SUMMARY REPORT OF THE
2012 UIS INNOVATION METADATA COLLECTION

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UNESCO

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The UNESCO Institute for Statistics (UIS) is the statistical office of UNESCO and is the UN depository for global statistics in the fields of education, science and technology, culture and communication.

The UIS was established in 1999. It was created to improve UNESCO's statistical programme and to develop and deliver the timely, accurate and policy-relevant statistics needed in today's increasingly complex and rapidly changing social, political and economic environments.

The UIS is based in Montreal, Canada.

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Country and region codes

AZE	Azerbaijan
BLR	Belarus
CHN	China
HKG	China, Hong Kong Special Administrative Region
COL	Colombia
CRI	Costa Rica
CUB	Cuba
DOM	Dominican Republic
ECU	Ecuador
ETH	Ethiopia
IDN	Indonesia
LAC	Latin America and the Caribbean
LSO	Lesotho
MYS	Malaysia
PSE	Palestine
PAN	Panama
PRY	Paraguay
PER	Peru
PHL	Philippines
SRB	Serbia
TUN	Tunisia
UGA	Uganda
UKR	Ukraine
URY	Uruguay
ZMB	Zambia

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Section 1.   The UIS 2012 innovation metadata collection

The UNESCO Institute for Statistics (UIS) is currently developing a database of cross-nationally comparable statistics on innovation. In 2011, the Institute launched its first pilot data collection of innovation data in a small group of countries. Building on these results, a global data collection – covering all countries with innovation surveys – will be launched in August 2013.

In preparation for the worldwide survey, the UIS conducted an innovation metadata collection from September 2012 to April 2013, targeting mostly non-OECD and non-Eurostat countries. This metadata collection gathered information on the methodological procedures of the most recent innovation survey in participating countries and identified the key national contacts for innovation statistics.

This report presents a summary of the innovation metadata collected, mainly in the form of figures and tables, covering some of the critical methodological aspects to be considered when producing and using innovation statistics. This is a descriptive (and not an analytical) report.

A total of 26 countries completed the metadata questionnaire:

Argentina	Lesotho
Azerbaijan	Malaysia
Belarus	Palestine
China	Panama
China, Hong Kong SAR	Paraguay
Colombia	Peru
Costa Rica	Philippines
Cuba	Serbia
Dominican Republic	Tunisia
Ecuador	Uganda
Ethiopia	Ukraine
Indonesia	Uruguay
Lao PDR	Zambia

For two of these countries (Argentina and Lao PDR), however, the responses were restricted to respondent details and therefore are not presented here.

Section 2.   Most recent national innovation survey

Table 1 presents a summary of the most recent national innovation survey that was carried out by responding countries. Most of the surveys were conducted in 2012 and 2010. Although there is no harmony in the years covered by these surveys, in 16 out of 24 countries the observation period had a length of three years. It is noteworthy that in 8 countries the national statistical office (NSO) was the agency in charge of the survey.

