The Myanmar 2014 Enterprise Surveys Data Set

I. Introduction

1.   This document provides additional information on the data collected in Myanmar between February 2014 and April 2014. The objective of the Enterprise Survey is to gain an understanding of what firms experience in the private sector.

The Enterprise Surveys, through interviews with firms in the manufacturing and service sectors, capture data covering measures of the business environment, firm performance, firm structure as well as top manager's opinions on the biggest obstacles to enterprise growth. They are used to create 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. An Enterprise Survey a Microenterprise Survey and an Informal Survey (Appendix H) were all simultaneously conducted in Myanmar.

II. Sampling Structure

2.   The sample for Myanmar 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.)

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.

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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

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, and two service industries (retail, and other services).

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 5 regions (city and the surrounding business area) throughout Myanmar.

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. In consultation with the contractor, the World Bank decided to undertake block enumeration, i.e. the contractor would physically create a list of establishments from which to sample from. In total, the contractor enumerated 8,130 eligible establishments for the survey fieldwork; the block enumeration elicited firms for both the Enterprise Survey and the Microenterprise Survey (a total of 6,595 registered businesses), as well as the Informal Survey (1,535 unregistered businesses).

9. Since there isn't any government list or database in Myanmar (as per the current understanding) which allows categorizing firms as per their level of employment and under the relevant ISIC categories, the list generated from the block enumeration serves as the sample frame. The list contained the following information:
> - Business name;
> - Business address;
> - Business sector classification code;

- Total numbers of employees;
- Registration status

Note that businesses were classified as formal enterprises if they were registered with either 1) DICA, 2) Directorate of Industrial Supervision and Inspection of the Ministry of Industry, or 3) City Development Committees or Department of Development Affairs.

Counts from the blocks enumeration are shown below for formal enterprises.

Sample Frame

Source: Block Enumeration, 2013

Region	Employees	Manufacturing	Retail	Other Services	Grand Total
Yangon	1-4	233	1402	789	**2424**
	5-19	712	415	799	**1926**
	20-99	474	18	139	**631**
	100+	194	3	8	**205**
	Total	**1613**	**1838**	**1735**	**5186**
Mandalay	1-4	9	124	80	**213**
	5-19	29	37	84	**150**
	20-99	46	0	11	**57**
	100+	8	0	1	**9**
	Total	**92**	**161**	**176**	**429**
Bago	1-4	4	118	113	**235**
	5-19	6	9	29	**44**
	20-99	1	2	3	**6**
	100+	0	0	0	**0**
	Total	**11**	**129**	**145**	**285**
Taunggyi	1-4	13	107	111	**231**
	5-19	43	1	29	**73**
	20-99	5	0	3	**8**
	100+	0	0	0	**0**
	Total	**61**	**108**	**143**	**312**
Monywa	1-4	17	77	84	**178**
	5-19	92	25	75	**192**
	20-99	11	1	1	**13**
	100+	0	0	0	**0**
	Total	**120**	**103**	**160**	**383**
Grand Total		**1897**	**2339**	**2359**	**6595**

10.   The enumerated establishments were then used as the frame for the selection of a sample with the aim of obtaining interviews at 1092 establishments, of which 490 are micro enterprises with four or fewer employees, and 602 have 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.

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 1.8% (24 out of 1365 establishments)[4]. Breaking down by stratified industries, the following sample targets were achieved (using a4a and a6a):

Achieved sample:

Region	Employees	Manufacturing	Retail	Other Services	Grand Total
Yangon	1-4	70	65	24	**159**
	5-19	81	45	38	**164**
	20-99	62	15	34	**111**
	100+	95	1	4	**100**
	Total	**308**	**126**	**100**	**534**
Mandalay	1-4	14	46	26	**86**
	5-19	27	31	35	**93**
	20-99	17	2	9	**28**
	100+	4			**4**
	Total	**62**	**79**	**70**	**211**
Bago	1-4	4	35	32	**71**
	5-19	5	6	19	**30**
	20-99	0	4	2	**6**
	100+	0	0	0	**0**
	Total	**9**	**45**	**53**	**107**
Taunggyi	1-4	8	23	33	**64**
	5-19	30	2	8	**40**
	20-99	4	0	2	**6**
	100+	0	0	0	**0**
	Total	**42**	**25**	**43**	**110**
Monywa	1-4	28	22	30	**80**
	5-19	22	16	7	**45**
	20-99	3	1	1	**5**
	100+	0	0	0	**0**
	Total	**53**	**39**	**38**	**130**
Grand Total		**474**	**314**	**304**	**1092**

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4 Based on out of target contacts and impossible to contact establishments

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. The second expanded variation, the Manufacturing Questionnaire, is built upon the Core Module and adds some specific questions relevant to manufacturing sectors. The third expanded variation, the Retail Questionnaire, is also built upon the Core Module and adds to the core specific questions relevant to retail firms. 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 proceeded by a prefix *"MYA"* indicate questions specific to Myanmar, 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 *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.

