Sri Lanka 2011 Management Practices Surveys Data Set

1. Introduction

1.   This document provides additional information on the data collected in Sri Lanka between June 2011 and November 2011 as part of the Management Practices component of two surveys carried out in Sri Lanka simultaneously in 2011.

The objective of the survey is to obtain feedback from enterprises on the state of the private sector in client countries as well as to help in building a panel of enterprise data that will make it possible to track changes in the business environment over time, thus allowing, for example, impact assessments of reforms. The Management Practices Survey also collects data related to operational practices in product and process innovation and management.

Through interviews with firms in the manufacturing and services sectors, the survey will assess the constraints to private sector growth and create statistically significant business environment indicators that are comparable across countries.

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.

2. Sampling Structure

2. The sample for Sri Lanka was selected using stratified random sampling, following the methodology explained in the Sampling Manual[1]. Stratified random sampling[2] was preferred over simple random sampling for several reasons[3]:

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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[1] The complete text can be found at http://www.enterprisesurveys.org/documents/Implementation_note.pdf

[2] 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).

[3] 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 3 manufacturing industries, 2 services industries, and two residual sectors as defined in the sampling manual. Each industry had a target of 120 interviews while the residual sectors had a target of 100 interviews each.

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.

Size stratification was not possible in the ICT, Health, and Tourism sectors as the lists used did not contain size information.

6.   Regional stratification was defined in nine regions: Eastern, Western, Southern, Central, Northern, North-Central, North-West, Uva, Sabaragamuwa.

3. 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 for the Indicator Surveys.

8.   Several sampling frames were used for the Enterprise Survey in Sri Lanka. The sample frame containing fresh contacts used in the Sri Lanka was obtained from the Department of Census and Statistics of Sri Lanka (DCS) 2003. The database contained the following information:

-Name of the firm
-Location
-Contact details
-ISIC code
-Number of employees.

Additional lists were used to supplement the DCS frame for the ICT, Health and Tourism sectors. These lists included:

- ICT/Computer Association –
  o Federation of Information Technology Industry Sri Lanka

- o Sri Lanka Association of Software and Service Companies
- ▪ Tourism
  - o Sri Lanka Tourism Promotion Bureau
- ▪ Heath
  - o Local Chamber of Commerce /Trade Associations

Counts from the combined sample frames are shown below.

Estimated Universe for Sri Lanka Management Practices Survey

ESTIMATED UNIVERSE

Region	Size	Food Manu.	Light Manu.	Other Manu.	Other Services	ICT (Man & Serv)	Tourism	Health	Grand Total
Central	1-Small	425	140	1149	1745				
	2-Medium	214	3	116	194		752	110	
	3-Large	45	2	72	28				
	TOTAL	684	145	1337	1967		752	110	4995
Eastern	1-Small	349	41	402	569				
	2-Medium	20	1	9	68		199	50	
	3-Large	1	0	8	15				
	TOTAL	370	42	419	652		199	50	1732
North-Central	1-Small	413	19	188	665				
	2-Medium	30	2	19	61		250	54	
	3-Large	4	0	23	7				
	TOTAL	447	21	230	733		250	54	1735
Northern	1-Small	302	55	222	572				
	2-Medium	32	1	15	48		207	50	
	3-Large	0	0	2	9				
	TOTAL	334	56	239	629		207	50	1515
North-West	1-Small	608	86	2514	1279				
	2-Medium	77	4	174	105	416	385	78	
	3-Large	13	1	80	26				
	TOTAL	698	91	2768	1410		385	78	5430
Sabaragamuwa	1-Small	170	21	543	757				
	2-Medium	109	0	93	66		306	65	
	3-Large	47	0	40	14				
	TOTAL	326	21	676	837		306	65	2231
Southern	1-Small	295	41	1003	1184				
	2-Medium	185	3	85	132		579	78	
	3-Large	46	0	66	20				
	TOTAL	526	44	1154	1336		579	78	3717
Uva	1-Small	99	11	205	531				
	2-Medium	68	1	13	52		258	63	
	3-Large	9	0	11	11				
	TOTAL	176	12	229	594		258	63	1332
Western	1-Small	1030	442	4399	6893				
	2-Medium	192	94	1056	1165		2970	419	
	3-Large	87	27	546	187				
	TOTAL	1309	563	6001	8245		2970	419	19507
Grand Total		4870	995	13053	16403	416	5906	967	42610

9.   The enumerated establishments were then used as the frame for the selection of a sample with the aim of obtaining interviews at 800 establishments with five or more employees

10.   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. Due to response rate and ineligibility issues, additional sample had to be extracted by DCS and the World Bank in order to obtain enough eligible contacts and meet the sample targets.

