

The Iraq 2022 World Bank Enterprise Survey Implementation Report

I. Introduction

This document provides information on the World Bank Enterprise Surveys (WBES) implemented in Iraq between December 2021 and August 2022 (baseline data collection) and between June and October 2023 (follow-up data collection). 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 200,000 firms in 155 countries with a total of 340 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 including Iraq 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 10-32), services (ISIC 4.0 codes 33, 41-43, 45-47, 49-56, 58, 61, 62, 69-75, 79, 95). Details on sectoral coverage and the WBES universe of inference can be found in

II.1 Stratification Categories

The Iraq 2022 WBES uses the following stratification categories:

- **Industry: 6 categories:**
 - Within manufacturing: Food, Chemicals, Plastics & Rubber, Non-Metallic Mineral Products, and Other Manufacturing
 - Within services: Wholesale & Retail, and Other Services
- **Size: 3 categories:** Small (5 to 19 employees), Medium (20 to 99 employees), and Large (100 or more employees).
- **Region: 10 categories:** Ninewa, Kirkuk, Baghdad, Babylon, Karbala, Najaf, Thi Qar, Basrah, Sulaymaniyah, and Erbil

Industry strata for the manufacturing sector were selected by their contribution to total value added, to employment and to total number of establishments, using UNIDO INSTAT 4, available as of fall 2020. The manufacturing sectors stratified separately represent 75%, 70% and 95% of total value added, employment, and number of establishments (of the available data), respectively, with the rest of sectors grouped into a residual, "Other Manufacturing", stratum. By number of establishments, the manufacturing sectors stratified separately represent 20% of the whole ES universe.

The strata for the services sector were selected to mirror that of Iraq 2011 WBES. The sectors stratified separately represent 28% of the total number of establishments in the services sector, and 19% of the whole ES universe.

Region strata of the Iraq 2022 WBES were also selected to mirror that of Iraq 2011 WBES, covering ten governorates.

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 3.1. codes 15-37) are eligible; for services businesses, those corresponding to the ISIC Rev 3.1 codes 45, 50-52, 55, 60-64, and 72 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 Iraq, an establishment is defined as registered if it is registered with either: a) the Directorate of Companies Registration of Federal Iraq; or b) Directorate of Companies Registration of the Kurdistan Region of Iraq. 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.

the *Enterprise Surveys Manual and Guide* (p. 4). For Iraq and older surveys, the WBES universe includes: all manufacturing (ISIC Rev 3.1 codes 15-37), services (ISIC Rev 3.1 codes 45, 50-52, 55, 60-64, 72).

For the Iraq 2022 WBES, the universe table, shown in Table 1 below, was constructed based on lists of establishments from various government agencies and business organizations.

As discussed in Section III.6 in more detail, for calculation of sampling weights, the universe is constructed from the sampling frame.

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 Iraq 2022 WBES was constructed from the following sources (see Table 2). The Panel Sampling Frame was constructed using information on all the establishments that participated in the Iraq 2011 WBES.

The Fresh Sampling Frame, i.e., list of establishments that are in the WBES universe and that have not participated in the Iraq 2011 WBES, was constructed based on lists of establishments from various government agencies and business organizations. However, the contact information of this set of establishments was mostly not updated. Additional efforts were made by SREO Consulting Ltd. to update this information. As there are various sources, additional effort were also made to avoid duplicates as much as possible.

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*

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.

Surveys Manual and Guide.⁵ The original survey design for the Iraq 2022 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 Iraq 2022 WBES were conducted between December 2021 and August 2022. The interviews were conducted in the following languages: Arabic or Kurdish. For monetary variables, the currency was Iraqi Dinar. About thirty variables were collected through follow-up phone surveys, conducted between June 2023 and October 2023; these variables have the suffix _BR. There was an attempt to re-contact at least 600 of the establishments that participated in the baseline surveys to collect the variables needed for the B-ready report. Out of the 698 recontacted, 603 participated (86% realization rate) and 95 refused to participate.

