

# The Mali 2010 Enterprise Surveys Data Set

## I. Introduction

1. This document provides additional information on the data collected in Mali between June 2010 and October 2010 as part of the Africa Enterprise Survey 2010, an initiative of the World Bank.

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.

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

## II. Sampling Structure

2. The sample for Mali was selected using stratified random sampling, following the methodology explained in the *Sampling Manual*<sup>1</sup>. Stratified random sampling<sup>2</sup> was preferred over simple random sampling for several reasons<sup>3</sup>:

a. To obtain unbiased estimates for different subdivisions of the population with some known level of precision.

b. To obtain unbiased estimates for the whole population. The whole population, or universe of the study, is the non-agricultural economy. It comprises: all manufacturing sectors according to the group classification of ISIC Revision 3.1: (group D), construction sector (group F), services sector (groups G and H), and transport, storage, and communications sector (group I). Note that this 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.

c. To make sure that the final total sample includes establishments from all different sectors and that it is not concentrated in one or two of industries/sizes/regions.

d. To exploit the benefits of stratified sampling where population estimates, in most cases, will be more precise than using a simple random sampling method (i.e., lower standard errors, other things being equal.)

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<sup>1</sup> The complete text can be found at [http://www.enterprisesurveys.org/documents/Implementation\\_note.pdf](http://www.enterprisesurveys.org/documents/Implementation_note.pdf)

<sup>2</sup> A stratified random sample is one obtained by separating the population elements into non-overlapping groups, called strata, and then selecting a simple random sample from each stratum. (Richard L. Scheaffer; Mendenhall, W.; Lyman, R., "Elementary Survey Sampling", Fifth Edition).

<sup>3</sup> Cochran, W., 1977, pp. 89; Lohr, Sharon, 1999, pp. 95

e. Stratification may produce a smaller bound on the error of estimation than would be produced by a simple random sample of the same size. This result is particularly true if measurements within strata are homogeneous.

f. The cost per observation in the survey may be reduced by stratification of the population elements into convenient groupings.

3. Three levels of stratification were used in this country: industry, establishment size, and region. The original sample design with specific information of the industries and regions chosen is described in Appendix E.

4. Industry stratification was designed in the way that follows: the universe was stratified into one manufacturing industry, one service industry -retail -, and one residual sector as defined in the sampling manual. The manufacturing industry, service industry, and residual sectors had a target each of 120 interviews.

5. Size stratification was defined following the standardized definition for the rollout: 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. This seems to be an appropriate definition of the labor force since seasonal/casual/part-time employment is not a common practice, except in the sectors of construction and agriculture.

6. Regional stratification was defined in four regions (city and the surrounding business area): Barmako, Mopti, Segou, and Sikasso.

### **III. Sampling implementation**

7. 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. Great efforts were made to obtain the best source for these listings. However, the quality of the sample frames was not optimal and, therefore, some adjustments were needed to correct for the presence of ineligible units. These adjustments are reflected in the weights computation (*see below*).

8. TNS Opinion was hired to implement the Africa 2010 enterprise surveys roll out. In Mali the local subcontractor was the Practical Sampling International (PSI).

9. For Mali, two sample frames were used. The first was supplied by the World Bank and consists of enterprises interviewed in Mali 2007. The World Bank required that attempts should be made to re-interview establishments responding to the Mali 2007 survey where they were within the selected geographical regions and met eligibility criteria. Due to the fact that the previous round of surveys seemed to have utilized different stratification criteria (or no stratification at all) and due to the prevalence of small firm in the 2007 sample the following convention was used. To avoid oversampling smaller firms and to limit the presence of Panel firms to a maximum of 50% of the achieved interviews, a decision was made to restrict the number of issued firms with less than 20 employees.

That sample is referred to as the Panel. The second was also provided to the World Bank by INSTAT.

- Coverage;
- Up to datedness;
- Availability of detailed stratification variables ;
- Location identifiers- address, phone number, email;
- Electronic format availability;
- Contact name(s).

Counts from sample frames are shown below.

