

The Mexico 2023 World Bank Enterprise Survey Implementation Report

I. Introduction

This document provides information on the World Bank Enterprise Surveys (WBES) implemented in Mexico between March 2023 and October 2023. The WBES collect both objective data based on firms' day-to-day experiences, and perceptions of enterprises regarding the business environment in which they operate. The WBES currently cover over 195,000 firms in 155 countries with a total of more than 300 surveys since 2006. The WBES are also used to build a panel of enterprise data that will make it possible to track changes in the business environment over time.¹

This report describes the sampling design of the survey, the data set structure as well as additional information that may be useful when using the data, such as information on survey non-response and the appropriate use of the sampling weights.

II. Sampling Structure

The WBES use stratified random sampling, where the population of establishments is first separated into non-overlapping groups, called strata, and then respondents are selected through simple random sampling from each stratum. The detailed methodology is provided in the Sampling Note.² Stratified random sampling has several advantages over simple random sampling. In particular, it:

- produces unbiased estimates of the whole population or universe of inference, as well as at the levels of stratification
- ensures representativeness by including observations in all of those categories
- produces more precise estimates for a given sample size or budget allocation, and
- may reduce implementation costs by splitting the population into convenient subdivisions.

The WBES typically use three levels of stratification: industry classification, establishment size, and subnational region (used in combination). Starting in 2022, the WBES bases the industry classification on ISIC Rev. 4 (with earlier surveys using ISIC Rev. 3.1).³ For regional coverage within a country, the WBES has national coverage.

¹ A “panel interview” refers to an interview with a business that was also interviewed in the previous WBES.

² The Sampling Note is available at:

https://www.enterprisesurveys.org/content/dam/enterprisesurveys/documents/methodology/Sampling_Note-Consolidated-2-16-22.pdf. For further methodological background see, Richard L. Scheaffer; Mendenhall, W.; Lyman, R., “Elementary Survey Sampling”, Fifth Edition, 1996.

³ The WBES universe includes: all manufacturing (ISIC 4.0 codes 10-33), services (ISIC 4.0 codes 41-43, 45-47, 49-53, 55, 56, 58, 61, 62, 69-75, 79, 95). Details on sectoral coverage and the WBES universe of inference can be found in the *Enterprise Surveys Manual and Guide* (p. 4).

II.1 Stratification Categories

The Mexico 2023 WBES uses the following stratification categories:

- **Industry, 8 categories:**
 - Within manufacturing: Food, Textiles, Garments, Other manufacturing
 - Within services: Construction, Retail, Hotels, and Other Services
- **Size, 4 categories:** Small (5 to 19 employees), Medium (20 to 99 employees), Large (100 to 250 employees), Extra Large (251 or more employees)
- **Region, 5 categories:** North, Central North, Central, Mexico City, and South.

Industry strata for the manufacturing sector were selected by their contribution to the total number of establishments using INEGI DENUE data available as of February 2023. Considering the ES universe only, the manufacturing sector represents 18% of the total number of establishments. Within manufacturing, food, textiles, garments, and other manufacturing represents approximately 5%, 1%, 1%, and 11% respectively of the ES universe.

The strata for the services sector were selected by their contribution to the total number of establishments using INEGI DENUE data available as of February 2023. Considering the ES universe only, the services sector represents 82% of the total number of establishments. Within the services sector, construction, retail, hotels, and other services represents approximately 3%, 33%, 2%, and 44% respectively of the ES universe.

Region strata of the Mexico 2023 WBES were selected based on administrative divisions, with some territories that are grouped together to achieve minimum required precision of estimates at the level of each stratification region.

II.2 Universe

The universe of inference includes all formal (i.e., registered) private sector businesses (with at least 1% private ownership) and with at least five employees. In terms of sectoral criteria, all manufacturing businesses (ISIC Rev 4. codes 10-33) are eligible; for services businesses, those corresponding to the ISIC Rev 4 codes 41-43, 45-47, 49-53, 55-56, 58, 61-62, 69-75, 79, and 95 are included in the Enterprise Surveys. Cooperatives and collectives are excluded from the Enterprise Surveys. All eligible establishments must be registered with the registration agency. In the case of Mexico, the relevant agency has been identified in Secretaría de Hacienda y Crédito Público has been considered as formal. The universe table is the total number of eligible establishments, and the table is partitioned by the stratification groups (industry classification, establishment size, and subnational region) in a country.

