Philippines 2009 Enterprise Surveys Data Set

1. Introduction

1. This document provides additional information on the data collected in Philippines between May and December 2009 as part of the Enterprise Survey component of the survey East Asia and Pacific Enterprise Survey 2009.

The objective of the survey is to obtain feedback from enterprises on the state of the private sector in client countries (Lao PDR, Tonga, Samoa, Vanuatu, Timor Leste, Fiji, Federated States of Micronesia, Vietnam, Indonesia, and Papua New Guinea) 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.

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 Philippines was selected using stratified random sampling, following the methodology explained in the Sampling Manual¹. Stratified random sampling² was preferred over simple random sampling for several reasons³:

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.)

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 6 manufacturing industries, 1 services industry -retail -, and two residual sectors as defined in the sampling manual. Each manufacturing industry had a target of 160 interviews. The services industry and the two residual sectors had a target of 120 interviews. For the manufacturing industries sample sizes were inflated by about 33% to account for potential non-response cases when requesting sensitive financial data and also because of likely attrition in future surveys that would affect the construction of a panel.

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: National Capital Region excluding Manila; Manila; Region III; Region IV; and Metro-Cebu (Region VII). These are the largest population and economic centers of the Philippines. National Capital Region and Manila were split because of the large size of the National Capital Region. Metro-Cebu specifically was surveyed, rather than the whole of Region VII, for logistical reasons as this region is widespread and includes many remote and sparsely populated locations.

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. One frame was used for Philippines. The sample frame used in the Philippines was obtained from the 2008 National Statistics Office of the Philippines (NSO) Register of Establishments. A key limitation in using this sample frame was the cost of access, which significantly limited the size of sample available for survey limitation. As a result of concerns over confidentiality, NSO also required that sample selection was done by

NSO in-house under instruction of the World Bank team in Washington D.C.This database contained the following information:

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

Counts from sample frame shown below.

ELIGIBLE UNIVERSE		Sector									
Region	Size	15	18	24	25	26	52	31 <mark>& 3</mark> 2	Other Manufact uring	Other Services	Grand Total
	1-Small	298	156	24	15	41	1275	12	280	1280	3381
Central Luzon	2-Medium	104	28	22	23	23	181	22	164	508	1075
Region 3	3-Large	29	35	9	7	15	22	25	76	66	284
	TOTAL	431	219	55	45	79	1478	59	520	1854	4740
	1-Small	392	163	41	22	51	1768	25	402	1645	4509
Calabarazon	2-Medium	113	72	56	64	37	248	62	346	620	1618
Region 4	3-Large	59	81	33	53	26	36	144	288	77	797
	TOTAL	564	316	130	139	114	2052	231	1036	2342	6924
	1-Small	318	14	22	10	22	926	3	239	1114	2668
Metro Cebu	2-Medium	72	13	19	22	16	154	6	216	436	954
Region 7	3-Large	37	26	13	3	11	25	17	144	79	355
10	TOTAL	427	53	54	35	49	1105	26	599	1629	3977
	1-Small	697	381	167	210	71	5116	60	1559	7080	15341
NCR Exluding	2-Medium	276	146	143	162	58	870	50	994	3166	5865
Manila	3-Large	117	67	54	71	18	176	29	240	613	1385
	TOTAL	1090	594	364	443	147	6162	139	2793	10859	22591
	1-Small	106	63	10	6	5	1274	1	147	1981	3593
Manila	2-Medium	23	22	10	3	2	174	6	73	549	862
	3-Large	3	8	4	4	1	23	0	15	100	158
	TOTAL	132	93	24	13	8	1471	7	235	2630	4613
Grand Total		2644	1275	627	675	397	12268	462	5183	19314	42845

Universe Figures for Philippines

9. The enumerated establishments were then used as the frame for the selection of a sample with the aim of obtaining interviews at 1320 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 the NSO 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 16% (319 out of 2022 establishments).⁴ Breaking down by industry, the following numbers of establishments were surveyed:

15 (Food)	166
18 (Garments)	154
24 (Chemicals)	162
25 (Plastic & Rubber)	163
26 (Non-metallic mineral products)	151
31 & 32 (Electronics)	164
Other manufacturing	122
Retail & IT	117
Other services	127

Local Agency team involved in the study:

Local Agency	Name: OIJ Business Planners Cor	nsultancy Services
	Location: Makati City, Philippine	S
	Membership of international organ	nisation: None
	Activities since: 2000	
Name of Project Manager	Mr. Oliver I. Juanir	
Name and position of other	LACANLALE, Ms. GRACE, Proj	ect Supervisor
key persons of the project:	MELENDEZ, Mr. MARION, Proj	ect Supervisor
	URSUA, Ms. OLIVINE, Project S	upervisor
	ROMEO, Ms. MELISSA, Screener	r Supervisor
Local Survey Implementation	AVANZADO, Ms. GLORIA	38
Team and corresponding	BARCELON, Ms. JENNIFER	55
enumerator codes:	BORJA, Ms. CECILLA	37
	BORRAS, Mr. LIONEL	40
	CANOZA, Mr. BONN	52
	DAGANTA, Ms. GLOMELYN	N 57
	FIDELSON, Mr. JONEL	53
	GALZOTE, Ms. DAHLY RUT	TH 56
	GENIO, Mr. EDWIN	44
	GUARIN, Ms. TESS	54
	JACINTO, Ms. DALISAY	36
	JUANIR, Ms. TERESA	02
	LACANLALE, Ms. GRACE	31
	MAYLAS, Ms. ALICE	45
	MAYLAS, Mr. ARNALDO	41
	MELENDEZ, Mr. MARION	32
	NUNEZ, Ms. ALPHA JULLA	35
	OLIVA, Ms. RICHELLE	61
	PINEDA, Ms. STEPHANIE	50

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

	QUIÑONES, Ms. HENRITA	(CK)	42
	ROMEO, Ms. MERCY	49	
	ROMEO, Ms. RAQUEL	51	
	ROMEO, Ms. MELISSA	43	
	TAN-BALDERA, Ms. VIRG	INIA	63
	URSUA, Ms. OLIVINE	33	
	VICTORIO, Ms. JOVIC	34	
	YBANEZ, Ms. VANESSA	60	
Other staff involved:	Mr. Edward Hedley- MKE Coun	try Cooi	rdinator

Sample Frame:

Characteristics of sample frame used	Variables: Name of establishment, address, activity, telephone number, number of employees
Source:	National Statistics Office of the Philippines (NSO)
Year:	2008
Comments on the quality of sample frame:	 (1) No Contact Person/s Provided for List (2) More than 60% of Contact Numbers provided in the Sample Frame did not work
Year and organism who conducted the last economic census	2003, National Statistics Office (NSO)
Other sources for companies statistics	Oral/face-to-face interview

Sample Frame/Universe Philippines:

Sectors included in the sample:

Original Sectors	Manufacturing: 15,16,17,19,20,21,22,24,25,26, 28,29,36,37 Retail: 52
	Services: 45,50,51,55,60,61,62,63,64,72

Sample:

Comments/ problems on sectors and regions	On sectors: None
selected in the sample	Region codes: None
Comments on the response rate	The overall response rate of establishments was high.
	Establishments were mostly happy to participate.
	However, the length of the questionnaire proved to be
	an issue for some of the respondents.
Comments on the sample	Number of enterprises ineligible after the screener and
design:	reasons for this:
	Number of enterprises ineligible after the screener and
	reasons for this:
	(a) For the Sample Frame provided on "Small
	Companies", interviewees indicated that their number
	of employees where "intermittently below 5" during
	leans seasons of the year.
Other comments:	None

Fieldwork:

Date of Fieldwork	May to December 2009
Location	National Capital Region (NCR) –
	excluding Manila
	Manila
	Region 3 (Central Luzon)
	Region 4 (Calabarzon)
	Region 7 (Cebu)
Interview number	Manufacturing: 1082
	Retail : 117
	Services: 127
Problems found during fieldwork	Difficulty to find the exact location of a
	large number of establishments as the
	result of outdated contact details: some

	establishments had moved address which required tracing. Bad weather and flooding (rainy season), long distances to enterprises outside the centre, and some individuals unwilling to provide income, sales and expenditure information.
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 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.

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. Variable names preceded by a prefix "EA" indicate questions specific to East Asia and Pacific and, 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.

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 (oblasts)

-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 Philippines 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 w_strict .

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 w_median .

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

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 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 Philippines.

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

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

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

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).

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.

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 Enterprise Surveys regarding potential introduction of bias.

40. As the following graph shows, the number of contacted establishments per realized interview was 1.52. 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 0.111.



