

Cameroon Enterprise Surveys Data Set

1. Introduction

- 1.1. This document provides additional information on the data collected in Cameroon from 1 June 2009 to 15 October 2009 as part of the Enterprise Survey, 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 Enterprise Survey for Cameroon targeted 360 registered establishments with at least five employees. In addition, 120 registered establishments with one to four employees (micro) and 120 non-registered firms in the sectors defined above were also targeted for supplementary surveys. The sampling for registered and non-registered establishments was implemented separately. This Implementation Report primarily concentrates on the implementation of the surveys for registered establishments.
 - 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 Cameroon, registered firms were defined as firms included in the Registre du Commerce compiled by the Chamber of Commerce of Cameroon.

3. Sampling for Registered Establishments

- 3.1. The sample for registered establishments in Cameroon was selected using stratified random sampling, following the methodology explained in the *Sampling Manual*.¹ Three levels of stratification were used in the Cameroon sample: firm sector, firm size, and geographic region. 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 one manufacturing industry, one services industry (retail) and one services residual sector as defined in the sampling manual. The initial sample design had a target of 120 interviews in manufacturing, 120 interviews in retail and 120 interviews in the services residual categories. The initial sample design for micro targeted 120 establishments, 40 in manufacturing, 40 in retail and 40 in other services. The sample design for the informal survey was designed to mirror the micro sample.
- 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. The micro sample consists of firms with 1 to 4 employees.
- 3.4. Regional stratification was defined in terms of the geographic regions with the largest commercial presence in the country: Littoral (Douala), Centre (Yaoundé) and West (Bafoussam) were the three metropolitan areas selected in Cameroon.

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. Two frames were used for Cameroon. The first was obtained from the Chamber of commerce of Cameroon (2008). The sample frame collected information for 8000 companies in various sector of activities spread in all the regions of Cameroon. The second frame (the panel sample) consisted of enterprises interviewed for the Enterprise Survey in 2006, which were to be re-interviewed where they were in the selected geographical regions and met eligibility criteria.² Both database contained the following information:
 - Name of the firm
 - Contact details

¹ The complete text of the *Sampling Manual* can be found at http://www.enterprisesurveys.org/documents/Sampling_Note.pdf

² An exception from the general Enterprise Survey methodology is made for panel firms: firms that met sample eligibility criteria in the previous survey but are now found to have fewer than five employees are maintained in the current round sample and are interviewed.

- ISIC code
- Number of employees.

4.3. According to the local contractor, the list was not accurate; it was found that many firms listed in the sample frame had wrong names, wrong addresses and phone numbers. There were also few cases of wrong classifications in terms of sector of activity: many firms classified in the sample frame as manufacturing were in reality services. Furthermore, the local implementing agency commented that some companies had wrong information in terms of number of workers.

4.4. Counts from both sample frames shown below.

Universe Figures for Cameroon

Region	Empl's	Manufacturing	Retail	Services	Grand Total
Centre	<5	54	122	82	258
	5 to 19	178	195	252	625
	20 to 99	76	85	152	313
	100+	23	18	36	77
Centre Total		331	420	522	1,273
Littoral	<5	59	272	253	584
	5 to 19	294	421	730	1,445
	20 to 99	195	106	312	613
	100+	73	10	93	176
Littoral Total		621	809	1,388	2,818
Ouest	<5	4	14	16	34
	5 to 19	29	63	43	135
	20 to 99	10	9	17	36
	100+	8		6	14
Ouest Total		51	86	82	219
Grand Total		1,003	1,315	1,992	4,310

Source: 2008 Chamber of Commerce of Cameroon

Panel sample counts for Cameroon

Region	Empl's	Manufacturing	Retail	Services	Grand Total
Centre	<5		2		2
	5 to 19	8	5	9	22
	20 to 99	2	1	1	4
	100+	3		1	4
Centre Total		13	8	11	32
Littoral	<5		2		2
	5 to 19	30	31	16	77
	20 to 99	39	2	3	44
	100+	30		1	31
Littoral Total		99	35	20	154
Ouest	<5				
	5 to 19		3	1	4
	20 to 99	4			4
	100+	1			1

Ouest Total	5	3	1	9
Grand Total	117	46	32	195

- 4.5. The enumerated establishments were then used as the frame for the selection of a sample with the aim of obtaining interviews at 360 establishments with five or more employees and a further 120 with establishments with less than five employees (micro establishments).
- 4.6. 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.
- 4.7. 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 58.5% (971 out of 1,659 establishments for the ES and micro samples, including panel establishments).³ Breaking down by industry, the following numbers of establishments were surveyed:

	Manufacturing	Sector 52	Other Services
ES	116	132	114
Micro	36	3	82

- 4.8. For the informal sector, there were no sample lists of firms. The sampling procedure was to survey a non-registered establishment similar to each registered establishment surveyed in the micro establishment. Because a formal sample frame was not used, it is not possible to calculate response rates, universe estimates, or sampling weights for the informal sector sample.