For the Mexico 2023 WBES, the universe table, shown in Table 1 below, was obtained from the Mexican Statistical Office (INEGI), Directorio Estadístico Nacional de Unidades Económicas 2020 (DENUE 2020). The DENUE is the complete count of all establishments located within the geographical boundaries of the country. The sub-set corresponding to the standard ES universe was used.

II.3 Sampling Frame

The WBES requires the most complete and up-to-date Sampling Frame, the list of eligible establishments with information on industry classification, size, address and other contact information that will be used to randomly select the sample. In countries where a previous round of the WBES exists, the Sampling Frame also includes the Panel Sampling Frame, which provides information about all the establishments that participated in the previous round of the WBES in the country.

The Sampling Frame for the Mexico 2023 WBES was constructed from the following sources (see counts of establishments in the frame in Table 2). The Panel Sampling Frame was constructed using information on all the establishments that participated in the Mexico 2010 WBES. The Fresh Sampling Frame, i.e., list of establishments that are in the WBES universe and that have not participated in the Mexico 2010 WBES, was constructed from DENU.

For every WBES, necessary measures are taken to ensure the quality of the frame; however, the sample frames are not immune to the typical problems found in establishment surveys: positive rates of non-eligibility, repetition, non-existent units, etc. Given the impact that non-eligible units included in the sample universe may have on the results, eligibility adjustments may be needed when computing the appropriate sampling weights for individual observations (if and only if the weights are computed the sampling frame that is also the universe). Table 4 reports response outcomes.

II.4 Sample Design

The WBES sample design, i.e., target number of interviews in each combination of stratification categories (cells), is generated using the two primary criteria: 1) minimize the difference from the purely proportional sample within each cell; and 2) achieve a sufficient sample size by stratification category to allow for estimates of a given level of precision.⁴ Additional information on the criteria for determining the sample size by stratification category is given in the *Sampling Note*, and additional information on the sample design is given in the *Enterprise Surveys Manual and Guide*.⁵ The original survey design for the Mexico 2023 WBES is given in Table 3.

III. Data Collection

The detailed information on the WBES methodology and data collection is provided in the Enterprise Surveys Manual and Guide. The interviews for the Mexico 2023 WBES were conducted between March 2023 and October 2023. The interviews were conducted in Spanish. For monetary variables, the currency was Mexican pesos.

⁴ Additional constraints are also considered in the design stage. These are generally practical and include, for example, having a sufficient number of available contacts in the sample.

⁵ The *Enterprise Surveys Manual and Guide* is available at:

<https://www.enterprisesurveys.org/content/dam/enterprisesurveys/documents/methodology/Enterprise-Surveys-Manual-and-Guide.pdf>

III.1 Questionnaire

The standard WBES questionnaire covers several topics regarding the business environment and business performance. These topics include general firm characteristics, infrastructure, sales and supplies, management practices, competition, innovation, capacity, land and permits, finance, business-government relations, exposure to bribery, labor, and performance. Information about the general structure of the questionnaire is available in the *Enterprise Surveys Manual and Guide*.

The questionnaire implemented in the Mexico 2023 WBES included questions tailored for the Business Ready Report covering infrastructure, trade, government regulations, finance, labor, and other topics.

III.2 Contractor

The fieldwork for the Mexico 2023 WBES was implemented by A2F and the local contractor was Profiles. The selection for the implementing agency followed the standard World Bank procurement practices that are described in more detail in the *Enterprise Surveys Manual and Guide*.

III.3 Sampling and screening

Samples are drawn by the Enterprise Surveys team in batches, following the stratification and sample design. The contractor conducted a thorough screening process before scheduling the ES interviews. Results of the screening are provided using the eligibility and status codes as listed in Table 4. In cases of unit non-response (either a refusal or an inability to obtain an interview after exhaustive attempts), the contractor proceeded with the contact that appeared next in the list drawn in the respective cell. The process of sampling and screening is described in more detail in the *Enterprise Surveys Manual and Guide*.

III.4 Survey response

In all surveys, including the WBES, some respondents choose not to participate. The Enterprise Analysis team and the contractor take all necessary measures to boost participation, through various methods of recruitment. The proper management of the screening process and sample replacement ensures that the resulting sample remains random.

The main measure of survey participation is the yield, which is the ratio of the total number of achieved interviews to the total number of contacted establishments. There are two main elements that boost yields. First is the survey participation rate, measured as the share of establishments that participated among those that can be assumed to have been eligible. The second element is the quality of frame. If only a small fraction of the contacted establishments is actually eligible to participate in the survey, then the sampling frame is far from ideal. This quality is measured by the ratio of the total number of establishments that can be assumed to be eligible for the WBES with the total number of contacted establishments in the frame. In other words:

$$Yield = Survey\ response\ rate * Rate\ of\ quality\ of\ the\ frame$$

which can be rewritten as follows:

$$\frac{\text{Total interviewed}}{\text{Total contacted}} = \frac{\text{Total interviewed}}{\text{Assumed eligible}} * \frac{\text{Assumed eligible}}{\text{Total contacted}}$$

Table 5 provides these measures for the Mexico 2023 WBES and across its stratification levels.