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 Philippines. 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	No problems
of questions (write question	
number)	
Problems found in the	No problems
navigability of questionnaires	
(for example skip patterns)	
Comments on	A number of respondents commentated that the
questionnaire length:	questionnaire was too long.
Suggestions or other comments	Make question wording shorter and more concise.
on the questionnaire:	Remove "Refuse to Answer" & "Don't Know" – and
	replace with different code/terms. Although these options
	should be spontaneous, respondents could on occasion see
	the actual questionnaire and if they were aware that there
	was the option to answer with "REF" or "Don't Know", it
	was observed that they would have a tendency to give those
	answers.

Database:

Comments on the data entry program	Data entry program chosen: CSPro The software program was in general easy to use
Comments on the data cleaning	Checking for data errors and inconsistencies was conducted by MKE and provided to the Philippines data entry staff

Country Situation:

General aspects of the	A large number of respondents were aware of the recent
economic, political or	case in the Philippines of local companies being blacklisted
Social situation in your	from World Bank-supported government projects under
territory that could affect	allegations of corruption.
the results of the survey:	
	Because of this controversy, it is possible that some
	respondents were more reticent in providing truthful
	information, particularly in regards to financial information.

Relevant local events occurred	Typhoons and frequent flooding during fieldwork affected
during fieldwork:	response rates. As such, during the latter part of activities, a
	major typhoon affected NCR which inadvertently halted the
	operations of a good number of companies (respondents) in
	NCR.
	Other events which slowed down survey implementation
	included national elections, holy week and Christmas.
Other aspects:	

Appendix B

Status Codes:

	1.Elegible establishment (Correct name and address)	1428
bles	2. Elegible establishment (Different name but same address - the new firm/establishment bought the original firm/establishment)	53
Eligi	3. Elegible establishment (Different name but same address - the firm/establishment changed its name)	0
	4. Elegible establishment (Wrong address - the firm/establishmen has changed address and the address could be found)	0
es	5. The establishment has less than 5 permanent full time employees	23
ldi	6. The firm discontinued businesses	207
elig	7. Not a business: private household	4
ų	8. Ineligible activity: education, agriculture, finances, governments	7
9	91. No reply (after having called in different days of the week and in different business hours)	5
abl	92. Line out of order	0
ain	93. No tone	0/
obt	10. Answering machine	0
ĥ	11. Fax line - data line	0
-	12. Wrong address/ moved away and could not get the new references	59
	13. Refuses to answer the screener	222
	14. In process (the establishment is being called is being contacted - previous to ask the screener)	4
	151. Out of target - outside the covered regions, firm moved abroad	9
	152. Out of target - firm moved abroad	1
	Total	2022

Response Outcomes:

Sample Target	1320
Complete interviews (Total)	1326
Incomplete interviews	7
Elegible in process	145
Refusals	3
Out of target	241
Impossible to contact	64
Ineligible - coop.	. 14
Refusal to the Screener	222
Total	2022

Appendix C

Universe Estimates, Philippines:

		Sector										
Region	Size	15	18	24	25	26	52	31 & 32	Other Manufact uring	Other Services	Grand Total	
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(c)	TOTAL	132	93	24	13	8	1471	7	235	2630	4613	
Grand Total		2644	1275	627	675	397	12268	462	5183	19314	42845	

Appendix D

Region	Size	15	18	24	25	26	52	31 & 32	Other Manufact uring	Other Services
Controllingo	1-Small	12.9	8.3	2.9	2.7	1.8	73.5	2.1	40.0	99.4
Central Luzon	2-Medium	14.6	3.1	3.0	2.4	1.4	23.8	2.2	16.7	81.2
Region 3	3-Large	11.6	3.7	1.8	1.4	1.5		1.9	9.9	10.0
Calabarra	1-Small	12.3	6.3	3.2	3.4	2.4	130.2	2.1	38.2	122.4
Calabarazon	2-Medium	14.4	5.7	3.5	3.8	1.9	23.2	2.5	37.6	131.9
Region 4	3-Large	8.4	6.1	3.5	3.0	1.9	7.2	2.2	23.9	
M. J	1-Small	11.1	2.5	2.4	3.3	2.1	64.3	1.9	25.7	78.2
Metro Cebu	2-Medium	10.9	3.9	2.8	2.4	1.3	55.0	2.1	17.7	39.3
Region /	3-Large	3.3	2.5	3.1	0.7	1.7		1.7	14.5	10.9
	1-Small	16.0	5.6	3.4	4.2	1.5	208.3	2.1	74.3	380.9
NCR Exiliaing	2-Medium	11.6	5.4	2.7	3.4	2.1	49.2	2.3	42.8	133.2
Manila	3-Large	13.4	3.5	3.3	2.5	1.2	18.9	2.2	12.5	31.1
	1-Small	10.5	4.3	2.3	4.1	1.5	138.7			186.9
Manila	2-Medium	3.7	2.8	2.0	2.3		8.7	2.2	9.4	69.1
	3-Large		1.6	3.0	3.0		2.7			6.0

