

Togo Indicator Survey Data Set

1. Introduction

- 1.1. This document provides additional information for the Indicator Survey data collected in Togo from 18th July and 16th October 2009 as part of the Enterprise Survey,¹ an initiative of the World Bank.
- 1.2. The Enterprise Surveys, through interviews with firms in the manufacturing and services sectors, capture business perceptions on the biggest obstacles to enterprise growth, the relative importance of various constraints to increasing employment and productivity, and the effects of a country's business environment on its international competitiveness. They are used to create statistically significant business environment indicators that are comparable across countries. The Enterprise Surveys are also used to build a panel of enterprise data that will make it possible to track changes in the business environment over time and allow, for example, impact assessments of reforms.
- 1.3. The report describes the sampling design of the survey, the structure of the dataset and additional information that may be useful when using the data, including information on non-response rates, the calculation of sample weights and country-specific factors that may have affected survey implementation.

2. Survey Target Population

- 2.1. The whole population, or the universe, covered in the Enterprise Surveys is the non-agricultural economy. It comprises: all manufacturing sectors according to the ISIC Revision 3.1 group classification (group D), construction sector (group F), services sector (groups G and H), and transport, storage, and communications sector (group I). Note that this population definition excludes the following sectors: financial intermediation (group J), real estate and renting activities (group K, except sub-sector 72, IT, which was added to the population under study), and all public or utilities-sectors.
- 2.2. The Indicator Survey (IS) for Togo targeted 150 registered establishments with at least five employees. In addition, 150 registered establishments with one to four employees (micro) in the sectors defined above were also targeted for supplementary surveys.

¹ The Enterprise Survey initiative includes two types of surveys: Enterprise Surveys and Indicator Surveys. The former is a survey of firms that is meant to be representative of a country's non-agricultural economy. Interviews are conducted using the Core questionnaire, Core + Manufacturing module, or the Core + Retail module. An Indicator Survey is similar to an Enterprise Survey and it is implemented for smaller economies where the sampling strategies inherent in an Enterprise Survey are often not applicable due to the limited universe of firms. The survey instrument is limited to just those questions which form the basis of the global indicators as presented on the Enterprise Surveys website. For a complete list and more detailed information on each type of surveys see <http://www.enterprisesurveys.org/Methodology/CurrentProjects.aspx>

- 2.3. In the Enterprise Surveys, the requirements for registration are defined on a country-by-country basis using the information collected by Doing Business and information from the in-country contractors. In Togo, registered firms were defined as firms registered at the Chambre de Commerce et d'Industrie du Togo and the Societe d'administration de la Zone Franche Registers.

3. Sampling for Registered Establishments

- 3.1. The sample for registered establishments in Togo was selected using stratified random sampling, following the methodology explained in the *Sampling Manual*.² Two levels of stratification were used in the Togo sample: firm sector and firm size. The original sample design, with specific targets for these strata, is included in Appendix A.
- 3.2. Industry stratification was designed as follows: the universe was stratified into manufacturing and services industries. The initial sample design had a target of 75 interviews in manufacturing and 75 interviews in services for the main IS, and 17 interviews in manufacturing and 133 interviews in services for the Micro module.
- 3.3. Size stratification was defined following the standardized definition used for the Enterprise Surveys: small (5 to 19 employees), medium (20 to 99 employees), and large (more than 99 employees). For stratification purposes, the number of employees was defined on the basis of reported permanent full-time workers.

4. Sampling implementation

- 4.1. Given the stratified design, sample frames containing a complete and updated list of establishments as well as information on all stratification variables (number of employees, industry, and region) are required to draw the sample for the Enterprise Surveys.
- 4.2. Three frames were used for Togo: the Chambre de Commerce et d'Industrie du Togo 2007, the AGET (Association des Grandes Entreprises du Togo) 2009 list, and the SAZOF (Societe d'administration de la Zone franche) 2009 list.
The three databases contained the following information:
- Name of the firm
 - Contact details
 - ISIC code
 - Number of employees.
- 4.3. Counts from all sample frames shown below.