Apart from the challenges with participation and call-backs that are standard for all surveys, the Iraq 2022 WBES faced multiple fieldwork setbacks from the protests and unexpected security issues. The changing government policies on access for research also delayed fieldwork as the field team needed to apply for additional permits.

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 baseline questionnaire implemented in the Iraq 2022 WBES included additional questions covering COVID-19, government subsidies, youth workers, types of training, hiring needs and obstacles, and maternity and childcare support. These questions were selected in collaboration with team members of the WB Social Protection and Jobs (MENA) GP.

The follow-up questionnaire included new questions that are asked for the Business Ready (B-READY) project.

III.2 Contractor

The fieldwork for the Iraq 2022 WBES was implemented by SREO Consulting Ltd.. 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*.

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.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:

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

Table 5 provides these measures for the Iraq 2022 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 Iraq 2022 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.

Note that for the Iraq 2022 WBES, the universe is constructed from the frame, allowing the application of adjustments as described above.

Two different sets of weights are presented in the dataset. The standard weights discussed above apply to the standard Enterprise Survey questions that were administered in the baseline survey to all respondents. The second set of weights are denoted with the suffix *_BR* and they apply to the questions asked in the follow-up surveys, i.e., to all the variables denoted with the suffix *_BR*. Both sets of weights are scaled such that they are nationally representative of the businesses operating in the country. This implies that all variables with the suffix *_BR* must be used with the weights with suffix *_BR* whereas variables without the suffix must use the weights without suffix when making inferences to the population.

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:

- 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.

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.

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. The variables that are country or region specific are generally named using a prefix in capital letters. These country-specific variables are generally not available beyond the specific country or region where they were implemented. For the baseline Iraq 2022 WBES, these variables use prefixes IRQ and COV. For the follow-up survey, all variables have the suffix *_BR*. 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 *wstrict* corresponding to sampling weights based on, respectively, weak, median, and strict assumptions about eligibility (see Section III.6). The variable *strata* corresponds to the stratum of each observation.

Additionally, the WBES datafiles contain many standard variables. The variable *d1a2* denotes the main activity of the establishment, as obtained during the WBES interview, coded in the four-digit ISIC Rev. 3.1. 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*. 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 Iraq 2011 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.

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	Sample frame
Source of Sampling Frame	Baghdad Chamber of Commerce, Central Statistical Organisation (CSO) for Federal Iraq, Baghdad Department of Tourism, Iraqi Stock Exchange, Iraqi Federation of Chambers of Commerce, Iraqi Federation of Industry, Basra Chamber of Commerce, Erbil Chamber of Commerce, Erbil Department of Tourism, Najaf Chamber of Commerce, Ninewa Chamber of Commerce, Ninewa Tax Office, Ninewa Department of Tourism, Sulaymaniyah Chamber of Commerce, Sulaymaniyah Provincial Investment Board, Sulaymaniyah Department of Tourism, Ministry of Trade, Kurdistan Regional Statistics Office, daliliraq.com, iraqdirectory.com
Stratification sectors	Manufacturing of: Food, Chemicals, Plastics & Rubber, Non-Metallic Mineral Products, Other Manufacturing; Wholesale & Retail, and Other Services
Stratification sizes	Small (5 to 19 employees), Medium (20 to 99 employees), and Large (100 or more employees)
Stratification regions	Ninewa, Kirkuk, Baghdad, Babylon, Karbala, Najaf, Thi Qar, Basrah, Sulaymaniyah, Erbil
Contractor	SREO Consulting Ltd.
Fieldwork dates	December 2021 – August 2022
Interview languages	Arabic and Kurdish
Survey software	Survey Solutions
Currency for nominal variables	Iraqi Dinar
Reference fiscal year	2021 and 2022
Sample Size	Total: 1019 Fresh: 875 Panel: 144
Survey response rates	Yield: 27.2% Response rate: 67.3% Frame quality: 40.3%
Item response rates	d2: 77.7% n2a: 80.7% 11: 97.3% all TFP variables: 43.7%
Additional topics covered in the questionnaire	COVID-19, government subsidies, youth workers, types of training, hiring needs and obstacles, and maternity and childcare support
Additional surveys available (if any)	Informal Sector Enterprise Survey, Micro Enterprise Survey, each covering four cities