Strict Cell Weights Philippines:

Median Cell Weights Philippines:

MEDIAN Weight	ts									
Region	Size	15	18	24	25	26	52	31 & 32	Other Manufact uring	Other Services
Caratarillusers	1-Small	12.3	8.5	3.0	2.7	1.9	76.5	2.2	40.9	101.6
Central Luzon	2-Medium	14.9	3.4	3.4	2.6	1.5	26.6	2.4	18.3	88.9
Region 3	3-Large	12.2	4.2	2.0	1.5	1.7		2.2	11.1	11.3
Calabarazon	1-Small	11.8	6.5	3.3	3.4	2.5	136.9	2.2	39.5	126.4
Calabarazon	2-Medium	14.9	6.3	3.9	4.1	2.1	26.1	2.8	41.6	145.9
Region 4	3-Large	8.9	6.9	4.0	3.3	2.2	8.4	2.5	27.2	
Mater Cabu	1-Small	12.1	2.9	2.8	3.7	2.4	76.1	2.2	29.9	90.9
Metro Cebu	2-Medium	12.7	4.9	3.6	2.9	1.6	69.8	2.7	22.1	49.0
Region /	3-Large	4.0	3.2	4.0	0.9	2.2		2.2	18.5	13.9
	1-Small	16.8	6.2	3.8	4.7	1.7	238.0	2.4	83.3	427.3
NCR Extuding	2-Medium	13.0	6.5	3.3	4.1	2.5	60.2	2.9	51.4	160.2
Manila	3-Large	15.5	4.4	4.1	3.1	1.5	23.9	2.8	15.4	38.5
	1-Small	11.8	5.2	2.8	4.9	1.8	170.4			225.4
Manila	2-Medium	4.4	3.6	2.5	3.0		11.4	3.0	12.1	89.3
	3-Large		2.1	4.0	3.9		3.7			8.0

Weak Cell Weights Philippines:

WEAK Weights										
Region	Size	15	18	24	25	26	52	31 & 32	Other Manufact uring	Other Services
Caratasliusas	1-Small	12.8	9.1	3.1	2.9	2.1	79.3	2.2	43.1	107.0
Central Luzon	2-Medium	14.9	3.5	3.3	2.6	1.6	26.4	2.4	18.5	89.7
Region 3	3-Large	12.3	4.3	2.0	1.6	1.8		2.1	11.3	11.5
Calabarazon	1-Small	12.5	7.1	3.4	3.7	2.8	143.6	2.2	42.1	134.7
	2-Medium	15.1	6.5	3.9	4.2	2.3	26.3	2.8	42.5	148.9
Region 4	3-Large	9.0	7.2	4.0	3.4	2.3	8.5	2.5	27.9	
Mature Calky	1-Small	13.4	3.3	3.1	4.2	2.9	84.1	2.4	33.6	102.0
Metro Cebu	2-Medium	13.5	5.3	3.8	3.1	1.8	73.8	2.9	23.7	52.6
Region 7	3-Large	4.3	3.5	4.2	1.0	2.5		2.3	20.1	15.0
	1-Small	17.5	6.7	3.9	5.0	1.9	247.2	2.5	88.1	450.9
NCR Extuding	2-Medium	13.0	6.7	3.3	4.1	2.7	59.8	2.8	52.0	161.8
Manila	3-Large	15.5	4.5	4.1	3.2	1.6	23.9	2.7	15.7	39.1
	1-Small	12.2	5.6	2.8	5.1	2.0	174.6			234.6
Manila	2-Medium	4.3	3.6	2.5	3.0		11.2	2.9	12.1	88.9
	3-Large		2.2	3.9	3.9		3.6			8.0

Appendix E

Original Sample Design, Philippines:

The original aim was to obtain 1320 interviews consisting of; 160 interviews within each of the 7 manufacturing sectors (15-Food, 18-Garments, 24-Chemicals, 25- Plastic & Rubber, 26-Non-Metalic, 31&32-electronics combined, and Other Manufacturing; along with 120 interviews with retail establishments; and 120 interviews with establishments in other services sectors.