Universe Figures for Togo

² The complete text of the *Sampling Manual* can be found at http://www.enterprisesurveys.org/documents/Sampling_Note.pdf

Region	Empl's	Manufacturing	Services	Grand Total
Lomé	< 5	16	632	648
	5 to 19	116	2,316	2,432
	20 to 99	47	80	127
	100+	30	16	46
Lomé Total		209	3,044	3,253
Grand Total		209	3,044	3,253

Source: Chambre de Commerce et d'Industrie du Togo 2007, AGET (Association des Grandes Entreprises du Togo) 2009 and SAZOF (Société d'administration de la Zone franche) 2009.

- 4.4. The enumerated establishments were then used as the frame for the selection of a sample with the aim of obtaining interviews at 150 establishments with five or more employees and a further 150 with establishments with less than five employees (micro establishments).
- 4.5. The quality of the frame was assessed at the onset of the project through calls to a random subset of firms and local contractor knowledge. The sample frame was not immune from the typical problems found in establishment surveys: positive rates of non-eligibility, repetition, non-existent units, etc. The local implementing agency commented that many firms classified in the sample frame as manufacturing were determined to be operating in services. Furthermore, as many firms listed in the sample frame had no contact information and were not listed in the local telephone directory, was very difficult to trace them.
- 4.6. Given the impact that non-eligible units included in the sample universe may have on the results, adjustments may be needed when computing the appropriate weights for individual observations. The percentage of confirmed non-eligible units as a proportion of the total number of sampled establishments contacted for the survey was 57.4% (619 out of 1,079 establishments for the IS and micro samples).³ Breaking down by industry, the following numbers of establishments were surveyed:

	Manufacturing	Services	Total
IS sample	47	108	155
Micro sample	9	136	145

5. Database Structure

- 5.1. The database compiles two different versions of the Indicator Survey questionnaire for all registered establishments. The Services Questionnaire is administered to the establishments in the services sector. The Manufacturing Questionnaire is built upon the Services Questionnaire and adds specific

³ Appendix B shows the tabulations for the Togo sample of registered firms of response codes that are classified as eligible and non-eligible.

questions relevant to manufacturing. Each version of the questionnaire is identified by the index variable, *a0*.

- 5.2. All variables in the database are named using, first, the letter of each section and, second, the number of the variable within the section, i.e. *a1* denotes section A, question 1. Variable names preceded by a prefix “AF” indicate questions specific to the Africa region; these questions may not have been asked in Enterprise Surveys conducted in countries in other regions. Variable names preceded by a prefix “TG” indicate questions specific to the Togo surveys; these questions may not have been asked in Enterprise Surveys conducted in other countries. All other variables are global and are present in all country surveys conducted throughout the world. All variables are numeric with the exception of those variables with an “x” at the end of their names. The suffix “x” indicates that the variable is alpha-numeric.
- 5.3. The variable *idstd* uniquely identifies each establishment at the global level.
- 5.4. The variables *a2* (sampling region), *a6a* (sampling establishment’s size), and *a4a* (sampling sector) contain the establishment’s classification into the strata chosen for each country using information from the sample frame. These variables generate the strata cells for each industry/region/size combination. The variables containing the sample frame information are included in the data set for researchers who may want to further investigate statistical features of the survey and the effect of the survey design on their results.
 - a2* is the variable describing the sampling regions
 - a6a*: coded using the definition for micro, small, medium, and large establishments as discussed above. The code -9 was used to indicate units for which size was undetermined in the sample frame.
 - a4a*: coded using ISIC codes for the industries that comprise the manufacturing, services, and residual categories used in the stratification. These codes include most manufacturing industries (15 to 37), and retail, and IT for services (52, and 72 respectively). All establishments within the ‘other manufacturing’ stratum were coded with *a4a*=2.
 - strata: identifies sampling strata in the database
- 5.5. Note that these variables may not coincide with reality for some establishments as sample frames may contain information that is later found to be inaccurate.
- 5.6. The surveys were implemented following a two stage procedure. In the first stage a screener questionnaire was administered over the phone to determine sampled establishment’s eligibility for the survey and to make appointments; in the second stage, a face-to-face interview took place with the Manager/Owner/Director of each establishment. The variables *a4b* and *a6b* contain the industry and size of the establishment from the screener questionnaire. Variables *a8* to *a11* contain additional information that was collected in the screening phase.