5. Database Structure

- 5.1. The database compiles three different versions of the Enterprise Survey questionnaire for all registered establishments (including micro). The basic questionnaire, the Core Module, includes all common questions asked to all establishments from all sectors (manufacturing, retail and residual) and this module is administered to establishments in the residual sector. The Manufacturing Questionnaire is built upon the Core Module and adds some specific questions relevant to the sector. The Retail Questionnaire is also built upon the Core Module and adds specific questions relevant to retail. Each version of the questionnaire is identified by the index variable, *a0*. The questionnaire for the informal sector is compiled separately.

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

- 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. 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.
 - panel*: identifies panel firms
 - idquest*: for panel firms the variable contains the same id used in 2006
 - 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 reflect 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. 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:

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

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 firm/establishment changed its name)	1	1	1
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	0	1	0

in different business hours)			
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 often the addresses listed in the sample frame were inaccurate, so it was difficult to locate some 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} .

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

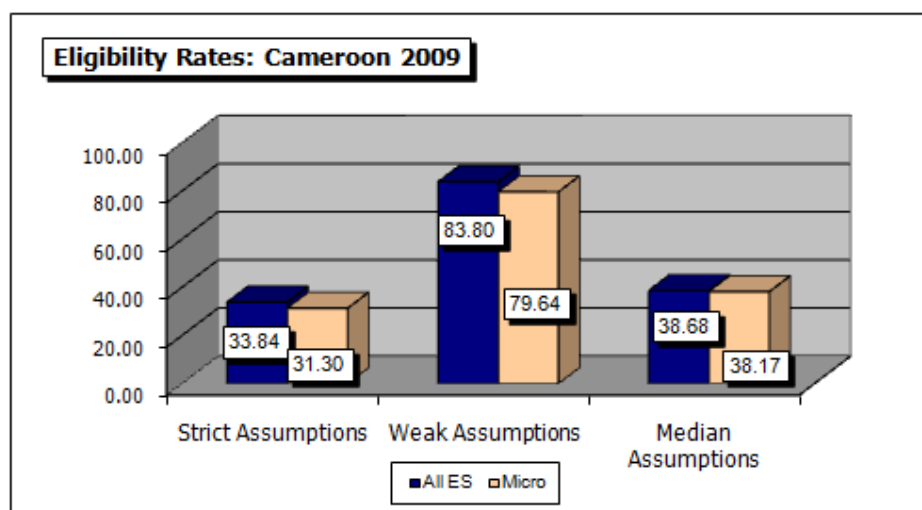
6.5.2. Median assumption: eligible establishments are those for which it was possible to directly determine eligibility and those that rejected the screener questionnaire or an answering machine or fax was the only response. The resulting weights are included in the variable w_{median} .

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

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 Cameroon 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

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

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 Cameroon.

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.

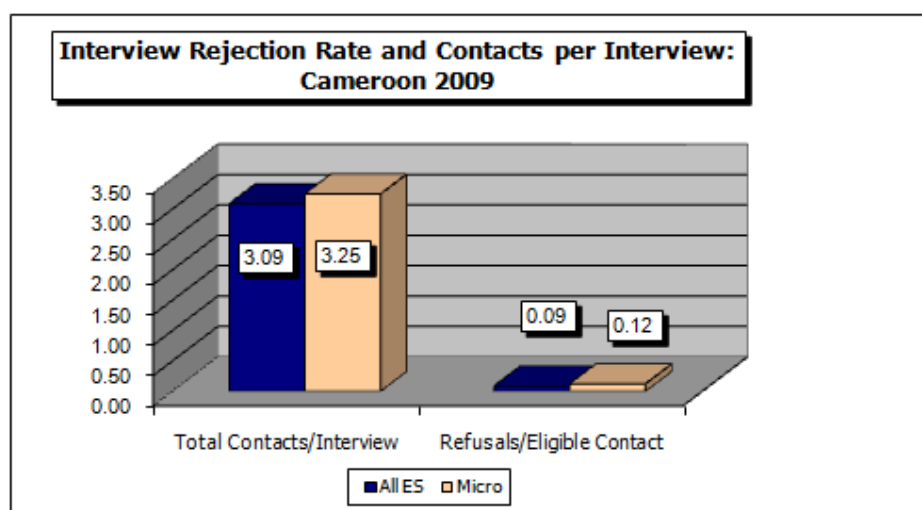
8.2. Survey non-response was addressed by maximizing efforts to contact establishments that were initially sampled. When the survey frame was extracted from the sampling frame, several establishments with the same strata characteristics were randomly selected for each interview and each establishment 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 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 3.09 for the Enterprise Survey and panel sample and 3.25 for micro firms. 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