DESIGN			1		1						
Region	Size	15	18	24	25	26	52	31 & 32	Other Manufac turing	Other Services	Grand Total
	1-Small	18	14	6	4	14	12	4	6	8	86
Control Linear Designed	2-Medium	6	6	6	7	12	6	8	8	5	63
Central Luzon Region :	3-Large	2	6	2	4	6	0	9	6	5	40
	TOTAL	26	25	14	15	32	18	20	20	19	190
	1-Small	24	15	10	5	16	10	9	9	10	109
Calabanana Daniar d	2-Medium	7	12	14	15	15	9	21	8	4	106
Calabarazon Region 4	3-Large	6	12	8	15	10	5	50	10	0	116
	TOTAL	36	40	33	35	41	25	80	27	15	331
	1-Small	19	2	6	2	9	9	1	6	7	60
Maday Calay	2-Medium	5	2	5	7	6	2	2	8	8	45
Metro Cebu	3-Large	6	5	3	3	4	0	6	6	5	40
	TOTAL	31	9	14	12	20	11	9	20	20	145
	1-Small	31	40	36	35	29	17	21	13	13	234
	2-Medium	17	18	43	38	25	14	17	19	20	212
NCR Exluding Manila	3-Large	7	12	14	22	10	8	10	15	15	112
	TOTAL	55	71	93	95	64	38	48	47	42	553
	1-Small	6	8	3	1	2	6	0	0	6	34
	2-Medium	5	5	3	1	1	15	2	6	6	43
Manila	3-Large	0	3	1	1	0	6	0	0	12	24
	TOTAL	12	16	6	3	3	27	2	6	24	101
Grand Total		160	160	160	160	160	120	160	120	120	1320

A total of 2022 eligible establishments were enumerated. The NSO drew sample and issued replacements. The NSO released 1400 contacts in order to fulfill the 1320 interviews. Many of the contacts were impossible to contact or ineligible. Once these contacts were exhausted, the NSO released an additional 638 contacts. Many of these contacts were in sectors that had already been completed and went unused. A final issue of 403 contacts was enough to complete the interviews. Interviewers exhausted every contact with the first preference establishments before the NSO would release subsequent preferences.

Completed Interviews, Philippines:

Realized Complete	Interviews										
Region	Size	15	18	24	25	26	52	31 & 32	Other Manufact uring	Other Services	Grand Total
	1-Small	17	11	6	4	14	12	4	5	9	82
Control Luzon Bogin	2-Medium	6	6	6	8	12	6	8	8	5	65
Central Luzon Regio	3-Large	2	6	4	4	7		10	6	5	44
Calabarazon Region Metro Cebu	Region Total	25	23	16	16	33	18	22	19	19	191
	1-Small	25	16	10	5	14	10	9	8	10	107
Culubrane Davis	2-Medium	7	9	14	15	15	9	21	8	4	102
Calabarazon Region	3-Large	6	9	8	15	10	4	53	10		115
	Region Total	38	34	32	35	39	23	83	26	14	324
	1-Small	19	3	6	2	6	9	1	6	9	61
Martine Calify	2-Medium	5	2	5	7	8	2	2	9	8	48
Metro Cebu	3-Large	8	6	3	3	4		7	7	5	43
3	Region Total	32	11	14	12	18	11	10	22	22	152
	1-Small	32	40	36	36	29	17	20	15	13	238
NCD Fulleding March	2-Medium	20	18	43	39	20	14	17	19	19	209
NCR EXILICING Manin	3-Large	7	12	13	22	10	7	10	15	15	111
2	Region Total	59	70	92	97	59	38	47	49	47	558
	1-Small	7	8	3	1	2	6			7	34
No. of Lot	2-Medium	5	5	4	1		15	2	6	6	44
Manua	3-Large		3	1	1		6			12	23
80	Region Total	12	16	8	3	2	27	2	6	25	101
Grand Total		166	154	162	163	151	117	164	122	127	1326