Tables

Table 1: Iraq 2022 WBES Universe

		Food	Chemicals, plastics, and rubber	Non-metallic mineral products	Other manufacturing	Wholesale and Retail	Other Services	Grand Total
Ninewa	Small (5-19)	29	12	25	28	14	55	214
Ninewa	Medium (20-99)	8	2	4	4	1	14	
Ninewa	Large (100+)	0	0	0	0	0	1	
Ninewa	Unknown	0	0	0	0	4	13	
Kirkuk	Small (5-19)	12	5	19	13	8	19	152
Kirkuk	Medium (20-99)	2	0	0	0	2	4	
Kirkuk	Large (100+)	0	0	0	1	0	0	
Kirkuk	Unknown	3	1	0	1	21	41	
Baghdad	Small (5-19)	62	33	17	73	142	522	1,277
Baghdad	Medium (20-99)	15	9	5	11	10	81	
Baghdad	Large (100+)	1	3	0	1	0	0	
Baghdad	Unknown	26	4	1	22	76	163	
Babylon	Small (5-19)	13	2	22	15	15	38	146
Babylon	Medium (20-99)	8	0	5	2	9	3	
Babylon	Large (100+)	0	0	1	0	1	3	
Babylon	Unknown	1	0	0	0	0	8	
Karbala	Small (5-19)	30	10	7	39	9	60	311
Karbala	Medium (20-99)	12	6	7	9	0	25	
Karbala	Large (100+)	1	0	0	1	0	0	
Karbala	Unknown	0	0	0	0	3	92	
Najaf	Small (5-19)	63	49	38	155	8	44	391
Najaf	Medium (20-99)	1	0	2	0	2	2	
Najaf	Large (100+)	0	0	0	0	0	0	
Najaf	Unknown	0	0	1	0	0	26	
Thi Qar	Small (5-19)	6	0	8	6	4	21	77
Thi Qar	Medium (20-99)	10	0	3	1	1	7	
Thi Qar	Large (100+)	0	1	1	1	0	0	
Thi Qar	Unknown	0	0	0	0	1	6	
Basrah	Small (5-19)	9	0	1	5	45	111	453
Basrah	Medium (20-99)	13	0	0	4	7	29	
Basrah	Large (100+)	0	0	0	0	0	5	
Basrah	Unknown	2	0	1	0	5	216	
Sulaymaniyah	Small (5-19)	33	17	44	22	29	213	554

Sulaymaniyah	Medium (20-99)	8	9	11	6	11	10	
Sulaymaniyah	Large (100+)	0	0	1	0	0	0	
Sulaymaniyah	Unknown	19	8	2	12	36	63	
Erbil	Small (5-19)	41	15	21	27	36	92	782
Erbil	Medium (20-99)	4	1	7	1	2	2	
Erbil	Large (100+)	1	0	0	0	2	0	
Erbil	Unknown	4	1	1	13	342	169	
		437	188	255	473	846	2,158	4,357

Source: Baghdad Chamber of Commerce, Central Statistical Office etc., (see full list in Fact Sheet).

Table 2: Iraq 2022 WBES Sample Frame (Fresh and Panel Combined)