III.5 Achieved Sample

Tables 6 and 7 provide count of the WBES interviews collected for each stratification cell, i.e., broken down by industry, establishment size, and region. Table 6 reports full sample, while Table 7 shows counts of only panel interviews.

III.6 Sampling Weights

Since the WBES uses stratified random sampling, individual observations should be properly weighted when making inferences about the population, since unweighted estimates are biased unless sample sizes are proportional to the size of each stratum. For each WBES, special care is given to correctly compute sampling weights. Whenever the Universe is used to draw the sample (i.e., Sampling Frame is the same as the Universe) it is imperative to accurately adjust the universe within each stratum to account for the presence of ineligible establishments (e.g., the firm discontinued businesses, or is deemed ineligible due to its business activity or having fewer than five employees). Proper treatment of panel establishments is also crucial. Details about how the WBES sampling weights are calculated are given in the *Sampling Note*.

Three versions of sampling weights are calculated, depending on the assumptions that determine eligibility of establishments to be counted towards the WBES universe. These assumptions are called weak, medium, and strong; and are defined as given in the table below. Prevalence of each of these outcomes for the Mexico 2023 WBES is given in Table 4. All indicators and analysis conducted by the Enterprise Surveys team use the sampling weights based on the median assumption. Tables 8-10 report estimated universe based on the respective assumption.

Assumption	Eligibility codes for inclusion in the WBES universe
Strict	1,2,3,4,16
Median	1,2,3,4,16,10,11,13
Weak	1,2,3,4,16,10,11,13,91,92,93,94,12

For descriptions of each eligibility code, see Table 4.

III.7 Item response rates

Item response rate must be differentiated from survey response rates. The latter refers to participation in the survey itself (see Section III.4) whereas the former refers to the absence of responses to specific survey questions.⁶ The WBES, as any survey, suffer from item non-response; and different strategies are used by the data collection team to address this. In particular:

⁶ The WBES questionnaire is organized so that there is always some entry in the database when the question was posed. An empty entry means that the question was not asked to the corresponding respondent, typically, due to skip patterns, or lack of applicability of that question in general.

- For sensitive questions, such as on corruption or tax evasion, enumerators were instructed to collect the refusal to respond (-8) as a separate response category from don't know (-9).
- Establishments with incomplete information were re-contacted to fill gaps.

Table 11 provides item response rates for several key variables, broken down across the stratification levels.

III.8 Database Structure

The WBES datafiles are organized in ways that reflect the corresponding questionnaire. The variables that are standard across countries have the first letter in their name correspond to the questionnaire section where the variable belongs in the questionnaire, i.e., *a1* denotes section A. All variables are numeric with the exception of those variables with an “x” at the end of their names. The suffix “x” denotes that the variable is alpha-numeric.

The WBES datafiles contain two establishment identifiers, *idstd* and *id*. The former is a global unique identifier of each establishment, while the latter is unique identifier within each survey. The variable *idstd* can be used to match the WBES establishment one-to-one across databases. The variables *wweak*, *wmedian*, and *wstrong* corresponding to sampling weights based on, respectively, weak, median, and strong assumptions about eligibility (see Section III.6). The variable *strata* corresponds to the stratum of each observation.⁷

Additionally, the WBES datafiles contain many standard variables. The variable *d1a2_v4* denotes the main activity of the establishment, as obtained during the WBES interview, coded in the four-digit ISIC Rev. 4. Users should note that this activity may differ from the industry classification given in the Sampling Frame, *a4a*. Users are generally advised to use industry categories based on the realized information in *d1a2_v4*. Additional sampling information is contained in variables *a2* (region) and *a6a* (size). The variable *panel* identifies panel establishments, i.e., those that participated in the Mexico 2010 WBES. The combination of *a4a*, *a2*, *a6a*, and *panel* forms stratum of each establishment, which is contained in variable *strata*.

The last complete fiscal year for each establishment is contained in variables *a20m* (last month of last complete fiscal year) and *a20y* (last complete fiscal year).