- 5.7. The main questionnaire contains variables for location (*a3x*), industry (*d1a2*), and number of employees (*l1*, *l6* and *l8*) that more accurately describe the characteristics of establishments than the information provided on these variables in the sample frame or the screener.
- 5.8. A distinction should be made between the variable *a4a* and *d1a2* (*industry expressed as ISIC rev. 3.1 code*). The former gives the establishment's classification into industry-strata based on information available from the sample frame, whereas variable *d1a2* indicates the actual ISIC code of the main output of the establishment as answered by the interviewee. This variable is probably the most accurate variable with which to classify establishments by activity.
- 5.9. Variable *a3x* indicates the actual location of the establishment. There may be divergences between the location in the sampling frame and the actual location, as establishments may be listed in one place on the sample frame but the actual physical location is in another place.
- 5.10. Variables *l1*, *l6* and *l8* provide a more accurate measure of employment that accounts for both permanent (*l1*) and temporary employment (*l6*, adjusted by duration of employment *l8*). Special efforts were made to make sure that this information was not missing for most establishments. The indicators on the website use the constructed variable *size*, which is computed as follows:

$$\begin{aligned}
 \text{size} &= l1 \text{ if no temporary employment} \\
 &= l1 + l6*(l8/12) \text{ if temporary employment with known duration} \\
 &= l1 + l6*(1/3) \text{ if temporary employment with unknown duration}
 \end{aligned}$$

6. Sample Eligibility and Universe Estimates

- 6.1. Special care is given to the correct computation of universe estimates and weights in the Enterprise Surveys. Considering the varying quality of sample frames across countries, it is important to accurately adjust the universe totals within each region/industry/size stratum to account for the presence of ineligible units in the sampling frame. Information on ineligible firms in the sample frame is used to scale down the universe estimate for each cell by the observed proportion of ineligible units within the cell.
- 6.2. Information on the eligibility of firms in the sample frame is collected during the screening process. Each firm contacted during the screening process, whether interviewed or not, is assigned one of the status codes detailed in the table below.

Status Code	Eligibility Criteria		
	Strict	Weak	Median
1. Eligible establishment (Correct name and address)	1	1	1
2. Eligible establishment (Different name but same address - the new firm/establishment bought the original firm/establishment)	1	1	1
3. Eligible establishment (Different name but same address - the	1	1	1

firm/establishment changed its name)			
4. Eligible establishment (Wrong address - the firm/establishment has changed address and the address could be found)	1	1	1
16. Panel firm - now less than five employees	1	1	1
5. The establishment has less than 5 permanent full time employees	0	0	0
6. The firm discontinued businesses	0	0	0
7. Not a business: Private household	0	0	0
8. Ineligible activity: education, agriculture, finance, governments...	0	0	0
91. No reply (after having called in different days of the week and in different business hours)	0	1	0
92. Line out of order	0	1	0
93. No tone	0	1	0
10. Answering machine	0	1	1
11. Fax line – data line	0	1	1
12. Wrong address/ moved away and could not get the new references	0	1	0
13. Refuses to answer the screener	0	1	1
14. In process (the establishment is being called/ is being contacted – previous to ask the screener)	0	0	0
151. Out of target – outside the covered regions, firm moved abroad	0	0	0
152. Out of target – firm moved abroad	0	0	0

6.3. The local implementing agency commented that many firms in the sample frame had missing phone numbers or wrong addresses making it very difficult to locate the firms. The tables in Appendix B show the numbers of firms in each status code at the conclusion of the survey.