		Food	Chemicals, plastics, and rubber	Non-metallic mineral products	Other manufacturing	Wholesale and Retail	Other Services	Grand Total
Ninewa	Small (5-19)	29	12	25	28	14	55	214
Ninewa	Medium (20-99)	8	2	4	4	1	14	
Ninewa	Large (100+)	0	0	0	0	0	1	
Ninewa	Unknown	0	0	0	0	4	13	
Kirkuk	Small (5-19)	12	5	19	13	8	19	152
Kirkuk	Medium (20-99)	2	0	0	0	2	4	
Kirkuk	Large (100+)	0	0	0	1	0	0	
Kirkuk	Unknown	3	1	0	1	21	41	
Baghdad	Small (5-19)	62	33	17	73	142	522	1277
Baghdad	Medium (20-99)	15	9	5	11	10	81	
Baghdad	Large (100+)	1	3	0	1	0	0	
Baghdad	Unknown	26	4	1	22	76	163	
Babylon	Small (5-19)	13	2	22	15	15	38	146
Babylon	Medium (20-99)	8	0	5	2	9	3	
Babylon	Large (100+)	0	0	1	0	1	3	
Babylon	Unknown	1	0	0	0	0	8	
Karbala	Small (5-19)	30	10	7	39	9	60	311
Karbala	Medium (20-99)	12	6	7	9	0	25	
Karbala	Large (100+)	1	0	0	1	0	0	
Karbala	Unknown	0	0	0	0	3	92	
Najaf	Small (5-19)	63	49	38	155	8	44	436
Najaf	Medium (20-99)	1	0	2	0	2	2	
Najaf	Unknown	0	0	1	0	0	26	
Thi Qar	Small (5-19)	6	0	8	6	4	21	
Thi Qar	Medium (20-99)	10	0	3	1	1	7	203

Thi Qar	Large (100+)	0	1	1	1	0	0	
Thi Qar	Unknown	0	0	0	0	1	6	
Basrah	Small (5-19)	9	0	1	5	45	111	
Basrah	Medium (20-99)	13	0	0	4	7	29	640
Basrah	Large (100+)	0	0	0	0	0	5	
Basrah	Unknown	2	0	1	0	5	216	
Sulaymaniyah	Small (5-19)	33	17	44	22	29	213	
Sulaymaniyah	Medium (20-99)	8	9	11	6	11	10	428
Sulaymaniyah	Large (100+)	0	0	1	0	0	0	
Sulaymaniyah	Unknown	19	8	2	12	36	63	
Erbil	Small (5-19)	41	15	21	27	36	92	
Erbil	Medium (20-99)	4	1	7	1	2	2	550
Erbil	Large (100+)	1	0	0	0	2	0	
Erbil	Unknown	4	1	1	13	342	169	
		437	188	255	473	846	2,158	4,357

Source: Baghdad Chamber of Commerce, Central Statistical Office etc., (see full list in Fact Sheet).

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

		Food	Chemicals, plastics, and rubber	Non-metallic mineral products	Other manufacturing	Wholesale and Retail	Other Services	Grand Total
Ninewa	Small (5-19)	10	5	4	10	5	15	75
Ninewa	Medium (20-99)	3	1	1	2	1	9	
Ninewa	Large (100+)	0	0	0	0	0	1	
Ninewa	Unknown	0	0	0	0	2	6	
Kirkuk	Small (5-19)	1	1	2	2	3	3	50
Kirkuk	Medium (20-99)	1	0	1	0	2	2	
Kirkuk	Large (100+)	1	0	0	0	0	0	
Kirkuk	Unknown	2	1	0	1	11	16	
Baghdad	Small (5-19)	8	12	5	9	15	52	193
Baghdad	Medium (20-99)	5	3	3	4	7	30	
Baghdad	Large (100+)	1	1	0	2	0	0	
Baghdad	Unknown	4	2	1	4	8	17	
Babylon	Small (5-19)	3	1	5	3	7	11	50
Babylon	Medium (20-99)	2	1	2	1	3	2	
Babylon	Large (100+)	0	0	1	0	1	2	
Babylon	Unknown	1	0	0	0	0	4	
Karbala	Small (5-19)	10	6	2	15	5	18	120
Karbala	Medium (20-99)	8	3	1	6	0	12	

