishment.
- Section C – *Infrastructure and Services*: power, water, transport, and communication technologies.
- Section D – *Sales and Supplies*: imports, exports, and supply and demand conditions.
- Section E – *Degree of Competition and Innovation*: number of competitors and innovation activities and R&D.
- Section F – *Capacity*: use of production capacity, hours of operation.
- Section G – *Land and Permits*: land ownership, land access issues.
- Section I – *Crime*: extent of crime and losses due to crime.
- Section K – *Finance*: sources of finance, access to credit.
- Section P – *Business Development Services*: establishment's demand and use of selected business services.

- Section J – *Business-Government Relations*: quality of public services, consistency of policy, regulatory compliance costs (management time, bribes).
- Section L – *Labor*: employment, training, and skills.
- Section M – *Business Environment*: ranking of general obstacles.
- Section N – *Performance*: numbers and figures needed to estimate performance or productivity.

It should be noted that section F, *Capacity*, is only utilized for manufacturing firms. Additionally, section P, *Business Development Services*, is included only in the Latin America and Caribbean questionnaire.

The Enterprise Survey questionnaire is designed to be administered in face-to-face interviews with managers, CEOs, or firm owners. The establishment is the primary sampling unit. The Enterprise Surveys are implemented in two stages. In the first, a screener questionnaire is given to determine if an establishment is eligible. The screener is designed to be administered over the phone, but alternative strategies can be used when phone communication is not feasible. The second stage is the face-to-face interview.

Special attention is paid to the length of the questionnaire. Experience shows that the quality of information collected is inversely correlated to the length of the questionnaire. Consequently, interviews are designed to last no longer than one hour.

Accurate translation of the questionnaire and its manual into the local language is critically important. In addition to using back-translations into English, translations are checked by the contractor and World Bank staff whenever possible. Lawyers and accountants are consulted to preserve the original English meaning of legal terms and accounting definitions. A pilot study is also used to test for language errors, and to time how long it takes respondents to answer the questionnaire. The questionnaire is finalized using the information obtained from the pilot study.

The structure and format of the questionnaire are critical to ensuring that the information collected accurately reflects the views and opinions of the participants. The questionnaire is designed to flow in a logical order, with questions grouped by topic and similar questions positioned across sections in a consistent manner. For example, questions about the degree of obstacles faced are always asked at the end of each topic section. In addition, the same language and structure are used for similar

questions. For example, in the infrastructure section, the same set of questions is asked about power outages as about water shortages—specifically, the number, duration, and losses due to these phenomena. In addition, skip patterns are widely used throughout the questionnaire to avoid unnecessary questions.

Special attention is paid to the enumerators' handling of sensitive questions when administering the survey. As with any survey, enumerators must refrain from trying to direct the answers in order to avoid introducing interpretation bias. The questionnaire visually identifies any question that is sensitive in nature or that requests the respondent's opinion. Enumerators are trained to read these questions exactly as they are written, without explanations. When asked for the meaning of any term or when faced with a respondent who is confused, enumerators should read the full question again, as it is written. They should not attempt to change the wording or rephrase the question using synonyms or commonly used expressions. The rest of the questions are hard-data questions, designed to obtain objective facts and quantitative data. For this type of question, enumerators are allowed to probe the respondent using standard techniques, such as emphasizing the key concept or asking a follow-up question in order to complete an incomplete answer.

Quality Control

The Enterprise Surveys implementation process employs rigorous quality controls. Data are received from local contractors in three batches—at 10 percent completion, 50 percent completion, and 100 percent completion. After each of these deliveries, a series of tests detects any patterns or values that violate logical assumptions, identifies invalid answers, and flags the inconsistent use of skip patterns. No responses are changed during this process, but contractors are requested to review flagged values and identify the problem. In certain cases, this process requires re-contacting a respondent by phone or in person.

After the 50 percent delivery, simple response rates for key performance variables are calculated. If these response rates are determined to be low, contractors are asked to re-contact firms. At this stage, the preliminary distribution of completed interviews is also analyzed against the initial survey design. At the completion of fieldwork, an additional analysis is used to flag outlier values. Outlier tests are run on firm performance variables, including sales, employment

levels, costs, and the replacement value of fixed assets. These tests identify values that are more than three standard deviations from the country average. In a number of cases, certain variables are assumed to be distributed log-normally, and outlier tests are run on the distribution of the logged values.⁴ Further tests are conducted using the distribution of performance ratios (for example, the ratio of annual sales to annual cost of employment) and analyzing the distribution of key variables at the firm level within a country. Identified outliers are presented to contractors, who are requested to review the questionnaires to determine if a data entry error occurred or if a callback is necessary.