6.4. For some establishments where contact was not successfully completed during the screening process (because the firm has moved and it is not possible to locate the new location, for example), it is not possible to directly determine eligibility. Thus, different assumptions about the eligibility of establishments result in different adjustments to the universe cells and thus different sampling weights.

6.5. Three sets of assumptions on establishment eligibility are used to construct sample adjustments using the status code information.

6.5.1. Strict assumption: eligible establishments are only those for which it was possible to directly determine eligibility. The resulting weights are included in the variable *w_strict*.

$$\text{Strict eligibility} = (\text{Sum of the firms with codes 1,2,3,4,\&16}) / \text{Total}$$

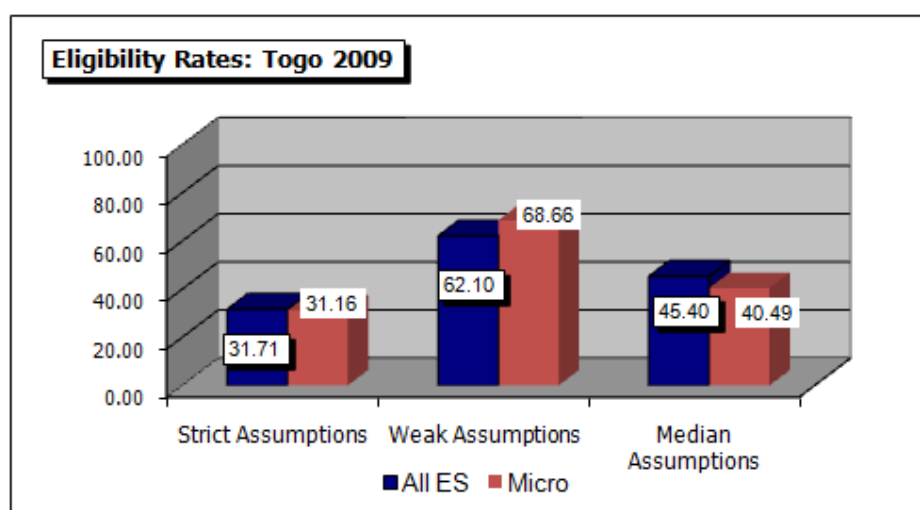
6.5.2. Median assumption: eligible establishments are those for which it was possible to directly determine eligibility and those that rejected the screener questionnaire or an answering machine or fax was the only response. The resulting weights are included in the variable *w_median*.

Median eligibility = (Sum of the firms with codes 1,2,3,4,16,10,11, & 13) / Total

6.5.3. Weak assumption: in addition to the establishments included in points a and b, all establishments for which it was not possible to contact or that refused the screening questionnaire are assumed eligible. This definition includes as eligible establishments with dead or out of service phone lines, establishments that never answered the phone, and establishments with incorrect addresses for which it was impossible to find a new address. The resulting weights are included in the variable *w_weak*. Under the weak assumption only observed non-eligible units are excluded from universe projections.

Weak eligibility
= (Sum of the firms with codes 1,2,3,4,16,91,92,93,10,11,12,&13) / Total

6.6. The indicators computed for the Enterprise Survey website use the median weights. The following graph shows the different eligibility rates calculated for firms in the sample frame under each set of assumptions.



6.7. Universe estimates for the number of establishments in each industry-region-size cell in Togo were produced for the strict, weak and median eligibility definitions. Appendix C shows the universe estimates of the numbers of registered establishments based on the strict, weak and median relative estimates.

6.8. Once an accurate estimate of the universe cell projection was made, weights for the probability of selection were computed using the number of completed interviews for each cell.