Table 1. Most recent national innovation survey of participating countries

Country	Survey name and year	Observation period	Institution in charge
Azerbaijan	On innovation activity of enterprises 2012	2011 (calendar year)	The State Statistical Committee
Belarus	Innovation activity of organisation 2012	2011 (calendar year)	National Statistical Committee of the Republic of Belarus
China	Industrial Enterprises Innovation Survey 2007	2004-2006	National Bureau of Statistics of China
China, Hong Kong	Survey of Innovation Activities 2010	2010 (calendar year)	Census and Statistics Department
Colombia	Quinta encuesta de desarrollo e innovación tecnológica en la industria colombiana 2011	2009 -2010 (calendar year)	Departamento Administrativo Nacional de Estadísitica (DANE)
Costa Rica	Encuesta Nacional de Indicadores de Ciencia, Tecnología e Innovación 2012	2010-2011	Ministerio de Ciencia y Tecnología
Cuba	Encuesta Nacional de Innovación 2006	2003-2005 (calendar year)	Ministerio de Ciencia, Tecnología y Medio Ambiente (CITMA)
Dominican Republic	Encuesta Nacional de Innovación 2010	2007-2009 (calendar year)	Ministerio de Educación Superior, Ciencia y Tecnología
Ecuador	Encuesta de Actividades de Innovación 2013	2009-2011 (calendar year)	Secretaría Nacional de Educación Superior, Ciencia, Tecnología e Innovación (SENESCYT) / Instituto Nacional de Estadística y Censos (INEC)
Ethiopia	Ethiopian National Innovation Survey 2011	2011 (fiscal year)	Ministry of Science and Technology
Indonesia	Innovation survey in manufacturing industry 2011	2009-2010	Indonesian Institute of Sciences (LIPI)
Lesotho	Lesotho Innovation Survey 2012	2009/10-2011/12	Department of Science and Technology
Malaysia	National Survey of Innovation (NSI-6) 2012	2009-2011	Ministry of Science, Technology and Innovation
Palestine	Palestinian Community Innovation Survey 2010	2006-2008	Palestine Academy for Science and Technology (PALAST)
Panama	Encuesta de Investigación, desarrollo e innovación en el sector privado de Panamá 2008	2006-2008 (calendar year)	Secretaria Nacional de Ciencia y Tecnología
Paraguay	Encuesta para la determinación de la línea de base de innovación tecnológica en empresas paraguayas 2007	2004-2006	Consejo Nacional de Ciencia y Tecnología (CONACYT)
Peru	Encuesta Nacional de Innovación el la Industria Manufacturera 2012	2009-2011	Instituto Nacional de Estadística e Informática
Philippines	Survey of Innovation Activities by Establishments 2010	2009-2010	Department of Science and Technology
Serbia	Community Innovation Survey 2010	2008-2010	Statistical Office of the Republic of Serbia
Tunisia	Enquête R&D et Innovation 2008	2005-2007	Bureau des Etudes et de la planification, Ministère de l'Enseignement supérieur et de la Recherche Scientifique
Uganda	National Innovation Survey 2012	2008-2010 (calendar year)	Uganda National Council for Science and Technology (UNCST)
Ukraine	The innovative activity of enterprise survey 2010	2008-2010 (calendar year)	State Statistics Service of Ukraine
Uruguay	IV Encuesta de Actividades de Innovación en Industria / II Encuesta de Actividades de Innovación en Servicios 2010	2007-2009	Agencia Nacional de Investigación e Innovación (ANII)
Zambia	National Survey on Innovation 2012	2008-2010	Department of Planning and Development, Ministry of Science, Technology and Vocational Training

Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

Section 3.   Survey guidelines

Table 2 presents the guidelines relating to manuals and questionnaires used by participating countries to conduct their most recent national innovation survey. These guidelines are also illustrated in **Figures 1** and **2**.

Table 2. Innovation survey guidelines

Country	Manual	Questionnaire
Azerbaijan	Not based on any manual	Not based on other innovation survey
Belarus	Oslo Manual	The Community Innovation Survey (CIS) and statistical reporting forms of the Russian Federation, Ukraine, Kazakhstan and other countries
China	Oslo Manual	CIS
China, Hong Kong	Oslo Manual	Not based on other innovation survey
Colombia	Oslo and Bogota Manuals	CIS
Costa Rica	Oslo and Bogota Manuals	RICYT basic form and Canadian Workplace and Employee Survey (special module)
Cuba	Oslo and Bogota Manuals	Not based on other innovation survey
Dominican Republic	Oslo and Bogota Manuals	CIS 2006, 2008, previous national survey (2006) and other surveys (Argentina 2005, Brazil 2005, Canada 2005, Chile 2009, Colombia 2005, Costa Rica 2008, France 2006, Spain 2008)
Ecuador	Oslo and Bogota Manuals	CIS 2010 and RICYT basic form
Ethiopia	Oslo Manual	Not based on other innovation survey
Indonesia	Oslo Manual	Not based on other innovation survey
Lesotho	Oslo Manual	CIS (African Union/The New Partnership for Africa's Development, AU/NEPAD, Standard Innovation Questionnaire)
Malaysia	Oslo Manual	CIS 4
Palestine	Oslo Manual	CIS 2006
Panama	Oslo and Bogota Manuals	Not based on other innovation survey
Paraguay	Oslo and Bogota Manuals	CIS and other LAC surveys (Argentina, Brazil, Chile, Mexico and Uruguay)
Peru	Oslo and Bogota Manuals	Not based on other innovation survey
Philippines	Oslo Manual	CIS 4 (with refinements on questionnaire to consider Philippine setting)
Serbia	Oslo Manual	CIS
Tunisia	Oslo Manual	CIS
Uganda	Oslo Manual	CIS
Ukraine	Oslo Manual	CIS 2010
Uruguay	Bogota Manual	Not based on other innovation survey
Zambia	Oslo Manual	Not based on other innovation survey

Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

As seen in Figure 1, 14 out of 24 countries responded that the most recent national innovation survey was based on the guidelines of the Oslo Manual. It is interesting to observe that, amongst the 9 participating Latin American and Caribbean (LAC) countries, only 1 relied exclusively on the guidelines of the Bogota Manual, while the other 8 relied on the guidelines of both (Oslo and Bogota) Manuals.

Figure 1. Innovation survey manual guidelines
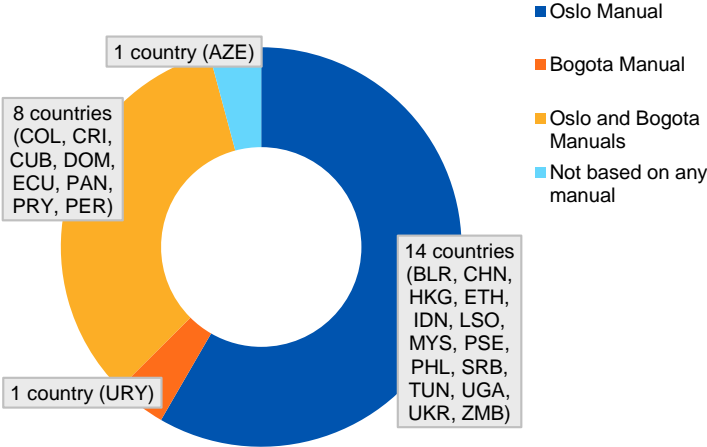
Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

In order to design the survey instrument, 15 countries made use of another innovation survey questionnaire *(see Figure 2)*, which in most cases was the Community Innovation Survey (CIS) form.

Figure 2. Innovation survey questionnaire guidelines

Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

Section 4.   Survey completion

Table 3 summarises the following characteristics of national innovation surveys: the conduct of the innovation survey as stand-alone or in combination with another survey, the type of questionnaire sent to respondents, and the completion requirements of the most recent national innovation survey.

Table 3. Survey combination, questionnaires and completion requirement

Country	Combined with other surveys	Same questionnaire to all businesses	Completion requirement
Azerbaijan	No, stand-alone	Yes	Compulsory, enforceable penalties
Belarus	No, stand-alone	Yes	Compulsory, enforceable penalties
China	No, stand-alone	Yes	Compulsory, enforceable penalties
China, Hong Kong	Yes, R&D survey	Yes	Compulsory, not enforceable
Colombia	No, stand-alone	Yes	Compulsory, not enforceable
Costa Rica	Yes, R&D and ICT surveys	Yes	Voluntary
Cuba	No, stand-alone	Yes	Compulsory
Dominican Republic	Yes, R&D survey	Yes	Voluntary
Ecuador	No, stand-alone	Yes	n.a.
Ethiopia	Yes, R&D survey	Yes	Compulsory, not enforceable
Indonesia	No, stand-alone	Yes	Voluntary
Lesotho	Yes, R&D survey	Yes	Voluntary
Malaysia	No, stand-alone	Yes	Voluntary
Palestine	Yes, R&D and Business surveys	Yes	Voluntary
Panama	Yes, R&D survey	Yes	Compulsory, enforceable penalties
Paraguay	No, stand-alone	Yes	Voluntary
Peru	No, stand-alone	Yes	Compulsory, not enforceable
Philippines	No, stand-alone	Yes	Compulsory, not enforceable
Serbia	No, stand-alone	Yes	Compulsory, enforceable penalties
Tunisia	Yes, R&D survey	Yes	Compulsory, not enforceable
Uganda	No, stand-alone	Yes	Compulsory, not enforceable
Ukraine	No, stand-alone	Yes	Compulsory, enforceable penalties
Uruguay	No, stand-alone	Yes	Compulsory, enforceable penalties
Zambia	Yes, R&D and Business surveys	Yes	Compulsory, not enforceable

Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

In all participating countries, there was no adaptation of the national questionnaire to cover different types of businesses. However, differences are observed in the combination of the innovation survey with other surveys and in the completion requirements. As shown in **Figure 3**, in 15 countries the innovation survey was launched as a standalone survey. In the other 9 countries, the innovation survey was combined with another survey – most frequently a research and experimental development (R&D) survey.
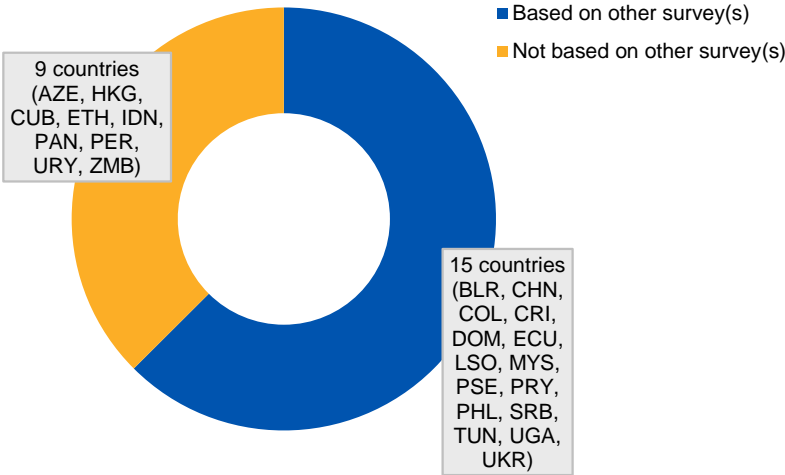
Figure 3. Survey combination
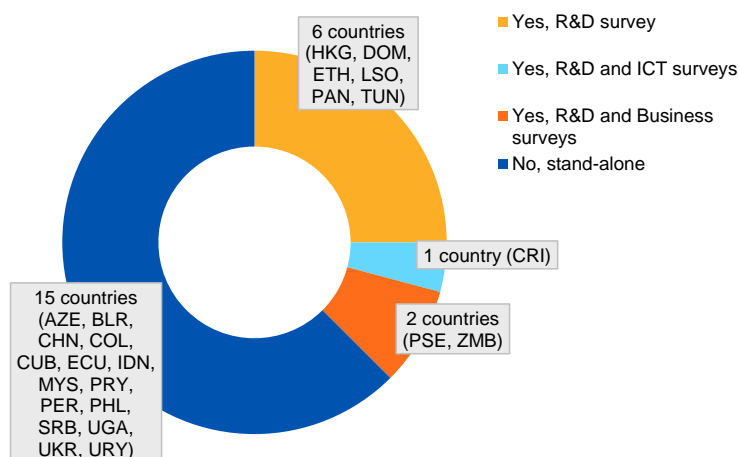
Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

Figure 4 illustrates the completion requirements for national innovation surveys. While in seven countries completion was voluntary, in most cases it was compulsory – although not necessarily enforced with penalties.

Figure 4. Completion requirement

Note: For Malaysia, the survey was still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

Section 5.   Statistical unit and sample frame

The statistical unit in innovation surveys is the entity. The sample frame represents the source from which the statistical units are selected, or in the case of sample surveys, from which the sample is drawn. **Table 4** lists the statistical unit and sample frame of the most recent national innovation survey in participating countries.