Note that when an entry in the WBES database is empty, this means that the question was not asked to the corresponding respondent. This happens when the question is deemed inapplicable, due to skip patterns or other reasons. In cases when the question was posed, some entry is provided, including don't know, which is an example of item non-response.

⁷ Note that the sampling weights may vary within *strata* for panel establishments due to the procedure used for projecting the universe from the previous round of the survey.

IV. Useful Links

The users of the WBES data may find the following links useful:

- *Sampling Note* is available at:
https://www.enterprisesurveys.org/content/dam/enterprisesurveys/documents/methodology/Sampling_Note-Consolidated-2-16-22.pdf
- The *Enterprise Surveys Manual and Guide* is available at:
<https://www.enterprisesurveys.org/content/dam/enterprisesurveys/documents/methodology/Enterprise-Surveys-Manual-and-Guide.pdf>
- The WBES global questionnaires are available at:
<https://www.enterprisesurveys.org/en/methodology>
- The projects that are currently being implemented by the Enterprise Surveys team are available at: <https://www.enterprisesurveys.org/en/methodology/current-projects>
- The list of all WBES databases and detailed information about each is available here:
<https://www.enterprisesurveys.org/content/dam/enterprisesurveys/documents/methodology/DataDetails.xls>
- The description of the WBES indicators is available at:
<https://www.enterprisesurveys.org/content/dam/enterprisesurveys/documents/Indicator-Description.pdf>

Fact Sheet

Source of Universe Table	Directorio Estadístico Nacional de Unidades Económicas (DENUE) 2022, INEGI		
Source of Sampling Frame	Directorio Estadístico Nacional de Unidades Económicas (DENUE) 2022, INEGI		
Stratification sectors	Manufacturing of: Food, Textiles, Garments, and Other Manufacturing; Construction, Retail, Hotels, and Other Services		
Stratification sizes	Small (5 to 19 employees), Medium (20 to 99 employees), Large (100-250), and Very Large (251 or more employees)		
Stratification regions	North, Central North, Central, Mexico City, and South		
Contractor	A2F with Profiles		
Fieldwork dates	March 2023 – October 2023		
Interview languages	Spanish		
Survey software	Survey Solutions		
Currency for nominal variables	Mexican Pesos		
Reference fiscal year	2022 and 2023		
Sample Size	Total: 1,320	Fresh: 886	Panel: 434
Survey response rates	Yield: 29% Response rate: 33.6% Frame quality: 86.3%		
Item response rates	d2: 100% n2a: 99.9% 11: 99.2% all TFP vars.: 93.2%		
Additional topics covered in the questionnaire	NA		
Additional surveys available (if any)	NA		

Tables

Table 1: Mexico 2023 WBES Universe

		Food	Textiles	Garments	Other Manufacturing	Construction	Retail	Hotels	Other Services	Grand Total
North	Small (5-19)	5182	190	454	9112	3530	44757	1948	54186	152,325
North	Medium (20-99)	686	60	241	3481	2126	6015	747	11947	
North	Large (100-250)	266	23	64	2154	374	1213	107	1451	
North	Extra Large (251+)	53	11	41	1025	131	127	75	548	
Central North	Small (5-19)	7411	520	1405	15205	2802	40808	2499	54783	152,434
Central North	Medium (20-99)	754	117	319	4174	1696	4738	667	8964	
Central North	Large (100-250)	303	53	41	1648	323	687	114	1106	
Central North	Extra Large (251+)	137	15	18	459	111	97	62	398	
Central	Small (5-19)	4604	529	2852	7779	1237	26119	1582	31293	93,420
Central	Medium (20-99)	443	211	789	2058	701	3246	297	5672	
Central	Large (100-250)	181	166	149	1249	125	737	41	770	
Central	Extra Large (251+)	17	11	15	80	38	100	6	323	
Mexico City	Small (5-19)	1441	143	372	3654	658	15032	482	23822	61,032
Mexico City	Medium (20-99)	325	56	167	1288	559	2216	278	7027	
Mexico City	Large (100-250)	58	20	30	335	146	518	45	1180	
Mexico City	Extra Large (251+)	34	6	20	215	93	122	32	658	
South	Small (5-19)	4601	791	741	4946	2397	31003	3470	37106	99,952
South	Medium (20-99)	285	41	123	562	1251	3843	615	5766	
South	Large (100-250)	128	10	36	223	146	577	155	609	
South	Extra Large (251+)	10	0	8	13	55	78	182	181	
		26,919	2,973	7,885	59,660	18,499	182,033	13,404	247,790	559,163

Source: Directorio Estadístico Nacional de Unidades Económicas (DENUE) 2022, INEGI