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 Rev 3.1 codes for the chosen industries for stratification. These codes include most manufacturing industries (15 to 37), retail (52), and (45, 50, 51, 55, 60-64, 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. 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 Myanmar were produced for the strict, median and weak 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 Myanmar 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*.

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

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

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

Eligibility Rates According to Assumptions Percent Eligible Myanmar, 2014

Strict Assumption: 78.1%
Median Assumption: 88.3%
Weak Assumption: 97.2%
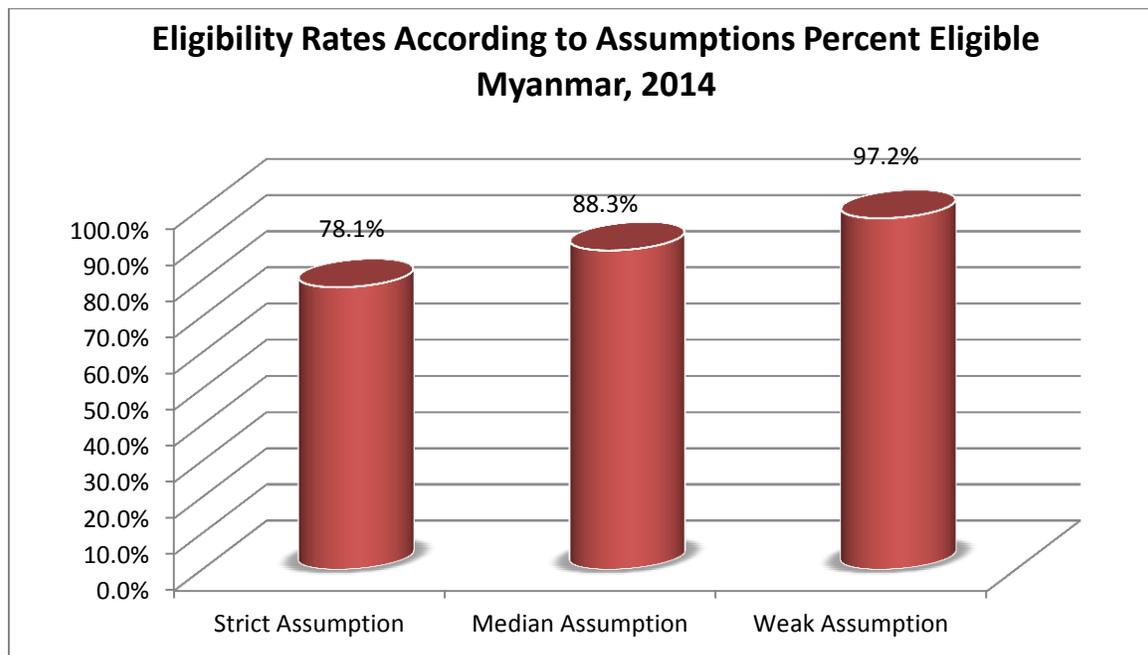
31. Universe estimates for the number of establishments in each industry-region-size cell in Myanmar were produced for the strict, weak and median eligibility definitions. Appendix D shows the universe estimates of the numbers of registered establishments that fit the criteria of the Enterprise Surveys.

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).[5]

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 employees, no reply after having called in different days of the week and in different business hours, no tone on the phone line, answering machine, or fax line[6], 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 Myanmar.

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 a 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

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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 For the surveys that implemented a screener over the phone.

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.)[7]

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.[8] 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 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 (-8).
    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).

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7 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.

