

The Tanzania 2023 World Bank Enterprise Survey Implementation Report

I. Introduction

This document provides information on the World Bank Enterprise Surveys (WBES) implemented in Tanzania between June and December 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 202,000 firms in 155 countries with a total of 321 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 10-32), 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 the *Enterprise Surveys Manual and Guide* (p. 4).

II.1 Stratification Categories

The Tanzania 2023 WBES uses the following stratification categories:

- **Industry: 5 categories:**
 - Within manufacturing: Food, 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 or more employees), Unknown.
- **Region: 5 categories:** Arusha; Dar-es-salaam; Dodoma; Mbeya; and Zanzibar.

Industry strata for the manufacturing sector were selected by their contribution to a total number of establishments, using the updated Statistical Business Register Report obtained from the Tanzania National Bureau of Statistics (TNBS) (for the mainland) and the Office of Chief Government Statistician (for Zanzibar). Similarly, strata for the services sector were selected by contribution to the total number of establishments based on the same data.

Region strata of the 2023 Tanzania WBES were selected based on administrative divisions, with some territories grouped to achieve the minimum required precision of estimates at the level of each stratification region. In particular, while Dar es Salaam and Zanzibar are singled out as separate stratification regions, the rest of the country is grouped into three broader groups for this survey.

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 Tanzania, registration was with Business Registration and Licensing Agency (BRELA). 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 Tanzania 2023 WBES, the universe table, shown in Table 1 below, was based on updated Statistical Business Register Report obtained from the Tanzania National Bureau of Statistics (mainland Tanzania) and the Office of Chief Government Statistician (for Zanzibar).

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 Tanzania 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 Tanzania 2013 WBES. The Fresh Sampling Frame, i.e., list of establishments that are in the WBES universe and that have not participated in the Tanzania 2013 WBES, was obtained from Tanzania National Bureau of Statistics (mainland Tanzania), and Office of Chief Government Statistician (for Zanzibar).

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 Tanzania 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 Tanzania 2023 WBES were conducted between June and December 2023. The interviews were conducted in the following languages: Swahili and English. For monetary variables, the currency was Tanzanian Shilling.

Apart from the challenges with participation and call-backs that are standard for all surveys, the main challenge for the 2023 Tanzania WBES is obtaining the most up to date sampling frame.

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 Tanzania 2023 WBES included additional questions tailored for the Business Ready Report covering infrastructure, trade, government regulations, finance, labor, and other topics. Furthermore, the survey also includes Tanzania specific questions covering issues related to mobile banking and digital payments and trade linkages among firms. The Tanzania specific questions were selected in collaboration with colleagues from other part of World Bank.

III.2 Contractor

The fieldwork for the Tanzania 2023 WBES was implemented by Ipsos Tanzania. 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:

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

Table 5 provides these measures for the Tanzania 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*.

For the Tanzania 2023 WBES, the following strata were combined due to lack of completed interviews in the corresponding subset of strata: small, medium, and large firms were combined in Dodoma for Other Services; medium and large firms were combined in Dodoma for Retail, and small and medium firms were combined in Zanzibar for Food.

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 Tanzania 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:

- 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. 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 Tanzania 2023 WBES, these variables use prefixes TZ. 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.

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 Tanzania 2013 WBES. The combination of *a4a*, *a2*, *a6a*, and *panel* forms stratum of each establishment, which is contained in variable *strata*.

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.

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	Tanzania National Bureau of Statistics (mainland Tanzania), and Office of Chief Government Statistician (for Zanzibar)
Source of Sampling Frame	Tanzania National Bureau of Statistics (mainland Tanzania), and Office of Chief Government Statistician (for Zanzibar)
Stratification sectors	<ul style="list-style-type: none"> • Food • Other Manufacturing • Retail • Hotels • Other Services
Stratification sizes	<ul style="list-style-type: none"> • Small (5 to 19 employees) • Medium (20 to 99 employees) • Large (100 or more), and • Unknown
Stratification regions	<ul style="list-style-type: none"> • Arusha covers Arusha, Geita, Kagera, Kilimanjaro, Mwanza, Manyara, Mara, Mwanza, Shinyanga, Simiyu, and Tanga administrative regions. • Dar es Salaam covers Dar es Salaam and Pwani administrative regions. • Dodoma covers Dodoma, Iringa, Lindi, Morogoro, Mtwara, Njombe, Ruvuma, and Singida administrative regions. • Mbeya covers Katavi, Kigoma, Mbeya, Rukwa, Songwe, and Tabora administrative regions. • Zanzibar
Contractor	Ipsos Tanzania
Fieldwork dates	June – December 2023
Interview languages	Swahili and English
Survey software	Survey Solutions
Currency for nominal variables	Tanzanian Shilling
Reference fiscal year	2021 (2 obs.) 2022 (486 obs.) and 2023 (112 obs.)
Sample Size	Total: 600 Fresh: 360 Panel: 240
Survey response rates	Yield: 26.7% Response rate: 40.7% Frame quality: 65.7%
Item response rates	d2: 85.5% n2a: 84.0% 11: 99.8% all TFP vars.: 69.9%
Additional topics covered in the questionnaire	Mobile banking and digital payments; trade linkages
Additional surveys available (if any)	