11.   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 54% (860 out of 1593 establishments).[4] Breaking down by industry, the following numbers of establishments were surveyed:

15 (Food)	121
Light Manufacturing	125
ICT manufacturing and Services	106
Other manufacturing	116
Private Healthcare services	120
Tourism related services	124
Other services	124

Local Agency team involved in the study:

Local Agency	Name: The Nielsen Company Lanak (Pvt) Ltd Location: Colombo, Sri Lanka
Name of Project Manager	Mr. Jinendra Kothalawala
Other staff involved:	100+ enumerators and screeners

Sample Frame:

Characteristics of sample frame used	Variables: Name of establishment, address, activity, telephone number, number of employees
Source:	Sri Lanka Department of Census and Statistics (DCS)

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

	■ ICT/Computer Association –
	   ○ Federation of Information Technology Industry Sri Lanka
	   ○ Sri Lanka Association of Software and Service Companies
	■ Tourism
	   ○ Sri Lanka Tourism Promotion Bureau
	■ Heath
	   ○ Local Chamber of Commerce /Trade Associations

Year:	2003
Comments on the quality of sample frame:	Not all of the lists contained all the variables needed to construct a sample frame for the enterprise survey and so the level of stratification had to be reduced in some sectors. Several addresses and telephone number outdated. There are some firms missing contact information.

Sectors included in the sample:

Original Sectors	Food & Beverage Manu. (ISIC Code 15)
	Light Manu. (ISIC code 28 & 29)
	Other Manu. (ISIC Code 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 30, 33, 34, 35, 36, 37
	ICT Manu. & Services (ISIC code 31, 32, 72)
	Tourism related services (ISIC code 55 & 6304) Hotel & restaurant, Travel agencies, etc.
	Health services (ISIC Code 851)
	Other Services (ISIC code 45, 50, 51, 52,60, 61, 62, 63 (excluding 6304), 64)

Sample:

Comments/ problems on sectors and regions selected in the sample	DCS Sampling frames namely, Census of Industry –listing was 2003 and Trade and service was 2003/6 and some of those were not updated. Hence closedown business, business place changes etc. were observed. Since telephone numbers were not available in some businesses and only postal addresses were available tracing the place was difficult for some businesses.
Comments on the response rate	
Comments on the sample design:	
Other comments:	None

Fieldwork:

Date of Fieldwork	June 8th, 2011-November 2nd, 2011
Interview number	836
Problems found during fieldwork	Due to tax, labor regulations and other issues some respondents were reluctant to reveal the actual figures as observed by ourselves in similar surveys.
Other observations:	None

4. Data Base Structure:

12.   The structure of the data base reflects the fact that 3 different versions of the questionnaire were used. The first variation is based loosely on the Enterprise Surveys questionnaire and adds some specific questions relevant to Management Practices. The second variation, the Toursim Questionnaire, adds to the core specific questions relevant to the tourism industry. Similarly, the third variation, contains many of the core items from the first variation but is custom tailored to the technology and services present in the health sector. Each variation of the questionnaire is identified by the index variable, *a0*.

13.   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*.. 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.

14.   There are 2 establishment identifiers, *idstd* and *id*. 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.

15.   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.

16.   All of the following variables contain information from the sampling frame and were defined with the sampling design. 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), retail (52), and (45, 50, 51, 55, 60, 63, 72) for Other Services.

17.   The surveys were implemented following a 2 stage procedure. In the first stage a screener questionnaire was applied over the phone to determine eligibility 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 and were also collected in the screening phase.

18.   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.

19.   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.

20.   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.