8 The use of 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.

**Sales Non-response Rates
Myanmar, 2014**

	Manufacturing	Services	Core
	27.05%	12.07%	61.84%
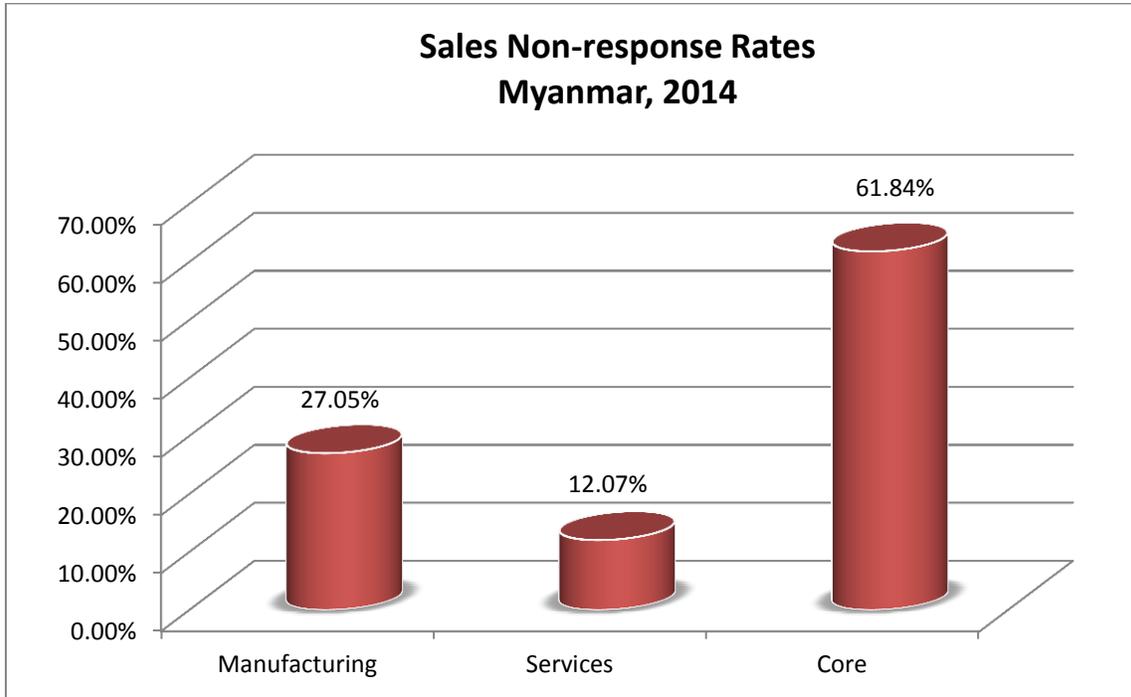
41.   Survey non-response was addressed by maximizing efforts to contact establishments that were initially selected for interview. Attempts were made to contact the establishment for interview at different times/days of the week before a replacement establishment (with similar strata characteristics) 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 realized interviews per contacted establishment was 0.78[9]. 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 0.09.

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9 The estimate is based on the total number of firms contacted including ineligible establishments.

Rejection rate and Interviews per Contact Myanmar, 2014
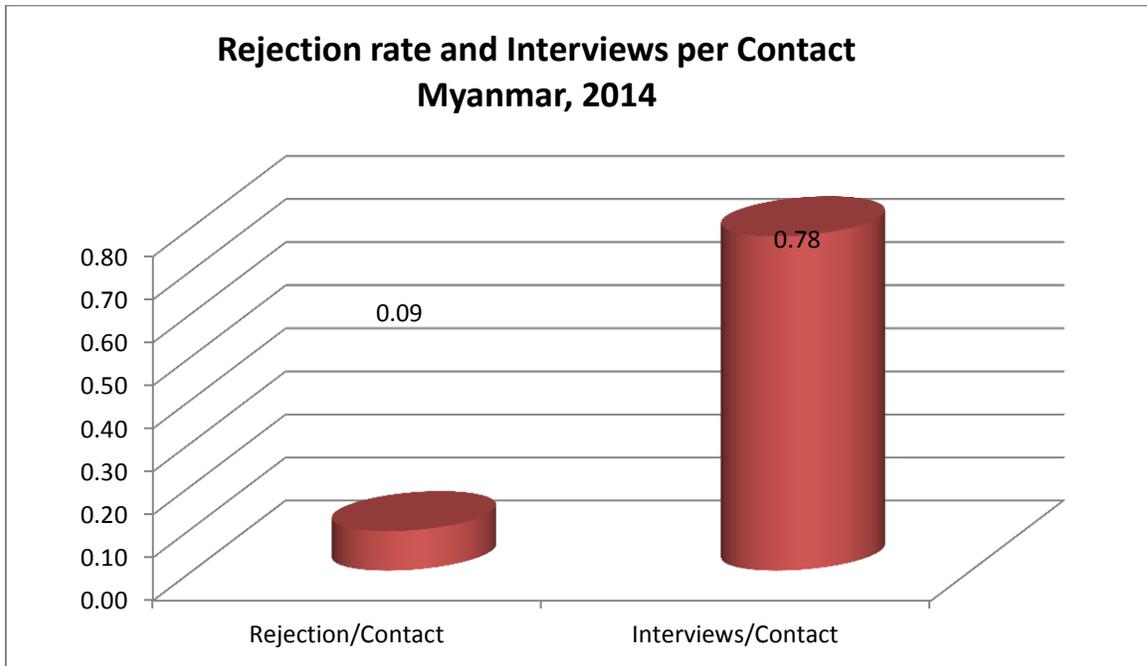
43.   Details on the rejection rate, eligibility rate, and item non-response are available at the strata level. This report summarizes these numbers to alert researchers of these issues when using the data and when making inferences. Item non-response, selection bias, and faulty sampling frames are not unique to Myanmar. 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

