



In partnership with



Productivity, Technology and Innovation in the Caribbean 2014 Survey

Survey Description & Technical Report

Barbados, Belize, Jamaica, Guyana, Suriname, Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, The Bahamas and Trinidad and Tobago

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1. Introduction

Compete Caribbean¹ launched a PROductivity, TEchnology and INnovation survey (PROTEqIN) in Barbados, Belize, Jamaica, Guyana, Suriname, Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, The Bahamas and Trinidad and Tobago. This survey was used partly as panel survey of the Caribbean Enterprise and Indicator Survey 2011 (CES 2011) that was conducted as part of the Latin American and Caribbean Enterprise Surveys (LACES) implemented jointly by the Inter-American Development Bank (IDB), Compete Caribbean, and the World Bank (WB), to which many new sections were added to cover issues of innovation, demand-side skills, crime, public program support needs and perception of efficacy, to name a few. The PROTEqIN survey targeted about 1680 respondents drawn from the recently completed LACES survey. It aimed to provide feedback from enterprises that participated in the previous round of surveys in 2011 and to capture additional information on firm performance, finance, gender of ownership and management, use of productive development programs, and issues related to management style, innovation, and crime.

Étude Économique Conseil (EEC Canada), a Montreal-based consulting firm, was mandated to implement the survey. EEC Canada was responsible notably for the overall design, management, planning, and supervision of the survey. This included questionnaire design, supporting tools for use of CAPI and direct web-based survey completion during interviews, planning and monitoring the fieldwork, training interviewers, supervising interviewers, implementing quality controls, validating and auditing questionnaires, data entry where appropriate and finally data cleaning at the tail-end.

This report outlines and describes the project and the implementation of the survey. Its content is divided into two sections:

- The first section provides a general overview of the survey.
- The second section focuses on the technical aspects of the survey.

¹ Compete Caribbean is a private sector development program that provides technical assistance grants and investment funding to support productive development policies, business climate reforms, clustering initiatives and Small and Medium Size Enterprise (SME) development activities in the Caribbean region. The program, jointly funded by the Inter-American Development Bank (IDB), Canada, and the United Kingdom Department for International Development (DFID), supports projects in 15 Caribbean countries. Projects in the OECS countries are implemented in partnership with the Caribbean Development Bank.

2. Description of the Survey

OBJECTIVES

The PROTEqIN survey intended to achieve the following objectives:

- Provide new and comparable data from enterprises that participated in the previous round of surveys in 2011.
- Provide statistically significant indicators that are comparable across countries and allow estimations at the country level.
- Focus on thirteen economies: Barbados, Belize, Jamaica, Guyana, Suriname, Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, The Bahamas and Trinidad and Tobago with data that will be compatible with that in the LACES database and will allow for linking the two data sets.
- Assess the constraints to firm growth by identifying strong performers and weak performers among the sample of firms to be interviewed.
- Provide insights that are relevant to policymakers and those who formulate projects in the field.

POPULATION TARGETED BY THE SURVEY

The PROTEqIN survey targeted establishments that were covered in LACES 2011, and in some instances drew additional firms. The sample of LACES was stratified by industry and size. For Jamaica, a sub-national criterion of stratification was also adopted in the sampling strategy. Table 1 presents the initial population of establishments from which the sample for PROTEqIN was drawn.

TABLE 1.FINAL SAMPLE OF LACES 2011

Country	Sector	Type of Enterprise			
		Small	Medium	Large	Total
		Count	Count	Count	Count
Antigua - Barbuda	Manufacturing	27	7	0	34
	Services	67	44	6	117
	Total	94	51	6	151
Barbados	Manufacturing	25	34	12	71
	Services	24	28	27	79
	Total	49	62	39	150
Belize	Manufacturing	42	23	7	72
	Services	37	38	3	78
	Total	79	61	10	150
Dominica	Manufacturing	15	11	2	28
	Services	88	32	2	122
	Total	103	43	4	150
Grenada	Manufacturing	14	8	2	24
	Services	85	33	11	129
	Total	99	41	13	153
Guyana	Manufacturing	15	34	23	72
	Services	39	37	17	93
	Total	54	71	40	165
Jamaica	Manufacturing	19	26	27	72
	Services	122	142	40	304
	Total	141	168	67	376
Saint Lucia	Manufacturing	42	19	2	63
	Services	37	36	14	87
	Total	79	55	16	150
St-Kitts and Nevis	Manufacturing	15	9	5	29
	Services	67	51	3	121
	Total	82	60	8	150
St-Vincent and the Grenadines	Manufacturing	30	17	2	49
	Services	80	22	3	105
	Total	110	39	5	154
Suriname	Manufacturing	37	36	2	75
	Services	29	41	7	77
	Total	66	77	9	152
The Bahamas	Manufacturing	24	15	3	42
	Services	49	37	22	108
	Total	73	52	25	150
Trinidad & Tobago	Manufacturing	32	23	30	85
	Services	138	79	68	285
	Total	170	102	98	370
All (13 countries)	Total	1199	882	340	2421

Source: LACES 2011

SAMPLING

In the sampling structure, the PROTEqIN survey aimed to establish an appropriate balance between the scope of coverage and the meaningfulness of the sample size of each country, within budget and time constraints. The TORs and the Technical Offer called for a survey generating a total of 1680 establishments.

The sample of PROTEqIN was conceived as a panel survey of LACES (and also included a limited number of questions from FINGEN) with a significantly larger number of new sections and variables. Table 2 shows the PROTEqIN targeted sample compared to LACES and FINGEN in terms of enterprises, variables and span of work.

TABLE 2. TARGETED SAMPLE

Country	LACES			FINGEN			PROTEqIN (with LABOUR)		
	Targeted sample	Variables	SPAN OF WORK (units of information)	Targeted sample	Variables	SPAN OF WORK (units of information)	Targeted sample	Variables	SPAN OF WORK (units of information)
1 Barbados	150	290	43,500	80	330	26,400	120	830	99,600
2 Belize	150	290	43,500				120	830	99,600
3 Guyana	150	290	43,500				120	830	99,600
4 Jamaica	360	290	104,400	160	330	52,800	240	830	199,200
5 Suriname	150	290	43,500				120	830	99,600
6 Antigua - Barbuda	150	290	43,500	80	330	26,400	120	830	99,600
7 Dominica	150	290	43,500	80	330	26,400	120	830	99,600
8 Grenada	150	290	43,500	80	330	26,400	120	830	99,600
9 Saint Lucia	150	290	43,500	80	330	26,400	120	830	99,600
10 St-Kitts and Nevis	150	290	43,500	80	330	26,400	120	830	99,600
11 St-Vincent and the Grenadines	150	290	43,500	80	330	26,400	120	830	99,600
12 Trinidad & Tobago	360	290	104,400	160	330	52,800	240	830	199,200
13 The Bahamas	150	290	43,500						
14 The Dominican Republic	360	290	104,400						
Total	2730			880			1680		

Note 1: The sample in LACES targeted for Jamaica, Trinidad and Tobago and the Dominican Republic a sample of 360 of which 120 Manufacturing, 120 Retail and 120 Services.

Note 2: The questionnaires for Retail and Services had materially less variables than the Manufacturing (about 40 less); so this table OVERESTIMATES the span of work in LACES.

Note 3: The sample of FINGEN is made entirely of a portion of the LACES as it was conceived as survey COMPLETING the LACES survey.

QUESTIONNAIRE DEVELOPMENT

A questionnaire was developed and used as the tool for the survey.

The questionnaires included a section on:

- control information
- general information
- infrastructure and services
- sales, supplies, foreign trade and competition
- innovation
- legal environment / conflict resolution
- crime and prevention
- business-government relations
- labor and skills
- financing
- performance
- business environment

- business strategy and support programs.

This questionnaire includes 830 variables (see Table 2). Appendix 1 presents an equivalence of these variables with those covered by the LACES and FINGEN surveys.

TRAINING TO SUPERVISORS AND ENUMERATORS

Intensive training sessions were held face-to-face and online through *Webex* with EEC Canada team members in the Caribbean. The training sessions covered general study objectives, the specifics of each question, the procedure for filling out questionnaires, data capture issues, behavioral considerations, logistics and quality control.

The components for training included:

- An interview guide, presenting the universe targeted by the survey, the general principles of efficient interviewing in the context of a follow-up survey and the basic enumeration issues regarding the filling and verification of the questionnaires.
- A training questionnaire identifying the most common difficulties expected during interviewing, giving the appropriate clarifications, comments, examples and detailed explanations on some crucial concepts. The Project Coordinator went over the questionnaire with all participants, making sure that each question was clearly understood, that skip patterns and basic consistency issues were understood, and in general that each enumerator was fully qualified to implement the survey.

Simulated interviews allowed the Project Coordinator to anticipate problems that may be encountered and take steps to prepare the enumerators for handling such situations.

Once the enumerators had a thorough understanding of the questionnaires, they were asked to conduct a field test, carrying out one interview. The Project Coordinator then went over each questionnaire with the enumerators to clarify any problems and ensure that all questions were well understood.

THE PILOT SURVEY

In the context of this survey, the pre-test or pilot aimed identified if any of the following needed to be introduced:

- changes to the questionnaires
- modifications to the training / instructions material to enumerators
- modifications to the data-entry and data-control procedures in order to address country-specific issues
- changes to the survey plan (based on duration of interview and/or quality of enumerators, or any other factors)
- adaptation of the sampling technique
- any other changes to improve the delivery of the survey in general.

The pilot was carried out through phone interviews with 5 respondents to determine if any changes should be introduced to the formulation of any question, their order or the overall length of the questionnaires.

Carrying out the Pilot Survey

Potential respondents for the pilot were engaged via phone interviews and were drawn from the LACES 2011 survey. Respondents were called during the daytime at different business hours of the day to test how they reacted to the questions under the pressure of daily operations of their business.

Respondents were asked to participate in the pilot and only one respondent out of the five that were approached refused to participate. The purpose of the survey was explained prior to the beginning of the actual interview, which was broken into 2-3 parts.

Main Results of the Pilot

In general, respondents understood the purpose and content of the survey, and many of them were confident that their participation was useful. Respondents also expressed their interest on being informed of the progress and results of the survey.

Initially, the survey questionnaire was to be implemented in three short interviews. However, it was decided that, going forward, a single interview would make the process easier to complete.

The pilot also allowed to fine-tune the instructions of the survey, and identify data-entry issues that were resolved for the actual survey.

METHODOLOGY AND QUALITY CONTROL

Methodology

The methodology followed by EEC Canada included four overlapping phases:

- Survey design and tool development, which included the review and finalization of the questionnaires, the establishment of logical checks for data cleaning, the preparation of an enumerator training guide, and the preparation of a training questionnaire.
- Hiring, retaining, and training enumerators and appointments takers.
- Survey implementation and continuous control in the field, including call-backs to respondents.
- Data entry took place simultaneously in all countries during the survey. Data was entered into a database using CSPRO or SNAP, either during the interview or following the interview. EEC Canada checked for data entry errors and inconsistencies according to procedures developed during the survey design phase. The errors and inconsistencies were flagged and the Project Coordinator and supervisors were asked to perform the appropriate checks and re-contact the respondent if necessary.

Quality Control

EEC Canada implemented 5 levels of data quality control for surveys.

- Level 1: Direct control over enumerators through respondent call-backs or on-site direct controls.
- Level 2: Direct control by the Project Coordinator and supervisors in verifying disclosed internal coherence requirements.

Levels 1 and 2 tests were implemented within 24 hours of the survey to allow for a fast turn-around.

- Level 3: Data entry controls disallowing illegal values and maintaining filter questions and skip patterns.
- Level 4: Post data entry controls on undisclosed internal coherence requirements.
- Level 5: Post data entry controls testing for systematic enumerator or supervisory mistakes, regular and unexpected patterns of responses, unusual answers, outliers and, more generally, unexpected correlations.

Levels 4 and 5 tests were conducted at EEC Canada's headquarters. Any cases requiring clarifications were sent back to the country manager for follow up with respondents. Level 5 tests were conducted once all the data was entered, showing no problems.

3. Technical Report

NON-RESPONSE

The non-response codes are described in Table 3.

TABLE 3. NON-RESPONSE CODES AND DESCRIPTION

Codes		Description
-44	Automatic skip	When the question is clearly not applicable to the particular situation of the establishment in a manner consistent and reflecting the skip patterns of the questionnaires.
-66	Do not know	
-77	Not applicable	When the question is clearly not applicable to the particular situation of the establishment.
-88	Not provided	Value given to any missing information in the questionnaire for non-generated variables.
-99	Refused to answer	

The variables containing a non-applicable code (-77) are explained in the Table 4.

TABLE 4. VARIABLES WITH A NON-APPLICABLE ANSWER (CODE -77)

Variable name	Label	Explanation	Number of cases (Not applicable)
GEND1A	How would you characterize the gender composition of the owners/shareholders of this establishment	The owners/shareholder of the establishment is not a physical person.	14
GEND1C	Is she related to any of the other owners of this establishment?	The establishment is either a sole proprietorship and therefore has no other owners, or the other owners are not physical persons (companies or organizations).	164
GEND1D	What percentage of ownership does she own?	The establishment is wholly owned (100%) by a single person as described in sections B2 and B3.	23

Variable name	Label	Explanation	Number of cases (Not applicable)
C3A1	What percentage of this establishment's electricity came from a generator or generators that the establishment owned or shared?	The generator this establishment had access to did not work.	2
E100	Compliance requirements to international standards	The establishment does not have to comply to international standards.	1
G2F5	What was the approximate value of loss and damage? (Theft)	The theft was unsuccessful and therefore nothing was stolen or damaged.	1
I5A2	Managers Avg. wage (gross) last year	The enterprise did not employ full-time managers in the fiscal year, so there is no wage associated to this workforce category.	2
I5A3	Managers (previous year)	The enterprise did not exist two fiscal years before the survey .	3
I5A4	Managers Avg. wage (gross) previous year	The enterprise did not employ full-time managers in the fiscal year, so there is no wage associated to this workforce category.	5
I5A6	Managers Avg. wage (gross) one year from now	The enterprise will not employ full-time managers next year, so there is no wage associated to this workforce category.	8
I5B1	Professionals	The enterprise did not employ full-time professionals in the last fiscal year.	3
I5B2	Professionals Avg. wage (gross) last year	The enterprise did not employ full-time professionals in the last fiscal year, so there is no wage associated with this category.	78
I5B3	Professionals (previous year)	The enterprise did not employ full-time professionals in the previous fiscal year.	3

Variable name	Label	Explanation	Number of cases (Not applicable)
I5B4	Professionals Avg. wage (gross) previous year	The enterprise did not employ full-time professionals in the previous fiscal year, so there is no wage associated with this category.	78
I5B6	Professionals Avg. wage (gross) one year from now	The enterprise will not employ full-time professionals next year, so there is no salary associated to this category.	78
I5C1	Technicians and associate professionals	The enterprise did not employ full-time technicians or associate professionals in the last fiscal year.	3
I5C2	Technicians and associate professionals Avg. wage (gross) last year	The enterprise did not employ full-time technicians or associate professionals in the last fiscal year, so there is no wage associated with this category.	796
I5C3	Technicians and associate professionals (previous year)	The enterprise did not employ full-time technicians or associate professionals in the previous fiscal year.	10
I5C4	Technicians and associate professionals Avg. wage (gross) previous year	The enterprise did not employ full-time technicians or associate professionals in the previous fiscal year, so there is no wage associated with this category.	796
I5C6	Technicians and associate professionals Avg. wage (gross) one year from now	The enterprise will not employ full-time technicians or associate professionals next year, so there is no salary associated with this category.	796
I5D1	Clerical support workers	The enterprise did not employ full-time clerical support workers in the last fiscal year.	3
I5D2	Clerical support workers Avg. wage (gross) last year	The enterprise did not employ full-time clerical support workers in the last fiscal year, so there is no wage associated with this category.	796