5. Universe Estimates
21.   The enumerated totals were adjusted to take account of the establishments found to be ineligible when interviews were attempted. Then ratios of the total numbers of blocks of each type to the totals enumerated were formed. Those ratios were then applied to the eligible establishments enumerated to provide universe estimates.

22.   Appendix C shows the overall estimates of the numbers of establishments in Sri Lanka based on the sample frame.

23. 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.

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

25. 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*.
Strict eligibility = (Sum of the firms with codes 1,2,3,4,&16) / Total

26. 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*.
Median eligibility = (Sum of the firms with codes 1,2,3,4,16,10,11, & 13) / Total

27. 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*.
Weak eligibility= (Sum of the firms with codes 1,2,3,4,16,91,92,93, 94,10,11, 12,&13) / Total

28. 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.
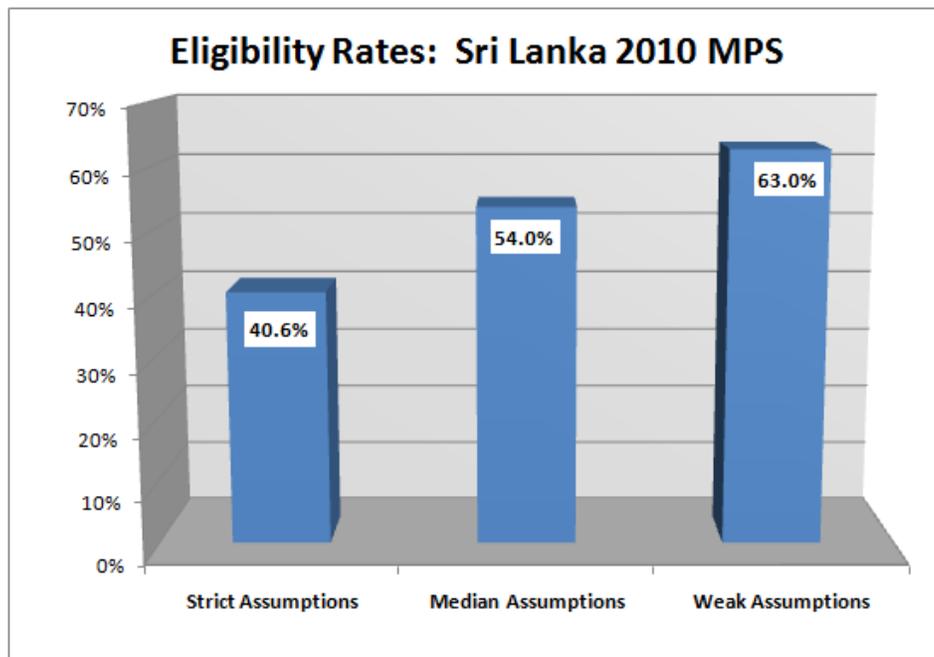
29. Universe estimates for the number of establishments in each industry-region-size cell in Sri Lanka were produced for the strict, weak and median eligibility definitions. Appendix C shows the universe estimates of the numbers of registered establishments.

30. 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.

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6. Weights

31.   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.)[5]

32.   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 employees, no reply after having called in different days of the week and in different business hours, out of order, no tone in the phone line, answering machine, fax line, 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.

33. Appendix D shows the cell weights for registered establishments in Sri Lanka.

7. Appropriate use of the weights

34.   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.

35.   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.)[6]

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[5] This is equivalent to the weighted average of the estimates for each stratum, with weights equal to the population shares of each stratum.
[6] 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.

36.   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.[7] 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.

8. Non-response

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

38.   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).