## Panel sample counts

Region name	Employees	Manufacturing	Retail	Other Services	Grand Total
Bamako	5 to 19	159	78	19	256
	20 to 99	49	1	10	60
	100+	5			5
Bamako Total		213	79	29	321
Mopti	5 to 19	16	11	10	37
	20 to 99	1		2	3
	100+				
Mopti Total		17	11	12	40
Segou	5 to 19	43	21	11	75
	20 to 99	3		3	6
	100+	1			1
Segou Total		47	21	14	82
Sikasso	5 to 19	22	12	10	44
	20 to 99	2		1	3
	100+				
Sikasso Total		24	12	11	47
Grand Total		301	123	66	490

## Sample Frames

Source: *Mali* Institut National de la Statistique (INSTAT)

Region name	Employees	Manufacturing	Retail	Other Services	Grand Total
Bamako	5 to 19	44	516	207	767
	20 to 99	23	135	59	217
	100+	38	41	38	117
Bamako Total		105	692	304	1,101
Mopti	5 to 19				
	20 to 99		1		1
	100+		1		1
Mopti Total			2		2
Segou	5 to 19		2	1	3
	20 to 99		1		1
	100+	1			1
Segou Total		1	3	1	5
Sikasso	5 to 19	5	40	18	63
	20 to 99		3	2	5
	100+	1			1
Sikasso Total		6	43	20	69
Grand Total		112	740	325	1,177

10. 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

11. The quality of the frame was assessed at the onset of the project through visits 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. In addition, the sample frame contains no telephone/fax numbers so the local contractor had to screen the contacts by visiting them. Due to response rate and ineligibility issues, additional sample had to be extracted by the World Bank in order to obtain enough eligible contacts and meet the sample targets.

12. 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 2.77% (22 out of 794 establishments)<sup>4</sup>. Breaking down by stratified industries, the following sample targets were achieved by questionnaire type (using a0 and a6a):

<sup>4</sup> Based on out of target contacts and impossible to contact establishments

	Achieved Sample by Size and Sector			
Empl's	Manufacturing	Retail	Other Services	Grand Total
5 to 19	70	60	72	202
20 to 99	35	42	27	104
100+	21	19	14	54
Grand Total	126	121	113	360

#### IV. Data Base Structure:

13. The structure of the data base reflects the fact that 3 different versions of the questionnaire were used. The basic questionnaire, the Core Module, includes all common questions asked to all establishments from all sectors (manufacturing, services and IT). The second expanded variation, the Manufacturing Questionnaire, is built upon the Core Module and adds some specific questions relevant to the sector. The third expanded variation, the Services Questionnaire, is also built upon the Core Module and adds to the core specific questions relevant to either retail or IT. Each variation of the questionnaire is identified by the index variable, *a0*.

14. All variables 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 Africa, therefore, they may not be found in the implementation of the rollout in other countries. All other suffixed variables are global and are present in all country surveys over the world. 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.

15. There are 2 establishment identifiers, *idstd* and *ser*. The first is a global unique identifier. The second is a country unique identifier. 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. The strata were defined according to the guidelines described above.

16. There are three levels of stratification: industry, size and region. Different combinations of these variables generate the strata cells for each industry/region/size combination. 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 one of the chosen industry-strata, whereas the latter gives the actual establishment's industry classification (four digit code) in the sample frame.

17. All of the following variables contain information from the sampling frame. They may not coincide with the reality of individual establishments as sample frames may contain inaccurate information. 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 sampling regions
- a6a*: coded using the same standard for small, medium, and large establishments as defined 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 chosen industries for stratification. These codes include most manufacturing industries (15 to 37), other manufacturing (2), retail (52), and (45, 50, 51, 55, 60, 63, 72) for other Services.

18. The surveys were implemented following a 2 stage procedure. Typically first a screener questionnaire is applied over the phone to determine eligibility and to make appointments. Then a face-to-face interview takes place with the Manager/Owner/Director of each establishment. However, the phone numbers were unavailable in the sample frame, and thus the enumerators applied the screeners in person. The variables *a4b* and *a6b* contain the industry and size of the establishment from the screener questionnaire. Variables *a8* to *a11* contain additional information and were also collected in the screening phase.

19. Note that there are additional variables for location (*a3x*) and size (*l1*, *l6* and *l8*) that reflect more accurately the reality of each establishment. Advanced users are advised to use these variables for analytical purposes.

20. 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 but the actual physical location is in another place.

21. Variables *l1*, *l6* and *l8* were designed to obtain a more accurate measure of employment accounting for permanent and temporary employment. Special efforts were made to make sure that this information was not missing for most establishments.

22. Variables *a17x* gives interviewer comments, including problems that occurred during an interview and extraordinary circumstances which could influence results. Please note that sometimes this variable is removed due to privacy issues.

## **V. Universe Estimates**

23. Universe estimates for the number of establishments in each cell in Mali were produced for the strict, weak and median eligibility definitions. The estimates were the multiple of the relative eligible proportions.

24. Appendix B shows the overall estimates of the numbers of establishments in Mali based on the sample frame.

25. 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.