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 Cameroon, 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.

shown in the graph below. For each establishment eligible for an interview, 0.09 in the Enterprise Survey sample and 0.12 in the micro sample refused to participate.

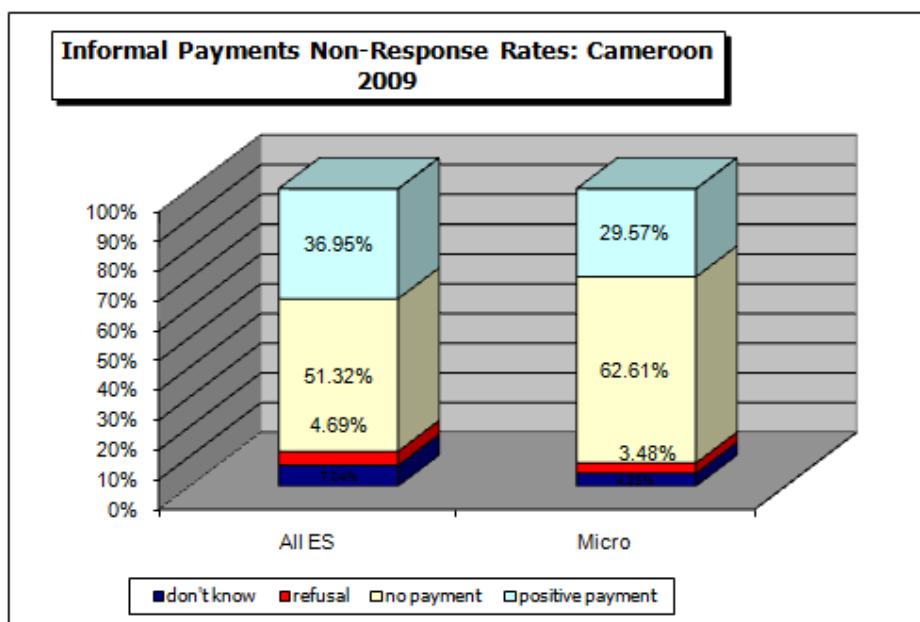


8.4. In completed surveys, item non-response was addressed by two strategies:

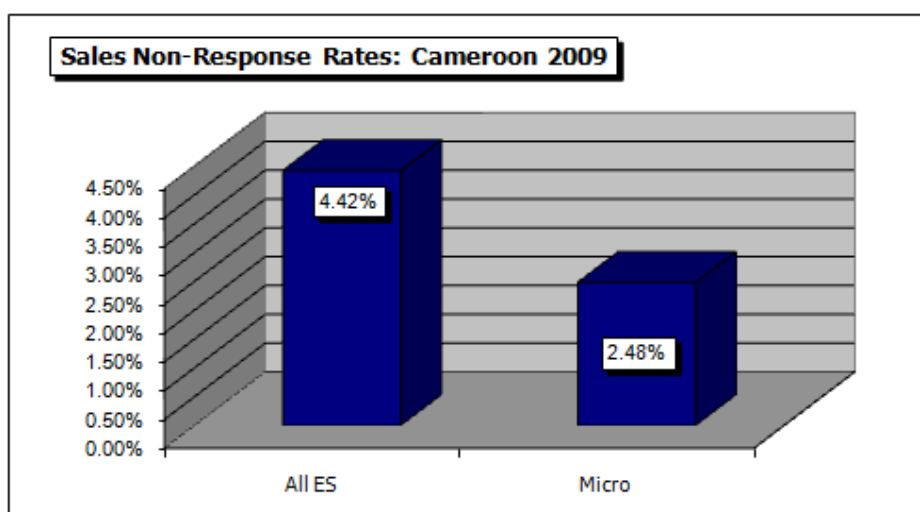
8.4.1. For sensitive questions that may generate negative reactions from the respondent, such as corruption or tax evasion, enumerators were instructed to collect the refusal to respond (-7) as a different option from don't know (-9).

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, *d2*, by type of questionnaire.