Table 4. Statistical unit and sample frame

Country	Statistical unit	Sample frame
Azerbaijan	Enterprise	National statistical business register
Belarus	Enterprise	National statistical business register
China	Enterprise	National statistical business register
China, Hong Kong	Kind of activity unit	National statistical business register, alternative administrative/commercial sources and ad-hoc lists
Colombia	Enterprise	Other (directory of enterprises of the annual business survey)
Costa Rica	Enterprise	Other (directory of institutional units and establishments - a national register generated by the National Statistical Office)
Cuba	Enterprise	National statistical business register
Dominican Republic	Enterprise	National statistical business register, alternative administrative/commercial sources and other (telephone directory and business payroll records from the Ministry of Labour)
Ecuador	Enterprise	National statistical business register
Ethiopia	Enterprise group	National statistical business register
Indonesia	Establishment	Other (multi-stage random sampling)
Lesotho	Enterprise	National statistical business register
Malaysia	Establishment	Ad-hoc lists and other (Department of Statistic Malaysia)
Palestine	Establishment	Alternative administrative / commercial sources
Panama	Enterprise	National statistical business register
Paraguay	Enterprise	Alternative administrative/commercial sources and other (different databases)
Peru	Enterprise	National statistical business register
Philippines	Establishment	National statistical business register
Serbia	Enterprise	National statistical business register
Tunisia	Kind of activity unit	National statistical business register and ad-hoc lists
Uganda	Enterprise	National statistical business register
Ukraine	Enterprise	National statistical business register
Uruguay	Enterprise	National statistical business register
Zambia	Enterprise	Other (Commerce, Trade and Industry register and directory of R&D institutions)

Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

Figure 5 shows that in the majority of countries (17 out of 24) the enterprise was the statistical unit of the most recent innovation survey. In contrast, the enterprise group was the statistical unit in only one country.

Figure 5. Statistical unit
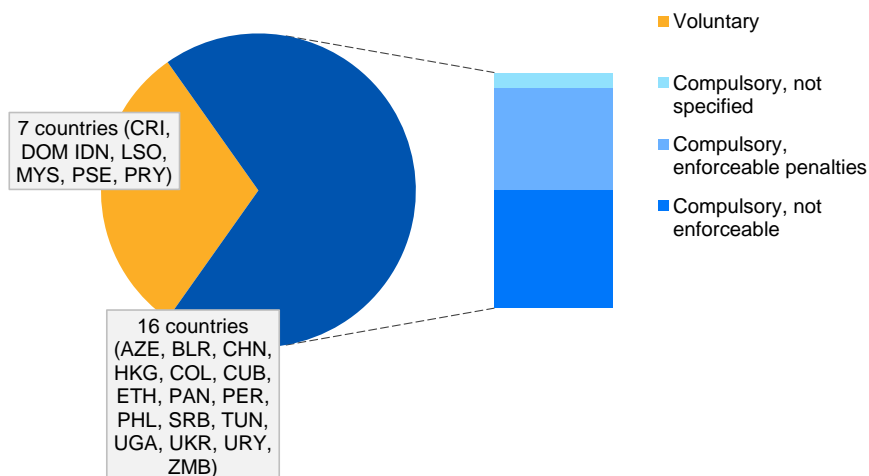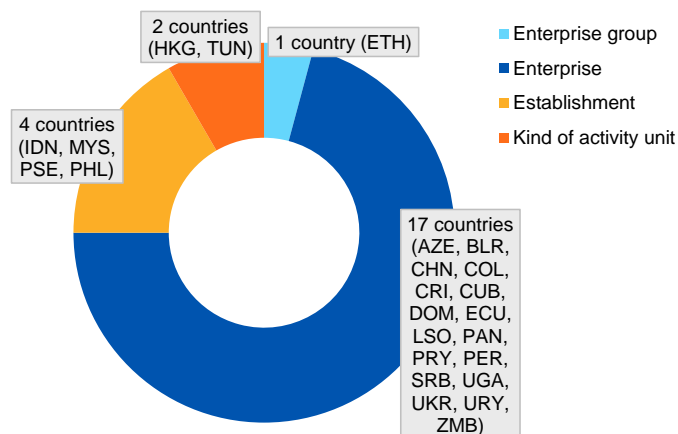

Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

Figure 6 shows that in 14 cases the sample frame was exclusively based on national statistical business registers. Furthermore, in 3 countries the sample frame was designed based on a combination of the national statistical business register and other sources and lists. In the other participating countries, the sample frame was designed using a variety of sources.

Figure 6. Sample frame

Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

Section 6. Size classification

Table 5 details the criteria for size cut-off and size classification of the statistical units. In 12 countries, the number of employees was the size cut-off criterion. However, there is a low degree of harmonisation in cut-off points. Only 3 countries used the Oslo Manual recommendation of a cut-off point of 10 employees. The lack of harmonisation is even higher in relation to the size classification of the statistical units.