Non-Response Rates: Sri Lanka 2010 MPS

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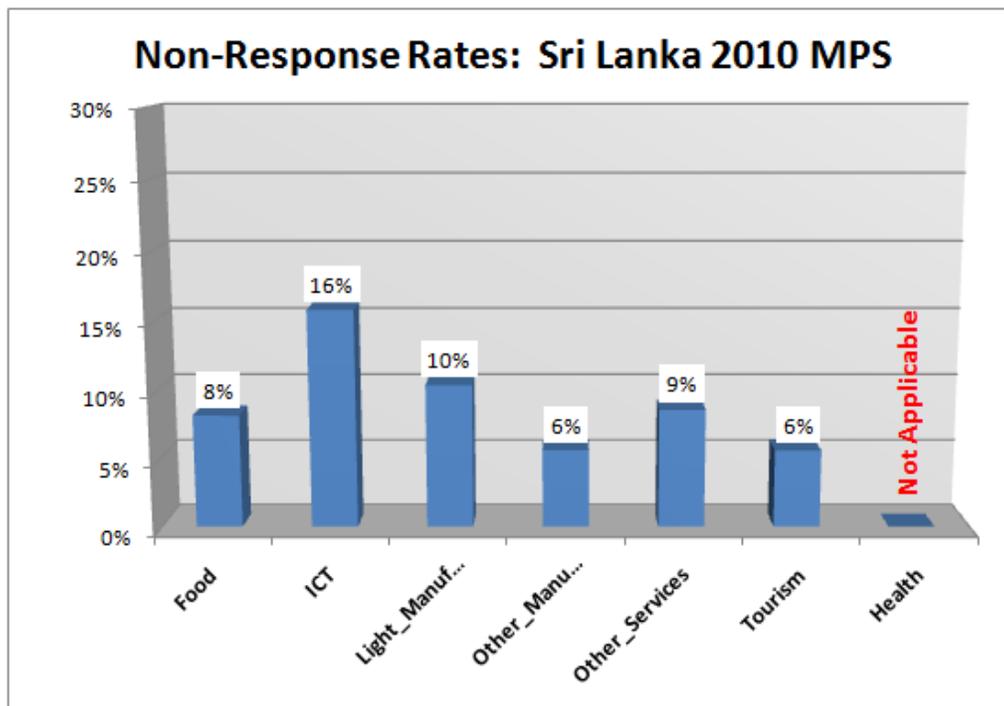
[7] The use weights in most model-assisted estimations using survey data is strongly recommended by the statisticians specialized on survey methodology of the JPSM of the University of Michigan and the University of Maryland.

39.   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 survey regarding potential introduction of bias.

40.   As the following graph shows, the number of contacted establishments per realized interview was 1.39. 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 0.287.
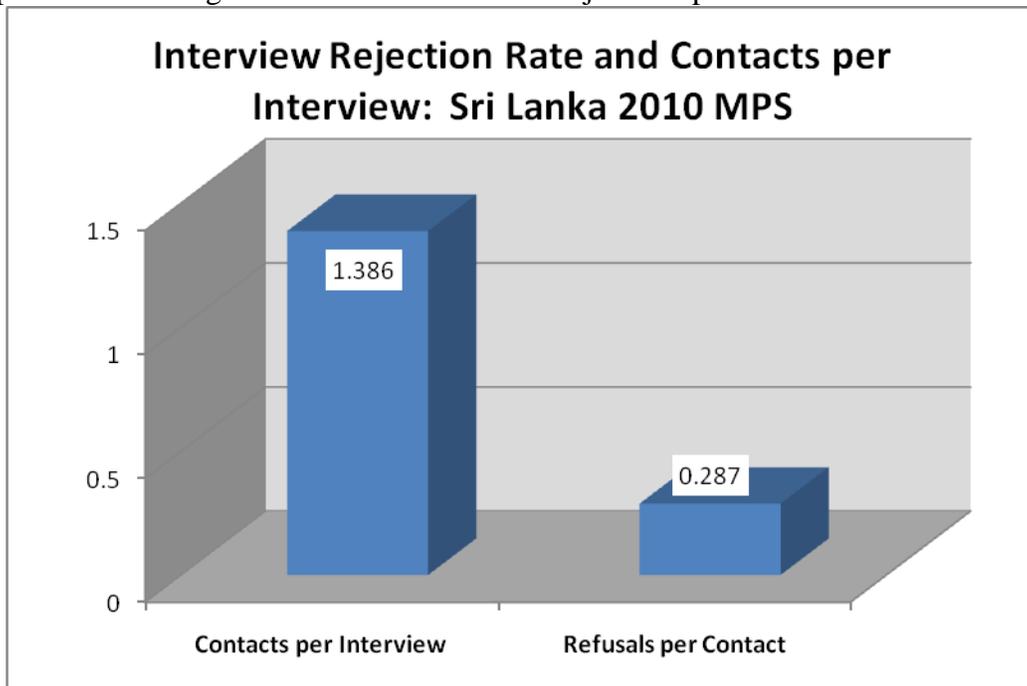
41.   Details on the rejection rate, eligibility rate, and item non-response are available at the level strata. This report summarizes these numbers to alert researchers of these issues when using the data and when making inferences. Item non-response, selection bias, and faulty sampling frames are not unique to Sri Lanka. All enterprise surveys suffer from these shortcomings, but in very few cases they have been made explicit.