Panel Information

Difficulties in obtaining panel data arise when firms cease operations, move, change contact information, or even change sector of activity. In order to record this information, all firms included in the first wave of the survey are re-contacted to determine their current status and eligibility. In 2010, 56 percent of firms interviewed in 2006 were confirmed to have remained in operations. Only 4 percent were confirmed to have ceased operations, while 19 percent could not be reached.⁵ Contact information for 4 percent of firms yielded responses indicating the enterprises were no longer in the Enterprise Surveys universe, while 17 percent of firms previously interviewed refused to confirm information on their current operations.

Weighting Methodology

Whenever stratification is used as a sampling strategy, observations must be weighted in order to make inferences to the population or subsectors of the population. The weights correct for the different probabilities of selection introduced by the stratification. In countries that did not contain panel firms,⁶ the standard Enterprise Survey weights were used. In countries with panel firms, adjustments for the priority of selection given to panel firms were made for both fresh and panel firms.

All weights are calculated for each combination of the three levels of stratification: firm size, location, and sector of activity. Base weights are given by the universe figure (N) divided by the number of realized interviews in that cell (n). Base weights assume that cell-level universe figures are completely accurate. However, during fieldwork, evidence generally arises that suggests the universe numbers may be incorrect—for example, it is common to find firms in the

sample frame that are ineligible. As a result, universe numbers must be adjusted, and this adjustment is given by the number of establishments confirmed eligible as a proportion of the number of contacts issued. The adjustment factor is then multiplied by the base weight to provide the sampling weight.

For countries where panel firms were part of the fieldwork, adjustments are made for the varying probabilities of selection for both panel and fresh firms. The calculation of weights for fresh firms follows the straightforward process described above. However, the universe figures must be adjusted for the presence of panel firms. For fresh firms, in these cases, universe figures in individual cells are given by removing the number of firms interviewed in the previous round from the initial universe estimate ($N_{fresh} = N - N_{panel}$).

The calculation of panel firm weights likewise follows the standard weighting methodology. For these firms, the universe estimate is given by the number of firms in a cell based on answers provided in the previous round. Base weights are calculated using these universe figures. Since the Enterprise Surveys record the eligibility status of all firms previously interviewed, not just those that were randomly selected, this information is incorporated in the calculation of an adjustment factor. The adjustment factor for panel firms is the proportion of eligible panel firms among all those contacts available (among all panel firms, not simply those selected for interviews in the current round). Finally, an adjustment is made to account for the initial weight of panel firms in the first round. This panel adjustment therefore links the current weight to the probability of firms entering the sample in the first round. This adjustment is given by the average of the first-round weights of all firms in a cell according to answers given in the first wave. For example, a panel firm that is drawn in 2010 as a medium manufacturer in a certain city receives a panel adjustment of the average 2006 weight of all firms that were classified as medium manufacturers in that city (based on their 2006 answers). For further information on this methodology, see the Sampling Note at <http://www.enterprisesurveys.org>.

Implementation of the Global Methodology in the LAC Region

The Latin America and the Caribbean (LAC) region is the first region to be surveyed using the global methodology over multiple periods. In 2006, firms in 15 of the region's countries were surveyed using this methodology. In 2010, 14,657 firms were surveyed in 31 countries, 3,535 of which had been interviewed previously in 2006. Thus, LAC is the first region to have a regional report dedicated to analyzing what businesses are experiencing over time using Enterprise Surveys data.

The 2010 Enterprise Surveys for Latin America and the Caribbean covers 31 countries (Table 1). Fieldwork took place in 2010 and 2011, except for Brazil, where the survey was implemented in 2009. For all countries, the period of reference for most of the questions is the last completed fiscal year and therefore the 2010 ES refers to fiscal year 2009. For the 15 countries included in the 2006 ES wave, the period of reference is fiscal year 2005. In the case of Brazil, the survey's period of reference is fiscal year 2008.

TABLE 1

ENTERPRISE SURVEYS IN LATIN AMERICA AND THE CARIBBEAN: NUMBER OF FIRMS INTERVIEWED AND LEVELS OF STRATIFICATION BY COUNTRY⁷