7. Weights

- 7.1. Since the sampling design was stratified and employed differential sampling of the strata, individual observations should be properly weighted when making inferences about the population. Under stratified random sampling unweighted estimates are biased unless sample sizes are proportional to the size of each stratum. With stratification the probability of selection of each unit is, in general, not the same. Consequently, individual observations must be weighted by the inverse of their probability of selection (probability weights or *pw* in Stata.)⁴
- 7.2. Several sets of weights for each cell were computed using the strict, weak, and median assumptions on establishment eligibility. The first set of estimates calculated proportions using the raw sample count for each cell. However, for many cells the sample numbers of interviewed establishments are small, and eligibility rates and adjusted universe cells projections for those cells are subject to relatively large sampling variations. A set of more robust estimates that use the multiples of the relative eligibility rates for each industry, size, and region was also produced. In addition, in cases where the cell sizes are small, collapsed weights are produced based on combined cells with larger samples than the individual cells, which produce values with smaller sampling variations. The data sets include only the robust weights.⁵
- 7.3. Appendix D shows the cell weights for registered establishments in Togo.

8. Non-response

- 8.1. The Enterprise Surveys, along with all other surveys, suffer from both survey non-response and item non-response. The former refers to refusals to participate in the survey altogether whereas the latter refers to the refusals to answer some specific questions. Different strategies were used to address these issues.
- 8.2. Survey non-response was addressed by maximizing efforts to contact establishments that were initially sampled. When the survey frame was extracted from the sampling frame, several establishments with the same strata characteristics were randomly selected for each interview and each establishment was assigned a preference number.⁶ Substitutions of replacement establishments were made in order to help achieve targets on the number of interviews for each stratum. Extensive efforts were made to complete interviews with each first preference establishment before contact

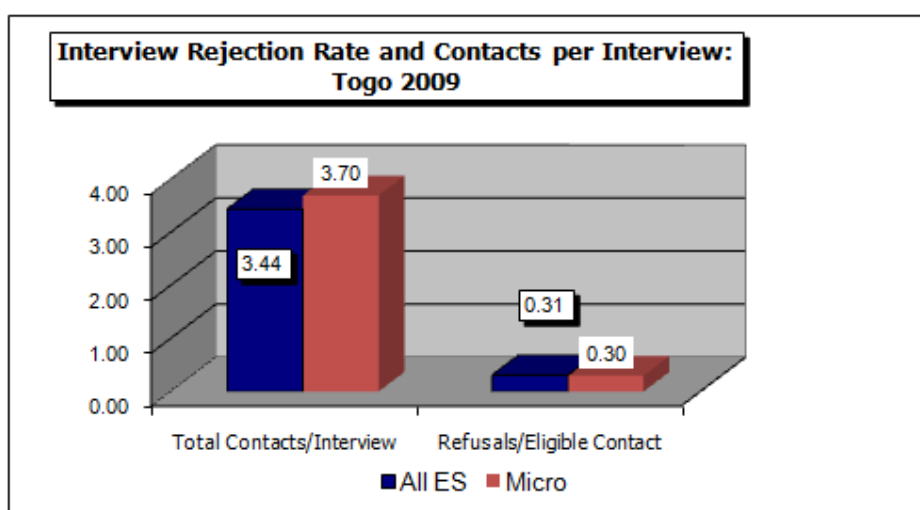
⁴ This is equivalent to the weighted average of the estimates for each stratum, with weights equal to the population shares of each stratum.

⁵ See *A Note on Weights* for more details on the weight calculations and using weights with the Enterprise Surveys.

⁶ In cases where the number of contacts initially drawn from the sample frame are insufficient to obtain an interview with the targeted number of establishments in a given strata, additional contacts for that strata may be drawn from the sampling frame. If all establishments in that strata have already been contacted and the sample target has not been reached, the sample design may be adjusted to allow additional interviews in other strata. In Togo, the sample design was readjusted from the original design to reflect the small numbers of manufacturing establishments in the country. Additionally, more contacts were issued near the end of fieldwork to compensate for lower than expected response rates in several strata.