Tables

Table 1: Tanzania 2023 WBES Universe

		Food	Other Manufacturing	Retail	Hotels	Other Services	Grand Total
Arusha	Small (5-19)	774	3053	1916	2304	18928	32913
Arusha	Medium (20-99)	157	745	96	259	3982	
Arusha	Large (100 or more)	40	224	12	19	404	
Dar-es-salaam	Small (5-19)	441	3372	2987	844	10426	21820
Dar-es-salaam	Medium (20-99)	78	593	267	197	2034	
Dar-es-salaam	Large (100 or more)	31	223	27	16	284	
Dodoma	Small (5-19)	663	2062	1365	1281	12953	21409
Dodoma	Medium (20-99)	65	241	38	79	2324	
Dodoma	Large (100 or more)	24	69	2	2	241	
Mbeya	Small (5-19)	181	1131	536	706	7827	12558
Mbeya	Medium (20-99)	38	95	24	38	1809	
Mbeya	Large (100 or more)	7	36	0	0	130	
Zanzibar	Small (5-19)	66	497	370	124	573	2413
Zanzibar	Medium (20-99)	1	17	7	36	11	
Zanzibar	Large (100 or more)	0	2	0	14	1	
Zanzibar	Unknown	17	148	148	102	279	
		2,583	12,508	7,795	6,021	62,206	91,113

Source: Tanzania National Bureau of Statistics (mainland Tanzania), and Office of Chief Government Statistician (for Zanzibar)

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

		Food	Other Manufacturing	Retail	Hotels	Other Services	Grand Total
Arusha	Small (5-19)	785	3122	1930	2312	18951	33130
Arusha	Medium (20-99)	172	765	112	269	3994	
Arusha	Large (100 or more)	43	236	12	23	404	
Dar-es-salaam	Small (5-19)	453	3426	3035	868	10518	22206
Dar-es-salaam	Medium (20-99)	88	639	281	202	2060	
Dar-es-salaam	Large (100 or more)	44	252	30	17	293	
Dodoma	Small (5-19)	663	2062	1365	1281	12953	21409
Dodoma	Medium (20-99)	65	241	38	79	2324	
Dodoma	Large (100 or more)	24	69	2	2	241	
Mbeya	Small (5-19)	194	1162	549	709	7842	12645
Mbeya	Medium (20-99)	40	98	27	38	1810	
Mbeya	Large (100 or more)	8	38	0	0	130	
Zanzibar	Small (5-19)	76	549	378	127	584	2526
Zanzibar	Medium (20-99)	2	26	13	45	14	
Zanzibar	Large (100 or more)	0	2	0	15	1	
Zanzibar	Unknown	17	148	148	102	279	
		2,674	12,835	7,920	6,089	62,398	91,916

Source: Tanzania National Bureau of Statistics (mainland Tanzania), and Office of Chief Government Statistician (for Zanzibar)

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

		Food	Other Manufacturing	Retail	Hotels	Other Services	Grand Total
Arusha	Small (5-19)	10	14	13	9	30	165
Arusha	Medium (20-99)	14	6	9	10	5	
Arusha	Large (100 or more)	14	12	5	11	3	
Dar-es-salaam	Small (5-19)	8	16	21	15	16	179
Dar-es-salaam	Medium (20-99)	10	5	11	7	5	
Dar-es-salaam	Large (100 or more)	14	24	11	8	8	
Dodoma	Small (5-19)	10	7	10	6	20	97
Dodoma	Medium (20-99)	5	5	6	3	4	
Dodoma	Large (100 or more)	11	5	1	1	3	
Mbeya	Small (5-19)	3	3	3	3	6	42
Mbeya	Medium (20-99)	3	3	3	3	3	
Mbeya	Large (100 or more)	3	3	0	0	3	
Zanzibar	Small (5-19)	6	5	5	6	5	117
Zanzibar	Medium (20-99)	2	5	8	10	5	
Zanzibar	Large (100 or more)	0	2	0	7	1	
Zanzibar	Unknown	7	5	14	21	3	
		120	120	120	120	120	600