Variable name	Label	Explanation	Number of cases (Not applicable)
I5D3	Clerical support workers (previous year)	The enterprise did not employ full-time clerical support workers in the previous fiscal year.	2
I5D4	Clerical support workers Avg. wage (gross) previous year	The enterprise did not employ full-time clerical support workers in the previous fiscal year, so there is no wage associated with this category.	796
I5D6	Clerical support workers Avg. wage (gross) one year from now	The enterprise will not employ full-time clerical support workers next year, so there is no wage associated with this workforce category.	796
I5E1	Service and sales workers	The enterprise did not employ full-time service and sales workers in the last fiscal year.	3
I5E2	Service and sales workers Avg. wage (gross) last year	The enterprise did not employ full-time service and sales workers in the last fiscal year, so there is no wage associated with this category.	502
I5E3	Service and sales workers (previous year)	The enterprise did not employ full-time service or sales workers in the previous fiscal year.	4
I5E4	Service and sales workers Avg. wage (gross) previous year	The enterprise did not employ full-time service or sales workers in the previous fiscal year, so there is no wage associated with this category.	502
I5E6	Service and sales workers Avg. wage (gross) one year from now	The enterprise will not employ full-time service or sales workers next year, so there is no wage associated with this category.	502
I5F1	Skilled agricultural, forestry, and fishery workers	The enterprise did not employ full-time skilled agricultural, forestry, or fishery workers in the last fiscal year.	3

Variable name	Label	Explanation	Number of cases (Not applicable)
I5F2	Skilled agricultural, forestry, and fishery workers Avg. wage (gross) last year	The enterprise did not employ full-time skilled agricultural, forestry, or fishery workers in the last fiscal year, so there is no wage associated with this category.	926
I5F3	Skilled agricultural, forestry, and fishery workers (previous year)	The enterprise did not employ full-time skilled agricultural, forestry, or fishery workers in the previous fiscal year.	4
I5F4	Skilled agricultural, forestry, and fishery workers Avg. wage (gross) previous year	The enterprise did not employ full-time skilled agricultural, forestry, or fishery workers in the previous fiscal year, so there is no wage associated with this category.	926
I5F6	Skilled agricultural, forestry, and fishery workers Avg. wage (gross) one year from now	The enterprise will not employ full-time skilled agricultural, forestry, or fishery workers next year, so there is no wage associated with this category.	926
I5G1	Craft and related trades workers	The enterprise did not employ full-time craft or related trades workers in the last fiscal year.	3
I5G2	Craft and related trades workers Avg. wage (gross) last year	The enterprise did not employ full-time craft or related trades workers in the last fiscal year, so there is no wage associated with this category.	291
I5G3	Craft and related trades workers (previous year)	The enterprise did not employ full-time craft and related trades workers in the previous fiscal year.	4
I5G4	Craft and related trades workers Avg. wage (gross) previous year	The enterprise did not employ full-time craft or related trades workers in the previous fiscal year, so there is no wage associated with this category.	291
I5G5	Craft and related trades workers (one year from now)	The enterprise will not employ full-time craft and related trades workers next year.	1

Variable name	Label	Explanation	Number of cases (Not applicable)
I5G6	Craft and related trades workers Avg. wage (gross) one year from now	The enterprise will not employ full-time craft or related trades workers next year, so there is no wage associated with this category.	291
I5H1	Plant and machine operators, and assemblers	The enterprise did not employ full-time plant and machine operators, and assemblers in the last fiscal year.	3
I5H2	Plant and machine operators, and assemblers Avg. wage (gross) last year	The enterprise did not employ full-time plant or machine operators, and assemblers in the last fiscal year, so there is no wage associated with this category.	944
I5H3	Plant and machine operators, and assemblers (previous year)	The enterprise did not employ full-time plant and machine operators, and assemblers in the previous fiscal year.	4
I5H4	Plant and machine operators, and assemblers Avg. wage (gross) previous year	The enterprise did not employ full-time plant and machine operators, and assemblers in the previous fiscal year, so there is no wage associated with this category.	944
I5H6	Plant and machine operators, and assemblers Avg. wage (gross) one year from now	The enterprise will not employ full-time plant and machine operators, and assemblers next year, so there is no wage associated with this category.	944
I5I1	Elementary occupations	The enterprise did not employ full-time elementary workers in the last fiscal year.	3
I5I2	Elementary occupations Avg. wage (gross) last year	The enterprise did not employ full-time elementary workers in the last fiscal year, so there is no wage associated with this category.	4
I5I3	Elementary occupations (previous year)	The enterprise did not employ full-time elementary workers in the previous fiscal year.	4

Variable name	Label	Explanation	Number of cases (Not applicable)
I5I4	Elementary occupations Avg. wage (gross) previous year	The enterprise did not employ full-time elementary workers in the previous fiscal year, so there is no wage associated with this category.	4
I5I6	Elementary occupations Avg. wage (gross) one year from now	The enterprise will not employ full-time elementary workers next year, so there is no wage associated with this category.	4
I5J	If total employees is different in the last 2 fiscal years, please specify reason for increase/decrease	The workforce of the establishment did not change in the last two fiscal years.	147
I6A1	Minimum required level of education - Managers	The establishment did not employ managers. There is no level of education associated with this job type.	2
I6A2	Average level or education - Managers	The establishment did not employ managers. There is no level of education associated with this job type.	2
I6B1	Minimum required level of education- Professionals	The enterprise has not established a minimum level of education for professional or it did not employ this kind of worker.	78
I6B2	Average level or education - Professionals	The enterprise has not established an average level of education for professional jobs or it did not employ this kind of worker.	78
I6C1	Minimum required level of education- Technicians and associate professionals	The enterprise has not established a minimum level of education for technicians and associate professional jobs or it did not employ this kind of worker.	796

Variable name	Label	Explanation	Number of cases (Not applicable)
I6C2	Average level or education - Technicians and associate professionals	The enterprise has not established an average level of education for technicians and associate professional jobs or it did not employ this kind of worker.	796
I6D1	Minimum required level of education - Clerical support workers	The enterprise has not established a minimum level of education for clerical support workers or it did not employ this kind of worker.	796
I6D2	Average level or education - Clerical support workers	The enterprise has not establish an average level of education for clerical support workers or it did not employ this kind of worker.	796
I6E1	Minimum required level of education - Service and sales workers	The enterprise has not established a minimum level of education for service and sales workers or it did not employ this kind of worker.	502
I6E2	Average level or education - Service and sales workers	The enterprise has not established an average level of education for service and sales workers or it did not employ this kind of worker.	502
I6F1	Minimum required level of education - Skilled agricultural, forestry, and fishery workers	The enterprise has not established a minimum level of education for skilled agricultural, forestry, and fishery workers or it did not employ this kind of worker.	926
I6F2	Average level or education - Skilled agricultural, forestry, and fishery workers	The enterprise has not established an average level of education for skilled agricultural, forestry, and fishery workers or it did not employ this kind of worker.	926

Variable name	Label	Explanation	Number of cases (Not applicable)
I6G1	Minimum required level of education - Craft and related trade workers	The enterprise has not established a minimum level of education for craft and related trade workers or it did not employ this kind of worker.	291
I6G2	Average level or education - Craft and related trade workers	The enterprise has not established an average level of education for craft and related trade workers or it did not employ this kind of worker.	291
I6H1	Minimum required level of education - Plant and machine operators	The enterprise has not established a minimum level of education for plant and machine operators or it did not employ this kind of worker.	379
I6H2	Average level or education - Plant and machine operators	The enterprise has not established an average level of education for plant and machine operators or it did not employ this kind of worker.	379
I6I1	Minimum required level of education - Elementary occupations	The enterprise has not established a minimum level of education for elementary workers or it did not employ this kind of worker.	3
I6I2	Average level or education - Elementary occupations	The enterprise has not established an average level of education for elementary workers or it did not employ this kind of worker.	3
I14G1	Other - Recruiting new employees	Other obstacles are not relevant to recruiting process or productivity of employees..	63
I14G2	Other - Productivity of employees		63
K1A	What were the total sales of your establishment in 2011	The enterprise began operations in 2013.	3
K1B	What were the total sales of your establishment in 2012		3

Variable name	Label	Explanation	Number of cases (Not applicable)
K2A	If manufacturing total cost of raw materials and intermediate goods used in production or if retail total annual cost of finished goods and material purchased to sale	The enterprise began operations in 2013.	3
K2B	Total cost of labor, including wages, salaries and bonuses and social payments		3
K2C	Total annual depreciation		3
K2D	Total cost of rental of land/building, equipment, furniture		3
K3A	Electricity		3
K3B	Fuel		3
K3C	Water		3
K3D	Transportation for goods (not including Fuel)		3
K3E	Communications services		3
K4A	- Machinery, vehicles and equipment (new and/or used)		2
K4B	Land and buildings		2
K5A	- Machinery, vehicles and equipment (new and/or used)		2
K5B	Land and buildings		2
K6A	All machinery, vehicles and equipment that you use (whether you own IT or not)		2
K6B	All land and buildings that you use (whether you own IT or not)		2
K7	In the last fiscal year, what would have been the cost of replacing All you Machinery and equipment with new machines?		2
L1G	Customs and Trade regulations	Customs and Trade regulations is not an obstacle linked to operations of the enterprise.	1
L2A	The most serious	Most of 17 factors were rated as a no obstacle, so the	3
L2B	The second most serious		5

Variable name	Label	Explanation	Number of cases (Not applicable)
L2C	The third most serious	establishment did not have a first, second or third most serious obstacle.	7
M3A	Would your establishment be interested in receiving such assistance?	These establishments currently benefit from technical assistance programs and have answered section M2. Section M3 therefore does not apply.	223
M3B	If no, what would be the main reason for this establishment's disinterest? (see table 1)		223
M3C	Would your establishment be willing to pay for a part of these support services?		223
M3D	For which type of executing agency would your establishment prefer receiving assistance from (see table 2)		223
M3E	For which functional area would your establishment require mostly technical assistance?		223

FINAL SAMPLE

Table 5 shows the final sample by sector and performance. The survey includes 1966 respondents, 286 more than the targeted sample.

TABLE 5. PROTEQIN – FINAL SAMPLE

Sector		Country													
		Antigua - Barbuda	Dominica	Grenada	Guyana	St-Kitts and Nevis	Saint Lucia	St-Vincent and the Grenadines	Suriname	Belize	Jamaica	Barbados	The Bahamas	Trinidad & Tobago	All countries
		Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count
Manufacturing	Low performance manufacturing	13	9	10	23	13	31	23	38	31	51	31	15	59	347
	High performance manufacturing	13	13	11	20	15	26	19	28	26	44	23	18	57	313
	Total	26	22	21	43	28	57	42	66	57	95	54	33	116	660
Retail	Low performance services	10	10	11	19	8	14	19	6	7	38	6	11	51	210
	High performance services	28	10	24	18	22	14	19	8	11	33	3	10	56	256
	Total	38	20	35	37	30	28	38	14	18	71	9	21	107	466
Other services	Low performance services	44	41	42	24	39	23	29	25	29	41	31	35	58	461
	High performance services	23	43	31	16	28	20	24	15	18	35	29	38	59	379
	Total	67	84	73	40	67	43	53	40	47	76	60	73	117	840
All sectors	Low performance	67	60	63	66	60	68	71	69	67	130	68	61	168	1018
	High performance	64	66	66	54	65	60	62	51	55	112	55	66	172	948
	Total	131	126	129	120	125	128	133	120	122	242	123	127	340	1966

Table 6 presents the PROTEqIN final sample classified in two groups. The first one includes enterprises that were also interviewed in the LACES survey. The second one shows those that participated for the first time. This categorization is relevant for the weight estimation (see section 3).

Table 6 also shows the number of establishments covered only in LACES.

TABLE 6. PROTEQIN FINAL SAMPLE VS LACES FINAL SAMPLE

Country	LACES Final sample	PROTEqIN Included in LACES Final Sample	PROTEqIN Not included in LACES Final Sample	To Complete Panel Data LACES
1 Barbados	150	123		27
2 Belize	150	122		28
3 Guyana	165	70	50	95
4 Jamaica	376	242		134
5 Suriname	152	94	26	58
6 Antigua - Barbuda	151	131		20
7 Dominica	150	126		24
8 Grenada	153	129		24
9 Saint Lucia	150	128		22
10 St-Kitts and Nevis	150	125		25
11 St-Vincent and the Grenadines	154	133		21
12 Trinidad & Tobago	370	340		30
13 The Bahamas	150	127		23
Total	2421	1890	76	531

WEIGHTS

Since the initial sampling design of the LACES 2011 survey was stratified and randomly drawn, individual observations of the PROTEqIN data could be weighted when making inferences about the population. PROTEqIN data was composed of a set of additional questions that were not asked to respondents of the LACES 2011 survey who did not participate in the PROTEqIN survey. Thus, the weight variables from the LACES 2011 survey database were updated and included in the PROTEqIN data set.

Because the PROTEqIN sample was conceived as a panel survey of LACES, the variable weights from LACES were adjusted to permit making generalizations of the population.

The variable weights define groups of enterprises. All the establishments that have the same weight belong to the same group. In order to recalculate the variable weights, the first step was to find the population from LACES, by group.

$$Population_{LACES_i} = \sum_{j=1}^n weight_{j,i} * n$$

Where:

i = group of enterprises from LACES with $weight = i$

n = number of enterprises from LACES with $weight = i$

$weight_i$ = value of $group_i$ weight

The next step, weight calculation, is computed in two ways according to the country. When the final sample is entirely included in the LACES final sample (see Table 6), it is possible to know directly the group of each respondent from LACES, so the following approach is used:

$$\text{Total new weight}_i = \frac{\text{Population}_{LACES_i}}{\text{Number}_{PROTEqIN_i}}$$

$$\text{Total new weight by enterprise}_i = \frac{\text{Total new weight}_i}{\text{Number}_{PROTEqIN_i}}$$

Where:

$\text{Number}_{PROTEqIN_i}$ = number of enterprises in PROTEqIN data set that belong to *group_i*

The two main criteria to classify an establishment in a stratum and weight group, according to the sampling methodology for LACES, are the sector and the type of enterprise (small, medium or large).

In Guyana and Suriname, there were enterprises in the PROTEqIN final sample, which were not present in the LACES survey. The LACES definition for groups of enterprises was therefore used to allow the categorization of these additional enterprises (50 establishments in Guyana and 26 in Suriname).

For the enterprises in the PROTEqIN final sample that were also present in the LACES survey, the categorizations used in LACES were maintained for PROTEqIN..