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

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

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

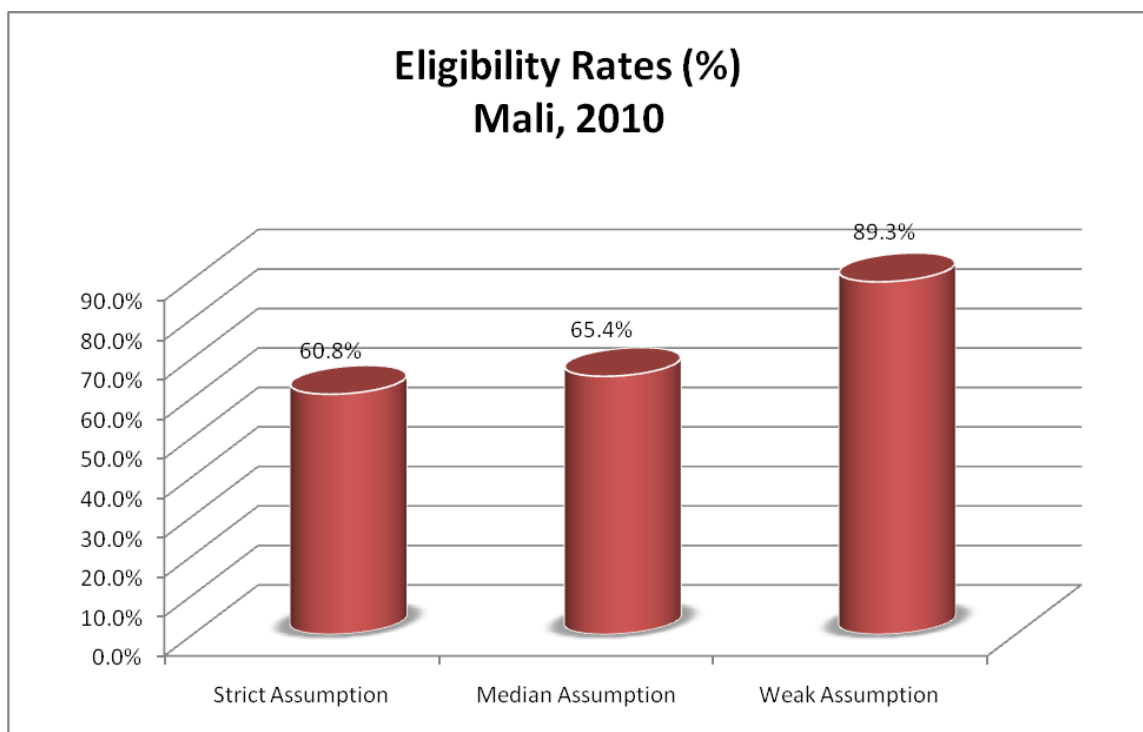
28. Median assumption: eligible establishments are those for which it was possible to directly determine eligibility and those that rejected the screener questionnaire or an answering machine or fax was the only response. The resulting weights are included in the variable *wmedian*.

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

29. 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. Under the weak assumption only observed non-eligible units are excluded from universe projections. The resulting weights are included in the variable *wweak*.

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

30. 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.



31. Universe estimates for the number of establishments in each industry-region-size cell in Mali were produced for the strict, weak and median eligibility definitions. Appendix D shows the universe estimates of the numbers of registered establishments that fit the criteria of the Enterprise Surveys.

32. 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.

## **VI. Weights**

33. Since the sampling design was stratified and employed differential sampling, 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.)<sup>5</sup>

34. Special care was given to the correct computation of the weights. It was imperative to accurately adjust the totals within each region/industry/size stratum to account for the presence of ineligible units (the firm discontinued businesses or was unattainable, education or government establishments, establishments with less than 5

<sup>5</sup> This is equivalent to the weighted average of the estimates for each stratum, with weights equal to the population shares of each stratum.



employees, no reply after having called in different days of the week and in different business hours, no tone in the phone line, answering machine, fax line<sup>6</sup>, wrong address or moved away and could not get the new references) The information required for the adjustment was collected in the first stage of the implementation: the screening process. Using this information, each stratum cell of the universe was scaled down by the observed proportion of ineligible units within the cell. Once an accurate estimate of the universe cell (projections) was available, weights were computed using the number of completed interviews.

35. Appendix C shows the cell weights for registered establishments in Mali.

## **VII. Appropriate use of the weights**

36. Under stratified random sampling weights should be used when making inferences about the population. Any estimate or indicator that aims at describing some feature of the population should take into account that individual observations may not represent equal shares of the population.