Karbala	Large (100+)	2	0	1	1	0	0	
Karbala	Unknown	0	0	0	0	2	28	
Najaf	Small (5-19)	20	27	16	34	4	8	120
Najaf	Medium (20-99)	1	0	1	0	1	1	
Najaf	Large (100+)	0	0	0	0	0	0	
Najaf	Unknown	0	0	2	0	0	5	
Thi Qar	Small (5-19)	3	0	2	3	3	7	32
Thi Qar	Medium (20-99)	2	0	1	0	1	3	
Thi Qar	Large (100+)	0	1	1	1	0	0	
Thi Qar	Unknown	0	0	0	0	1	3	
Basrah	Small (5-19)	1	0	1	3	10	24	120
Basrah	Medium (20-99)	3	0	0	2	3	16	
Basrah	Large (100+)	1	0	0	0	0	2	
Basrah	Unknown	1	0	1	0	3	49	
Sulaymaniyah	Small (5-19)	5	5	21	5	6	35	120
Sulaymaniyah	Medium (20-99)	3	3	3	2	3	3	
Sulaymaniyah	Large (100+)	0	0	1	0	1	0	
Sulaymaniyah	Unknown	4	4	1	4	4	7	
Erbil	Small (5-19)	9	5	8	5	6	12	120
Erbil	Medium (20-99)	2	2	4	1	2	1	
Erbil	Large (100+)	1	0	0	0	1	1	
Erbil	Unknown	2	1	1	4	35	17	
		120	85	93	124	156	422	1,000

Table 4: Response Outcomes

		Totals	Rates relative to total contacted
Overall	Contacts available in frame	4,357	
	Issued	4,357	
	Contacted	4,086	
Screening phase	Eligibles	1,184	29.0%
	Screener refusals	327	8.0%
	Assumed eligibles	1,513	37.0%
	Ineligible + out of target	250	6.1%
	Unobtainables	1,992	48.8%
Interview phase (only if eligible)	Interview refusals	32	0.8%
	Complete interviews	1,019	24.9%

Table 5: Survey Yield Rates

		Yield	Survey response rate	Frame quality
Panel	Fresh	29.1%	64.8%	44.9%
	Panel	19.4%	88.9%	21.8%
Size	Small (5-19)	25.3%	66.4%	38.1%
	Medium (20-99)	45.8%	86.2%	53.1%
	Large (100+)	44.0%	78.6%	56.0%
Region	Ninewa	63.1%	93.4%	67.5%
	Kirkuk	41.3%	83.8%	49.3%
	Baghdad	18.5%	60.9%	30.4%
	Babylon	47.6%	78.4%	60.7%
	Karbala	41.8%	90.9%	46.0%
	Najaf	25.2%	50.8%	49.6%
	Thi Qar	10.5%	30.8%	34.2%
	Basrah	30.8%	76.3%	40.4%
	Sulaymaniyah	24.9%	65.8%	37.8%
	Erbil	16.1%	45.4%	35.5%
	Sector			
Sector	Food	32.4%	74.1%	43.8%
	Chemicals, plastics, and rubber	31.7%	71.2%	44.5%
	Non-metallic mineral products	24.0%	73.0%	32.9%
	Other manufacturing	36.6%	72.9%	50.2%
	Wholesale and Retail	20.1%	53.9%	37.2%
	Other Services	26.3%	67.6%	38.9%
Overall	Iraq 2022	27.2%	67.3%	40.3%