Table 2: Mexico 2023 WBES Sample Frame (Fresh and Panel Combined)

		Food	Textiles	Garments	Other Manufacturing	Construction	Retail	Hotels	Other Services	Grand Total
North	Small (5-19)	5182	190	454	9112	3530	44757	1948	54186	152,325
North	Medium (20-99)	686	60	241	3481	2126	6015	747	11947	
North	Large (100-250)	266	23	64	2154	374	1213	107	1451	
North	Extra Large (251+)	53	11	41	1025	131	127	75	548	
Central North	Small (5-19)	7411	520	1405	15205	2802	40808	2499	54783	152,434
Central North	Medium (20-99)	754	117	319	4174	1696	4738	667	8964	
Central North	Large (100-250)	303	53	41	1648	323	687	114	1106	
Central North	Extra Large (251+)	137	15	18	459	111	97	62	398	
Central	Small (5-19)	4604	529	2852	7779	1237	26119	1582	31293	93,420
Central	Medium (20-99)	443	211	789	2058	701	3246	297	5672	
Central	Large (100-250)	181	166	149	1249	125	737	41	770	
Central	Extra Large (251+)	17	11	15	80	38	100	6	323	
Mexico City	Small (5-19)	1441	143	372	3654	658	15032	482	23822	61,032
Mexico City	Medium (20-99)	325	56	167	1288	559	2216	278	7027	
Mexico City	Large (100-250)	58	20	30	335	146	518	45	1180	
Mexico City	Extra Large (251+)	34	6	20	215	93	122	32	658	
South	Small (5-19)	4601	791	741	4946	2397	31003	3470	37106	99,952
South	Medium (20-99)	285	41	123	562	1251	3843	615	5766	
South	Large (100-250)	128	10	36	223	146	577	155	609	
South	Extra Large (251+)	10	0	8	13	55	78	182	181	
		26,919	2,973	7,885	59,660	18,499	182,033	13,404	247,790	559,163

Source: Directorio Estadístico Nacional de Unidades Económicas (DENUE) 2022, INEGI

Table 3: Original Survey Design (Fresh and Panel Combined)

		Food	Textiles	Garments	Other Manufacturing	Construction	Retail	Hotels	Other Services	Grand Total
North	Small (5-19)	22	7	8	24	16	34	26	30	338
North	Medium (20-99)	8	6	7	20	10	7	3	16	
North	Large (100-250)	6	6	5	15	4	9	3	6	
North	Extra Large (250+)	5	4	4	10	3	6	3	5	
Central North	Small (5-19)	11	9	12	27	13	25	3	34	308
Central North	Medium (20-99)	8	7	7	23	8	9	3	12	
Central North	Large (100-250)	6	6	4	12	7	5	4	9	
Central North	Extra Large (250+)	6	6	3	7	5	5	3	9	
Central	Small (5-19)	11	9	6	24	6	15	3	24	254
Central	Medium (20-99)	7	7	10	14	4	4	3	14	
Central	Large (100-250)	6	7	7	10	5	8	3	12	
Central	Extra Large (250+)	5	5	5	5	3	5	2	5	
Mexico City	Small (5-19)	11	7	8	21	3	11	3	14	213
Mexico City	Medium (20-99)	6	6	7	10	4	6	3	10	
Mexico City	Large (100-250)	5	6	6	6	3	6	3	6	
Mexico City	Extra Large (250+)	5	2	6	6	3	6	3	11	
South	Small (5-19)	7	10	5	7	11	15	40	17	207
South	Medium (20-99)	5	6	4	4	6	4	3	6	
South	Large (100-250)	4	4	3	4	3	7	3	6	
South	Extra Large (250+)	3	0	3	3	3	4	3	4	
		147	120	120	252	120	191	120	250	1,320

Table 4: Response Outcomes

		Totals	Rates relative to total contacted
Overall	Contacts available in frame	559,163	
	Issued	4,561	
Screening phase	Contacted	4,560	
	Eligibles	2,182	47.9%
	Screener refusals	1,753	38.4%
	Assumed eligibles	3,935	86.3%
	Ineligible + out of target	296	6.5%
	Unobtainables	329	7.2%
	Interview refusals	437	9.6%
Interview phase (only if eligible)	Complete interviews	1,322	29.0%