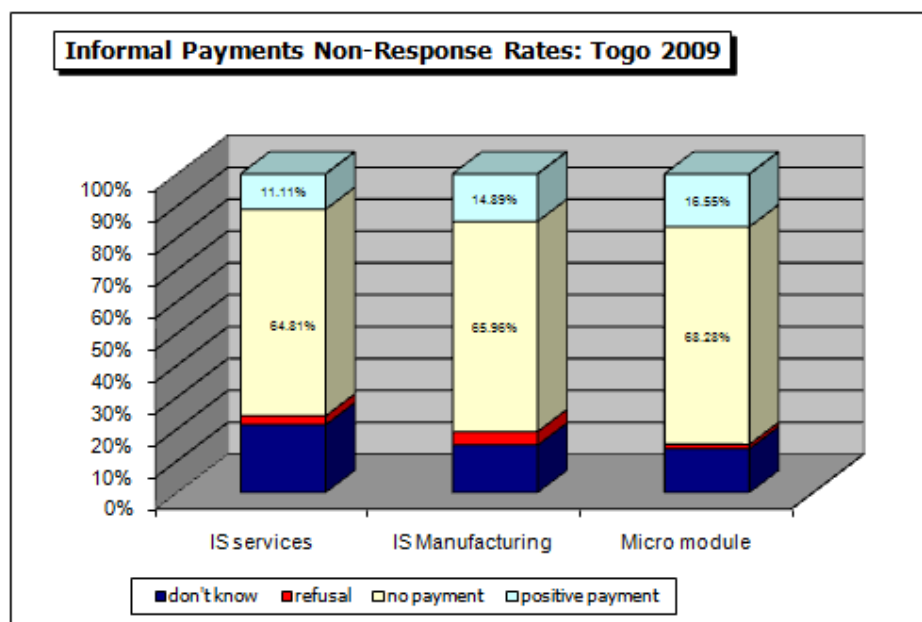
with a replacement establishment was allowed. At least four attempts were made to contact each sampled establishment for an interview at different times/days of the week before a replacement establishment was allowed to be contacted for an interview.

- 8.3. As the following graph shows, the number of contacted establishments per realized interview was 3.44 for the Indicator Survey and 3.70 for the Micro sample. This number is the result of two factors: explicit refusals to participate in the survey, as reflected by the rate of rejection (which includes rejections of the screener and the main survey) and the quality of the sample frame, as represented by the presence of ineligible units (e.g., establishments that closed or were in ineligible sectors). Refusal rates are also shown in the graph below. For each establishment eligible for an interview, 0.31 in the Indicator Survey and 0.30 in the Micro module refused to participate.

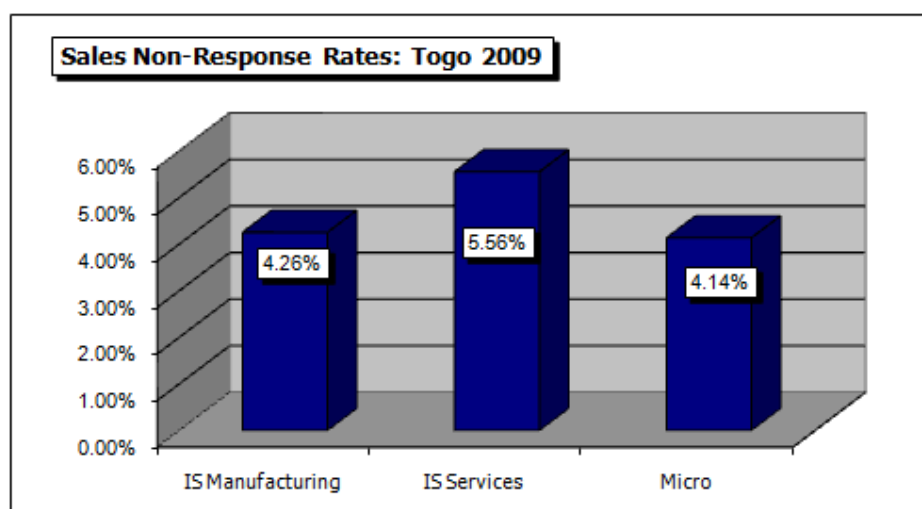


- 8.4. In completed surveys, item non-response was addressed by two strategies:

- 8.4.1. For sensitive questions that may generate negative reactions from the respondent, such as corruption or tax evasion, enumerators were instructed to collect the refusal to respond (-7) as a different option from don't know (-9).
 - 8.4.2. Establishments with incomplete information on critical productivity variables including total sales, cost figures and employment levels were re-contacted in order to complete this information and minimize item non-response. However, re-contacts did not fully eliminate low response rates for some items.
- 8.5. The following graph shows the breakdown of answers about the total amount of informal payments made annually (variables *j7a* and *j7b*) by questionnaire type.



8.6. The following graph shows non-response rates for the sales variable.



8.7. This report summarizes statistics on rejection rates, eligibility rates, and item non-response to alert researchers of these issues when using the data and when making inferences. Item non-response, selection bias, and imperfect sampling frames are not unique to Togo or the Enterprise Surveys. All surveys suffer from these issues although they may not be made explicit.

9. Country specific comments

9.1. In Togo, fieldwork ran from 12th May 2008 to 20th July 2009. The local agency employed a total of 15 enumerators and recruiters as well as 2 fieldwork coordinators. Data entry was completed by 3 staff.

9.2. The local agency faced many difficulties during fieldwork due to the firms' reluctance to participate in the survey. Especially medium and large size

firms in the manufacturing sector were either not interested, or requested the local agency to seek permission from the authorities and produce official proof to that matter, or requested official mails for management consideration and approval. Another major issue was that firms were being suspicious of the interviewers taking them for disguised investigators looking out for some defaulting companies of some sorts or even tax collectors etc. Also, due to the rising cyber fraud in the country, some took the interviewers for fraudsters. For example, one of the interviewers was picked up by the police at a respondent's shop after the respondent called them and although he gave an appointment to the interviewer.

- 9.3. The local agency reported also some difficulties linked to the economic, political and social situation in Togo: "the Togolese economy is an ailing economy and businesses are day in day out opening and closing down for bankruptcy, bad sales and high cost of doing businesses. Services companies are the most suffering". Concerning the political situation "as the presidential electoral period is fast approaching, fear is beginning to take over people and refrain from expressing themselves freely about certain sensitive aspects of their country's economic, political and social life". Finally, about the social context, "the withdrawal of the operating license of MOOV, a telecommunication operator in the country has also immensely perturbed the study since all subscribing companies to this telecommunication could no longer be accessible. This has also made a lot of MOOV employees jobless".
- 9.4. The local agency noted several difficulties in how questions were understood in Togo. In general, they noted that it was very difficult to collect financial data because firms are reluctant to give them. Also, most of the companies do not have an elaborate accounting system thus it was hard to collect financial figures. Specific comments were made for the following questions:
 - n2a (annual cost of labour): many respondents didn't understand thus question. The local agency had situations where respondents understood this question as total annual operating cost rather than cost of labour including salaries, allowances and other benefits.
 - d1a2 (ISIC code main product or service): respondents found it difficult to choose the right ISIC code for the main product/activity of the company.

Appendix A

Original Indicator Sample Design

		Sector		
Region	Employees	MANUFACTURING	SERVICES	Grand Total
Lomé	5-19	25	29	62
	20 to 99	25	30	55
	100+	25	16	33
Grand Total		75	75	150

Original Micro Sample Design

		Sector		
Region	Employees	MANUFACTURING	SERVICES	Grand Total
Lomé	Less than 5	17	133	150
Grand Total		17	133	150