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

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

		Food	Chemicals, plastics, and rubber	Non-metallic mineral products	Other manufacturing	Wholesale and Retail	Other Services	Grand Total
Ninewa	Small (5-19)	11	7	6	27	8	34	128
Ninewa	Medium (20-99)	2	0	0	4	1	14	
Ninewa	Large (100+)	0	0	0	0	0	1	
Ninewa	Unknown	0	0	0	0	3	10	
Kirkuk	Small (5-19)	0	0	2	0	3	12	57
Kirkuk	Medium (20-99)	1	0	0	0	0	3	
Kirkuk	Unknown	1	0	0	0	5	30	
Baghdad	Small (5-19)	9	8	7	14	15	57	207
Baghdad	Medium (20-99)	6	2	1	1	6	31	
Baghdad	Large (100+)	0	1	0	1	0	0	
Baghdad	Unknown	17	0	0	4	10	17	
Babylon	Small (5-19)	8	0	7	5	11	17	69
Babylon	Medium (20-99)	6	0	3	0	8	1	
Babylon	Large (100+)	0	0	1	0	0	0	
Babylon	Unknown	1	0	0	0	0	1	
Karbala	Small (5-19)	10	8	2	27	0	23	130
Karbala	Medium (20-99)	2	5	3	7	0	13	
Karbala	Large (100+)	1	0	0	1	0	0	
Karbala	Unknown	0	0	0	0	1	27	
Najaf	Small (5-19)	20	8	1	49	2	11	98
Najaf	Unknown	0	0	0	0	0	7	
Dhi Qar	Small (5-19)	0	0	1	1	1	3	8
Dhi Qar	Medium (20-99)	1	0	0	0	0	1	
Basrah	Small (5-19)	2	0	0	3	7	33	135
Basrah	Medium (20-99)	4	0	0	3	2	15	
Basrah	Large (100+)	0	0	0	0	0	3	
Basrah	Unknown	1	0	0	0	3	59	
Sulaymaniyah	Small (5-19)	4	3	10	5	4	38	104
Sulaymaniyah	Medium (20-99)	2	3	2	1	2	1	
Sulaymaniyah	Unknown	4	5	1	4	4	11	
Erbil	Small (5-19)	4	1	4	5	5	9	83
Erbil	Medium (20-99)	1	1	3	0	1	0	
Erbil	Large (100+)	1	0	0	0	1	0	
Erbil	Unknown	1	0	0	2	27	17	
		120	52	54	164	130	499	1,019

Table 7: Achieved Panel Sample

		Food	Chemicals, plastics, and rubber	Non-metallic mineral products	Other manufacturing	Wholesale and Retail	Other Services	Grand Total
Ninewa	Small (5-19)	1	2	5	12	1	7	31
Ninewa	Medium (20-99)	0	0	0	2	1	0	
Kirkuk	Small (5-19)	0	0	2	0	0	11	16
Kirkuk	Medium (20-99)	1	0	0	0	0	2	
Baghdad	Small (5-19)	2	2	2	6	2	3	23
Baghdad	Medium (20-99)	2	0	1	1	0	1	
Baghdad	Large (100+)	0	1	0	0	0	0	
Babylon	Small (5-19)	8	0	6	3	4	5	39
Babylon	Medium (20-99)	6	0	2	0	5	0	
Karbala	Small (5-19)	0	0	1	0	0	0	6
Karbala	Medium (20-99)	0	0	3	0	0	2	
Najaf	Small (5-19)	0	0	1	0	0	10	11
Basrah	Small (5-19)	2	0	0	1	1	2	13
Basrah	Medium (20-99)	3	0	0	1	1	1	
Basrah	Large (100+)	0	0	0	0	0	1	
Sulaymaniyah	Small (5-19)	0	0	0	1	0	0	2
Sulaymaniyah	Medium (20-99)	0	1	0	0	0	0	
Erbil	Small (5-19)	0	0	0	0	2	0	3
Erbil	Medium (20-99)	0	0	1	0	0	0	
		25	6	24	27	17	45	144