Table 4: Response Outcomes

		Totals	Rates relative to total contacted
Overall	Contacts available in frame	91,916	
	Issued	2,549	
	Contacted	2,243	
Screening phase	Eligibles	1,470	65.5%
	Screener refusals	4	0.2%
	Assumed eligibles	1,474	65.7%
	Ineligible + out of target	611	27.2%
	Unobtainables	155	6.9%
Interview phase (only if eligible)	Interview refusals	170	7.6%
	Complete interviews	600	26.7%

Table 5: Survey Yield Rates

Stratification		Yield	Survey response rate	Frame quality
Panel	Fresh	21.8%	36.1%	60.4%
	Panel	40.3%	50.2%	80.3%
Size	Small (5-19)	28.7%	44.4%	64.7%
	Medium (20-99)	25.1%	40.8%	61.5%
	Large (100+)	24.5%	41.0%	59.8%
	Unknown	26.0%	27.2%	95.5%
Region	Arusha	36.1%	60.9%	59.4%
	Dar-es-salaam	25.7%	32.9%	78.1%
	Dodoma	20.8%	51.9%	40.1%
	Mbeya	20.4%	39.7%	51.4%
	Zanzibar	28.8%	33.0%	87.2%
Sector	Food	31.1%	46.1%	67.5%
	Other Manufacturing	30.4%	42.1%	72.2%
	Retail	35.8%	42.8%	83.6%
	Hotels	40.0%	47.4%	84.4%
	Other Services	15.9%	32.1%	49.3%
Overall	Tanzania 2023	26.7%	40.7%	65.7%

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

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

		Food	Other Manufacturing	Retail	Hotels	Other Services	Grand Total
Arusha	Small (5-19)	11	21	16	11	30	168
Arusha	Medium (20-99)	10	7	9	11	4	
Arusha	Large (100 or more)	14	10	5	8	1	
Dar-es-salaam	Small (5-19)	9	21	23	14	41	186
Dar-es-salaam	Medium (20-99)	7	9	9	7	9	
Dar-es-salaam	Large (100 or more)	4	11	8	9	5	
Dodoma	Small (5-19)	3	3	6	5	19	68
Dodoma	Medium (20-99)	6	5	5	6	0	
Dodoma	Large (100 or more)	6	2	0	2	0	
Mbeya	Small (5-19)	5	7	7	9	14	75
Mbeya	Medium (20-99)	4	5	4	4	8	
Mbeya	Large (100 or more)	3	4	0	0	1	
Zanzibar	Small (5-19)	5	5	5	4	4	103
Zanzibar	Medium (20-99)	0	3	5	8	5	
Zanzibar	Large (100 or more)	0	1	0	5	1	
Zanzibar	Unknown	7	4	16	23	2	
		94	118	118	126	144	600

Table 7: Achieved Panel Sample

		Food	Other Manufacturing	Retail	Hotels	Other Services	Grand Total
Arusha	Small (5-19)	7	18	11	8	17	92
Arusha	Medium (20-99)	6	3	6	6	2	
Arusha	Large (100 or more)	1	6	0	1	0	
Dar-es-salaam	Small (5-19)	4	15	19	12	23	110
Dar-es-salaam	Medium (20-99)	3	5	6	2	8	
Dar-es-salaam	Large (100 or more)	1	7	0	0	5	
Mbeya	Small (5-19)	2	1	4	3	4	20
Mbeya	Medium (20-99)	0	2	1	0	1	
Mbeya	Large (100 or more)	1	1	0	0	0	
Zanzibar	Small (5-19)	3	2	1	0	2	18
Zanzibar	Medium (20-99)	0	2	2	4	1	
Zanzibar	Large (100 or more)	0	1	0	0	0	
		28	63	50	36	63	240

Table 8: Weak Universe Estimates

		Food	Other Manufacturing	Retail	Hotels	Other Services	Grand Total
Arusha	Small (5-19)	466	1721	1325	1603	7201	14656
Arusha	Medium (20-99)	86	380	60	163	1370	
Arusha	Large (100 or more)	21	109	7	11	132	
Dar-es-salaam	Small (5-19)	470	3362	3652	1039	7014	18312
Dar-es-salaam	Medium (20-99)	75	535	295	219	1238	
Dar-es-salaam	Large (100 or more)	28	192	28	17	148	
Dodoma	Small (5-19)	387	1126	914	863	0	5795
Dodoma	Medium (20-99)	34	119	0	48	0	
Dodoma	Large (100 or more)	12	32	0	2	0	
Dodoma	Medium and Large (20+)	0	0	34	0	0	
Dodoma	Small, Medium and Large (5+)	0	0	0	0	2223	
Mbeya	Small (5-19)	123	720	418	555	3362	6075
Mbeya	Medium (20-99)	23	55	17	27	703	
Mbeya	Large (100 or more)	4	20	0	0	48	
Zanzibar	Small (5-19)	0	565	516	174	440	2925
Zanzibar	Medium (20-99)	0	17	9	46	8	
Zanzibar	Large (100 or more)	0	1	0	17	1	
Zanzibar	Unknown	28	228	280	194	290	
Zanzibar	Small and Medium (5-99)	112	0	0	0	0	
		1869	9181	7555	4979	24179	47764