For Suriname, the establishments that were added to PROTEqIN but that were not originally used in the LACES final sample were actually included in the LACES sample frame. For this reason, the LACES population did not change. Therefore, once the categorized done for all enterprises in Suriname, weight adjustments were estimated using the methodology described above, which was used for most countries.

This was not true, however, in the case of Guyana, where the enterprises sampled were completely new. A new population therefore had to be estimated after all enterprises were categorized using the following methodology:

$$\text{Population}_{New_i} = \text{Population}_{LACES_i} + \text{New enterprises}_i$$

$$\text{Total new}_{Guyana} \text{ weight}_i = \frac{\text{Population}_{NEW_i}}{\text{Number}_{PROTEqIN_i}}$$

$$\text{Total new}_{Guyana} \text{ weight by enterprise}_i = \frac{\text{Total new}_{Guyana} \text{ weight}_i}{\text{Number}_{PROTEqIN_i}}$$

Where:

New enterprises_i = new enterprises that belong to *group_i*

$\text{Number}_{PROTEqIN_i}$ = total number of enterprises present in the PROTEqIN data set for Guyana, belonging to *group_i*

KEY VALUES

Figure 1 to Figure 13 illustrate some key values in percent. These graphical results are weighted according to updated weights (see section 3).

Firms tend to be mostly owned and run by men (ownership and top manager is mostly male) (see Figure 1). However, Belize, Barbados and St. Vincent and the Grenadines stand out, because of their higher rates of female owners and top managers. In particular in Belize, over 48% of top managers and owners are female while in Barbados and St. Vincent and the Grenadines, rates are close to 40%.

FIGURE 1. FIRMS WITH FEMALE TOP MANAGER AND PARTICIPATION IN OWNERSHIP (ALL COUNTRIES)

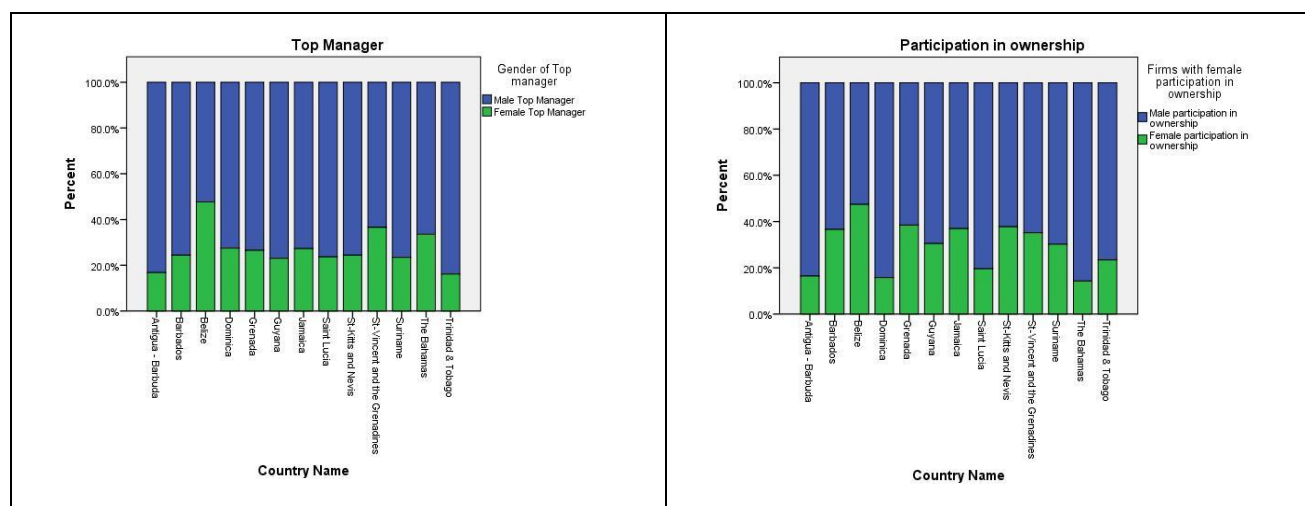
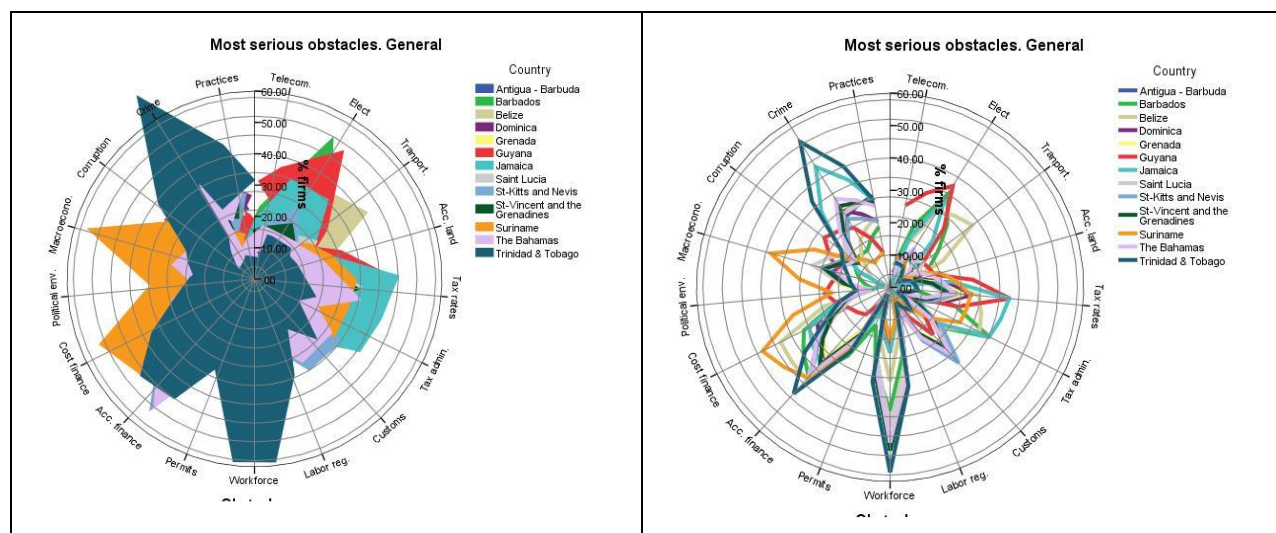


Figure 2 illustrates the most serious obstacles, taking into account the first, second and third most serious obstacles. In general, workforce, access to finance, crime and electricity are considered by the enterprises as important constraints in their business environment with 45% to 60% of establishments being concerned about these subjects. This trend is especially true for Trinidad and Tobago and Jamaica. Electricity is also an issue for enterprises from Guyana and Barbados. The macroeconomic environment and the cost of finance are other factors that also impact over 30% of enterprises from Suriname.

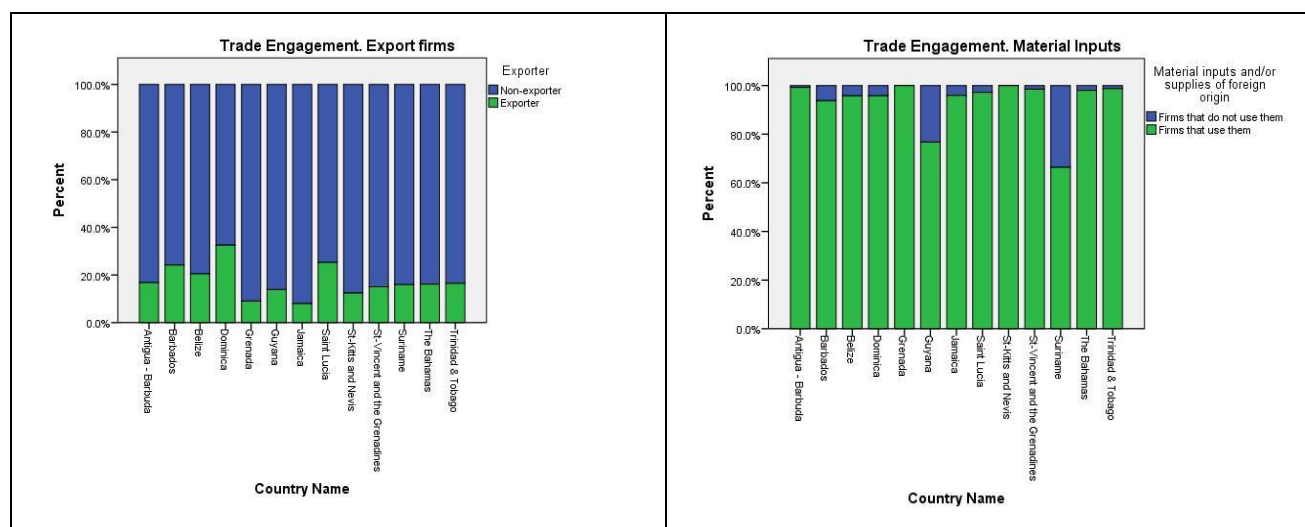
FIGURE 2. MOST SERIOUS OBSTACLES (ALL COUNTRIES – TOTAL)



More than 80% of enterprises use materials or supplies of foreign origin (see Figure 3) with the exception of Suriname and Guyana where these rates are 65% and 70% respectively.

In most cases, less than 30% of establishments export their goods or services. In Grenada, Guyana, Jamaica, and St. Kitts and Nevis, however, exporting firms represent less than 10%.

FIGURE 3. TRADE ENGAGEMENT



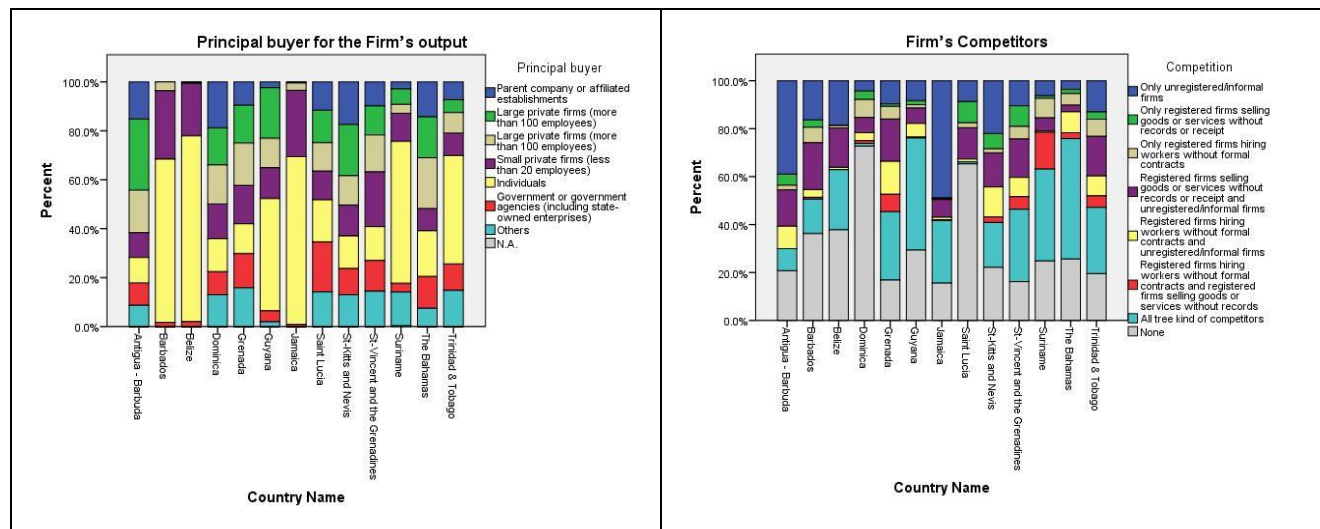
As for buyers of a firm's output (see Figure 4), for Barbados, Belize, Jamaica and Trinidad and Tobago, individuals represent the most predominant source (65%), followed by small enterprises (25%).

Large private firms in Antigua and Barbuda are also major buyers (30%), compared to other countries.. In the rest of the countries, output is sold almost evenly between the different categories of buyers.

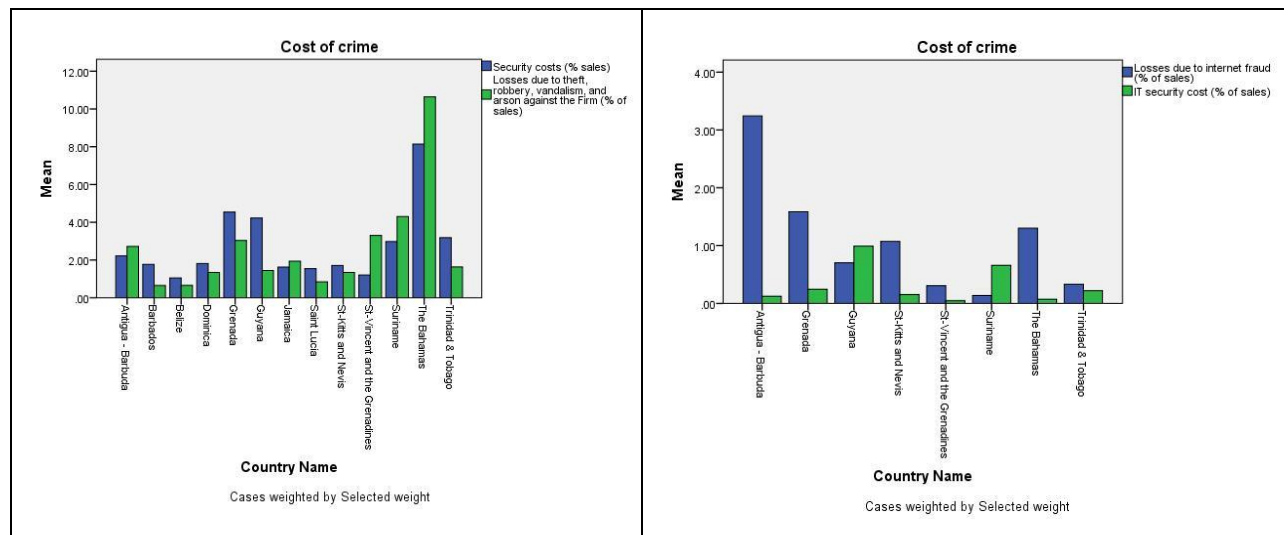
Informal firms represent the largest source of competitors in Jamaica and Antigua and Barbuda, representing 60%. However, most enterprises (more than 53%) in Trinidad and Tobago, the

Bahamas, Suriname, Guyana, St. Vincent and the Grenadines are also forced to compete with informal and unregistered firms selling their goods with or without receipts.

FIGURE 4 PRINCIPAL BUYER FOR THE FIRM'S OUTPUT AND FIRM'S COMPETITORS (ALL COUNTRIES)



Crime and security are also important issues for respondents, as mentioned previously, and losses from robbery exceed security cost on average 2% in Jamaica, Suriname, St. Vincent and the Grenadines, Antigua and Barbuda and the Bahamas. These two last countries stand out from the group with 3% losses due to Internet fraud, and 10% losses due to vandalism (see Figure 5).

FIGURE 5. SECURITY COSTS AND LOSSES DUE THE INCIDENTS (ALL COUNTRIES)

In general, 37% of establishments do not invest money in security yet are not victims of crimes. (see); 48% of enterprises, however, decide to invest in security while experiencing no crimes. St. Kitts and Nevis, Guyana and Suriname, however, have the highest rates of enterprises that invest in security (35%) and have experienced losses due to vandalism. These results are linked to those showed in Figure 6.