Table 5: Survey Yield Rates

Stratification		Yield	Survey response rate	Frame quality
Panel	Fresh	28.1%	32.0%	87.7%
	Panel	31.1%	37.4%	83.2%
Size	Small (5-19)	31.8%	37.9%	83.9%
	Medium (20-99)	29.4%	33.9%	86.6%
	Large (100-250)	27.7%	31.0%	89.4%
	Extra large (251+)	22.4%	25.2%	88.8%
Region	North	27.6%	31.7%	86.8%
	Central North	28.1%	31.6%	88.8%
	Central	33.6%	39.7%	84.5%
	Mexico City	28.3%	33.6%	84.1%
	South	28.7%	33.4%	85.8%
Sector	Food	34.1%	39.9%	85.6%
	Textiles	34.1%	41.4%	82.3%
	Garments	32.6%	40.3%	81.1%
	Other Manufacturing	24.9%	28.5%	87.2%
	Construction	32.2%	37.9%	84.8%
	Retail	25.8%	29.3%	87.8%
	Hotels	26.4%	28.3%	93.3%
	Other Services	29.6%	34.7%	85.2%
	Mexico 2023	29.0%	33.6%	86.3%

Notes: the rates are calculated as defined in Section III.4.

Table 6: Achieved Total Sample (Fresh and Panel Combined)

		Food	Textiles	Garments	Other Manufacturing	Construction	Retail	Hotels	Other Services	Grand Total
North	Small (5-19)	12	14	8	32	34	38	23	32	331
North	Medium (20-99)	7	8	7	20	12	4	4	12	
North	Large (100-250)	5	7	4	6	4	2	4	4	
North	Extra Large (251+)	1	3	5	6	3	2	2	6	
Central North	Small (5-19)	11	9	8	28	21	22	0	26	305
Central North	Medium (20-99)	7	11	7	29	15	6	3	7	
Central North	Large (100-250)	9	13	5	12	8	0	3	6	
Central North	Extra Large (251+)	5	7	4	7	8	4	2	2	
Central	Small (5-19)	9	9	6	25	7	11	7	25	258
Central	Medium (20-99)	11	13	10	14	5	1	7	6	
Central	Large (100-250)	6	9	12	12	4	6	5	8	
Central	Extra Large (251+)	5	7	4	5	3	4	0	2	
Mexico City	Small (5-19)	13	9	6	24	3	17	2	12	208
Mexico City	Medium (20-99)	7	2	8	12	2	4	2	5	
Mexico City	Large (100-250)	8	4	7	7	2	6	1	9	
Mexico City	Extra Large (251+)	4	3	7	3	0	6	0	13	
South	Small (5-19)	9	5	5	4	11	17	50	20	220
South	Medium (20-99)	7	5	3	6	4	3	5	4	
South	Large (100-250)	2	4	5	3	4	1	6	6	
South	Extra Large (251+)	4	0	3	4	4	5	8	3	
		142	142	124	259	154	159	134	208	1,322

Table 7: Achieved Panel Sample

		Food	Textiles	Garments	Other Manufacturing	Construction	Retail	Hotels	Other Services	Grand Total
North	Small (5-19)	9	1	4	26	2	5	0	5	108
North	Medium (20-99)	4	0	3	19	1	2	0	6	
North	Large (100-250)	2	1	2	3	1	1	0	1	
North	Extra Large (251+)	1	0	1	6	0	0	0	2	
Central North	Small (5-19)	6	0	6	23	0	5	0	3	120
Central North	Medium (20-99)	5	0	5	29	1	2	0	5	
Central North	Large (100-250)	5	0	0	11	0	0	1	4	
Central North	Extra Large (251+)	1	0	0	4	1	1	0	2	
Central	Small (5-19)	6	1	4	23	1	2	0	3	102
Central	Medium (20-99)	6	2	6	8	1	0	0	4	
Central	Large (100-250)	2	3	6	7	0	5	0	5	
Central	Extra Large (251+)	3	0	1	2	0	0	0	1	
Mexico City	Small (5-19)	8	0	4	21	0	4	0	2	89
Mexico City	Medium (20-99)	4	0	4	9	0	1	0	1	
Mexico City	Large (100-250)	3	0	3	4	0	3	0	2	
Mexico City	Extra Large (251+)	3	0	2	1	0	3	0	7	
South	Small (5-19)	3	0	0	0	0	1	0	2	15
South	Medium (20-99)	2	0	1	0	0	0	0	1	
South	Large (100-250)	1	0	0	0	0	1	0	1	
South	Extra Large (251+)	0	0	0	0	0	1	0	1	
		74	8	52	196	8	37	1	58	434