37. However, there is some discussion as to the use of weights in regressions (see Deaton, 1997, pp.67; Lohr, 1999, chapter 11, Cochran, 1953, pp.150). There is not strong large sample econometric argument in favor of using weighted estimation for a common population coefficient if the underlying model varies per stratum (stratum-specific coefficient): both simple OLS and weighted OLS are inconsistent under regular conditions. However, weighted OLS has the advantage of providing an estimate that is independent of the sample design. This latter point may be quite relevant for the Enterprise Surveys as in most cases the objective is not only to obtain model-unbiased estimates but also design-unbiased estimates (see also Cochran, 1977, pp 200 who favors the used of weighted OLS for a common population coefficient.)<sup>7</sup>

38. From a more general approach, if the regressions are descriptive of the population then weights should be used. The estimated model can be thought of as the relationship that would be expected if the whole population were observed.<sup>8</sup> If the models are developed as structural relationships or behavioral models that may vary for different parts of the population, then, there is no reason to use weights.

## **VIII. Non-response**

39. Survey non-response must be differentiated from item non-response. The former refers to refusals to participate in the survey altogether whereas the latter refers to the

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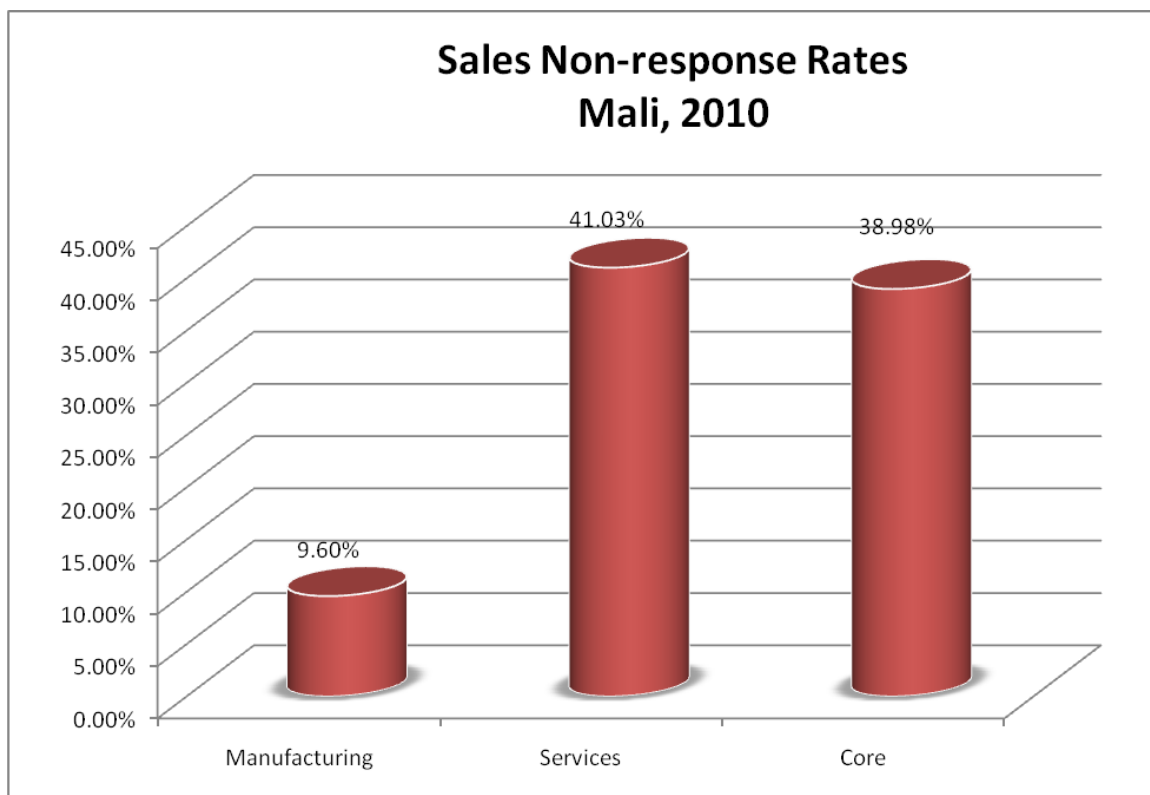
<sup>6</sup> For the surveys that implemented a screener over the phone.

<sup>7</sup> Note that weighted OLS in Stata using the command `regress` with the option of weights will estimate wrong standard errors. Using the Stata survey specific commands `svy` will provide appropriate standard errors.

<sup>8</sup> The use weights in most model-assisted estimations using survey data is strongly recommended by the statisticians specialized on survey methodology of the JPSM of the University of Michigan and the University of Maryland.

refusals to answer some specific questions. Enterprise Surveys suffer from both problems and different strategies were used to address these issues.