Only 15% of enterprises in Trinidad and Tobago and St. Kitts and the Grenadines all five of these elements of security while this proportion represents about 5% for other countries.

The establishments typically do not have any type of security (35%) or they decide to only adopt cameras – alarm system (23%) or insurance (17%). This applies to Antigua and Barbuda, Dominica, Grenada, Saint Lucia, St. Kitts and the Grenadines, St. Vincent, the Bahamas and Trinidad and Tobago. Enterprises in Guyana and Suriname typically choose a combination of security guards and insurances (25%).

Innovation development is mainly done in association with specialized institutions in Antigua and Barbuda, Dominica, Saint Lucia, the Bahamas and Trinidad and Tobago and represents over 80%, yet enterprises in these countries do not usually have a dedicated division for innovation. Thanks to partnerships, financial resources for these countries come from a combination of private and own capital (90%).

FIGURE 8. GOOD OR SERVICE INNOVATION (ALL COUNTRIES - GENERAL)

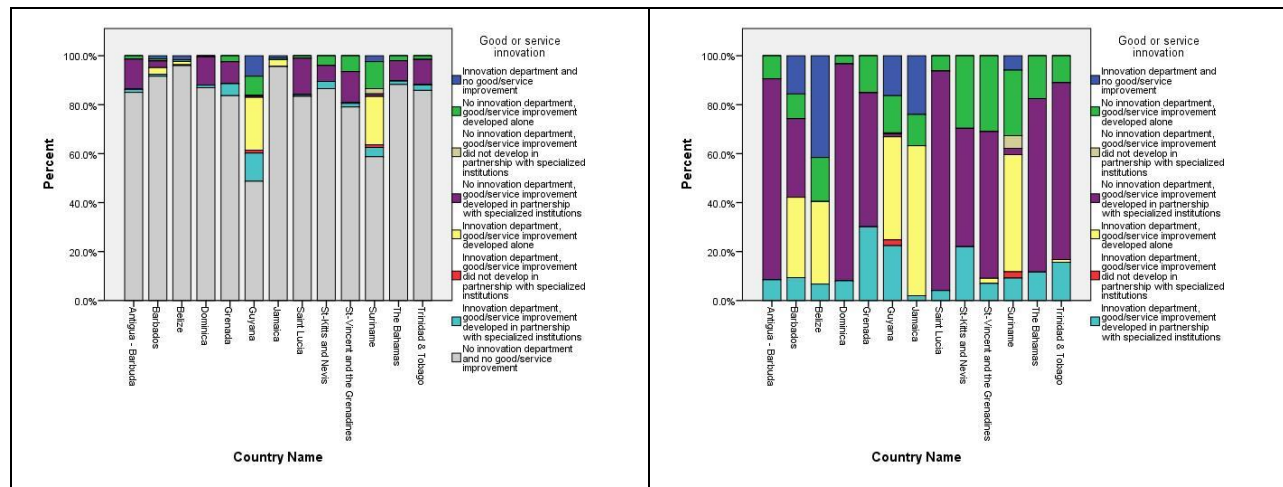
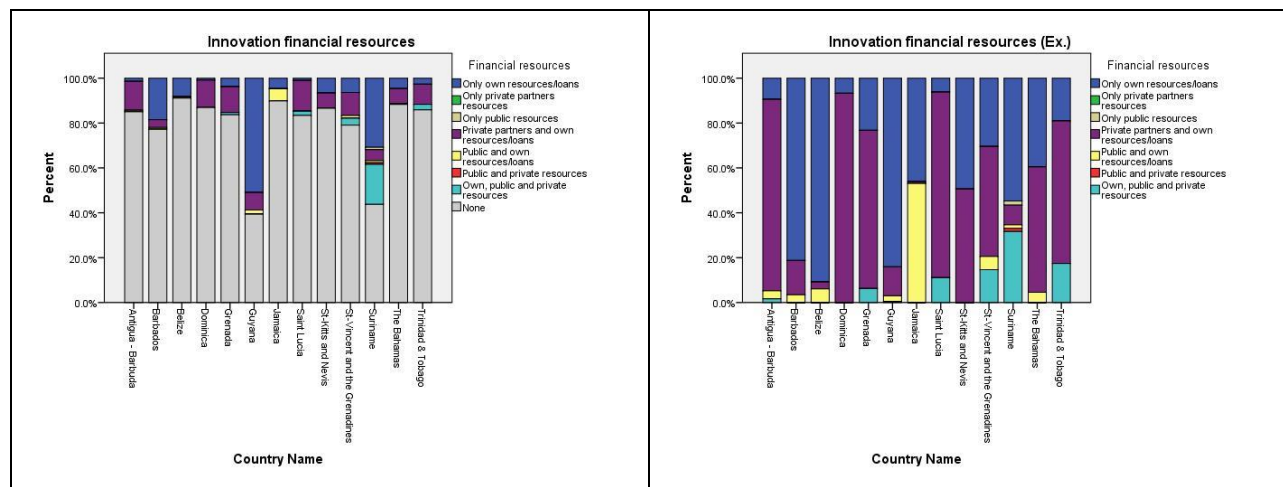


FIGURE 9. INNOVATION FINANCIAL RESOURCES (ALL COUNTRIES - GENERAL)



Guyana and Suriname not only have the largest number of enterprises that innovate, they are ahead in terms of filed and owned patents (see

Figure 10) and plans to pursue innovation (see Figure 11). Close to 40% of firms present in these countries plan to promote organizational, marketing, production or service process innovation, while other countries plan to focus on one area (marketing or good/service).

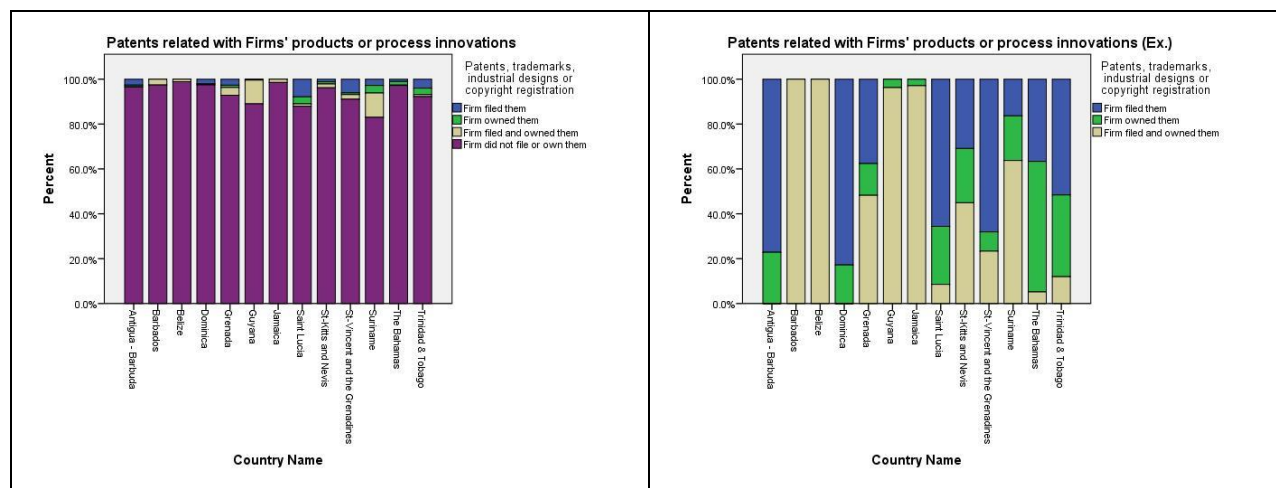
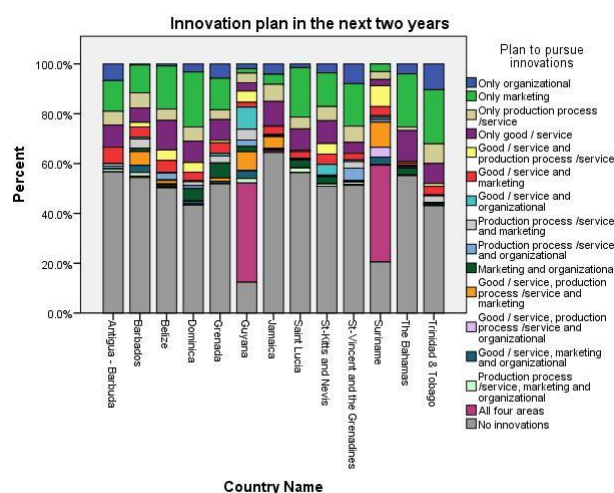
FIGURE 10. PATENTS IN THE LAST THREE YEARS (ALL COUNTRIES - GENERAL)**FIGURE 11. PLAN TO PURSUE INNOVATIONS IN THE NEXT TWO YEARS (ALL COUNTRIES)**

Figure 12 and Figure 13 showcase the presence of assistance programs. In Suriname, Barbados and Belize, 60% of firms are not aware of technical assistance programs, while those in Dominica, Grenada, Bahamas, Trinidad and Tobago and Saint Lucia are mostly aware of them (80%). However, less than 20% of enterprises declared having benefited from these programs.

Firms show their willingness to participate in these programs, but they do not want to contribute financially to these support services. This tendency is highlighted in Dominica, Grenada, St. Kitts and the Grenadines and Trinidad and Tobago (62%). Guyana is an exceptional case, where 70% of firms intend to contribute financially with their own capital.

Firms requested technical assistance in technological and innovation areas represent 30% of establishments in Jamaica, Barbados, Belize, Guyana and Trinidad and Tobago.

Small islands, however, request assistance from community based organizations, while large islands would prefer working with international organizations.

FIGURE 12. ASSISTANCE PROGRAMS (ALL COUNTRIES)

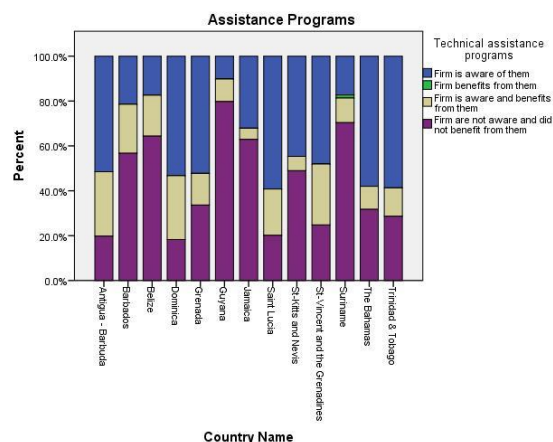
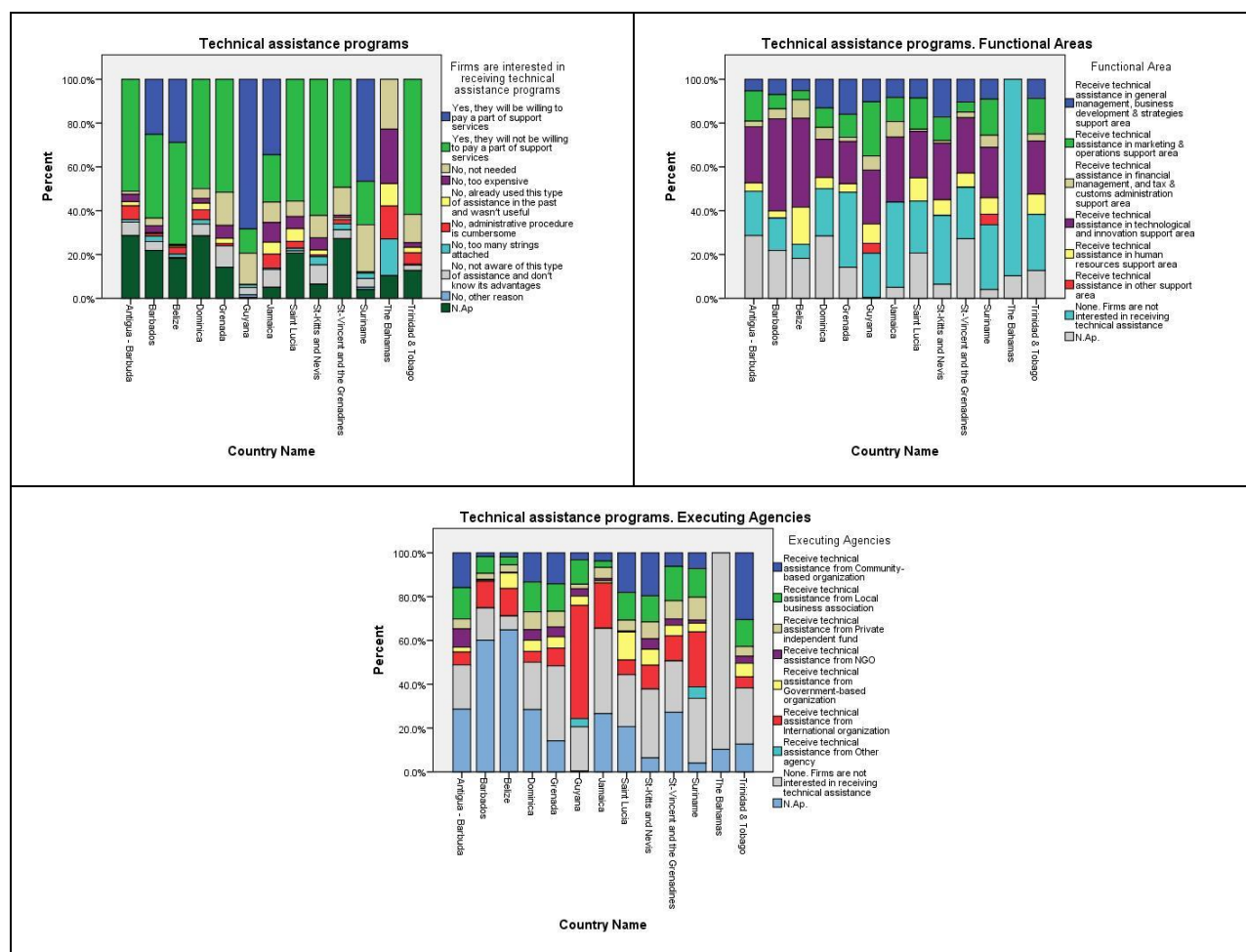


FIGURE 13. TECHNICAL ASSISTANCE PROGRAMS (ALL COUNTRIES)



APPENDICES

APPENDIX1. COMPARISON OF VARIABLES BETWEEN PROTEqIN, LACES AND FINGEN

PROTEqIN	LACES	FINGEN	Comments
SNAPID			
COUNTRY	a1	Country	
SECTOR	a4b		
IDQUEST	id	idquest	
CALLBACK		CALLBACK	
DAY	a14d	STARTDAY	
MONTH	a14m	STARTMONTH	
YEAR	a14y		
EST		EST	
ADDR		ADDRESS	
CITY	a3x	CITY	
TELEST		PHONE	
RESP	a15_confidential1	NAME	
GEN_RESP	a15_confidential2	GENDER	
POSITION	a15_confidential3	TITLE	
TEL	a15_confidential4	PHONERESP	
MOBILE	a15_confidential5	CELLRESP	
INTNAME			
INTCODE	a12	INTERCODE	
SUPNAME			
SUPCODE	a13	SUPERCODE	
A2A	a7		
A2A1	a7a		
A2A2	a8		
A2A3	a10		
A2A3A	a11a		
B1	b1		
B1X	b1x		
B2	b3		
B3A	b2a		
B3B	b2b		
B3C	b2c		
B3D	b2d		
GEND1A		D1A	
GEND1B		D1B	