Table 8: Weak Universe Estimates

		Food	Textiles	Garments	Other Manufacturing	Construction	Retail	Hotels	Other Services	Grand Total
North	Small (5-19)	4,780	175	394	8,483	3,215	40,838	1,808	48,220	139,293
North	Medium (20-99)	662	59	214	3,401	2,044	5,791	732	11,215	
North	Large (100-250)	0	22	57	0	357	1,159	105	1,358	
North	Extra Large (251+)	0	11	37	0	127	119	74	515	
North	Large and Extra large (100+)	296	0	0	3,029	0	0	0	0	
Central North	Small (5-19)	6,959	487	1,238	0	2,590	37,765	0	49,442	142,946
Central North	Medium (20-99)	733	116	287	0	1,652	4,622	0	8,534	
Central North	Large (100-250)	292	53	38	1,593	310	0	111	1,045	
Central North	Extra Large (251+)	128	15	17	439	106	0	62	357	
Central North	Small and Medium (5+)	0	0	0	19,955	0	0	3,259	0	
Central North	Large and Extra large (100+)	0	0	0	0	0	741	0	0	
Central	Small (5-19)	4,232	487	2,495	7,195	1,119	23,681	1,459	27,662	84,807
Central	Medium (20-99)	417	202	718	1,953	669	0	289	5,283	
Central	Large (100-250)	170	157	128	1,183	116	0	0	706	
Central	Extra Large (251+)	11	10	11	40	37	92	0	301	
Central	Large and Extra large (100+)	0	0	0	0	0	0	45	0	
Central	Medium and Large (20-250)	0	0	0	0	0	3,939	0	0	
Mexico City	Small (5-19)	1,292	128	313	3,289	584	13,359	436	20,650	54,169
Mexico City	Medium (20-99)	297	53	142	1,177	523	2,077	0	6,424	
Mexico City	Large (100-250)	49	16	21	296	0	482	0	1,075	
Mexico City	Extra Large (251+)	28	6	12	179	0	107	0	595	
Mexico City	Large and Extra large (100+)	0	0	0	0	219	0	0	0	
Mexico City	Medium, Large, and Extra large (20+)	0	0	0	0	0	0	344	0	
South	Small (5-19)	4,306	743	657	4,681	2,207	28,584	3,254	33,365	92,124
South	Medium (20-99)	279	41	115	561	1,216	3,740	609	5,471	
South	Large (100-250)	124	10	34	222	142	526	153	574	
South	Extra Large (251+)	10	0	8	13	54	75	181	171	
		25,064	2,788	6,935	57,687	17,285	167,697	12,922	222,961	513,339

Table 9: Median Universe Estimates

		Food	Textiles	Garments	Other Manufacturing	Construction	Retail	Hotels	Other Services	Grand Total
North	Small (5-19)	4,487	151	361	7,986	2,944	40,149	1,787	46,347	134,286
North	Medium (20-99)	620	51	196	3,196	1,869	5,684	722	10,762	
North	Large (100-250)	0	20	54	0	343	1,193	108	1,367	
North	Extra Large (251+)	0	10	34	0	119	120	75	509	
North	Large and Extra large (100+)	269	0	0	2,755	0	0	0	0	
Central North	Small (5-19)	6,495	419	1,127	0	2,358	36,923	0	47,258	138,460
Central North	Medium (20-99)	683	100	261	0	1,502	4,512	0	8,144	
Central North	Large (100-250)	285	47	36	1,561	295	0	114	1,046	
Central North	Extra Large (251+)	123	13	16	423	99	0	63	337	
Central North	Small and Medium (5+)	0	0	0	20,078	0	0	3,441	0	
Central North	Large and Extra large (100+)	0	0	0	0	0	700	0	0	
Central	Small (5-19)	3,766	400	2,164	6,423	972	22,077	1,367	25,212	77,743
Central	Medium (20-99)	371	165	622	1,741	580	0	271	4,807	
Central	Large (100-250)	158	135	117	1,106	106	0	0	674	
Central	Extra Large (251+)	10	8	10	36	33	89	0	282	
Central	Large and Extra large (100+)	0	0	0	0	0	0	40	0	
Central	Medium and Large (20-250)	0	0	0	0	0	4,003	0	0	
Mexico City	Small (5-19)	1,160	106	274	2,963	512	12,567	412	18,992	50,051
Mexico City	Medium (20-99)	266	43	124	1,058	458	1,950	0	5,899	
Mexico City	Large (100-250)	46	14	19	279	0	475	0	1,035	
Mexico City	Extra Large (251+)	26	5	11	165	0	104	0	562	
Mexico City	Large and Extra large (100+)	0	0	0	0	185	0	0	0	
Mexico City	Medium, Large, and Extra large (20+)	0	0	0	0	0	0	340	0	
South	Small (5-19)	3,813	606	567	4,158	1,907	26,514	3,033	30,257	83,924
South	Medium (20-99)	247	33	99	498	1,049	3,463	567	4,954	
South	Large (100-250)	115	8	31	206	128	496	150	545	
South	Extra Large (251+)	9	0	7	12	48	72	174	159	
		22,577	2,293	5,993	53,928	14,282	157,058	11,774	203,490	484,464