Status Codes Total:

ELIGIBLES	
1.Eligible establishment (Correct name and address)	1069
2. Eligible establishment (Different name but same address - the new firm/establishment bought the original firm/establishment)	0
3. Eligible establishment (Different name but same address - the firm/establishment changed its name)	0
4. Eligible establishment (Wrong address - the firm/establishmen has changed address and the address could be found)	28
16. Panel firm - now less than five employees	0
5. The establishment has less than 5 permanent full time employees	0
6. The firm discontinued businesses	24
7. Not a business: private household	0
8. Ineligible activity: education, agriculture, finances, governments…	0
151. Out of target - outside the covered regions, firm moved abroad	0
152. Out of target - firm moved abroad	0
153. Impossible to find	0
91. No reply *(after having called in different days of the week and in different business hours)*	3
92. Line out of order	49
93. No tone	22
94. Phone number does not exist	47
10. Answering machine	16
11. Fax line - data line	1
12. Wrong address/ moved away and could not get the new references	4
13. Refuses to answer the screener	126
14. In process *(the establishment is being called/ is being contacted - previous to ask the screener)*	**16**
Total	1405

Response Outcomes Total:

Complete interviews *(Total)*	1092
Incomplete interviews	1
Eligible in process	1
Refusals	3
Out of target	0
Impossible to contact	142
Ineligible - coop.	0
Refusal to the Screener	126
Total	1405

Appendix B

Sampling Frame, Myanmar:

Source: Block Enumeration, 2013

Region	Employees	Manufacturing	Retail	Other Services	Grand Total
Yangon	1-4	233	1402	789	**2424**
	5-19	712	415	799	**1926**
	20-99	474	18	139	**631**
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	Total	**61**	**108**	**143**	**312**
Monywa	1-4	17	77	84	**178**
	5-19	92	25	75	**192**
	20-99	11	1	1	**13**
	100+	0	0	0	**0**
	Total	**120**	**103**	**160**	**383**
Grand Total		**1897**	**2339**	**2359**	**6595**