PROTEqIN	LACES	FINGEN	Comments
GEND1C		D1C	
GEND1D		D1D	
GEND1E		D1E	
GEND1F		D1F	
GEND1G		D1G	
GEND2A		D2A	
OLD_B7A	b7a(REVERSE)		
GEND2B		D2B	
GEND2C		D2C	
B6A	b5		
B6B	b8		
B6C	b6a		
B6C1	b6b		
B7	b7		
C1A1	c3		
C1A2	c4		
C1A3	c5		
C1B1	c12		
C1B2	c13		
C1B3	c14		
C1C1	c19		
C1C2	c20		
C1C3	c21		
C1D1			
C1D2			
C1D3			
C2A1	c6		
C2A2	c7		
C2A3	c8		
C2A4A	c9a		
C2A4B	c9b		
C2B1			
C2B2			
C2B3			
C2B4A			
C2B4B			
C2C1			
C2C2			
C2C3			
C2C4A			
C2C4B			
C2D1	c15		
C2D2	c16		

PROTEqIN	LACES	FINGEN	Comments
C2D3	c17		
C2D4A			
C2D4B			
C3A	c10		
C3A1	c11		
C4A	c22a		
C4B	c22b		
C4C	c28		
D1A			
D1A1	f1		
D1A2	f2		
D1B			
D1C			
D1CX			
D2A	k2a		
D2B	k2b		
D2C	k2c		
D2G			
D2H			
D3A	k1a		
D3B	k1b		
D3C	k1c		
D4A	d1a1x		
D4B	d1a3		
D5A	e1		
D5B			
D5C			
D5D			
D5E	e2		
D6A	d3a+d3b		
D6B	d3c		
D6A1	d3b		
D6B1	d8		
D6B3A1			
D6B3A2			
D6B3B1			
D6B3B2			
D7A	d4		
D7B	d6		
D7C	d7		
D8A	d12a		
D8B	d12b		
D9A	d13		

PROTEqIN	LACES	FINGEN	Comments
D9A1	d14		
D10A	e11		
D10B	JRe12		
D10C	JRe13		
E1B			
E1A	LAC.E1		
E1A1			
E1A1B			
E1A1B1			
E1A1B1X			
E1A1B2			
E2A			
E2B			
E2C			
E2D			
E2E			
E2EA			
E2EB			
E2EB1			
E2EB2			
E3A			
E3A1			
E3A2			
E3A3			
E3A4			
E3A5			
E3A6			
E3A7			
E3A8			
E3A8X			
E4A			
E4B			
E4C			
E4D			
E4E			
E4F			
E4G			
E5A			
E5A1			
E5B			
E5B1			
E5C	LACe10		
E5C1			

PROTEqIN	LACES	FINGEN	Comments
E6A	LACe8c		
E6B			
E7A			
E7B			
E8A			
E8B			
E8C			
E8D			
E10A			
E10B			
E10C			
E10D			
E10E			
E10F			
E10G			
E10H			
E10I			
E10J			
E10K			
E10L1			
E10L2			
E10L3			
E10L4			
E10M			
E10N			
E10O			
E10P			
E10PX			
F1A			
F1B			
F1C			
F1D			
F2A			
F2B			
F2C			
F2D			
F2E			
F2F			
G1A	i1		
G1B1	i2a		
G1B2	i2b		
G1C	i3		
G1D1	i4a		

PROTEqIN	LACES	FINGEN	Comments
G1D2	i4b		
G2A			
G2A1			
G2A2			
G2A3			
G2A4			
G2A5			
G2A6			
G2A7			
G2A8			
G2A9			
G2B			
G2B1			
G2B2			
G2B3			
G2B4			
G2B5			
G2B6			
G2B7			
G2B8			
G2B9			
G2C			
G2C1			
G2C2			
G2C3			
G2C4			
G2C5			
G2C6			
G2C7			
G2C8			
G2C9			
G2D			
G2D1			
G2D2			
G2D3			
G2D4			
G2D5			
G2D6			
G2D7			
G2D8			
G2D9			
G2E			
G2E1			

PROTEqIN	LACES	FINGEN	Comments
G2E2			
G2E3			
G2E4			
G2E5			
G2E6			
G2E7			
G2E8			
G2E9			
G2F			
G2F1			
G2F2			
G2F3			
G2F4			
G2F5			
G2F6			
G2F7			
G2F8			
G2F9			
G2G			
G2G1			
G2G2			
G2G3			
G2G4			
G2G5			
G2G6			
G2G7			
G2G8			
G2G9			
G3A			
G3B			
G3C			
G3D			
G4A			
G4B			
G4C			
G4D			
G4E			
G5A			
G5A1			
G5A2			
G5B			
G5B1			
G5B2			

PROTEqIN	LACES	FINGEN	Comments
GEN_D8A		D8A	
GEN_D8B		D8B	
GEN_D8C		D8C	
H2	j2		
H3A	j3		
H3B	j4		
H3C	j5		
H4A	j6a		
H4B	j6		
H5A	j7a		
H5B	j7b		
H6A	j10		
H6A1	j11		
H6A2	j12		
H6B	g2		
H6B1	g3		
H6B2	g4		
H6C	j13		
H6C1	j14		
H6C2	j15		
I1	b6		
I2A	L1		
I2A1			
I2A2A	L4a		
I2A2B	L4b		
I2A3	L3B		Attention: L3B include managers(I2a1)
I2B1			
I2B2A	L5a		I2b2A + I2b2b = L5a
I2B2B	L5a		I2b2A + I2b2b = L5a
I2B3	L5b		Attention: L5B include managers(I2b1)
I3A	L6		
I3A1			
I3A2A			
I3A2B			
I3A3			
I3B1			
I3B2A			
I3B2B			
I3B3			
I3C	L8		
I3C1			

PROTEqIN	LACES	FINGEN	Comments
I3C2A			
I3C2B			
I3C3			
I4			
I5A1			
I5A2			
I5A3			
I5A4			
I5A5			
I5A6			
I5B1			
I5B2			
I5B3			
I5B4			
I5B5			
I5B6			
I5C1			
I5C2			
I5C3			
I5C4			
I5C5			
I5C6			
I5D1			
I5D2			
I5D3			
I5D4			
I5D5			
I5D6			
I5E1			
I5E2			
I5E3			
I5E4			
I5E5			
I5E6			
I5F1			
I5F2			
I5F3			
I5F4			
I5F5			
I5F6			
I5G1			
I5G2			
I5G3			

PROTEqIN	LACES	FINGEN	Comments
I5G4			
I5G5			
I5G6			
I5H1			
I5H2			
I5H3			
I5H4			
I5H5			
I5H6			
I5I1			
I5I2			
I5I3			
I5I4			
I5I5			
I5I6			
I5J			
I5JX			
I6A1			
I6A2			
I6B1			
I6B2			
I6C1			
I6C2			
I6D1			
I6D2			
I6E1			
I6E2			
I6F1			
I6F2			
I6G1			
I6G2			
I6H1			
I6H2			
I6I1			
I6I2			
I8A1			
I8A2			
I8B1			
I8B2			
I8C1			
I8C2			
I8D1			
I8D2			

PROTEqIN	LACES	FINGEN	Comments
I8E1			
I8E2			
I8F1			
I8F2			
I8G1			
I8G2			
I9A1			
I9A2			
I9B1			
I9B2			
I9C1			
I9C2			
I9D1			
I9D2			
I9E1			
I9E2			
I9F1			
I9F2			
I9G1			
I9G2			
I9H1			
I9H2			
I10A1			
I10A2			
I10B1			
I10B2			
I10C1			
I10C2			
I10D1			
I10D2			
I10E1			
I10E2			
I10F1			
I10F2			
I10G1			
I10G2			
I10H1			
I10H2			
I10I1			
I10I2			
I10J1			
I10J2			
I10K1			

PROTEqIN	LACES	FINGEN	Comments
I10K2			
I10L1			
I10L2			
I10M1			
I10M2			
I10N1			
I10N2			
I10O1			
I10O2			
I11A1			
I11A2			
I11B1			
I11B2			
I11C1			
I11C2			
I11D1			
I11D2			
I11E1			
I11E2			
I11F1			
I11F2			
I11G1			
I11G2			
I11H1			
I11H2			
I11I1			
I11I2			
I11J1			
I11J2			
I12A1			
I12A2			
I12A3			
I12A4			
I12A5			
I12B1			
I12B2			
I12B3			
I12B4			
I12B5			
I12C1			
I12C2			
I12C3			
I12C4			

PROTEqIN	LACES	FINGEN	Comments
I12C5			
I12D1			
I12D2			
I12D3			
I12D4			
I12D5			
I12E1			
I12E2			
I12E3			
I12E4			
I12E5			
I12F1			
I12F2			
I12F3			
I12F4			
I12F5			
I12G1			
I12G2			
I12G3			
I12G4			
I12G5			
I12H1			
I12H2			
I12H3			
I12H4			
I12H5			
I12I1			
I12I2			
I12I3			
I12I4			
I12I5			
I13A			
I13B			
I13C			
I13D			
I13E			
I13F			
I13G			
I13H			
I14A1			
I14A2			
I14B1			
I14B2			

PROTEqIN	LACES	FINGEN	Comments
I14C1			
I14C2			
I14D1			
I14D2			
I14E1			
I14E2			
I14F1			
I14F2			
I14G1			
I14G2			
I15A			
I15AX			
I15C			
I15D			
I15E			
I15F			
I15G			
I16A	L10		
I16B1			
I16B2			
I16C	<i>LACL12</i>		
I16D	LACL18		
I16E			
I16E1			
I16E2			
I16E3			
I16E4			
I16E5			
I16E6			
J1A	k21		
J1B1	g1a		
J1B2	g1b		
J1B3X			
J1B3	g1c		
J2A	k7		
J2B			
J3A	k4		
J3A1	k3a		
J3B1	k3bc		
J3C1	k3bc		
J3D1	k3e		
J3E1	k3f		
J3F1			

PROTEqIN	LACES	FINGEN	Comments
J3G1			
J3K1			
J3L1			
J3M1			
J3N1			
J3O1			
J3J1			
J3J1X			
J3A2	k5a		
J3B2	k5bc		
J3C2	k5bc		
J3D2	k5e		
J3E2	k5f		
J3F2			
J3G2			
J3K2			
J3L2			
J3M2			
J3N2			
J3O2			
J3H2			
J3I2			
J3J2			
J4A	k8		
J4B			
J4C	k10		
J4D	k11		
J4E			
J4F			
J4G	k9		
J4H	k13		
J4H1	k14a		
J4H2	k14b		
J4H3	k14c		
J4H4	k14d		
J4H5	k14e		
J4H5X			
J4I			
J5A	k16		
J5B			
J5C			
J5D			
J6	k17		

PROTEqIN	LACES	FINGEN	Comments
K1A	d2		
K1B	d2		
K2A	n2e		
K2B	n2a		
K2C			
K2D			
K3A	n2i		
K3B	n2f		
K3C			
K3D			
K3E			
K4A	n5b		
K4B	n5a		
K5A	n6a		
K5B	n6b		
K6A	n7a		
K6B	n7b		
K7			
L1A	c30b		
L1B	c30a		
L1C	d30a		
L1D	g30a		
L1D1			
L1D2			
L1D3			
L1D4			
L1D5			
L1D6			
L1D7			
L1E	j30a		
L1F	j30b		
L1G	d30b		
L1H	l30a		
L1I	l30b		
L1J	j30c		
L1K	k30		
L1L			
L1M	j30e		
L1N			
L1O	j30f		
L1P	i30		
L1Q	e30		
L1Q1			

PROTEqIN	LACES	FINGEN	Comments
L1Q2			
L1Q3			
L1Q4			
L1Q5			
L2A	m1a		
L2B			
L2C			
L3			
M1A		E1A	
M1B		E1B	
M2A1		E3A1	
M2A2		E3A2	
M2A3		E3A3	
M2A4		E3A4	
M2A5		E3A5	
M2B1A1		E3B1A1	
M2B1B1		E3B1B1	
M2B1A2		E3B1A2	
M2B1B2		E3B1B2	
M2B1A3		E3B1A3	
M2B1B3		E3B1B3	
M2B1A4		E3B1A4	
M2B1B4		E3B1B4	
M2B1A5		E3B1A5	
M2B1B5		E3B1B5	
M2B2A1		E3B2A1	
M2B2B1		E3B2B1	
M2B2A2		E3B2A2	
M2B2B2		E3B2B2	
M2B2A3		E3B2A3	
M2B2B3		E3B2B3	
M2B2A4		E3B2A4	
M2B2B4		E3B2B4	
M2B2A5		E3B2A5	
M2B2B5		E3B2B5	
M2B3A1		E3B3A1	
M2B3B1		E3B3B1	
M2B3A2		E3B3A2	
M2B3B2		E3B3B2	
M2B3A3		E3B3A3	
M2B3B3		E3B3B3	
M2B3A4		E3B3A4	
M2B3B4		E3B3B4	

PROTEqIN	LACES	FINGEN	Comments
M2B3A5		E3B3A5	
M2B3B5		E3B3B5	
M2B4A1		E3B4A1	
M2B4B1		E3B4B1	
M2B4A2		E3B4A2	
M2B4B2		E3B4B2	
M2B4A3		E3B4A3	
M2B4B3		E3B4B3	
M2B4A4		E3B4A4	
M2B4B4		E3B4B4	
M2B4A5		E3B4A5	
M2B4B5		E3B4B5	
M2B5A1		E3B5A1	
M2B5B1		E3B5B1	
M2B5A2		E3B5A2	
M2B5B2		E3B5B2	
M2B5A3		E3B5A3	
M2B5B3		E3B5B3	
M2B5A4		E3B5A4	
M2B5B4		E3B5B4	
M2B5A5		E3B5A5	
M2B5B5		E3B5B5	
M2B6A1		E3B6A1	
M2B6B1		E3B6B1	
M2B6A2		E3B6A2	
M2B6B2		E3B6B2	
M2B6A3		E3B6A3	
M2B6B3		E3B6B3	
M2B6A4		E3B6A4	
M2B6B4		E3B6B4	
M2B6A5		E3B6A5	
M2B6B5		E3B6B5	
M2B7A1		E3B7A1	
M2B7B1		E3B7B1	
M2B7A2		E3B7A2	
M2B7B2		E3B7B2	
M2B7A3		E3B7A3	
M2B7B3		E3B7B3	
M2B7A4		E3B7A4	
M2B7B4		E3B7B4	
M2B7A5		E3B7A5	
M2B7B5		E3B7B5	
M2B8A1		E3B8A1	

PROTEqIN	LACES	FINGEN	Comments
M2B8B1		E3B8B1	
M2B8A2		E3B8A2	
M2B8B2		E3B8B2	
M2B8A3		E3B8A3	
M2B8B3		E3B8B3	
M2B8A4		E3B8A4	
M2B8B4		E3B8B4	
M2B8A5		E3B8A5	
M2B8B5		E3B8B5	
M3A		E4	
M3B		E4A	
M3BX		E4AX	
M3C		E4B1	
M3D		E4B2	
M3DX		E4B2X	
M3E		E4B3	
M3EX		E4B3X	
M4A			
M4A1			
M4A2			
M4B			
M4B1			
M4B2			
M4C			
M4C1			
M4C2			
M4D			
M4D1			
M4D2			
M4E			
M4E1			
M4E2			
M4F			
M4F1			
M4F2			
M4G			
M4G1			
M4G2			
M4H			
M4H1			
M4H2			
M4I			
M4I1			

PROTEqIN	LACES	FINGEN	Comments
M4I2			
M4J			
M4J1			
M4J2			
M4K			
M4K1			
M4K2			
DAYEND		ENDMONTH	
MONTHEND		ENDDAY	
YEAREND		F1_FINGEN	
F1		F2_FINGEN	
F2		F3_FINGEN	
F3		F4_FINGEN	
F4		F4X	
COMMENT		COMMENTS	

APPENDIX2. OTHER NON-RESPONSE CODES

The variables containing a “Do not know” code (-66) are presented in Table 7.