Table 10: Strict Universe Estimates

		Food	Textiles	Garments	Other Manufacturing	Construction	Retail	Hotels	Other Services	Grand Total
North	Small (5-19)	3,154	111	211	4,176	2,002	20,361	1,149	28,163	74,845
North	Medium (20-99)	400	34	105	1,534	1,166	2,646	426	6,002	
North	Large (100-250)	0	13	29	0	209	543	63	746	
North	Extra Large (251+)	0	6	16	0	65	49	38	246	
North	Large and Extra large (100+)	137	0	0	1,045	0	0	0	0	
Central North	Small (5-19)	3,823	259	552	0	1,343	15,678	0	24,045	59,146
Central North	Medium (20-99)	369	57	117	0	785	1,759	0	3,803	
Central North	Large (100-250)	151	26	16	614	151	0	55	478	
Central North	Extra Large (251+)	57	7	6	147	45	0	27	174	
Central North	Small and Medium (5+)	0	0	0	3,623	0	0	764	0	
Central North	Large and Extra large (100+)	0	0	0	0	0	215	0	0	
Central	Small (5-19)	2,863	319	1,369	3,632	715	12,105	951	16,564	45,927
Central	Medium (20-99)	259	121	361	903	392	0	173	2,899	
Central	Large (100-250)	108	96	66	561	70	0	0	397	
Central	Extra Large (251+)	6	7	5	16	19	39	0	147	
Central	Large and Extra large (100+)	0	0	0	0	0	0	20	0	
Central	Medium and Large (20-250)	0	0	0	0	0	745	0	0	
Mexico City	Small (5-19)	767	73	151	1,457	327	5,993	249	10,851	26,321
Mexico City	Medium (20-99)	161	28	63	478	269	854	0	3,094	
Mexico City	Large (100-250)	27	9	9	123	0	203	0	531	
Mexico City	Extra Large (251+)	14	3	7	65	0	39	0	256	
Mexico City	Large and Extra large (100+)	0	0	0	0	86	0	0	0	
Mexico City	Medium, Large, and Extra large (20+)	0	0	0	0	0	0	136	0	
South	Small (5-19)	2,474	412	306	2,007	1,197	12,410	1,801	16,969	44,039
South	Medium (20-99)	147	21	49	220	604	1,488	309	2,550	
South	Large (100-250)	67	5	15	89	72	256	80	274	
South	Extra Large (251+)	5	0	3	5	24	27	82	71	
		14,769	1,581	3,389	20,381	8,840	73,638	5,853	115,364	250,279

Table 11: Item Response Rates

Screener/Interview		d2	l1	n2a	all TFP variables
Panel	Fresh	100.0%	100.0%	99.9%	95.2%
	Panel	100.0%	100.0%	100.0%	90.4%
Size	Small (5-19)	100.0%	100.0%	100.0%	93.1%
	Medium (20-99)	100.0%	100.0%	100.0%	92.0%
	Large (100+)	100.0%	100.0%	99.8%	93.3%
Region	North	100.0%	100.0%	100.0%	92.5%
	Central North	100.0%	100.0%	100.0%	94.3%
	Central	100.0%	100.0%	99.6%	89.0%
	Mexico City	100.0%	100.0%	100.0%	93.3%
	South	100.0%	100.0%	100.0%	98.5%
Sector	Food	100.0%	100.0%	100.0%	93.9%
	Textiles	100.0%	100.0%	100.0%	94.8%
	Garments	100.0%	100.0%	100.0%	94.5%
	Other Manufacturing	100.0%	100.0%	99.7%	91.1%
	Construction	100.0%	100.0%	100.0%	100.0%
	Retail	100.0%	100.0%	100.0%	0.0%
	Hotels	100.0%	100.0%	100.0%	0.0%
	Other Services	100.0%	100.0%	100.0%	100.0%
Overall	Mexico 2023	100.0%	100.0%	99.9%	92.8%

Notes: the rates are calculated as follows. The number of responses with informative content in the respective variable (or combination of variables in the case of TFP) is divided by the same number plus the number of responses that are "don't know" (code -9) or refusal (code -8).