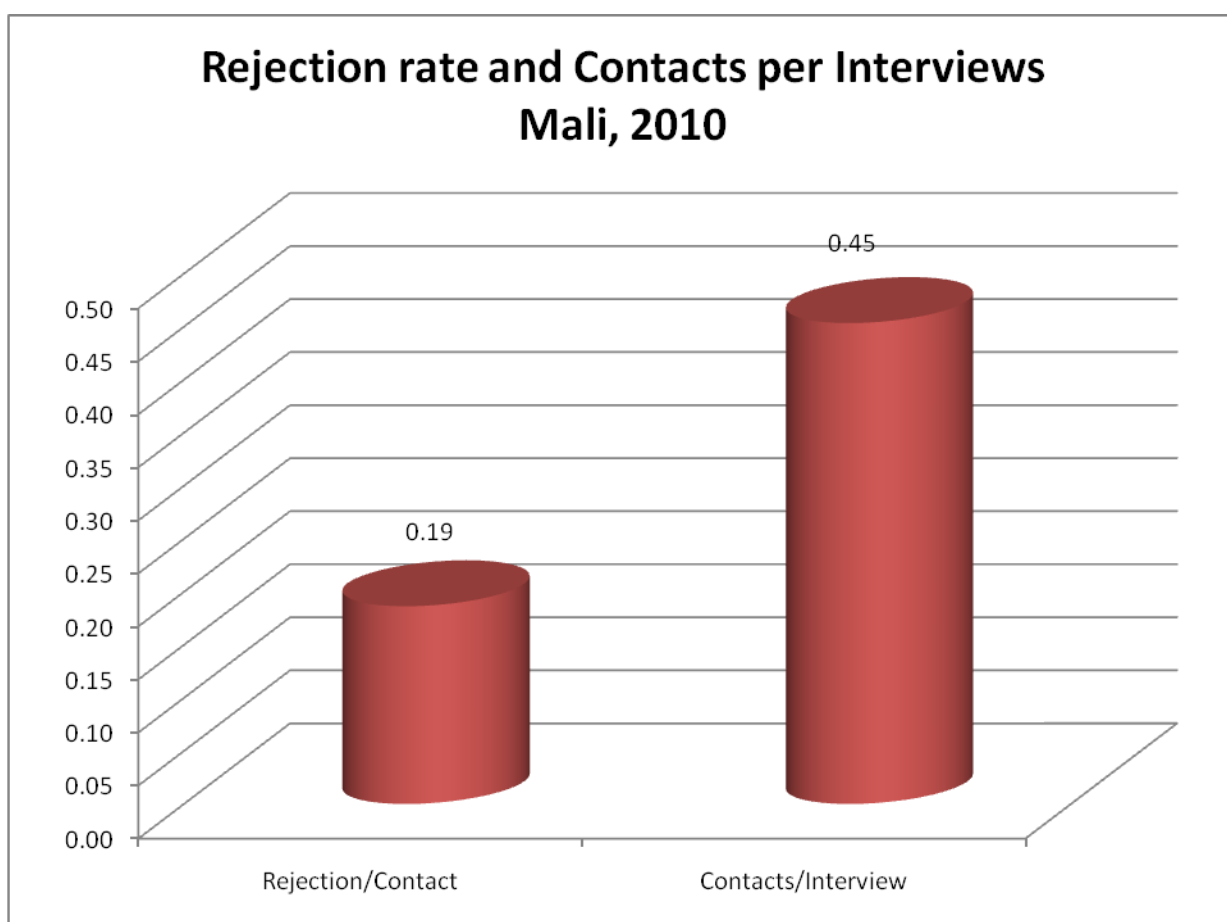
40. Item non-response was addressed by two strategies:
- a- For sensitive questions that may generate negative reactions from the respondent, such as corruption or tax evasion, enumerators were instructed to collect the refusal to respond as a different option from don't know (-7).
  - b- Establishments with incomplete information were re-contacted in order to complete this information, whenever necessary. However, there were clear cases of low response. The following graph shows non-response rates for the sales variable, *d2*, by sector. Please, note that the coding utilized in this dataset does not allow us to differentiate between "Don't know" and "refuse to answer", thus the non-response in the chart below reflects both categories (DKs and NAs).



41. Survey non-response was addressed by maximizing efforts to contact establishments that were initially selected for interview. Attempts were made to contact the establishment for interview at different times/days of the week before a replacement establishment (with similar strata characteristics) was suggested for interview. Survey non-response did occur but substitutions were made in order to potentially achieve strata-

specific goals. Further research is needed on survey non-response in the Enterprise Surveys regarding potential introduction of bias.

42. As the following graph shows, the number of contacted establishments per realized interview was 0.45<sup>9</sup>. 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. The number of rejections per contact was 0.19.



43. Details on the rejection rate, eligibility rate, and item non-response are available at the level strata. This report summarizes these numbers to alert researchers of these issues when using the data and when making inferences. Item non-response, selection bias, and faulty sampling frames are not unique to Mali. All enterprise surveys suffer from these shortcomings, but in very few cases they have been made explicit.