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 Cameroon or the Enterprise Surveys. All surveys suffer from these issues although they may not be made explicit.

9. Country specific comments

9.1. In Cameroon, fieldwork ran from 1 June 2009 to 15 October 2009. The local agency employed a total of 88 interviewers and recruiters as well as 3 fieldwork coordinators. Data entry was completed by 2 staff. The local agency faced some difficulties during fieldwork. In general, it was very difficult to collect financial data because firms were reluctant to share them.

Many times interviewee thought that the interviewer were part of the « operation Hawk » that is currently used by the government to track down corrupt officials within the country. Some initial quotas targeted in the areas of Yaoundé and Bafoussam could not be achieved because of the difficulties in finding firms. In particular, in Yaoundé was difficult to find retail and other services firms with more than 100 employees, and in Bafoussam it was difficult to find medium and large-size firms in the manufacturing and other services sectors.

9.2. The local agency also noted several specific questions that were difficult for firms in Cameroon to answer:

- C7 (number of power outages in a typical month), C16 (number of water shortages in a typical month) and J2 (senior management's time spent on dealing with government regulations in a typical week): it was hard to estimate these figures due to the concepts of typical month and week. The interviewee were a little confused between the meaning of typical month and week compared to the normal 30 days month and 7 days week.

Appendix A

Original Sample Design

Region	Empl's	Manufacturing	Retail	Services	Grand Total
Centre	<5	18	15	14	47
	5 to 19	11	18	10	39
	20 to 99	7	19	16	42
	100+	12	1	6	19
Centre Total		48	53	46	147
Littoral	<5	18	20	20	58
	5 to 19	22	37	21	80
	20 to 99	28	29	22	79
	100+	27	5	28	60
Littoral Total		95	91	91	277
Ouest	<5	4	5	6	15
	5 to 19	7	8	6	21
	20 to 99	3	3	8	14
	100+	3		3	6
Ouest Total		17	16	23	56
Grand Total		160	160	160	480

Appendix B

Enterprise Survey Sample

Status Codes

1. Eligible establishment (Correct name and address)	263
2. Eligible establishment (Different name but same address - the new firm/establishment bought the original firm/establishment)	4
3. Eligible establishment (Different name but same address - the firm/establishment changed its name)	2
4. Eligible establishment (Wrong address - the firm/establishment has changed address and the address could be found)	7
16. Panel firm - now less than five employees	0
5. The establishment has less than 5 permanent full time employees	84
6. The firm discontinued businesses	32
7. Not a business: private household	6
8. Ineligible activity: education, agriculture, finances, governments...	25
91. No reply (<i>after having called in different days of the week and in different business hours</i>)	134
92. Line out of order	21
93. No tone	31
10. Answering machine	24
11. Fax line - data line	3
12. Wrong address/ moved away and could not get the new references	254
13. Refuses to answer the screener	18
14. In process (<i>the establishment is being called/ is being contacted - previous to ask the screener</i>)	24
151. Out of target - outside the covered regions	17
152. Out of target - firm moved abroad	0
153. Impossible to find	0
Total	949

Response Outcomes

Complete interviews (Total)	287
Incomplete interviews	1
Elegible in process	1
Refusals	7
Out of target	147
Impossible to contact	467
Ineligible - coop.	17
Refusal to the Screener	18
Total	945

Panel Sample

Status Codes

1. Eligible establishment (Correct name and address)	98
2. Eligible establishment (Different name but same address - the new firm/establishment bought the original firm/establishment)	1
3. Eligible establishment (Different name but same address - the firm/establishment changed its name)	3
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	3
6. The firm discontinued businesses	12
7. Not a business: private household	1
8. Ineligible activity: education, agriculture, finances, governments...	1
91. No reply (<i>after having called in different days of the week and in different business hours</i>)	17
92. Line out of order	2
93. No tone	7
10. Answering machine	4
11. Fax line - data line	0
12. Wrong address/ moved away and could not get the new references	38
13. Refuses to answer the screener	5
14. In process (<i>the establishment is being called/ is being contacted - previous to ask the screener</i>)	3
151. Out of target - outside the covered regions	0
152. Out of target - firm moved abroad	0
153. Impossible to find	0
Total	195

Response Outcomes

Complete interviews (Total)	75
Incomplete interviews	0
Eligible in process	2
Refusals	5
Out of target	17
Impossible to contact	68
Ineligible - coop.	0
Refusal to the Screener	5
Total	172