Table 5. Cut-off and size classes

Country	Size cut-off point criterion	Micro	Small	Medium-sized	Large
Azerbaijan	Number of employees / Turnover	not covered	not covered	not covered	(B-F) > 49 emp; G > 14 emp; (H,J) > 9 emp / (B-F) >= 500 thousand Manat; G >= 1,000 thousand Manat; (H,J) >= 250 thousand Manat
Belarus	Number of employees	not covered	16-100 emp	101-250 emp	251 and more
China	Number of employees / Turnover / Other (total assets)	not covered	< 300 emp / 5-29 million Yuan / < 40 million Yuan	300-1999 emp / 30-299 million Yuan / 40-399 million Yuan	>= 2,000 emp / >= 300 million Yuan / >= 400 million
China, Hong Kong	Number of employees	n.a.	Below 10 emp	10-49 emp	50 and over emp
Colombia	Number of employees	not covered	10-50 emp	51-200 emp	More than 200 emp
Costa Rica	Number of employees	0-5 emp	6-25 emp	26-100 emp	More than 100 emp
Cuba	Number of employees / Other (firms with higher participation in production of sector/industry)	not covered	not covered	not covered	More than 200 emp / n.a.
Dominican Republic	Number of employees	not covered	10-49 emp	50-249 emp	250 emp and more
Ecuador	Number of employees	n.a.	n.a.	n.a.	n.a.
Ethiopia	Number of employees / Turnover	5 emp or less / n.a.	6-10 emp / n.a.	n.a.	n.a.
Indonesia	Number of employees	not covered	not covered	20-99 emp	100 emp or more

Table 5. Cut-off and size classes *(continued)*

Country	Size cut-off point criterion	Micro	Small	Medium-sized	Large
Lesotho	Number of employees	n.a.	n.a.	n.a.	n.a.
Malaysia	Number of employees / Turnover	not covered	(Manuf) 5-50 emp; (Serv) 5-19 emp / (Manuf) 250,000-10 million RM; (Serv) 200,000-1 million RM	(Manuf) 51-150 emp; (Serv) 20-50 emp / (Manuf) 10 million-25 million RM; (Serv) 1 million-5 million RM	(Manuf) > 150 emp; (Serv) > 50 emp / (Manuf) > 25 million RM; (Serv) > 5 million RM
Palestine	Number of employees / Turnover / Other (registered capital)	1-4 emp / up to 20,000 USD / up to 5,000 USD	5-9 emp / 20,001-200,000 USD / 5,001-50,000 USD	10-19 emp / 200,001-500,000 USD / 50,001-100,000 USD	20 emp or more / 500,001 USD or more / 100,001 USD or more
Panama	Turnover	not covered	150,001-1,000,000 USD	1,000,001-2,500,000 USD	2,500,001-15,999,999 USD
Paraguay	Number of employees	not covered	Less than 25 emp	25-100 emp	More than 100 emp
Peru	Turnover	Up to 540,000 Nuevo Sol	540,000-6,120,000 Nuevo Sol	6,120,000-13,320,000 Nuevo Sol	More than 13,320,000 Nuevo Sol
Philippines	Number of employees	1-9 emp	10-99 emp	100-199 emp	200 emp and over
Serbia	Number of employees	not covered	10-49 emp	50-249 emp	250 emp and more
Tunisia	Number of employees	Less than 10 emp	10-49 emp	50-249 emp	250 emp and more
Uganda	Number of employees / Turnover	1-19 emp / n.a.	20-49 emp / n.a.	50-249 emp / n.a.	250 emp and above / n.a.
Ukraine	Number of employees / Turnover / Other (list of sectors of econ. activ.)	Less than 10 emp / < 2 millions € / n.a.	Less than 50 emp / < 10 millions € / n.a.	Other (determined set of firms which are not included in the group of small or large according to their criteria)	More than 205 emp / > 50 millions € / n.a.
Uruguay	Number of employees / Turnover	not covered	5-19 emp / 7,565.3-3,7824.5 thousand Ur Pesos	20-99 emp / 37,826.4-283,678.3 thousand Ur Pesos	More than 99 emp / More than 283,680.2 thousand Ur Pesos
Zambia	Number of employees / Turnover	10 emp / 140,000,000 Zambian Kwacha	45 emp / 800,000,000 Zambian Kwacha	100 emp / 5,000,000,000 Zambian Kwacha	n.a.