#### References:

Cochran, William G., Sampling Techniques, 1977.

<sup>9</sup> The estimate is based on the total no. of firms contacted including ineligible establishments.

Deaton, Angus, The Analysis of Household Surveys, 1998.

Levy, Paul S. and Stanley Lemeshow, Sampling of Populations: Methods and Applications, 1999.

Lohr, Sharon L. Sampling: Design and Techniques, 1999.

Scheaffer, Richard L.; Mendenhall, W.; Lyman, R., Elementary Survey Sampling, Fifth Edition, 1996.

## Appendix A

### Status Codes Fresh:

<b>ELIGIBLES</b>		
<b>Eligible</b>	1. Eligible establishment ( <i>Correct name and address</i> )	302
	2. Eligible establishment ( <i>Different name but same address - the new firm/establishment bought the original firm/establishment</i> )	2
	3. Eligible establishment ( <i>Different name but same address - the firm/establishment changed its name</i> )	0
	4. Eligible establishment ( <i>Wrong address - the firm/establishment has changed address and the address could be found</i> )	1
	16. Panel firm - now less than five employees	0
<b>Ineligible</b>	5. The establishment has less than 5 permanent full time employees	3
	6. The firm discontinued businesses	13
	7. Not a business: private household	0
	8. Ineligible activity: education, agriculture, finances, governments...	1
<b>Unobtainable</b>	91. No reply ( <i>after having called in different days of the week and in different business hours</i> )	3
	92. Line out of order	23
	93. No tone	8
	10. Answering machine	0
	11. Fax line - data line	0
	12. Wrong address/ moved away and could not get the new references	135
	13. Refuses to answer the screener	15
	<b>14. In process</b> ( <i>the establishment is being called/ is being contacted - previous to ask the screener</i> )	<b>0</b>
	151. Out of target - outside the covered regions, firm moved abroad	1
	152. Out of target - firm moved abroad	0
	153. Impossible to find	46
<b>Total</b>		<b>553</b>

### Response Outcomes Fresh:

Complete interviews ( <i>Total</i> )	208
Incomplete interviews	0
Eligible in process	0
Refusals	97
Out of target	17
Impossible to contact	169
Ineligible - coop.	1
Refusal to the Screener	15
<b>Total</b>	<b>507</b>

### Status Codes Panel:

<b>ELIGIBLES</b>		
<b>Eligible</b>	1. Eligible establishment ( <i>Correct name and address</i> )	164
	2. Eligible establishment ( <i>Different name but same address - the new firm/establishment bought the original firm/establishment</i> )	4
	3. Eligible establishment ( <i>Different name but same address - the firm/establishment changed its name</i> )	0
	4. Eligible establishment ( <i>Wrong address - the firm/establishment has changed address and the address could be found</i> )	0
	16. Panel firm - now less than five employees	10
<b>Ineligible</b>	5. The establishment has less than 5 permanent full time employees	0
	6. The firm discontinued businesses	5
	7. Not a business: private household	0
	8. Ineligible activity: education, agriculture, finances, governments...	0
<b>Unobtainable</b>	91. No reply ( <i>after having called in different days of the week and in different business hours</i> )	0
	92. Line out of order	7
	93. No tone	2
	10. Answering machine	1
	11. Fax line - data line	0
	12. Wrong address/ moved away and could not get the new references	12
	13. Refuses to answer the screener	20
	<b>14. In process</b> ( <i>the establishment is being called/ is being contacted - previous to ask the screener</i> )	<b>0</b>
	151. Out of target - outside the covered regions, firm moved abroad	0
	152. Out of target - firm moved abroad	0
	153. Impossible to find	16
	<b>Total</b>	<b>241</b>

### Response Outcomes Panel:

Complete interviews ( <i>Total</i> )	152
Incomplete interviews	0
Eligible in process	10
Refusals	16
Out of target	5
Impossible to contact	22
Ineligible - coop.	0
Refusal to the Screener	20
<b>Total</b>	<b>225</b>

## Appendix B

### Universe Estimates, Mali:

Region name	Employees	Manufacturing	Retail	Other Services	Grand Total
Bamako	5 to 19	201	594	226	1,021
	20 to 99	72	136	68	276
	100+	42	41	38	121
Bamako Total		315	771	332	1,418
Mopti	5 to 19	16	11	10	37
	20 to 99	1	1	2	4
	100+		1		1
Mopti Total		17	13	12	42
Segou	5 to 19	43	23	12	78
	20 to 99	3	1	3	7
	100+	2			2
Segou Total		48	24	15	87
Sikasso	5 to 19	26	52	28	106
	20 to 99	2	3	3	8
	100+	1			1
Sikasso Total		29	55	31	115
Grand Total		409	863	390	1,662