Micro Sample

Status Codes

1. Eligible establishment (Correct name and address)	114
2. Eligible establishment (Different name but same address - the new firm/establishment bought the original firm/establishment)	2
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)	6
16. Panel firm - now less than five employees	0
5. The establishment has less than 5 permanent full time employees	73
6. The firm discontinued businesses	6
7. Not a business: private household	1
8. Ineligible activity: education, agriculture, finances, governments...	0
91. No reply (after having called in different days of the week and in different business hours)	6
92. Line out of order	7
93. No tone	5
10. Answering machine	11
11. Fax line - data line	1
12. Wrong address/ moved away and could not get the new references	145
13. Refuses to answer the screener	15
14. In process (the establishment is being called/ is being contacted - previous to ask the screener)	2
151. Out of target - outside the covered regions	0
152. Out of target - firm moved abroad	0
153. Impossible to find	0
Total	395

Response Outcomes

Complete interviews (Total)	121
Incomplete interviews	0
Elegible in process	0
Refusals	2
Out of target	80
Impossible to contact	175
Ineligible - coop.	0
Refusal to the Screener	15
Total	393

Appendix C

Cameroon Strict Universe Estimates

Region	Empl's	Manufacturing	Retail	Services	Grand Total
Centre	<5	18	35	23	76
	5 to 19	61	65	83	210
	20 to 99	22	24	43	89
	100+	12	6	12	30
Centre Total		113	131	161	405
Littoral	<5	20	88	81	189
	5 to 19	114	160	273	547
	20 to 99	64	34	99	197
	100+	39	5	35	78
Littoral Total		236	287	488	1,011
Ouest	<5	3	5	6	14
	5 to 19	12	25	17	53
	20 to 99	5	3	8	16
	100+	4		3	7
Ouest Total		23	33	34	89
Grand Total		372	450	682	1,505

Cameroon Weak Universe Estimates

Region	Empl's	Manufacturing	Retail	Services	Grand Total
Centre	<5	43	98	67	208
	5 to 19	151	167	218	536
	20 to 99	65	74	132	271
	100+	22	16	33	71
Centre Total		282	355	450	1,087
Littoral	<5	46	214	201	462
	5 to 19	244	352	617	1,213
	20 to 99	163	89	265	517
	100+	84	8	80	172
Littoral Total		537	664	1,163	2,364
Ouest	<5	3	11	13	27
	5 to 19	24	54	37	115
	20 to 99	12	8	15	34
	100+	8		5	13
Ouest Total		47	72	70	190
Grand Total		866	1,092	1,683	3,640

Cameroon Median Universe Estimates

Region	Empl's	Manufacturing	Retail	Services	Grand Total
Centre	<5	18	45	29	92
	5 to 19	64	76	93	233
	20 to 99	23	29	48	101
	100+	12	8	15	35
Centre Total		118	157	186	460
Littoral	<5	22	112	99	234
	5 to 19	119	183	304	606
	20 to 99	68	40	112	220
	100+	45	5	43	93
Littoral Total		254	340	559	1,153
Ouest	<5	3	6	7	15
	5 to 19	12	28	18	59
	20 to 99	5	3	8	17
	100+	4		3	7
Ouest Total		24	38	36	98
Grand Total		396	535	780	1,711

Appendix D

Cameroon Strict Cell Weights

Region	Empl's	Manufacturing	Retail	Services
Centre	<5	1	2	1
	5 to 19	6	3	9
	20 to 99	3	1	3
	100+	1	6	2
Littoral	<5	1	4	4
	5 to 19	5	4	14
	20 to 99	2	1	5
	100+	1	1	1
Ouest	<5	1	1	1
	5 to 19	2	3	3
	20 to 99	2	1	1
	100+	1		1

Cameroon Weak Cell Weights

Region	Empl's	Manufacturing	Retail	Services
Centre	<5	2	5	4
	5 to 19	15	8	24
	20 to 99	9	3	8
	100+	2	16	4
Littoral	<5	3	11	11
	5 to 19	12	9	31
	20 to 99	6	3	15
	100+	3	2	3
Ouest	<5	1	2	2
	5 to 19	3	7	6
	20 to 99	4	3	2
	100+	3		2

Cameroon Median Cell Weights

Region	Empl's	Manufacturing	Retail	Services
Centre	<5	1	2	2
	5 to 19	6	4	10
	20 to 99	3	1	3
	100+	1	8	2
Littoral	<5	1	6	5
	5 to 19	6	5	15
	20 to 99	2	1	6
	100+	2	1	2
Ouest	<5	1	1	1
	5 to 19	2	4	3
	20 to 99	2	1	1
	100+	1		1