References:
Cochran, William G., Sampling Techniques, 1977.

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

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

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

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

Appendix A

Questionnaires:

Problems for the understanding of questions (write question number)	No problems
Problems found in the navigability of questionnaires (for example skip patterns)	No problems
Comments on questionnaire length:	No problems
Suggestions or other comments on the questionnaire:	No problems

Database:

Comments on the data entry program	Data entry program chosen: CSPro
Comments on the data cleaning	Checking for data errors and inconsistencies was conducted by Nielsen and the World Bank. A quality control report and list of corrections was provided to the data entry supervisor.

Country Situation:

General aspects of the economic, political or Social situation in your territory that could affect the results of the survey:	
Relevant local events occurred during fieldwork:	

Other aspects:	

Appendix B

Status Codes MPS:

	Sri Lanka	
Eligibles	1.Elegible establishment (Correct name and address)	888
	2. Elegible establishment (Different name but same address - the new firm/establishment bought the original firm/establishment)	19
	3. Elegible establishment (Different name but same address - the firm/establishment changed its name)	9
	4. Elegible establishment (Wrong address - the firm/establishmen has changed address and the address could be found)	7
Ineligibles	5. The establishment has less than 5 permanent full time employees	108
	6. The firm discontinued businesses	186
	7. Not a business: private household	16
	8. Ineligible activity: education, agriculture, finances, governments...	365
Unobtainable	91. No reply *(after having called in different days of the week and in different business hours)*	17
	92. Line out of order	18
	93. No tone	1
	94. Phone number does not exist	5
	10. Answering machine	1
	11. Fax line - data line	0
	12. Wrong address/ moved away and could not get the new references	206
	13. Refuses to answer the screener	293
	14. In process *(the establishment is being called/ is being contacted - previous to ask the screener)*	585
	16. duplicate from other list	68
	151. Out of target - outside the covered regions, firm moved abroad	10
	152. Out of target - firm moved abroad	1
	152. Out of target - Not registered with SAT	4
	Total	2807

Response Outcomes MPS:

	Sri Lanka
Sample Target	800
Complete interviews **(Total)**	836
Incomplete interviews	2
Elegible in process	45
Refusals	40
Out of target	675
Impossible to contact	248
Ineligible - coop.	15
Refusal to the Screener	293
Total	2154

Appendix C

Universe Estimates, Sri Lanka MPS:

ESTIMATED UNIVERSE									
Region	Size	Food Manu.	Light Manu.	Other Manu.	Other Services	ICT (Man & Serv)	Tourism	Health	Grand Total
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	TOTAL	1309	563	6001	8245		2970	419	19507
Grand Total		4870	995	13053	16403	416	5906	967	42610

Appendix D

Strict Cell Weights Sri Lanka MPS:

STRICT Weights								
Region	Size	Food Manu.	Light Manu.	Other Manu.	Other Services	ICT (Man & Serv)	Tourism	Health
Central	1-Small	24.9	6.0	171.7	118.6			
	2-Medium	20.9		7.1	8.3		12.7	2.1
	3-Large	2.5		8.8	9.3			
Eastern	1-Small	17.9	4.9	25.8	46.4			
	2-Medium				5.3		11.7	1.4
	3-Large				5.0			
North-Central	1-Small	22.7	1.0	22.6	43.6			
	2-Medium	3.1			6.3		16.7	2.1
	3-Large							
Northern	1-Small	24.3	2.8	19.6	45.8			
	2-Medium				5.5		12.2	1.8
	3-Large							
North-West	1-Small	59.6	4.3	230.7	83.0			
	2-Medium	6.1		10.6	9.7	1.6	29.6	1.6
	3-Large			21.0				
Sabaragamuwa	1-Small	10.5	5.7	24.4	46.4			
	2-Medium	5.5		7.2	3.8		23.8	2.8
	3-Large	3.6		3.3				
Southern	1-Small	9.9	4.3	68.7	59.0			
	2-Medium	12.6		4.9	8.9		16.8	1.7
	3-Large	3.8		14.8	4.1			
Uva	1-Small	6.7		6.1	17.9			
	2-Medium	8.8			6.7		18.4	1.6
	3-Large							
Western	1-Small	50.6	10.9	294.8	336.0			
	2-Medium	12.8	2.5	89.6	59.9		53.6	4.6
	3-Large	5.0	1.8	47.8	12.4			

Median Cell Weights Sri Lanka MPS:

MEDIAN Weights								
Region	Size	Food Manu.	Light Manu.	Other Manu.	Other Services	ICT (Man & Serv)	Tourism	Health
Central	1-Small	36.8	5.8	198.5	124.0			
	2-Medium	43.7		11.6	12.4		27.8	2.9
	3-Large	5.9		16.3	15.6			
Eastern	1-Small	18.8	3.4	21.2	34.6			
	2-Medium				5.6		11.7	1.5
	3-Large				6.0			
North-Central	1-Small	33.3	1.0	26.0	45.3			
	2-Medium	6.5			9.4		18.5	4.8
	3-Large							
Northern	1-Small	28.4	2.1	17.9	38.0			
	2-Medium				6.5		36.5	3.6
	3-Large							
North-West	1-Small	64.6	3.1	195.9	63.8			
	2-Medium	9.5		12.8	10.6	2.0	32.1	2.0
	3-Large			28.6				
Sabaragamuwa	1-Small	19.7	7.0	36.0	61.9			
	2-Medium	14.7		15.0	7.3		25.5	2.8
	3-Large	10.7		7.8				
Southern	1-Small	10.6	3.0	58.0	45.1			
	2-Medium	19.3		5.9	9.7		18.3	1.8
	3-Large	6.5		20.0	5.0			
Uva	1-Small	23.2		16.5	43.9			
	2-Medium	43.1			23.2		20.7	2.0
	3-Large							
Western	1-Small	73.8	10.4	337.4	348.0			
	2-Medium	26.6	3.3	145.9	88.3		69.8	5.7
	3-Large	11.7	2.7	87.7	20.6			

Weak Cell Weights Sri Lanka MPS:

WEAK Weights								
Region	Size	Food Manu.	Light Manu.	Other Manu.	Other Services	ICT (Man & Serv)	Tourism	Health
Central	1-Small	44.5	7.2	255.4	148.5			
	2-Medium	43.2		12.2	12.1		28.4	3.0
	3-Large	6.1		17.6	15.7			
Eastern	1-Small	31.6	5.9	37.8	57.4			
	2-Medium				7.6		18.2	1.9
	3-Large				8.3			
North-Central	1-Small	47.8	1.4	39.6	64.4			
	2-Medium	7.7			10.8		20.4	5.5
	3-Large							
Northern	1-Small	73.9	5.7	49.4	97.5			
	2-Medium				13.5		146.1	5.4
	3-Large							
North-West	1-Small	74.1	3.6	238.7	72.4			
	2-Medium	8.9		12.7	9.8	2.9	32.1	2.1
	3-Large			29.3				
Sabaragamuwa	1-Small	23.2	8.5	45.0	72.0			
	2-Medium	14.1		15.3	6.9		28.9	3.9
	3-Large	10.6		8.2				
Southern	1-Small	12.6	3.7	73.2	53.0			
	2-Medium	18.7		6.1	9.3		19.7	1.8
	3-Large	6.5		21.2	4.9			
Uva	1-Small	32.2		24.3	60.2			
	2-Medium	48.8			26.0		23.0	2.0
	3-Large							
Western	1-Small	89.1	13.0	432.6	415.4			
	2-Medium	26.1	3.4	152.5	85.9		77.9	5.9
	3-Large	11.8	2.8	94.6	20.7			