## Appendix C

### Strict Cell Weights Mali:

Region Name	Employees	Manufacturing	Retail	Other Services
Bamako	5 to 19	6.45	10.19	2.27
	20 to 99	1.39	1.72	1.66
	100+	1.37	1.25	1.56
Mopti	5 to 19	1.25	1.99	1.90
	20 to 99	1.00	1.00	1.00
	100+		1.00	
Segou	5 to 19	1.67	2.26	3.30
	20 to 99	2.57		1.13
	100+	1.81		
Sikasso	5 to 19	1.22	1.91	2.69
	20 to 99	1.20		1.53
	100+			

### Median Cell Weights Mali:

Region Name	Employees	Manufacturing	Retail	Other Services
Bamako	5 to 19	7.18	10.86	2.39
	20 to 99	1.45	1.72	1.66
	100+	1.55	1.35	1.67
Mopti	5 to 19	1.44	2.42	2.28
	20 to 99	1.00	1.00	1.00
	100+		1.00	
Segou	5 to 19	1.79	2.65	3.81
	20 to 99	2.96		1.23
	100+	2.00		
Sikasso	5 to 19	1.32	1.99	2.77
	20 to 99	1.23		1.53
	100+			

### Weak Cell Weights Mali:

Region Name	Employees	Manufacturing	Retail	Other Services
Bamako	5 to 19	8.65	15.50	3.29
	20 to 99	2.12	2.99	2.78
	100+	1.91	1.97	2.35
Mopti	5 to 19	1.44	2.59	2.35
	20 to 99	1.00	1.00	1.00
	100+		1.00	
Segou	5 to 19	1.79	2.80	3.88
	20 to 99	3.00		1.50
	100+	2.00		
Sikasso	5 to 19	1.59	2.83	3.80
	20 to 99	1.79		2.56
	100+			



## Appendix D

### Strict Universe Estimates

Region name	Employees	Manufacturing	Retail	Other Services	Grand Total
Bamako	5 to 19	135	336	134	606
	20 to 99	44	70	37	151
	100+	27	22	22	72
Bamako Total		207	429	193	829
Mopti	5 to 19	14	8	8	29
	20 to 99	1	1	2	4
	100+		1		1
Mopti Total		15	10	10	34
Segou	5 to 19	40	18	10	68
	20 to 99	3		2	5
	100+	2			2
Segou Total		45	18	12	75
Sikasso	5 to 19	17	29	16	62
	20 to 99	1		2	3
	100+				
Sikasso Total		18	29	18	65
Grand Total		285	486	232	1,003

### Weak Universe Estimates

Region name	Employees	Manufacturing	Retail	Other Services	Grand Total
Bamako	5 to 19	182	512	194	887
	20 to 99	68	122	61	251
	100+	38	36	33	107
Bamako Total		288	669	288	1,245
Mopti	5 to 19	16	10	9	36
	20 to 99	1	1	2	4
	100+		1		1
Mopti Total		17	12	11	41
Segou	5 to 19	43	22	12	77
	20 to 99	3		3	6
	100+	2			2
Segou Total		48	22	15	85
Sikasso	5 to 19	22	42	23	88
	20 to 99	2		3	4
	100+				
Sikasso Total		24	42	25	92
Grand Total		377	747	340	1,463

### Median Universe Estimates

Region name	Employees	Manufacturing	Retail	Other Services	Grand Total
Bamako	5 to 19	151	358	141	650
	20 to 99	47	71	37	154
	100+	31	24	23	79
Bamako Total		228	453	201	883
Mopti	5 to 19	16	10	9	35
	20 to 99	1	1	2	4
	100+		1		1
Mopti Total		17	12	11	40
Segou	5 to 19	43	21	11	76
	20 to 99	3		2	5
	100+	2			2
Segou Total		48	21	14	83
Sikasso	5 to 19	19	30	17	65
	20 to 99	1		2	3
	100+				
Sikasso Total		20	30	18	68
Grand Total		313	516	244	1,073

## Appendix E

### Original Sample Design, Mali:

Region name	Employees	Manufacturing	Retail	Other Services	Grand Total
Bamako	5 to 19	21	30	65	116
	20 to 99	45	36	18	99
	100+	14	14	12	40
Bamako Total		80	80	95	255
Mopti	5 to 19	8	9	7	24
	20 to 99	1	1	2	4
	100+		1		1
Mopti Total		9	11	9	29
Segou	5 to 19	13	10	4	27
	20 to 99	1		2	3
	100+	1			1
Segou Total		15	10	6	31
Sikasso	5 to 19	15	19	9	43
	20 to 99	1		1	2
	100+				
Sikasso Total		16	19	10	45
Grand Total		120	120	120	360