Appendix C

Myanmar, administrative divisions
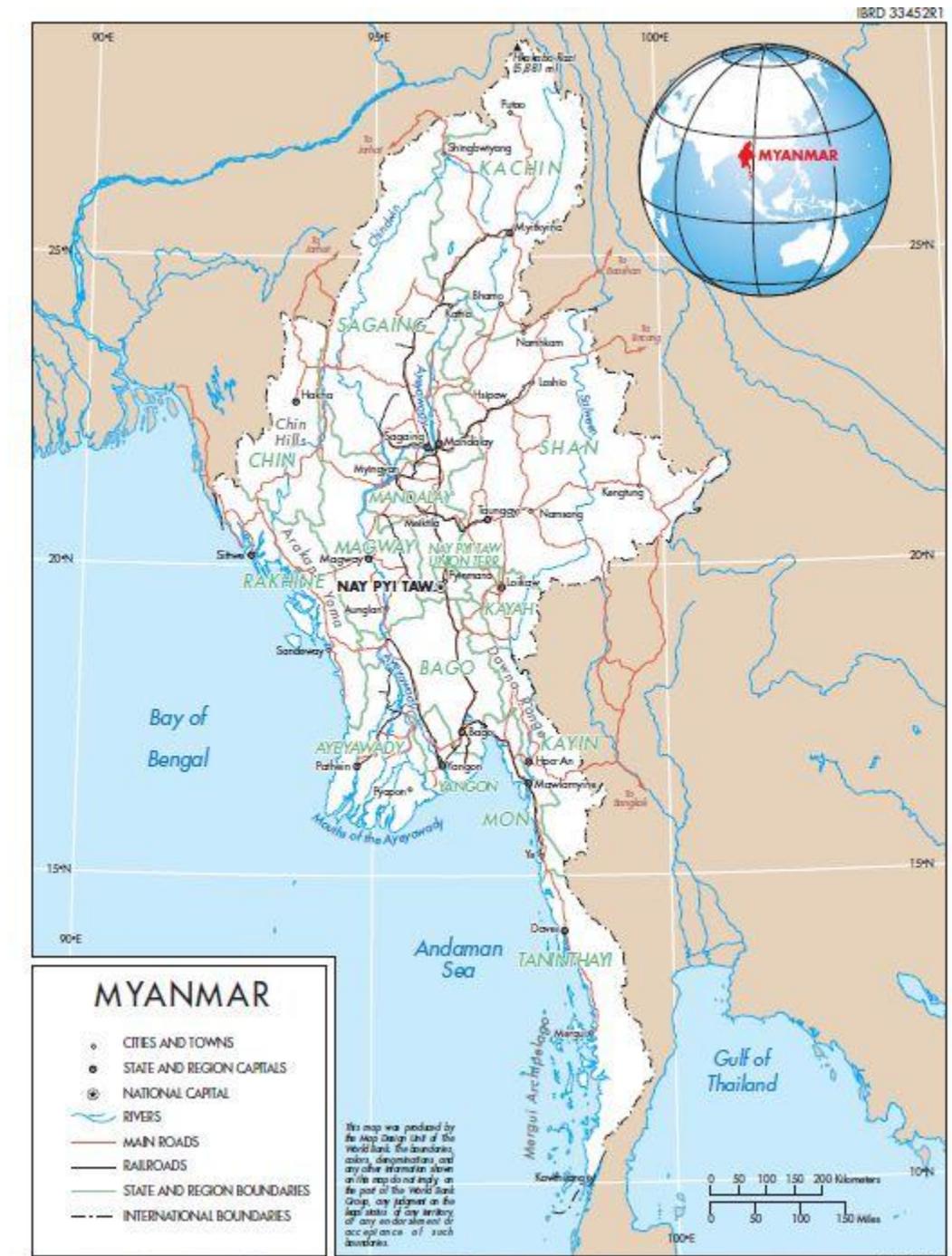
Appendix D

Strict Cell Weights Myanmar – Fresh

Region	Employees	Manufacturing	Retail	Other Services
Yangon	1-4	5.2	112.3	98.6
	5-19	21.3	34.5	125.3
	20-99	18.4	10.6	14.9
	100+	5.5	17.0	13.3
Mandalay	1-4	3.6	12.7	7.0
	5-19	3.1	12.7	22.6
	20-99	3.4	0.0	16.8
	100+	4.2	0.0	0.0
Bago	1-4	4.5	20.7	9.2
	5-19	5.0	9.8	21.0
	20-99	3.5	7.0	3.9
	100+	0.0	0.0	0.0
Taunggyi	1-4	2.3	29.5	11.2
	5-19	1.9	7.7	17.3
	20-99	6.9	0.0	5.5
	100+	0.0	0.0	0.0
Monywa	1-4	1.6	17.5	8.0
	5-19	3.7	8.5	26.8
	20-99	1.9	4.8	2.5
	100+	0.0	0.0	0.0

Median Cell Weights Myanmar – Fresh

Region	Employees	Manufacturing	Retail	Other Services
Yangon	1-4	5.3	141.0	111.4
	5-19	19.1	38.2	124.5
	20-99	16.7	11.9	15.1
	100+	4.6	17.5	12.3
Mandalay	1-4	4.8	21.0	10.5
	5-19	3.6	18.4	29.5
	20-99	4.1	0.0	22.3
	100+	4.6	0.0	0.0
Bago	1-4	5.6	31.8	12.7
	5-19	5.5	13.3	25.5
	20-99	3.9	9.7	4.9
	100+	0.0	0.0	0.0
Taunggyi	1-4	2.6	41.4	14.2
	5-19	1.9	9.5	19.2
	20-99	7.0	0.0	6.2
	100+	0.0	0.0	0.0
Monywa	1-4	1.6	21.6	8.9
	5-19	3.2	9.3	26.2
	20-99	1.7	5.3	2.5
	100+	0.0	0.0	0.0