TABLE 7. VARIABLES WITH A “DO NOT KNOW” ANSWER (CODE = -66)

Variable name	Label	Number of cases (Do not know)
B2	What percentage of this firm does the largest owner or owners own?	7
GEND1A	How would you characterize the gender composition of the owners/shareholders of this establishment^	2
GEND1C	Is she related to any of the other owners of this establishment?	2
GEND1D	What percentage of ownership does she own?	4
GEND1E	To what extent does she get involved in the management of this establishment? (See table 2)	18
GEND1F	How many years of experience does she have working in this establishment?	7
GEND1G	How many years of experience does she have working in another establishment?	7
GEND2A	How would you characterize the gender composition of the management group of this establishment? (see table 1)	1
B6A	In what year did this establishment begin operations?	32
B6C	Is your establishment formally registered?	16
B6C1	What year was this establishment formally registered?	33
B7	How many years of experience working in this sector does the Top Manager have	18
C1A2	Electrical connection: how many days did it take to obtain?	4
C1B2	Water connection: how many days did it take to obtain?	1
C1C2	Telephone connection: how many days did it take to obtain?	1
C1D2	Internet connection: how many days did it take to obtain?	1
C2A2	Power. In a typical month, how many?	5
C2A3	Power. How long on average?	3
C2A4A	Power. Estimate losses in annual sales (%)	2
C2B2	Cell Connexion. In a typical month, how many?	1
C2B3	Cell Connexion. How long on average?	2
C2B4A	Cell Connexion. Estimate losses in annual sales (%)	5
C2B4B	Cell Connexion. Estimate losses in annual sales (LCU)	5
C2C2	Internet access. In a typical month, how many?	4
C2C3	Internet access. How long on average?	4
C2C4A	Internet access. Estimate losses in annual sales (%)	4
C2C4B	Internet access. Estimate losses in annual sales (LCU)	4
C3A1	What percentage of this establishment's electricity came	64

Variable name	Label	Number of cases (Do not know)
	from a generator or generators that the establishment owned or	
D1A1	Capacity utilization	11
D1A2	Typical total hours of operation in a week	1
D2G	In the last fiscal year, what percentage of your sales were paid online?	4
D2H	Who was the principal buyer for this establishment's output (see table below)	1
D3A	Purchases: Paid for before delivery	4
D3B	Purchases: Paid for on delivery	4
D3C	Purchases: Paid for after delivery	4
D4B	What percentage of total sales does the main product represent?	5
D5B	What was its local market share?	217
D5C	How would you describe the change in your quantities sold? (see table below)	1
D6A	National sales	1
D6B	Direct exports	1
D6A1	Indirect exports	72
D6B1	In what year did you begin exporting directly?	28
D6B3A1	Name of country 1:	28
D6B3A2	Percentage of exports to country 1:	9
D6B3B1	Name of country 2:	28
D6B3B2	Percentage of exports to country 2:	9
D7A	When this establishment exported goods directly, how many days did it take on average from the time this establishment's	3
D7B	What percentage of the consignment value of the products exported directly was lost while in transit because of theft?	2
D7C	What percentage of the consignment value of the products exported directly was lost while in transit because of breakage	1
D8A	Material inputs or supplies of domestic origin	4
D8B	Material inputs or supplies of foreign origin	4
D9A1	When this establishment imported material inputs or supplies, how many days did it take on average from the time these g	3
E4A	It increased the number of product/service lines offered to the market	1
E4B	It increased sales	1
E4C	It opened access to new categories of customers	1
E4D	It improved the quality of products/services	1

Variable name	Label	Number of cases (Do not know)
E4E	It reduced the average cost per unit of output	1
E4F	It improved the ability to develop new products/services or processes	1
E4G	Other	1
E7A	In the last 2 fiscal years, how much did this establishment spend on innovation?	16
E7B	In the last 2 fiscal years, what percent of this establishment's sales was accounted for by innovation?	13
E10L1	Direct public funding for innovation	3
E10L2	Linkages with public universities / tertiary level institutions	3
E10L3	Technical capacity in key institution responsible for innovation promotion	3
E10L4	Investment/Policy framework to foster innovation	3
E10M	Flexibility/openness of laboratories / research centers for collaborative approaches	2
E10N	Flexibility/openness of other companies of the sector for collaborative approaches	1
F1A	Fair, impartial and uncorrupted	3
F1B	Quick	3
F1C	Affordable	3
F1D	Able to enforce its decision	3
G1B2	What percentage of this establishment's total annual sales was paid for security, for example equipment, personnel, or p	9
G1D1	What were the estimated losses as a result of theft, robbery, vandalism or arson that occurred on this establishment's pre	2
G1D2	What were the estimated losses as a result of theft, robbery, vandalism or arson that occurred on this establishment's pre	2
G2A1	How many times: Burglary	1
G2A5	What was the approximate value of loss and damage? (Burglary)	6
G2A6	Who was/were the perpetrator(s)? (Burglary)	2
G2B1	How many times: Attempted Burglary	1
G2B5	What was the approximate value of loss and damage? Attempted Burglary	2
G2B6	Who was/were the perpetrator(s)? Attempted Burglary	2
G2C1	How many times: Robbery	1
G2C6	Who was/were the perpetrator(s)? (Robbery)	1
G2E1	How many times: (Deliberate damage/vandalism)	1
G2E5	What was the approximate value of loss and damage? (Deliberate damage/vandalism)	4

Variable name	Label	Number of cases (Do not know)
G2E6	Who was/were the perpetrator(s)? (Deliberate damage/vandalism)	2
G2F1	How many times: Theft	1
G2F5	What was the approximate value of loss and damage? (Theft)	7
G2F6	Who was/were the perpetrator(s)? (Theft)	4
G2G5	What was the approximate value of loss and damage? Assaults and threats	39
G3C	If yes, what was the approximate value of the fraud?	1
G3D	In the last fiscal year, what was the total amount spent on IT security for this establishment?	18
H2	In a typical week over the last year, what percentage of total senior management's time was spent on dealing with require	6
H3B	How many times was this establishment either inspected by tax officials or required to meet with them?	2
H4B	When establishments like this one do business with the government, what percent of the contract value would be typically	1
H5A	It is said that establishments are sometimes required to make gifts or informal payments to public officials to "get thi	10
H5B	It is said that establishments are sometimes required to make gifts or informal payments to public officials to "get thi	9
H6A1	Approximately how many days did it take to obtain this import license from the day of the application to the day it was	1
H6B1	Approximately how many days did it take to obtain this construction related permit from the day of the application to th	3
H6C1	Approximately how many days did it take to obtain this operating license from the day of the application to the day it w	5
I1	How many full-time employees did this establishment employ when it started operations?	121
I2B1	Management - Females	2
I2B2A	Skilled - Females	2
I2B2B	Unskilled - Females	2
I2B3	Non-Production workers - Females	2
I3C	Total - Average length of employment	2
I3C2A	Skilled - Average length of employment	1
I3C2B	Unskilled - Average length of employment	2
I3C3	Non-Production workers - Average length of employment	2
I4	At the end of last fiscal year, how many part-time workers	2

Variable name	Label	Number of cases (Do not know)
	did you employ?	
I5A1	Managers	3
I5A2	Managers Avg. wage (gross) last year	2
I5A4	Managers Avg. wage (gross) previous year	2
I5A6	Managers Avg. wage (gross) one year from now	4
I5B2	Professionals Avg. wage (gross) last year	1
I5B4	Professionals Avg. wage (gross) previous year	3
I5B6	Professionals Avg. wage (gross) one year from now	3
I5C2	Technicians and associate professionals Avg. wage (gross) last year	1
I5C3	Technicians and associate professionals (previous year)	1
I5C4	Technicians and associate professionals Avg. wage (gross) previous year	3
I5C5	Technicians and associate professionals (one year from now)	2
I5C6	Technicians and associate professionals Avg. wage (gross) one year from now	5
I5D2	Clerical support workers Avg. wage (gross) last year	2
I5D4	Clerical support workers Avg. wage (gross) previous year	5
I5D6	Clerical support workers Avg. wage (gross) one year from now	4
I5E2	Service and sales workers Avg. wage (gross) last year	2
I5E4	Service and sales workers Avg. wage (gross) previous year	5
I5E5	Service and sales workers (one year from now)	1
I5E6	Service and sales workers Avg. wage (gross) one year from now	4
I5H2	Plant and machine operators, and assemblers Avg. wage (gross) last year	1
I5H4	Plant and machine operators, and assemblers Avg. wage (gross) previous year	4
I5H5	Plant and machine operators, and assemblers (one year from now)	1
I5H6	Plant and machine operators, and assemblers Avg. wage (gross) one year from now	4
I5I5	Elementary occupations (one year from now)	1
I5I6	Elementary occupations Avg. wage (gross) one year from now	1
I5J	If total employees is different in the last 2 fiscal years, please specify reason for increase/decrease	1
I6A1	Minimum required level of education - Managers	1
I6A2	Average level of education - Managers	4
I6B1	Minimum required level of education- Professionals	2

Variable name	Label	Number of cases (Do not know)
I6B2	Average level or education - Professionals	1
I6C1	Minimum required level of education- Technicians and associate professionals	1
I6C2	Average level or education - Technicians and associate professionals	1
I6D1	Minimum required level of education - Clerical support workers	1
I6D2	Average level or education - Clerical support workers	3
I6E1	Minimum required level of education - Service and sales workers	1
I6E2	Average level or education - Service and sales workers	3
I6F1	Minimum required level of education - Skilled agricultural, forestry, and fishery workers	1
I6F2	Average level or education - Skilled agricultural, forestry, and fishery workers	1
I6G1	Minimum required level of education - Craft and related trade workers	1
I6G2	Average level or education - Craft and related trade workers	1
I6H1	Minimum required level of education - Plant and machine operators	1
I6H2	Average level or education - Plant and machine operators	1
I6I1	Minimum required level of education - Elementary occupations	1
I6I2	Average level or education - Elementary occupations	1
I8A1	Education (Director, manager or professional)	4
I8A2	Education - Skilled (production, administrative, sales, technical, craftsmen)	2
I8B1	Previous experience in this industry- (Director, manager or professional)	5
I8B2	Previous experience in this industry- Skilled (production, administrative, sales, technical, craftsmen)	3
I8C1	Overall work experience- (Director, manager or professional)	5
I8C2	Overall work experience- Skilled (production, administrative, sales, technical, craftsmen)	3
I8D1	Job related training outside of school- (Director, manager or professional)	5
I8D2	Job related training outside of school- Skilled (production, administrative, sales, technical, craftsmen)	3
I8E1	Reference from people you know- (Director, manager or professional)	5

Variable name	Label	Number of cases (Do not know)
I8E2	Reference from people you know- Skilled (production, administrative, sales, technical, craftsmen)	3
I8F1	Prior familiarity with the applicant- (Director, manager or professional)	5
I8F2	Prior familiarity with the applicant- Skilled (production, administrative, sales, technical, craftsmen)	3
I8G1	Other - (Director, manager or professional)	5
I8G2	Other - Skilled (production, administrative, sales, technical, craftsmen)	3
I9A1	Reliability and punctuality (Director, manager or professional)	4
I9A2	Reliability and punctuality - Skilled (production, administrative, sales, technical, craftsmen)	2
I9B1	Commitment and hard work- (Director, manager or professional)	4
I9B2	Commitment and hard work- Skilled (production, administrative, sales, technical, craftsmen)	2
I9C1	Desire to learn and adaptability- (Director, manager or professional)	4
I9C2	Desire to learn and adaptability- Skilled (production, administrative, sales, technical, craftsmen)	2
I9D1	Honesty- (Director, manager or professional)	4
I9D2	Honesty- Skilled (production, administrative, sales, technical, craftsmen)	3
I9E1	Personal appearance- (Director, manager or professional)	4
I9E2	Personal appearance- Skilled (production, administrative, sales, technical, craftsmen)	2
I9F1	Ability to work independently- (Director, manager or professional)	4
I9F2	Ability to work independently- Skilled (production, administrative, sales, technical, craftsmen)	3
I9G1	Other physical attributes (e.g. fitness, health) - (Director, manager or professional)	10
I9G2	Other physical attributes (e.g. fitness, health)- Skilled (production, administrative, sales, technical, craftsmen)	10
I9H1	Other personal characteristics- (Director, manager or professional)	7
I9H2	Other personal characteristics- Skilled (production, administrative, sales, technical, craftsmen)	9
I10A1	Communication skills- (Director, manager or professional)	4
I10A2	Communication skills- Skilled (production, administrative,	2

Variable name	Label	Number of cases (Do not know)
	sales, technical, craftsmen)	
I10B1	Team working skills- (Director, manager or professional)	4
I10B2	Team working skills- Skilled (production, administrative, sales, technical, craftsmen)	2
I10C1	Problem solving skills- (Director, manager or professional)	4
I10C2	Problem solving skills- Skilled (production, administrative, sales, technical, craftsmen)	2
I10D1	Literacy skills- (Director, manager or professional)	4
I10D2	Literacy skills- Skilled (production, administrative, sales, technical, craftsmen)	2
I10E1	Numeracy skills- (Director, manager or professional)	4
I10E2	Numeracy skills- Skilled (production, administrative, sales, technical, craftsmen)	2
I10F1	Use of information technology- (Director, manager or professional)	4
I10F2	Use of information technology - Skilled (production, administrative, sales, technical, craftsmen)	2
I10G1	Planning and organizing skills- (Director, manager or professional)	4
I10G2	Planning and organizing skills- Skilled (production, administrative, sales, technical, craftsmen)	2
I10H1	Customer care skills - (Director, manager or professional)	4
I10H2	Customer care skills - Skilled (production, administrative, sales, technical, craftsmen)	2
I10I1	Responsibility, reliability and trustworthiness- (Director, manager or professional)	4
I10I2	Responsibility, reliability and trustworthiness - Skilled (production, administrative, sales, technical, craftsmen)	2
I10J1	Motivation and commitment- (Director, manager or professional)	4
I10J2	Motivation and commitment- Skilled (production, administrative, sales, technical, craftsmen)	2
I10K1	Self-management and entrepreneurship -- (Director, manager or professional)	4
I10K2	Self-management and entrepreneurship - Skilled (production, administrative, sales, technical, craftsmen)	2
I10L1	General vocational job-specific skills- (Director, manager or professional)	4
I10L2	General vocational job-specific skills- Skilled (production, administrative, sales, technical, craftsmen)	2
I10M1	Advanced vocational job-specific skills- (Director, manager	5