Sample Design, Sri Lanka MPS:

DESIGN									
Region	Size	Food Manu.	Light Manu.	Other Manu.	Other Services	ICT (Man & Serv)	Tourism	Health	Grand Total
Central	1-Small	7	15	5	6				
	2-Medium	6	0	5	6		22	19	
	3-Large	5	0	3	5				
	Region Total	18	15	13	17		22	19	104
Eastern	1-Small	7	5	5	3				
	2-Medium	0	0	0	3		8	11	
	3-Large	0	0	0	3				
	Region Total	7	5	5	9		8	11	45
North-Central	1-Small	7	4	5	5				
	2-Medium	3	0	0	3		8	8	
	3-Large	0	0	3	0				
	Region Total	10	4	8	8		8	8	46
Northern	1-Small	7	8	3	3				
	2-Medium	0	0	0	3		7	9	
	3-Large	0	0	0	0				
	Region Total	7	8	3	6		7	9	40
North-West	1-Small	7	15	6	5				
	2-Medium	6	0	7	3	120	11	15	
	3-Large	0	0	3	3				
	Region Total	13	15	16	11		11	15	81
Sabaragamuwa	1-Small	6	5	6	5				
	2-Medium	6	0	7	3		11	11	
	3-Large	5	0	3	0				
	Region Total	17	5	16	8		11	11	68
Southern	1-Small	6	7	6	5				
	2-Medium	6	0	5	5		16	15	
	3-Large	5	0	3	3				
	Region Total	17	7	14	13		16	15	82
Uva	1-Small	5	0	5	4				
	2-Medium	5	0	0	3		11	11	
	3-Large	0	0	0	0				
	Region Total	10	0	5	7		11	11	44
Western	1-Small	7	28	6	7				
	2-Medium	7	24	7	7		26	21	
	3-Large	7	9	7	7				
	Region Total	21	61	20	21		26	21	170
Grand Total		120	120	100	100	120	120	120	800

A total of 1593 eligible establishments were enumerated. The World Bank drew sample and issued replacements. The contacts were issued and given preferences from 1 to 6. The implementing agency was instructed to exhaust contacts with preference-1 establishments before moving on to subsequent preferences. In most cases the team did not have to go beyond preference 4 to complete the sample.

Completed Interviews, Sri Lanka MPS:

Realized Complete Interviews									
Region	Size	Food Manu.	Light Manu.	Other Manu.	Other Services	ICT (Man & Serv)	Tourism	Health	Grand Total
Central	1-Small	7	14	3	6				
	2-Medium	4		7	9		22	14	
	3-Large	6		3	1				
	Region Total	17	14	13	16		22	14	96
Eastern	1-Small	8	5	7	5				
	2-Medium				5		9	14	
	3-Large				1				
	Region Total	8	5	7	11		9	14	54
North-Central	1-Small	6	9	3	5				
	2-Medium	3			3		9	3	
	3-Large								
	Region Total	9	9	3	8		9	3	41
Northern	1-Small	3	7	3	3				
	2-Medium				2		1	3	
	3-Large								
	Region Total	3	7	3	5		1	3	22
North-West	1-Small	6	17	7	9				
	2-Medium	7		10	6	120	12	16	
	3-Large			2					
	Region Total	13	17	19	15		12	16	92
Sabaragamuwa	1-Small	6	2	9	6				
	2-Medium	7		5	6		10	5	
	3-Large	4		4					
	Region Total	17	2	18	12		10	5	64
Southern	1-Small	15	7	8	10				
	2-Medium	7		9	7		22	15	
	3-Large	5		2	2				
	Region Total	27	7	19	19		22	15	109
Uva	1-Small	2		5	4				
	2-Medium	1			1		8	4	
	3-Large								
	Region Total	3		5	5		8	4	25
Western	1-Small	10	29	8	10				
	2-Medium	7	26	6	9		31	50	
	3-Large	7	9	5	6				
	Region Total	24	64	19	25		31	50	213
Grand Total		121	125	106	116	120	124	124	836