Table 8: Weak Universe Estimates

		Food	Chemicals, plastics, and rubber	Non-metallic mineral products	Other manufacturing	Wholesale and Retail	Other Services	Grand Total
Ninewa	Small (5-19)	29	12	25	29	14	55	209
Ninewa	Medium (20-99)	8	0	0	4	1	14	
Ninewa	Large (100+)	0	0	0	0	0	1	
Ninewa	Unknown	0	0	0	0	4	13	
Kirkuk	Small (5-19)	0	0	18	0	8	20	117
Kirkuk	Medium (20-99)	2	0	0	0	0	4	
Kirkuk	Unknown	3	0	0	0	21	41	
Baghdad	Small (5-19)	62	33	17	73	142	522	1270
Baghdad	Medium (20-99)	15	9	5	11	10	81	
Baghdad	Large (100+)	0	3	0	1	0	0	
Baghdad	Unknown	26	0	0	22	76	163	
Babylon	Small (5-19)	13	0	22	15	15	38	138
Babylon	Medium (20-99)	8	0	5	0	9	3	
Babylon	Large (100+)	0	0	1	0	0	0	
Babylon	Unknown	1	0	0	0	0	8	
Karbala	Small (5-19)	30	10	7	39	0	60	303
Karbala	Medium (20-99)	12	6	7	9	0	26	
Karbala	Large (100+)	1	0	0	1	0	0	
Karbala	Unknown	0	0	0	0	3	92	
Najaf	Small (5-19)	63	49	37	155	8	47	385
Najaf	Unknown	0	0	0	0	0	26	
Thi Qar	Small (5-19)	0	0	8	6	4	21	56
Thi Qar	Medium (20-99)	10	0	0	0	0	7	
Basrah	Small (5-19)	9	0	0	5	45	111	451
Basrah	Medium (20-99)	13	0	0	4	7	29	
Basrah	Large (100+)	0	0	0	0	0	5	
Basrah	Unknown	2	0	0	0	5	216	
Sulaymaniyah	Small (5-19)	33	17	44	22	29	213	553
Sulaymaniyah	Medium (20-99)	8	9	11	6	11	10	
Sulaymaniyah	Unknown	19	8	2	12	36	63	
Erbil	Small (5-19)	41	15	21	27	36	92	777
Erbil	Medium (20-99)	4	1	7	0	2	0	
Erbil	Large (100+)	1	0	0	0	2	0	
Erbil	Unknown	4	0	0	13	342	169	
		416	172	237	454	830	2150	4259

Table 9: Median Universe Estimates

		Food	Chemicals, plastics, and rubber	Non-metallic mineral products	Other manufacturing	Wholesale and Retail	Other Services	Grand Total
Ninewa	Small (5-19)	29	12	25	29	14	55	209
Ninewa	Medium (20-99)	8	0	0	4	1	14	
Ninewa	Large (100+)	0	0	0	0	0	1	
Ninewa	Unknown	0	0	0	0	4	13	
Kirkuk	Small (5-19)	0	0	18	0	8	20	117
Kirkuk	Medium (20-99)	2	0	0	0	0	4	
Kirkuk	Unknown	3	0	0	0	21	41	
Baghdad	Small (5-19)	62	33	17	73	142	522	1270
Baghdad	Medium (20-99)	15	9	5	11	10	81	
Baghdad	Large (100+)	0	3	0	1	0	0	
Baghdad	Unknown	26	0	0	22	76	163	
Babylon	Small (5-19)	13	0	22	15	15	38	138
Babylon	Medium (20-99)	8	0	5	0	9	3	
Babylon	Large (100+)	0	0	1	0	0	0	
Babylon	Unknown	1	0	0	0	0	8	
Karbala	Small (5-19)	30	10	7	39	0	60	303
Karbala	Medium (20-99)	12	6	7	9	0	26	
Karbala	Large (100+)	1	0	0	1	0	0	
Karbala	Unknown	0	0	0	0	3	92	
Najaf	Small (5-19)	63	49	37	155	8	47	385
Najaf	Unknown	0	0	0	0	0	26	
Thi Qar	Small (5-19)	0	0	8	6	4	21	56
Thi Qar	Medium (20-99)	10	0	0	0	0	7	
Basrah	Small (5-19)	9	0	0	5	45	111	451
Basrah	Medium (20-99)	13	0	0	4	7	29	
Basrah	Large (100+)	0	0	0	0	0	5	
Basrah	Unknown	2	0	0	0	5	216	
Sulaymaniyah	Small (5-19)	33	17	44	22	29	213	553
Sulaymaniyah	Medium (20-99)	8	9	11	6	11	10	
Sulaymaniyah	Unknown	19	8	2	12	36	63	
Erbil	Small (5-19)	41	15	21	27	36	92	777
Erbil	Medium (20-99)	4	1	7	0	2	0	
Erbil	Large (100+)	1	0	0	0	2	0	
Erbil	Unknown	4	0	0	13	342	169	
		416	172	237	454	830	2150	4259