Weak Cell Weights Myanmar – Fresh

Region	Employees	Manufacturing	Retail	Other Services
Yangon	1-4	5.9	156.8	129.9
	5-19	20.2	40.4	138.1
	20-99	19.4	13.8	18.3
	100+	4.8	18.1	13.3
Mandalay	1-4	5.5	24.1	12.6
	5-19	4.0	20.2	33.9
	20-99	5.0	0.0	28.0
	100+	5.0	0.0	0.0
Bago	1-4	5.7	31.8	13.3
	5-19	5.3	12.7	25.5
	20-99	4.1	10.1	5.3
	100+	0.0	0.0	0.0
Taunggyi	1-4	2.8	45.7	16.4
	5-19	2.0	10.0	21.1
	20-99	8.0	0.0	7.4
	100+	0.0	0.0	0.0
Monywa	1-4	1.7	22.7	9.8
	5-19	3.2	9.3	27.5
	20-99	1.8	5.9	2.9
	100+	0.0	0.0	0.0

Appendix E

Strict Universe Estimates Myanmar – Fresh

Region	Employees	Manufacturing	Retail	Other Services	Grand Total
Yangon	1-4	449	6063	2959	**9471**
	5-19	1663	2176	3633	**7472**
	20-99	992	85	567	**1643**
	100+	497	17	40	**554**
	Total	**3601**	**8341**	**7199**	19140
Mandalay	1-4	18	738	338	**1094**
	5-19	71	267	430	**768**
	20-99	100	0	50	**150**
	100+	21	0	0	**21**
	Total	**210**	**1005**	**819**	2033
Bago	1-4	14	745	405	**1164**
	5-19	25	69	126	**220**
	20-99	3	14	12	**29**
	100+	0	0	0	**0**
	Total	**42**	**828**	**543**	1413
Taunggyi	1-4	16	707	382	**1105**
	5-19	63	8	121	**192**
	20-99	7	0	11	**18**
	100+	0	0	0	**0**
	Total	**86**	**715**	**514**	1315
Monywa	1-4	19	367	223	**609**
	5-19	125	145	241	**511**
	20-99	13	5	3	**20**
	100+	0	0	0	**0**
	Total	**157**	**516**	**467**	1140
Grand Total		**4095**	**11404**	**9542**	**25042**

Median Universe Estimates Myanmar – Fresh

Region	Employees	Manufacturing	Retail	Other Services	Grand Total
Yangon	1-4	457	7616	3342	**11414**
	5-19	1488	2405	3610	**7502**
	20-99	903	95	573	**1572**
	100+	414	18	37	**468**
	Total	**3262**	**10134**	**7561**	20957
Mandalay	1-4	24	1217	502	**1743**
	5-19	83	387	561	**1032**
	20-99	120	0	67	**187**
	100+	23	0	0	**23**
	Total	**250**	**1605**	**1130**	2984
Bago	1-4	17	1144	560	**1721**
	5-19	28	93	153	**274**
	20-99	4	19	15	**38**
	100+	0	0	0	**0**
	Total	**48**	**1257**	**728**	**2033**
Taunggyi	1-4	18	995	483	**1496**
	5-19	63	10	135	**207**
	20-99	7	0	12	**19**
	100+	0	0	0	**0**
	Total	**88**	**1004**	**630**	**1723**
Monywa	1-4	19	453	248	**721**
	5-19	110	157	236	**503**
	20-99	12	5	3	**20**
	100+	0	0	0	**0**
	Total	**141**	**616**	**487**	**1243**
Grand Total		**3789**	**14616**	**10536**	**28941**