### Completed Interviews, Mali:

Region name	Employees	Manufacturing	Retail	Other Services	Grand Total
Bamako	5 to 19	21	33	59	113
	20 to 99	32	41	22	95
	100+	20	18	14	52
Bamako Total		73	92	95	260
Mopti	5 to 19	11	4	4	19
	20 to 99	1	1	2	4
	100+		1		1
Mopti Total		12	6	6	24
Segou	5 to 19	24	8	3	35
	20 to 99	1		2	3
	100+	1			1
Segou Total		26	8	5	39
Sikasso	5 to 19	14	15	6	35
	20 to 99	1		1	2
	100+				
Sikasso Total		15	15	7	37
Grand Total		126	121	113	360

## Appendix F

<b>Local Agency</b>	<b>Name:</b> Practical Sampling International (PSI) <b>Country:</b> Mali <b>Membership of international organisation:</b> Gallup International, ESOMAR, SAMRA, Roy Morgan International, PAMRO, etc. <b>Activities since:</b> 2005
<b>Name of Project Manager</b>	<b>Moses Olusola</b>
<b>Name and position of other key persons of the project:</b>	<b>Mitchell Olatunji</b> , Head, PSI Mali <b>Jaye</b> , Field Coordinator, PSI Mali <b>Okamgba Ikenna</b> , Research Executive, PSI NIGERIA <b>Kuliballi Issa</b> , Quality Control Officer, PSI NIGERIA
<b>Enumerators/Interviewers involved:</b>	Interviewers & Recruiters Involved : 26
<b>Other staff involved:</b>	<b>Editing:</b> 1 <b>Data Entry:</b> 1 <b>Data Processing:</b> 2

### Sample Frame:

<b>Characteristic of sample frame used:</b>	Fresh List from Bamako, Mopti, Segou and Sikasso chamber of commerce
<b>Source:</b>	Source: <i>Mali Institut National de la Statistique (INSTAT)</i>
<b>Year:</b>	2009
<b>Comments on the quality of sample frame:</b>	There were a lot of companies without business classifications and others have either discontinued their business or changed the name of the company.
<b>Other sources for companies statistics</b>	None

### Sectors included in the Sample:

<b>Original Sectors</b>	Manufacturing, Retails and other services
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### Comments on implementation:

<b>Comments/ problems on sectors and regions selected in the sample:</b>	<b>On sectors:</b> Most of the companies do not have detail addresses and tracing them was very difficult.  <b>On regions:</b> Respondents in Bamako were more willing to participate in the surveys compared to the ones in Mopti, Segou and Sikasso.
<b>Comments on the response rate:</b>	Some respondents were concerned that the local contractor is actually working for the government particularly regarding questions about the taxes, corruption etc.

<b>Other comments:</b>	Some company information was not accurate. There were some companies that were categorized as manufacturing companies whereas they are de facto services or retail or vice-versa.
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#### Fieldwork:

<b>Date of Fieldwork</b>	21 <sup>st</sup> May and 9 <sup>th</sup> November, 2010
<b>Country</b>	Mali
<b>Interview number</b>	Manufactures: <b>126</b> Retail: <b>121</b> Services: <b>113</b>
<b>Problems found during fieldwork:</b>	Please see previous notes
<b>Other observations:</b>	None

#### Questionnaires:

<b>Problems for the understanding of questions (write question number)</b>	no issues understanding the questionnaire
<b>Problems found in the navigability of – questionnaires (for example, skip patterns).</b>	no issues with the skipping pattern

<b>Comments on questionnaires length:</b>	Majority of our respondents find the questionnaire very long as it took more than one hour.
<b>Suggestions or other comments on the questionnaire:</b>	None

#### Country situation

<b>General aspects of economic, political or social situation of the country that could affect the results of the survey:</b>	None
<b>Relevant country events occurred during fieldwork:</b>	None
<b>Other aspects:</b>	None

## Appendix G: Subcontractors

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	Country	Local team	Survey coordinator name	Since	# F2F int.	Experience F2F int. (years)
Kenya local coordination team	Kenya	TNS Research International	Liston Njoroge	1972	360	10
Indicator Survey	Central African Republic	University of Bangui-Head of geosciences.	Dr Moloto Gaetan Roch	2008	50	2
Enterprise Survey	Angola	HFC	Henrique Freitas	2006	25	3
	Botswana	PROBE	Florence J A Onyango	2001	300	10
	Democratic Republic of Congo	University of Kinshasa	Prof Mukoko Samba	2000	25	5
	Mali	PSI	Dominic Kpanja	2005	45	3