Table 10: Strict Universe Estimates

		Food	Chemicals, plastics, and rubber	Non-metallic mineral products	Other manufacturing	Wholesale and Retail	Other Services	Grand Total
Ninewa	Small (5-19)	29	12	25	29	14	55	209
Ninewa	Medium (20-99)	8	0	0	4	1	14	
Ninewa	Large (100+)	0	0	0	0	0	1	
Ninewa	Unknown	0	0	0	0	4	13	
Kirkuk	Small (5-19)	0	0	18	0	8	20	117
Kirkuk	Medium (20-99)	2	0	0	0	0	4	
Kirkuk	Unknown	3	0	0	0	21	41	
Baghdad	Small (5-19)	62	33	17	73	142	522	1270
Baghdad	Medium (20-99)	15	9	5	11	10	81	
Baghdad	Large (100+)	0	3	0	1	0	0	
Baghdad	Unknown	26	0	0	22	76	163	
Babylon	Small (5-19)	13	0	22	15	15	38	138
Babylon	Medium (20-99)	8	0	5	0	9	3	
Babylon	Large (100+)	0	0	1	0	0	0	
Babylon	Unknown	1	0	0	0	0	8	
Karbala	Small (5-19)	30	10	7	39	0	60	303
Karbala	Medium (20-99)	12	6	7	9	0	26	
Karbala	Large (100+)	1	0	0	1	0	0	
Karbala	Unknown	0	0	0	0	3	92	
Najaf	Small (5-19)	63	49	37	155	8	47	385
Najaf	Unknown	0	0	0	0	0	26	
Thi Qar	Small (5-19)	0	0	8	6	4	21	56
Thi Qar	Medium (20-99)	10	0	0	0	0	7	
Basrah	Small (5-19)	9	0	0	5	45	111	451
Basrah	Medium (20-99)	13	0	0	4	7	29	
Basrah	Large (100 +)	0	0	0	0	0	5	
Basrah	Unknown	2	0	0	0	5	216	
Sulaymaniyah	Small (5-19)	33	17	44	22	29	213	553
Sulaymaniyah	Medium (20-99)	8	9	11	6	11	10	
Sulaymaniyah	Unknown	19	8	2	12	36	63	
Erbil	Small (5-19)	41	15	21	27	36	92	777
Erbil	Medium (20-99)	4	1	7	0	2	0	
Erbil	Large (100+)	1	0	0	0	2	0	
Erbil	Unknown	4	0	0	13	342	169	
		416	172	237	454	830	2150	4259

Table 11: Item Response Rates

	Screeners/Interview	d2	l1	n2a	all TFP variables
Panel	Fresh	76.7%	97.0%	80.1%	42.1%
	Panel	84.0%	98.6%	84.0%	50.0%
Size	Small (5-19)	80.7%	97.1%	84.9%	46.6%
	Medium (20-99)	73.3%	97.8%	73.6%	39.2%
	Large (100+)	46.4%	96.4%	42.9%	16.7%
Region	Ninewa	85.2%	95.3%	90.6%	88.9%
	Kirkuk	36.8%	89.5%	49.1%	11.1%
	Baghdad	99.0%	99.0%	98.1%	96.9%
	Babylon	97.1%	100.0%	97.1%	13.0%
	Karbala	81.5%	97.7%	93.8%	1.4%
	Najaf	100.0%	100.0%	100.0%	61.7%
	Thi Qar	100.0%	100.0%	100.0%	100.0%
	Basrah	48.9%	95.6%	42.2%	0.0%
	Sulaymaniyah	81.7%	100.0%	88.5%	37.5%
	Erbil	32.5%	94.0%	37.3%	3.3%
	Food	90.3%	100.0%	91.2%	43.4%
	Chemicals, Plastics & Rubbers	86.8%	100.0%	89.7%	55.9%
Sector	Non-metallic mineral products	78.0%	100.0%	84.0%	32.0%
	Other manufacturing	84.7%	98.6%	87.5%	42.1%
	Wholesale & Retail	76.1%	97.8%	81.9%	0.0%
	Other Services	72.1%	95.5%	74.5%	0.0%
Overall	Iraq 2022	77.7%	97.3%	80.7%	43.7%

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).