Weak Universe Estimates Myanmar – Fresh

Region	Employees	Manufacturing	Retail	Other Services	Grand Total
Yangon	1-4	509	8467	3896	**12872**
	5-19	1579	2545	4005	**8129**
	20-99	1050	111	697	**1857**
	100+	430	18	40	**488**
	Total	**3568**	**11141**	**8638**	**23346**
Mandalay	1-4	27	1399	605	**2031**
	5-19	91	424	644	**1159**
	20-99	144	0	84	**228**
	100+	25	0	0	**25**
	Total	**287**	**1823**	**1333**	**3443**
Bago	1-4	17	1144	587	**1748**
	5-19	26	89	153	**268**
	20-99	4	20	16	**40**
	100+	0	0	0	**0**
	Total	**47**	**1253**	**756**	**2056**
Taunggyi	1-4	20	1096	558	**1674**
	5-19	66	10	148	**224**
	20-99	8	0	15	**23**
	100+	0	0	0	**0**
	Total	**94**	**1106**	**721**	**1921**
Monywa	1-4	20	477	274	**771**
	5-19	110	158	248	**516**
	20-99	13	6	3	**22**
	100+	0	0	0	**0**
	Total	**144**	**641**	**525**	**1309**
Grand Total		**4140**	**15963**	**11973**	**32076**

Appendix F

Original Sample Design, Myanmar:

Region	Employees	Manufacturing	Retail	Other Services	Grand Total
Yangon	1-4	88	50	31	**169**
	5-19	70	50	35	**155**
	20-99	70	13	33	**116**
	100+	86	3	5	**94**
	Total	**314**	**116**	**104**	**534**
Mandalay	1-4	7	50	49	**106**
	5-19	22	26	10	**58**
	20-99	33	0	8	**41**
	100+	6	0	0	**6**
	Total	**68**	**76**	**67**	**211**
Bago	1-4	3	37	42	**82**
	5-19	5	7	7	**19**
	20-99	1	2	3	**6**
	100+	0	0	0	**0**
	Total	**9**	**46**	**52**	**107**
Taunggyi	1-4	10	24	31	**65**
	5-19	31	1	6	**38**
	20-99	4	0	3	**7**
	100+	0	0	0	**0**
	Total	**45**	**25**	**40**	**110**
Monywa	1-4	12	19	27	**58**
	5-19	36	17	9	**62**
	20-99	8	1	1	**10**
	100+	0	0	0	**0**
	Total	**56**	**37**	**37**	**130**
Grand Total		**492**	**300**	**300**	**1092**

Local Agency team involved in the study:

Local Agency	SRG Bangladesh Limited/ Myanmar Marketing Research & Development Ltd (MMRD)
Name of Contact Person	M Saidul Haq
Enumerators involved:	14

Sample Frame:

Characteristics of sample frame used:	Variables: Name of establishment, address, activity, telephone number, number of employees, registration status
Source:	Sample frame was generated via blocks enumeration (conducted by MMRD)
Year:	2013
Comments on the quality of sample frame:	The sample frame was of very good quality since it was generated via blocks enumeration by MMRD.
Other sources for companies statistics	All the interviews were conducted with the sample frame obtained from the blocks enumeration and no other lists were used.

Fieldwork:

Date of Fieldwork	February 2014 to April 2014
Country	Myanmar
Interview Numbers	Total: 1092 Manufacturing: 482 Retail: 307 Other services: 303

Appendix G: Challenges and Difficulties in Fieldwork

As the questionnaire took quite a long time, the respondents' willingness gradually decreased after one hour of interviewing. Some respondents' answers were not logical to the flow of the question. For instance, one company responded that electricity outage is very usual but when ask about ranking, they responded that electricity is a not a big issue. When the project management checked the questionnaires after field work, due to those kinds of answers, a huge load of re-asking questions to the respondents were done to check whether the collected information was correct or not.

For opinion and sensitive questions, due to the question nature, many respondents just answer "No".

Related to financial part of the establishment, respondent did not have the number on hand and they had to calculate during the surveying time which linger the interview period. Also, they did not wanted to give the figures on cost and sales because such data were generally treated as confidential and (or) they were not readily at the top of their minds. Most respondents refused to answer D2 and N3 but they gave the estimate. They did not have the breakdown of cost by cost readily.

Pilot Census questions only asked full-time individual workers. The problem was that some production workers were found to be full-time seasonal/temporary workers. For instance – in garment enterprise, the operators were not full-time permanent workers but temporary workers and, as a result, the number to that question became few. Sometimes the size of the enterprise was found to change from medium to small enterprise or small to medium enterprise. It was also learned that Show Cards did not really help the respondents to choose one single answer. They tended to choose the multiple answers and most importantly, the problems in Show Cards did not seem to reflect the actual problem happening.