	Country	Stratification Level					Sector of Activity	Location
		Firm Size			Total			
		Small	Medium	Large				
LARGE	Brazil	678	750	374	1,802	Food, textiles, apparel, leather, chemicals, machinery & equipment, vehicles, furniture, other manufacturing, retail, IT, other services	Amazonas, Bahia, Brasília DF, Ceara, Goiás, Maranhão, Mato Grosso, Minas Gerais, Paraíba, Parana, Pernambuco, Rio Grande do Sul, Rio de Janeiro, Santa Catarina, São Paulo	
	Mexico	502	472	506	1,480	Food, apparel, chemicals, rubber & plastics, fabricated metal, machinery & equipment, furniture, other manufacturing, retail, IT, other services	Coahuila, Estado de Mexico, Guanajuato, Jalisco, Mexico DF, Nuevo Leon, Puebla, Veracruz	
MEDIUM	Argentina	336	395	323	1,054	Food, textiles & apparel, chemicals & rubbers/plastics, basic metals/fabricated metals/machinery & equipment, other manufacturing, retail, other services	Buenos Aires, Chaco, Cordoba, Mendoza, Rosario	
	Chile	303	394	336	1,033	Food, textiles & apparel, chemicals & rubbers/plastics, basic metals/fabricated metals/machinery & equipment, other manufacturing, retail, other services	Antofagasta, Los Lagos, Santiago, Valparaiso	
	Colombia	349	326	267	942	Food, textiles & apparel, chemicals & rubbers/plastics, basic metals/fabricated metals/machinery & equipment, other manufacturing, retail, other services	Barranquilla, Bogota, Cali, Medellin	
	Peru	318	379	303	1,000	Food, textiles & apparel, chemicals & rubbers/plastics, basic metals/fabricated metals/machinery & equipment, other manufacturing, retail, other services	Arequipa, Chiclayo, Lima, Trujillo	
SMALL	Bolivia	124	145	93	362	Manufacturing, retail, other services	Cochabamba, La Paz, Santa Cruz	
	Costa Rica ⁷	199	216	123	538	Food, minerals/basic metals/fabricated metals/machinery & equipment, other manufacturing, retail, hotels & restaurants, other services	San Jose, Rest of the Country	
	Dominican Republic	116	133	111	360	Manufacturing, retail, other services	Santo Domingo, Rest of the Country	

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TABLE 1

ENTERPRISE SURVEYS IN LATIN AMERICA AND THE CARIBBEAN: NUMBER OF FIRMS INTERVIEWED AND LEVELS OF STRATIFICATION BY COUNTRY (CONTINUED)

	Country	Stratification Level					Location
		Firm Size				Sector of Activity	
		Small	Medium	Large	Total		
SMALL	Ecuador	128	139	99	366	Manufacturing, retail, other services	Azuay, Guayas, Pichincha
	El Salvador	124	120	116	360	Manufacturing, retail, other services	San Salvador, Rest of the Country
	Guatemala	221	185	184	590	Food, textiles & apparel, other manufacturing, retail, other services	Guatemala City, Rest of the Country
	Honduras	182	111	67	360	Manufacturing, retail, other services	San Pedro Sula, Tegucigalpa, Rest of the Country
	Jamaica	140	169	67	376	Manufacturing, retail, other services	Kingston, Rest of the Country
	Nicaragua	154	124	58	336	Manufacturing, retail, other services	Managua, Rest of the Country
	Panama	129	161	75	365	Manufacturing, retail, other services	Panama City, Rest of the Country
	Paraguay	128	160	73	361	Manufacturing, retail, other services	Asuncion, Central
	Trinidad and Tobago	166	103	101	370	Manufacturing, retail, other services	Port of Spain, Rest of the Country
	Uruguay	244	208	155	607	Food, textiles & apparel, other manufacturing, retail, other services	Canelones, Montevideo
Venezuela, RB	160	113	47	320	Manufacturing, retail, other services	Caracas, Maracay, Valencia	
VERY SMALL	Antigua and Barbuda	94	51	6	151	Manufacturing, services	Entire country
	Bahamas, The	70	55	25	150	Manufacturing, services	Entire country
	Barbados	49	62	39	150	Manufacturing, services	Entire country
	Belize	79	61	10	150	Manufacturing, services	Entire country
	Dominica	103	43	4	150	Manufacturing, services	Entire country
	Grenada	99	41	13	153	Manufacturing, services	Entire country
	Guyana	51	72	42	165	Manufacturing, services	Entire country
	St. Kitts and Nevis	82	60	8	150	Manufacturing, services	Entire country
	St. Lucia	79	55	16	150	Manufacturing, services	Entire country
	St. Vincent and the Grenadines	110	38	6	154	Manufacturing, services	Entire country
Suriname	66	77	9	152	Manufacturing, services	Entire country	
	Total Firms Interviewed	5,583	5,418	3,656	14,657		

Analytical Groupings

For analytical purposes countries are generally categorized into large, medium-size, or small Caribbean countries, depending on the overall size of their economy⁸ (based on 2009 GNI in current USD). The overall market size of an economy frequently determines important aspects of the business environment, including the scale and efficiency of regulation, the size of private sector demand, trade patterns, and other aspects vital to business operations. Note that three Caribbean countries—Dominican Republic, Jamaica, and Trinidad and Tobago—are classified as “medium-size countries,” whereas Belize, Guyana and Suriname are included in the “small Caribbean countries” group (see Table 2).