Table 9: Median Universe Estimates

		Food	Other Manufacturing	Retail	Hotels	Other Services	Grand Total
Arusha	Small (5-19)	410	1490	1238	1517	6095	12878
Arusha	Medium (20-99)	79	344	59	161	1213	
Arusha	Large (100 or more)	21	106	8	12	126	
Dar-es-salaam	Small (5-19)	383	2701	3168	913	5511	15046
Dar-es-salaam	Medium (20-99)	64	449	268	201	1017	
Dar-es-salaam	Large (100 or more)	26	174	28	17	125	
Dodoma	Small (5-19)	308	884	774	741	0	4673
Dodoma	Medium (20-99)	29	98	0	43	0	
Dodoma	Large (100 or more)	11	29	0	2	0	
Dodoma	Medium and Large (20+)	0	0	34	0	0	
Dodoma	Small, Medium and Large (5+)	0	0	0	0	1720	
Mbeya	Small (5-19)	103	592	371	499	2702	5032
Mbeya	Medium (20-99)	20	47	16	25	591	
Mbeya	Large (100 or more)	4	18	0	0	44	
Zanzibar	Small (5-19)	0	476	470	160	363	2680
Zanzibar	Medium (20-99)	0	15	8	44	7	
Zanzibar	Large (100 or more)	0	1	0	18	1	
Zanzibar	Unknown	27	221	292	205	274	
Zanzibar	Small and Medium (5-99)	97	0	0	0	0	
		1582	7645	6732	4559	19789	40307

Table 10: Strict Universe Estimates

		Food	Other Manufacturing	Retail	Hotels	Other Services	Grand Total
Arusha	Small (5-19)	411	1496	1236	1516	6119	12914
Arusha	Medium (20-99)	79	345	59	161	1218	
Arusha	Large (100 or more)	21	107	8	12	127	
Dar-es-salaam	Small (5-19)	385	2712	3163	912	5534	15081
Dar-es-salaam	Medium (20-99)	64	451	267	201	1021	
Dar-es-salaam	Large (100 or more)	26	174	28	17	125	
Dodoma	Small (5-19)	307	881	767	735	0	4645
Dodoma	Medium (20-99)	28	97	0	43	0	
Dodoma	Large (100 or more)	11	29	0	2	0	
Dodoma	Medium and Large (20+)	0	0	30	0	0	
Dodoma	Small, Medium and Large (5+)	0	0	0	0	1714	
Mbeya	Small (5-19)	103	594	371	498	2713	5047
Mbeya	Medium (20-99)	20	47	16	25	593	
Mbeya	Large (100 or more)	4	18	0	0	44	
Zanzibar	Small (5-19)	0	477	467	160	363	2669
Zanzibar	Medium (20-99)	0	15	8	44	7	
Zanzibar	Large (100 or more)	0	1	0	18	1	
Zanzibar	Unknown	27	219	289	203	273	
Zanzibar	Small and Medium (5-99)	97	0	0	0	0	
		1,585	7,664	6,709	4,547	19,852	40,356

Table 11: Item Response Rates

	 Screener/Interview	d2	l1	n2a	all TFP variables
Panel	Fresh	83.1%	99.7%	82.8%	65.8%
	Panel	89.2%	100.0%	85.8%	75.9%
Size	Small (5-19)	91.5%	99.7%	89.2%	78.1%
	Medium (20-99)	81.4%	100.0%	77.8%	65.4%
	Large (100+)	70.3%	100.0%	75.8%	58.3%
Region	Arusha	81.1%	100.0%	81.7%	67.6%
	Dar-es-salaam	86.8%	100.0%	85.8%	74.6%
	Dodoma	76.9%	100.0%	80.0%	52.6%
	Mbeya	86.3%	98.6%	89.0%	73.7%
	Zanzibar	95.1%	100.0%	83.5%	74.2%
Sector	Food	80.8%	100.0%	78.1%	58.9%
	Other Manufacturing	87.8%	100.0%	85.4%	76.4%
	Retail	85.9%	100.0%	81.8%	N/A
	Hotels	81.2%	99.3%	83.2%	N/A
	Other Services	89.7%	100.0%	87.8%	N/A
Overall	Tanzania 2023	85.5%	99.8%	84.0%	69.9%

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).