Appendix B

Indicator Survey Sample

Status Codes

1. Eligible establishment (Correct name and address)	169
2. Eligible establishment (Different name but same address - the new firm/establishment bought the original firm/establishment)	0
3. Eligible establishment (Different name but same address - the firm/establishment changed its name)	0
4. Eligible establishment (Wrong address - the firm/establishment has changed address and the address could be found)	0
16. Panel firm - now less than five employees	0
5. The establishment has less than 5 permanent full time employees	10
6. The firm discontinued businesses	28
7. Not a business: private household	17
8. Ineligible activity: education, agriculture, finances, governments...	35
91. No reply (<i>after having called in different days of the week and in different business hours</i>)	22
92. Line out of order	12
93. No tone	6
10. Answering machine	1
11. Fax line - data line	6
12. Wrong address/ moved away and could not get the new references	49
13. Refuses to answer the screener	66
14. In process (<i>the establishment is being called/ is being contacted - previous to ask the screener</i>)	5
151. Out of target - outside the covered regions	27
152. Out of target - firm moved abroad	1
153. Impossible to find	83
Total	537

Response Outcomes

Complete interviews (Total)	155
Incomplete interviews	4
Elegible in process	4
Refusals	7
Out of target	90
Impossible to contact	96
Ineligible - coop.	28
Refusal to the Screener	66
Total	450

Micro Module Sample

Status Codes

1. Eligible establishment (Correct name and address)	166
2. Eligible establishment (Different name but same address - the new firm/establishment bought the original firm/establishment)	0
3. Eligible establishment (Different name but same address - the firm/establishment changed its name)	1
4. Eligible establishment (Wrong address - the firm/establishment has changed address and the address could be found)	0
16. Panel firm - now less than five employees	0
5. The establishment has less than 5 permanent full time employees	0
6. The firm discontinued businesses	18
7. Not a business: private household	12
8. Ineligible activity: education, agriculture, finances, governments...	10
91. No reply (<i>after having called in different days of the week and in different business hours</i>)	2
92. Line out of order	2
93. No tone	0
10. Answering machine	3
11. Fax line - data line	0
12. Wrong address/ moved away and could not get the new references	147
13. Refuses to answer the screener	47
14. In process (<i>the establishment is being called/ is being contacted - previous to ask the screener</i>)	1
151. Out of target - outside the covered regions	92
152. Out of target - firm moved abroad	3
153. Impossible to find	33
Total	537

Response Outcomes

Complete interviews (Total)	145
Incomplete interviews	4
Elegible in process	1
Refusals	17
Out of target	40
Impossible to contact	154
Ineligible - coop.	95
Refusal to the Screener	47
Total	503

Appendix C

Togo Strict Universe Estimates

Region	Empl's	Manufacturing	Services	Grand Total
Lomé	< 5	8	259	267
	5 to 19	46	929	975
	20 to 99	20	35	55
	100+	10	5	15
Lomé Total		84	1,228	1,313
Grand Total		84	1,228	1,313

Togo Weak Universe Estimates

Region	Empl's	Manufacturing	Services	Grand Total
Lomé	< 5	14	571	586
	5 to 19	89	1,789	1,878
	20 to 99	39	68	107
	100+	22	12	34
Lomé Total		164	2,440	2,605
Grand Total		164	2,440	2,605

Togo Median Universe Estimates

Region	Empl's	Manufacturing	Services	Grand Total
Lomé	< 5	9	331	340
	5 to 19	67	1,234	1,301
	20 to 99	34	54	88
	100+	17	8	25
Lomé Total		126	1,626	1,753
Grand Total		126	1,626	1,753

Appendix D

Togo Strict Cell Weights

Region	Empl's	Manufacturing	Services
Lomé	< 5	1	2
	5 to 19	1	15
	20 to 99	1	1
	100+	1	1

Togo Weak Cell Weights

Region	Empl's	Manufacturing	Services
Lomé	< 5	2	4
	5 to 19	3	28
	20 to 99	2	2
	100+	2	3

Togo Median Cell Weights

Region	Empl's	Manufacturing	Services
Lomé	< 5	1	2
	5 to 19	2	20
	20 to 99	2	2
	100+	2	2