In addition to analyzing firms by country groupings, the data is also analyzed by characteristics of interest. Table 3 lists and describes firm groupings that are used for analytical purposes.

Note that for global comparisons in the Latin America and the Caribbean Series Notes, 118 countries are used in total: 31 in LAC, 39 in Africa, 11 in EAP (excluding China as the data was unavailable), 29 in ECA, 6 in SAR (excluding India as the data was unavailable), and 2 in MENA. No MENA region averages are presented as there are only two countries. Only surveys implemented under the Enterprise Surveys Global Methodology are used in global comparisons.

	Country Name	2009 GNI (current USD) in millions
LARGE COUNTRIES	Brazil	1,562,412
	Mexico	864,907
	Venezuela, RB	323,481
	Argentina	297,639
	Colombia	226,344
	Chile	149,316
	Peru	119,439
MEDIUM-SIZE COUNTRIES	Ecuador	50,638
	Dominican Republic	45,019
	Guatemala	36,572
	Uruguay	30,651
	Costa Rica	28,362
	Panama	23,059
	El Salvador	20,113
	Trinidad and Tobago	18,712
	Bolivia	16,666
	Paraguay	13,954
	Honduras	13,641
	Jamaica	11,933
Nicaragua	5,955	
SMALL CARIBBEAN COUNTRIES	Bahamas, The ⁹	6,941
	Barbados	3,517
	Suriname	3,257
	Guyana	2,009
	Belize	1,232
	Antigua and Barbuda	1,202
	St. Lucia	1,057
	Grenada	695
	St. Vincent and the Grenadines	683
	St. Kitts and Nevis	640
Dominica	452	

Source: World Development Indicators

TABLE 3

CLASSIFICATIONS BY FIRM CHARACTERISTICS

Group	Description
Firm size	Firms are categorized into three size groups: small (<20 employees), medium (20-99 employees), and large (more than 100 employees).
Exporter and Non-Exporter	A firm is an exporter if at least 10 percent of sales are derived from direct or indirect exports.
Foreign ownership and Domestic-owned	A firm is considered to have foreign ownership if at least 10 percent of ownership is held by foreigners; otherwise the firm is domestically owned.
City size	Large cities are those with a population of at least one million; cities with populations of less than one million are considered small.
Women-run	A firm is “Women-run” if the top manager is female.
Women-owned	A firm is “Women-owned” if at least one of the owners is female.
Sector	Sectors are grouped by industry stratifications (See Table 1.)

Endnotes

1. Lead authors: Rita Ramalho, Jorge Luis Rodriquez Meza, and Federica Saliola, with the collaboration of the LAC report team.
2. The ten notes in the Latin America and Caribbean Region series use only Enterprise Surveys data collected under the global methodology. Please note that additional (older) data, not collected under the global methodology, are also hosted in the Enterprise Surveys website.
3. For a justification of the optimal sample size per level of stratification, see the Sampling Note at http://www.enterprisesurveys.org/-/media/FPDKM/EnterpriseSurveys/Documents/Methodology/Sampling_Note.pdf
4. In cases where zero values occur within the distribution, the distribution used is the log of the variable plus one—that is, $\log(\text{variable} + 1)$.
5. Specifically these cases included firms that gave no reply, had an out-of-order line, a toneless line, a non-existent phone number, a fax line, an answering machine, or an incorrect address.
6. Antigua and Barbuda, The Bahamas, Barbados, Belize, Brazil, Costa Rica, Dominica, the Dominican Republic, Grenada, Guyana, Jamaica, St. Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.
7. Firms are categorized according to the reported numbers of full-time equivalent employment, taking into account permanent and temporary employees.
8. In certain cases, in response to various requests, sample sizes were expanded to allow for further stratification. This was the case in Costa Rica, Guatemala, and Uruguay, which are categorized as small countries.
9. Due to geographical proximity, survey design, and shared economic aspects, the Bahamas is categorized as the Caribbean.

References

Sampling Note at <http://www.enterprisesurveys.org>.

Enterprise Surveys provide the world’s most comprehensive firm-level business environment data in developing economies.

An Enterprise Survey is a firm-level survey of a representative sample of an economy’s private sector. The surveys cover a broad range of business environment topics including access to finance, competition, corruption, crime, gender, infrastructure, innovation, labor, performance measures, and trade. The World Bank has collected this data from face-to-face interviews with top managers and business owners in over 130,000 companies in more than 135 economies. Firm-level data and summary indicators are available on the website.