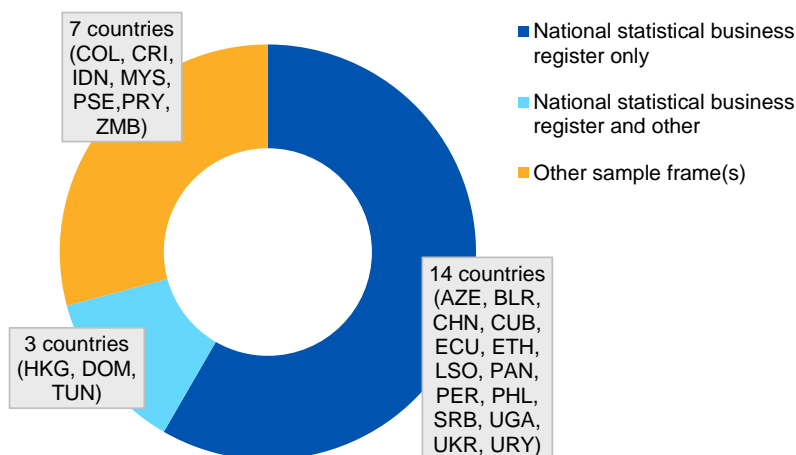**Notes:** For Azerbaijan, B-F, G, H and J are NACE Rev. 2 economic activities. For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.

Source: 2012 UIS innovation metadata collection.

The criteria for size cut-off adopted by countries in their most recent national innovation surveys are illustrated in **Figure 7**. While most participating countries used the number of employees to determine the size cut-off, some used this in combination with turnover. Two countries used turnover alone to determine the size cut-off.

Figure 7. Size cut-off point criterion
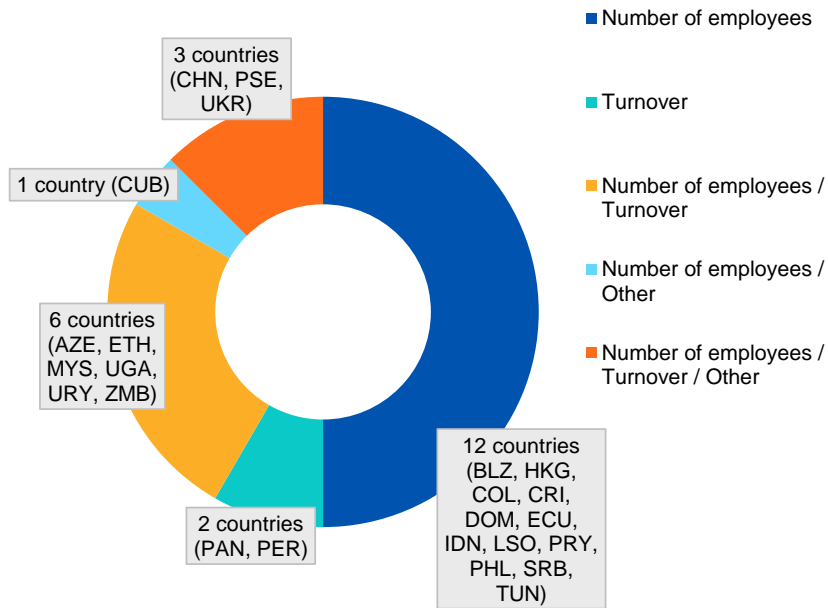
Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

Figure 8 illustrates the cut-off points of participating countries that used the number of employees for the size cut-off.