Variable name	Label	Number of cases (Do not know)
	or professional)	
I10M2	Advanced vocational job-specific skills- Skilled (production, administrative, sales, technical, craftsmen)	3
I10N1	Foreign language- (Director, manager or professional)	4
I10N2	Foreign language - Skilled (production, administrative, sales, technical, craftsmen)	2
I10O1	Other core skills- (Director, manager or professional)	2
I10O2	Other core skills- Skilled (production, administrative, sales, technical, craftsmen)	20
I11A1	Minimum required level of education- (Director, manager or professional)	4
I11A2	Minimum required level of education- Skilled (production, administrative, sales, technical, craftsmen)	3
I11B1	Foreign post-secondary Domestic- (Director, manager or professional)	4
I11B2	Foreign post-secondary Domestic- Skilled (production, administrative, sales, technical, craftsmen)	3
I11C1	Foreign post-secondary education - (Director, manager or professional)	4
I11C2	Foreign post-secondary education - Skilled (production, administrative, sales, technical, craftsmen)	3
I11D1	Grades and transcripts- (Director, manager or professional)	4
I11D2	Grades and transcripts- Skilled (production, administrative, sales, technical, craftsmen)	3
I11E1	Theoretical knowledge of the job- (Director, manager or professional)	4
I11E2	Theoretical knowledge of the job- Skilled (production, administrative, sales, technical, craftsmen)	3
I11F1	Practical knowledge of the job - (Director, manager or professional)	4
I11F2	Practical knowledge of the job - Skilled (production, administrative, sales, technical, craftsmen)	3
I11G1	Previous work experience in the same field- (Director, manager or professional)	4
I11G2	Previous work experience in the same field - Skilled (production, administrative, sales, technical, craftsmen)	3
I11H1	Previous work experience in different field - (Director, manager or professional)	4
I11H2	Previous work experience in different field - Skilled (production, administrative, sales, technical, craftsmen)	3
I11I1	General experience in a workplace - (Director, manager or	4

Variable name	Label	Number of cases (Do not know)
	professional)	
I11I2	General experience in a workplace - Skilled (production, administrative, sales, technical, craftsmen)	3
I11J2	Other job related skills - Skilled (production, administrative, sales, technical, craftsmen)	2
I12A1	Managers - personal characteristics	6
I12A2	Managers - core skills	6
I12A3	Managers - job related skills	6
I12A4	Managers - current vacancies	5
I12A5	Managers - Average time needed to fill vacancies	3
I12B4	Professionals- current vacancies	1
I12C4	Technicians and associate professionals- current vacancies	3
I12C5	Technicians and associate professionals - Average time needed to fill vacancies	2
I12D4	Clerical support workers - current vacancies	2
I12D5	Clerical support workers - Average time needed to fill vacancies	2
I12E5	Service and Sales workers - Average time needed to fill vacancies	1
I12F1	Skilled agricultural, forestry and fishery workers - personal characteristics	2
I12F2	Skilled agricultural, forestry and fishery workers - core skills	2
I12F3	Skilled agricultural, forestry and fishery workers - job related skills	2
I12F4	Skilled agricultural, forestry and fishery workers - current vacancies	1
I12F5	Skilled agricultural, forestry and fishery workers - Average time needed to fill vacancies	1
I12G1	Craft and related trades workers- personal characteristics	4
I12G2	Craft and related trades workers- core skills	4
I12G3	Craft and related trades workers - job related skills	4
I12H1	Plant and machine operators, and assemblers - personal characteristics	2
I12H2	Plant and machine operators, and assemblers- core skills	2
I12H3	Plant and machine operators, and assemblers- job related skills	2
I12H4	Plant and machine operators, and assemblers- current vacancies	2
I12H5	Plant and machine operators, and assemblers- Average time needed to fill vacancies	1
I12I1	Elementary occupations - personal characteristics	3

Variable name	Label	Number of cases (Do not know)
I12I2	Elementary occupations - core skills	3
I12I3	Elementary occupations - job related skills	3
I13A	Shortage in number of local professionals trained by local institutions	1
I13B	Quality of the education and training	1
I13C	Worker emigration	2
I13D	Professionals moving to other sectors of the economy or other enterprises	4
I13E	Lack of necessary personal, soft skills offered by local institutions	2
I13G	Labour protection laws and regulations	1
I13H	Other	1
I14G2	Other - Productivity of employees	1
I15E	If yes, how many?	2
I15G	If yes, how many?	2
I16E6	Other	5
J1B1	Own	2
J1B2	Lease	2
J1B3	Other (percentage)	2
J2B	If yes, what is the average annual interest rate?	7
J3A1	Internal funds/Retained earnings	10
J3B1	Borrowed from private commercial banks	10
J3C1	Borrowed from state-owned banks and/or government agency	10
J3D1	Borrowed from Non-bank financial institutions	10
J3E1	Purchases on credit from suppliers and advances from customers	10
J3F1	Borrowed from family/friends	10
J3G1	Borrowed from informal sources (e.g., moneylenders)	10
J3K1	Angel Investors	10
J3L1	Venture Capitalists	10
J3M1	private Equity	10
J3N1	credit Cards	10
J3O1	government provided or subsidized entity or program	10
J3J1	Other percentage	10
J3A2	Internal funds/Retained earnings (fixed assets)	1
J3B2	Borrowed from private commercial banks (fixed assets)	1
J3C2	Borrowed from state-owned banks and/or government agency (fixed assets)	1
J3D2	Borrowed from Non-bank financial institutions (fixed assets)	1

Variable name	Label	Number of cases (Do not know)
J3E2	Purchases on credit from suppliers and advances from customers (fixed assets)	1
J3F2	Borrowed from family/friends (fixed assets)	1
J3G2	Borrowed from informal sources (e.g., moneylenders) (fixed assets)	1
J3K2	Angel Investors	1
J3L2	Venture Capitalists	1
J3M2	private Equity	1
J3N2	credit Cards	1
J3O2	government provided or subsidized entity or program	1
J3H2	Issued new Equity (shares)	1
J3I2	Issued new debt (including commercial paper and debentures)	1
J3J2	Other percentage (fixed assets)	1
J4C	What year was it approved?	10
J4D	What was the amount at the time of approval?	24
J4E	What was the average annual interest rate?	11
J4F	What is the total duration (term) in months?	15
J4I	What was the approximate value of the collateral required as a percentage of the amount of the loan or line of credit?	10
J5B	How many applications were submitted?	1
K1A	What were the total sales of your establishment in:2011	7
K1B	What were the total sales of your establishment in:2012	7
K2A	If manufacturing total cost of raw materials and intermediate goods used in production or if retail total annual cost of	7
K2B	Total cost of labor, including wages, salaries and bonuses and social payments	7
K2C	Total annual depreciation	9
K2D	Total cost of rental of land/building, equipment, furniture	7
K3A	Electricity	7
K3B	Fuel	7
K3C	Water	7
K3D	Transportation for goods (not including Fuel)	7
K3E	Communications services	7
K4A	- Machinery, vehicles and equipment (new and/or used)	7
K4B	Land and buildings	7
K5A	- Machinery, vehicles and equipment (new and/or used)	9
K5B	Land and buildings	8
K6A	All Machinery, vehicles and equipment that you use (whether you Own IT or not)	19

Variable name	Label	Number of cases (Do not know)
K6B	All Land and buildings that you use (whether you Own IT or not)	15
K7	in the last fiscal year, what would have been the cost of replacing All you Machinery and equipemtn with new machines?	17
L1G	Customs and Trade regulations	2
L1J	Business licensing and permits	1
L1K	Access to finance (e.g. collateral)	1
L1M	Political environment	1
L1O	Corruption	1
L1Q	Practices of competitors	3
M2B1B2	Effective impact M&OS higher sales	1
M2B1B3	Effective impact FMTCAS higher sales	2
M2B1B4	Effective impact T&IS higher sales	2
M2B1B5	Effective impact HR higher sales	8
M2B2B2	Effective impact M&OS Lower cost	1
M2B2B3	Effective impact FMTCAS Lower cost	2
M2B2B4	Effective impact T&IS Lower cost	2
M2B2B5	Effective impact HR Lower cost	8
M2B3B2	Effective impact M&OS 3- Bigger profits	1
M2B3B3	Effective impact FMTCAS 3- Bigger profits	2
M2B3B4	Effective impact T&IS 3- Bigger profits	2
M2B3B5	Effective impact HR 3- Bigger profits	8
M2B4B3	Effective impact FMTCAS 3- Bigger profits	1
M2B4B4	Effective impact T&IS4- Improved production process	1
M2B4B5	Effective impact HR 4- Improved production process	7
M2B5B3	Effective impact FMTCAS 5- Improved access to financing	1
M2B5B4	Effective impact T&IS 5- Improved access to financing	1
M2B5B5	Effective impact HR 5- Improved access to financing	7
M2B6B3	Effective impact FMTCAS 6- Improved internal business environment	1
M2B6B4	Effective impact T&IS 6- Improved internal business environment	1
M2B6B5	Effective impact HR 6- Improved internal business environment	7
M2B7B2	Effective impact M&OS 7- Improved HR management	1
M2B7B3	Effective impact FMTCAS 7- Improved HR management	2
M2B7B4	Effective impact T&IS 7- Improved HR management	2
M2B7B5	Effective impact HR 7- Improved HR management	8
M2B8B3	Effective impact FMTCAS 8- Improved overall performance	1

Variable name	Label	Number of cases (Do not know)
M2B8B4	Effective impact T&IS 7- 8- Improved overall performance	1
M2B8B5	Effective impact HR 8- Improved overall performance	7

The variables containing a “No answer” code (-88) are presented in Table 8.

TABLE 8. VARIABLES WITH A “NO ANSWER” (CODE = -88)

Variable name	Label	Number of cases (No answer)
B6A	In what year did this establishment begin operations?	12
B6C1	What year was this establishment formally registered?	12
D6A1	Indirect exports	44

The variables containing a “Refuse to answer” code (-99) are presented in Table 9.

TABLE 9. VARIABLES WITH A “REFUSE TO ANSWER” (CODE = -99)

Variable name	Label	Number of cases (Refuse to answer)
B2	What percentage of this firm does the largest owner or owners own?	1
GEND1D	What percentage of ownership does she own?	1
GEND2A	How would you characterize the gender composition of the management group of this establishment? (see table 1)	1
D4B	What percentage of total sales does the main product represent?	6
D6B1	In what year did you begin exporting directly?	1
D6B3A1	Name of country 1:	48
D6B3A2	Percentage of exports to country 1:	48
D6B3B1	Name of country 2:	48
D6B3B2	Percentage of exports to country 2:	48
E7A	In the last 2 fiscal years, how much did this establishment spend on innovation?	14
E7B	In the last 2 fiscal years, what percent of this establishment's sales was accounted for by innovation?	7
G1B2	What percentage of this establishment's total annual sales was paid for security, for example equipment, personnel, or p	1
G2B5	What was the approximate value of loss and damage? Attempted Burglary	1

Variable name	Label	Number of cases (Refuse to answer)
G2C5	What was the approximate value of loss and damage? (Robbery)	3
G2F5	What was the approximate value of loss and damage? (Theft)	1
G3D	In the last fiscal year, what was the total amount spent on IT security for this establishment?	26
H5B	It is said that establishments are sometimes required to make gifts or informal payments to public officials to "get thi	1
I5A2	Managers Avg. wage (gross) last year	25
I5A3	Managers (previous year)	6
I5A4	Managers Avg. wage (gross) previous year	24
I5A5	Managers (one year from now)	7
I5A6	Managers Avg. wage (gross) one year from now	22
I5B1	Professionals	3
I5B2	Professionals Avg. wage (gross) last year	10
I5B3	Professionals (previous year)	7
I5B4	Professionals Avg. wage (gross) previous year	14
I5B5	Professionals (one year from now)	7
I5B6	Professionals Avg. wage (gross) one year from now	14
I5C1	Technicians and associate professionals	3
I5C2	Technicians and associate professionals Avg. wage (gross) last year	10
I5C3	Technicians and associate professionals (previous year)	7
I5C4	Technicians and associate professionals Avg. wage (gross) previous year	15
I5C5	Technicians and associate professionals (one year from now)	7
I5C6	Technicians and associate professionals Avg. wage (gross) one year from now	16
I5D1	Clerical support workers	3
I5D2	Clerical support workers Avg. wage (gross) last year	14
I5D3	Clerical support workers (previous year)	7
I5D4	Clerical support workers Avg. wage (gross) previous year	19
I5D5	Clerical support workers (one year from now)	7
I5D6	Clerical support workers Avg. wage (gross) one year from now	20
I5E1	Service and sales workers	3
I5E2	Service and sales workers Avg. wage (gross) last year	9
I5E3	Service and sales workers (previous year)	8
I5E4	Service and sales workers Avg. wage (gross) previous year	13
I5E5	Service and sales workers (one year from now)	7

Variable name	Label	Number of cases (Refuse to answer)
I5E6	Service and sales workers Avg. wage (gross) one year from now	14
I5F1	Skilled agricultural, forestry, and fishery workers	3
I5F2	Skilled agricultural, forestry, and fishery workers Avg. wage (gross) last year	3
I5F3	Skilled agricultural, forestry, and fishery workers (previous year)	7
I5F4	Skilled agricultural, forestry, and fishery workers Avg. wage (gross) previous year	7
I5F5	Skilled agricultural, forestry, and fishery workers (one year from now)	7
I5F6	Skilled agricultural, forestry, and fishery workers Avg. wage (gross) one year from now	7
I5G1	Craft and related trades workers	3
I5G2	Craft and related trades workers Avg. wage (gross) last year	5
I5G3	Craft and related trades workers (previous year)	7
I5G4	Craft and related trades workers Avg. wage (gross) previous year	9
I5G5	Craft and related trades workers (one year from now)	7
I5G6	Craft and related trades workers Avg. wage (gross) one year from now	9
I5H1	Plant and machine operators, and assemblers	3
I5H2	Plant and machine operators, and assemblers Avg. wage (gross) last year	10
I5H3	Plant and machine operators, and assemblers (previous year)	8
I5H4	Plant and machine operators, and assemblers Avg. wage (gross) previous year	15
I5H5	Plant and machine operators, and assemblers (one year from now)	7
I5H6	Plant and machine operators, and assemblers Avg. wage (gross) one year from now	16
I5I1	Elementary occupations	3
I5I2	Elementary occupations Avg. wage (gross) last year	6
I5I3	Elementary occupations (previous year)	7
I5I4	Elementary occupations Avg. wage (gross) previous year	12
I5I5	Elementary occupations (one year from now)	7
I5I6	Elementary occupations Avg. wage (gross) one year from now	9
I5J	If total employees is different in the last 2 fiscal years, please specify reason for increase/decrease	13
I6A1	Minimum required level of education - Managers	2