To sum up, for the sake of better survey results in the future, the following suggestions should be considered. Firstly, the questionnaire should be designed not to take more than an hour. Secondly, Micro firms should not be focused to acquire more effective survey results. Finally, Universe sample should be modified to cover more regions. For example, although some firms were worth surveying, they included in ineligible lists as the region they located were not selected.

Appendix H: Informal Survey

Appendix H provides information on the Informal Survey that was conducted simultaneously to the Enterprise Survey. During the blocks enumeration, information was collected on the registration status of the businesses. Businesses were considered informal if they were NOT registered with either 1) DICA, 2) Directorate of Industrial Supervision and Inspection of the Ministry of Industry, or 3) City Development Committees or Department of Development Affairs. The following tables provide information on the number of informal enterprises that were enumerated, the target number of interviews for the Informal Survey, and the achieved number of interviews.

Sampling Frame, Myanmar Informal:
Source: Block Enumeration, 2013

Region	Employees	Manufacturing	Retail	Other Services	Grand Total
Yangon	1-4	94	424	168	**686**
	5-19	46	29	67	**142**
	20-99	28	1	6	**35**
	100+	3	0	0	**3**
	Total	**171**	**454**	**241**	**866**
Mandalay	1-4	10	123	110	**243**
	5-19	21	13	41	**75**
	20-99	6	0	0	**6**
	100+	1	0	0	**1**
	Total	**38**	**136**	**151**	**325**
Bago	1-4	15	46	33	**94**
	5-19	0	1	1	**2**
	20-99	0	0	0	**0**
	100+	0	0	0	**0**
	Total	**15**	**47**	**34**	**96**
Taunggyi	1-4	71	17	54	**142**
	5-19	26	0	27	**53**
	20-99	0	0	0	**0**
	100+	0	0	0	**0**
	Total	**97**	**17**	**81**	**195**
Monywa	1-4	9	7	18	**34**
	5-19	9	2	7	**18**
	20-99	0	0	1	**1**
	100+	0	0	0	**0**
	Total	**18**	**9**	**26**	**53**
Grand Total		**339**	**663**	**533**	**1535**

Target number of interviews:

Region	Employees	Manufacturing	Retail	Other Services	Grand Total
Yangon	1-4	19	25	24	**68**
	5-19	10	10	12	**32**
	20-99	18	1	5	**24**
	100+	3	0	0	**3**
	Total	**50**	**36**	**41**	127
Mandalay	1-4	2	25	20	47
	5-19	5	7	7	19
	20-99	5	0	0	5
	100+	1	0	0	1
	Total	**13**	**32**	**27**	72
Bago	1-4	5	16	7	28
	5-19	0	1	1	2
	20-99	0	0	0	0
	100+	0	0	0	0
	Total	**5**	**17**	**8**	30
Taunggyi	1-4	14	8	9	31
	5-19	6	0	4	10
	20-99	0	0	0	0
	100+	0	0	0	0
	Total	**20**	**8**	**13**	41
Monywa	1-4	6	5	6	17
	5-19	6	2	4	12
	20-99	0	0	1	1
	100+	0	0	0	0
	Total	**12**	**7**	**11**	30
Grand Total		**100**	**100**	**100**	**300**

Achieved number of interviews:

Region	Employees	Manufacturing	Retail	Other Services	Grand Total
Yangon	1-4	33	25	22	**80**
	5-19	10	10	16	**36**
	20-99	8	0	3	**11**
	100+	0	0	0	**0**
	Total	**51**	**35**	**41**	**127**
Mandalay	1-4	2	25	16	**43**
	5-19	6	7	13	**26**
	20-99	2	0	1	**3**
	100+	0	0	0	**0**
	Total	**10**	**32**	**30**	**72**
Bago	1-4	5	14	8	**27**
	5-19	0	1	1	**2**
	20-99	0	0	0	**0**
	100+	0	0	0	**0**
	Total	**5**	**16**	**9**	**30**
Taunggyi	1-4	14	8	9	**31**
	5-19	6	0	4	**10**
	20-99	0	0	0	**0**
	100+	0	0	0	**0**
	Total	**20**	**8**	**13**	**41**
Monywa	1-4	6	6	6	**18**
	5-19	6	1	4	**11**
	20-99	0	0	1	**1**
	100+	0	0	0	**0**
	Total	**12**	**7**	**11**	**30**
Grand Total		**98**	**98**	**104**	**300**