Variable name	Label	Number of cases (Refuse to answer)
I6A2	Average level or education - Managers	1
I6C1	Minimum required level of education- Technicians and associate professionals	1
I6C2	Average level or education - Technicians and associate professionals	1
I6H1	Minimum required level of education - Plant and machine operators	1
I6H2	Average level or education - Plant and machine operators	1
I8A1	Education (Director, manager or professional)	1
I8A2	Education - Skilled (production, administrative, sales, technical, craftsmen)	1
I8B1	Previous experience in this industry- (Director, manager or professional)	1
I8B2	Previous experience in this industry- Skilled (production, administrative, sales, technical, craftsmen)	1
I8C1	Overall work experience- (Director, manager or professional)	1
I8C2	Overall work experience- Skilled (production, administrative, sales, technical, craftsmen)	1
I8D1	Job related training outside of school- (Director, manager or professional)	1
I8D2	Job related training outside of school- Skilled (production, administrative, sales, technical, craftsmen)	1
I8E1	Reference from people you know- (Director, manager or professional)	1
I8E2	Reference from people you know- Skilled (production, administrative, sales, technical, craftsmen)	1
I8F1	Prior familiarity with the applicant- (Director, manager or professional)	1
I8F2	Prior familiarity with the applicant- Skilled (production, administrative, sales, technical, craftsmen)	1
I8G1	Other - (Director, manager or professional)	1
I8G2	Other - Skilled (production, administrative, sales, technical, craftsmen)	1
I9A1	Reliability and punctuality (Director, manager or professional)	1
I9A2	Reliability and punctuality - Skilled (production, administrative, sales, technical, craftsmen)	1
I9B1	Commitment and hard work- (Director, manager or professional)	1

Variable name	Label	Number of cases (Refuse to answer)
I9B2	Commitment and hard work- Skilled (production, administrative, sales, technical, craftsmen)	1
I9C1	Desire to learn and adaptability- (Director, manager or professional)	1
I9C2	Desire to learn and adaptability- Skilled (production, administrative, sales, technical, craftsmen)	1
I9D1	Honesty- (Director, manager or professional)	1
I9D2	Honesty- Skilled (production, administrative, sales, technical, craftsmen)	1
I9E1	Personal appearance- (Director, manager or professional)	1
I9E2	Personal appearance- Skilled (production, administrative, sales, technical, craftsmen)	1
I9F1	Ability to work independently- (Director, manager or professional)	1
I9F2	Ability to work independently- Skilled (production, administrative, sales, technical, craftsmen)	1
I9G1	Other physical attributes (e.g. fitness, health) - (Director, manager or professional)	1
I9G2	Other physical attributes (e.g. fitness, health)- Skilled (production, administrative, sales, technical, craftsmen)	1
I9H1	Other personal characteristics- (Director, manager or professional)	1
I9H2	Other personal characteristics- Skilled (production, administrative, sales, technical, craftsmen)	1
I10A1	Communication skills- (Director, manager or professional)	1
I10A2	Communication skills- Skilled (production, administrative, sales, technical, craftsmen)	1
I10B1	Team working skills- (Director, manager or professional)	1
I10B2	Team working skills- Skilled (production, administrative, sales, technical, craftsmen)	1
I10C1	Problem solving skills- (Director, manager or professional)	1
I10C2	Problem solving skills- Skilled (production, administrative, sales, technical, craftsmen)	1
I10D1	Literacy skills- (Director, manager or professional)	1
I10D2	Literacy skills- Skilled (production, administrative, sales, technical, craftsmen)	1
I10E1	Numeracy skills- (Director, manager or professional)	1
I10E2	Numeracy skills- Skilled (production, administrative, sales, technical, craftsmen)	1
I10F1	Use of information technology- (Director, manager or professional)	1

Variable name	Label	Number of cases (Refuse to answer)
I10F2	Use of information technology - Skilled (production, administrative, sales, technical, craftsmen)	1
I10G1	Planning and organizing skills- (Director, manager or professional)	1
I10G2	Planning and organizing skills- Skilled (production, administrative, sales, technical, craftsmen)	1
I10H1	Customer care skills - (Director, manager or professional)	1
I10H2	Customer care skills - Skilled (production, administrative, sales, technical, craftsmen)	1
I10I1	Responsibility, reliability and trustworthiness- (Director, manager or professional)	1
I10I2	Responsibility, reliability and trustworthiness - Skilled (production, administrative, sales, technical, craftsmen)	1
I10J1	Motivation and commitment- (Director, manager or professional)	1
I10J2	Motivation and commitment- Skilled (production, administrative, sales, technical, craftsmen)	1
I10K1	Self-management and entrepreneurship -- (Director, manager or professional)	1
I10K2	Self-management and entrepreneurship - Skilled (production, administrative, sales, technical, craftsmen)	1
I10L1	General vocational job-specific skills- (Director, manager or professional)	1
I10L2	General vocational job-specific skills- Skilled (production, administrative, sales, technical, craftsmen)	1
I10M1	Advanced vocational job-specific skills- (Director, manager or professional)	1
I10M2	Advanced vocational job-specific skills- Skilled (production, administrative, sales, technical, craftsmen)	1
I10N1	Foreign language- (Director, manager or professional)	1
I10N2	Foreign language - Skilled (production, administrative, sales, technical, craftsmen)	1
I10O1	Other core skills- (Director, manager or professional)	1
I10O2	Other core skills- Skilled (production, administrative, sales, technical, craftsmen)	1
I11A1	Minimum required level of education- (Director, manager or professional)	1
I11A2	Minimum required level of education- Skilled (production, administrative, sales, technical, craftsmen)	1
I11B1	Foreign post-secondary Domestic- (Director, manager or professional)	1

Variable name	Label	Number of cases (Refuse to answer)
I11B2	Foreign post-secondary Domestic- Skilled (production, administrative, sales, technical, craftsmen)	1
I11C1	Foreign post-secondary education - (Director, manager or professional)	1
I11C2	Foreign post-secondary education - Skilled (production, administrative, sales, technical, craftsmen)	1
I11D1	Grades and transcripts- (Director, manager or professional)	1
I11D2	Grades and transcripts- Skilled (production, administrative, sales, technical, craftsmen)	1
I11E1	Theoretical knowledge of the job- (Director, manager or professional)	1
I11E2	Theoretical knowledge of the job- Skilled (production, administrative, sales, technical, craftsmen)	1
I11F1	Practical knowledge of the job - (Director, manager or professional)	1
I11F2	Practical knowledge of the job - Skilled (production, administrative, sales, technical, craftsmen)	1
I11G1	Previous work experience in the same field- (Director, manager or professional)	1
I11G2	Previous work experience in the same field - Skilled (production, administrative, sales, technical, craftsmen)	1
I11H1	Previous work experience in different field - (Director, manager or professional)	1
I11H2	Previous work experience in different field - Skilled (production, administrative, sales, technical, craftsmen)	1
I11I1	General experience in a workplace - (Director, manager or professional)	1
I11I2	General experience in a workplace - Skilled (production, administrative, sales, technical, craftsmen)	1
I11J1	Other job related skills - (Director, manager or professional)	1
I11J2	Other job related skills - Skilled (production, administrative, sales, technical, craftsmen)	1
I12A1	Managers - personal characteristics	3
I12A2	Managers - core skills	3
I12A3	Managers - job related skills	3
I12A4	Managers - current vacancies	2
I12A5	Managers - Average time needed to fill vacancies	2
I12B1	Professionals - personal characteristics	3
I12B2	Professionals- core skills	3
I12B3	Professionals- job related skills	3
I12B4	Professionals- current vacancies	3

Variable name	Label	Number of cases (Refuse to answer)
I12B5	Professionals- Average time needed to fill vacancies	2
I12C1	Technicians and associate professionals- personal characteristics	3
I12C2	Technicians and associate professionals - core skills	3
I12C3	Technicians and associate professionals - job related skills	3
I12C4	Technicians and associate professionals- current vacancies	2
I12C5	Technicians and associate professionals - Average time needed to fill vacancies	2
I12D1	Clerical support workers - personal characteristics	3
I12D2	Clerical support workers - core skills	3
I12D3	Clerical support workers - job related skills	3
I12D4	Clerical support workers - current vacancies	2
I12D5	Clerical support workers - Average time needed to fill vacancies	2
I12E1	Service and Sales workers - personal characteristics	3
I12E2	Service and Sales workers - core skills	3
I12E3	Service and Sales workers - job related skills	3
I12E4	Service and Sales workers - current vacancies	2
I12E5	Service and Sales workers - Average time needed to fill vacancies	2
I12F1	Skilled agricultural, forestry and fishery workers - personal characteristics	3
I12F2	Skilled agricultural, forestry and fishery workers - core skills	3
I12F3	Skilled agricultural, forestry and fishery workers - job related skills	3
I12F4	Skilled agricultural, forestry and fishery workers - current vacancies	2
I12F5	Skilled agricultural, forestry and fishery workers - Average time needed to fill vacancies	2
I12G1	Craft and related trades workers- personal characteristics	3
I12G2	Craft and related trades workers- core skills	3
I12G3	Craft and related trades workers - job related skills	3
I12G4	Craft and related trades workers- current vacancies	2
I12G5	Craft and related trades workers- Average time needed to fill vacancies	2
I12H1	Plant and machine operators, and assemblers - personal characteristics	3
I12H2	Plant and machine operators, and assemblers- core skills	3
I12H3	Plant and machine operators, and assemblers- job related skills	3

Variable name	Label	Number of cases (Refuse to answer)
I12H4	Plant and machine operators, and assemblers- current vacancies	2
I12H5	Plant and machine operators, and assemblers- Average time needed to fill vacancies	2
I12I1	Elementary occupations - personal characteristics	3
I12I2	Elementary occupations - core skills	3
I12I3	Elementary occupations - job related skills	3
I12I4	Elementary occupations -current vacancies	2
I12I5	Elementary occupations - Average time needed to fill vacancies	2
I13A	Shortage in number of local professionals trained by local institutions	3
I13B	Quality of the education and training	4
I13C	Worker emigration	4
I13D	Professionals moving to other sectors of the economy or other enterprises	3
I13E	Lack of necessary personal, soft skills offered by local institutions	3
I13F	High expectations from new hires	3
I13G	Labour protection laws and regulations	3
I13H	Other	2
I14A1	Lack of financial incentives - recruiting new employees	2
I14A2	Lack of financial incentives - Productivity of employees	2
I14B1	Health issues - recruiting new employees	2
I14B2	Health issues - Productivity of employees	2
I14C1	Lack of personal qualifications (such as honesty, integrity) - recruiting new employees	2
I14C2	Lack of personal qualifications (such as honesty, integrity) - Productivity of employees	2
I14D1	Lack of strong educational background - recruiting new employees	2
I14D2	Lack of strong educational background - Productivity of employees	2
I14E1	Lack of strong job related technical experience- recruiting new employees	2
I14E2	Lack of strong job related technical experience- Productivity of employees	2
I14F1	Lack of motivation and commitment - recruiting new employees	2
I14F2	Lack of motivation and commitment - Productivity of employees	2

Variable name	Label	Number of cases (Refuse to answer)
I14G1	Other - recruiting new employees	2
I14G2	Other - Productivity of employees	2
I15A	How did this establishment find its most recent employee?	1
I15E	If yes, how many?	1
I15G	If yes, how many?	1
J2B	If yes, what is the average annual interest rate?	1
J3A1	Internal funds/Retained earnings	3
J3B1	Borrowed from private commercial banks	3
J3C1	Borrowed from state-owned banks and/or government agency	3
J3D1	Borrowed from Non-bank financial institutions	3
J3E1	Purchases on credit from suppliers and advances from customers	3
J3F1	Borrowed from family/friends	3
J3G1	Borrowed from informal sources (e.g., moneylenders)	3
J3K1	Angel Investors	3
J3L1	Venture Capitalists	3
J3M1	private Equity	3
J3N1	credit Cards	3
J3O1	government provided or subsidized entity or program	3
J3J1	Other percentage	3
J3A2	Internal funds/Retained earnings (fixed assets)	1
J3B2	Borrowed from private commercial banks (fixed assets)	1
J3C2	Borrowed from state-owned banks and/or government agency (fixed assets)	1
J3D2	Borrowed from Non-bank financial institutions (fixed assets)	1
J3E2	Purchases on credit from suppliers and advances from customers (fixed assets)	1
J3F2	Borrowed from family/friends (fixed assets)	1
J3G2	Borrowed from informal sources (e.g., moneylenders) (fixed assets)	1
J3K2	Angel Investors	1
J3L2	Venture Capitalists	1
J3M2	private Equity	1
J3N2	credit Cards	1
J3O2	government provided or subsidized entity or program	1
J3H2	Issued new Equity (shares)	1
J3I2	Issued new debt (including commercial paper and debentures)	1

Variable name	Label	Number of cases (Refuse to answer)
J3J2	Other percentage (fixed assets)	1
J4D	What was the amount at the time of approval?	14
J4E	What was the average annual interest rate?	4
J4F	What is the total duration (term) in months?	6
J4G	What type of financial institution granted the line of credit or the loan?	1
K1A	What were the total sales of your establishment in:2011	65
K1B	What were the total sales of your establishment in:2012	65
K2A	If manufacturing total cost of raw materials and intermediate goods used in production or if retail total annual cost of	65
K2B	Total cost of labor, including wages, salaries and bonuses and social payments	65
K2C	Total annual depreciation	65
K2D	Total cost of rental of land/building, equipment, furniture	65
K3A	Electricity	65
K3B	Fuel	66
K3C	Water	65
K3D	Transportation for goods (not including Fuel)	65
K3E	Communications services	64
K4A	- Machinery, vehicles and equipment (new and/or used)	8
K4B	Land and buildings	7
K5A	- Machinery, vehicles and equipment (new and/or used)	14
K5B	Land and buildings	14
K6A	All Machinery, vehicles and equipment that you use (whether you Own IT or not)	14
K6B	All Land and buildings that you use (whether you Own IT or not)	14
K7	in the last fiscal year, what would have been the cost of replacing All you Machinery and equipemtn with new machines?	14
L1A	Telecommunications	1
L1B	Electricity	1
L1C	Transportation	1
L1D	Access to land for expansion/relocation	1
L1E	Tax rates	1
L1F	Tax administration	1
L1G	Customs and Trade regulations	1
L1H	Labor regulations	1
L1I	Inadequately educated workforce	1
L1J	Business licensing and permits	1

Variable name	Label	Number of cases (Refuse to answer)
L1K	Access to finance (e.g. collateral)	1
L1L	Cost of finance (e.g. interest rates)	1
L1M	Political environment	1
L1N	Macroeconomic environment (inflation, exchange rate, interest rate)	1
L1O	Corruption	1
L1P	Crime, theft and disorder	1
L1Q	Practices of competitors	1
L2A	The most serious	1
L2B	The second most serious	1
L2C	The third most serious	1
L3	Does corruption represent an obstacle to the operation and growth for Smith's business? (please see table below)	2