Figure 8. Size cut-off based on number of employees
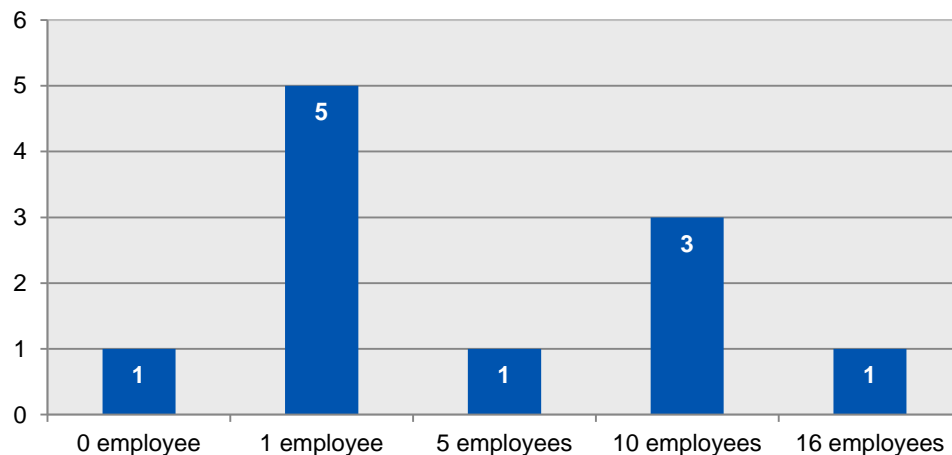
Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted and the information was not available.
Source: 2012 UIS innovation metadata collection.

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Section 7. Industrial coverage

Table 6 presents the economic activities which are covered by the most recent innovation survey in participating countries, according to the most compatible international classification. While countries regularly have their own national industrial classification, they may also make use of compatible international classifications in order to enable international comparisons.

Table 6. Industrial coverage and classification

Country	International industrial classification	Economic activities covered
Azerbaijan	NACE Rev. 2	B05-09; C10-33; D35; E36-39; F41-43; G45-47; H49-53; J58-63
Belarus	NACE Rev. 1.1	C10-14; D15-37; E40-41; I64; K72
China	ISIC Rev. 3.1	C10-14; D15-37; E40-41
China, Hong Kong	ISIC Rev. 4	All industry sections except: A01-03; B05-09; F41-43 (with less than 10 emp); taxi; public light buses; S96
Colombia	ISIC Rev. 3.1	D15-37
Costa Rica	ISIC Rev. 4	C10-33 (excluding C26); D35 (3510); telecommunications (including C26)
Cuba	ISIC Rev. 3.1	C10-14; D15-37; E40-41; F45; I60-64; K72
Dominican Republic	ISIC Rev. 3.1	A01; C10-14; D15-37; F45; H55; I64; E40-41; N85, O90-93
Ecuador	ISIC Rev. 4	n.a.
Ethiopia	ISIC Rev. 3.1	C1511-1549; 2610-2699; 2710-34303610; 3610; 1911-1920; 2200-2230; 2511-2520; 1551-1554; 1710-1820; 2411-2430; 2423; 2100-2109
Indonesia	ISIC Rev. 3.1	D15-37
Lesotho	ISIC Rev. 4	Mainly textiles
Malaysia	ISIC Rev. 4	C10-33; D-U
Palestine	NACE Rev. 1.1	CB14.11; DI26.70; DA15.1, 15.11; DA15.3; DA15.4; DA15.5; DA15.61; DA15.71; DA15.84; DA15.85; DA15.89; DA15.9-DA15.98
Panama	ISIC Rev. 3.1	A01-02; B05; C10-14; D15-37; E40-41; F45; G50-52; H55; I60-64; J65-67; K70-72; M80; N85
Paraguay	ISIC, not specified	n.a.
Peru	ISIC Rev. 4	C10-33
Philippines	ISIC Rev. 3.1	D15/32 and IT manufacturing and services
Serbia	NACE Rev. 2	05-09;10-33; 35; 36-39; 46; 49-53; 58; 61; 62; 63; 64-66; 72; 41-43; 45; 47; 69; 70; 73; 74; 78; 80; 81; 68; 55-56; 77; 59-60; 01-03; 79; 82; 75
Tunisia	NACE Rev. 2	All the sectors, including services
Uganda	ISIC Rev. 4	B05-09; C10-33; D35; E36-39; F41-43; H49-53; I55-56; J58-63; K64-66; L68; R90-93; S94-96
Ukraine	NACE Rev. 1.1	C10-14; D15-37; E40-41; G51; I60-K72; 74.2, 74.3
Uruguay	ISIC Rev. 4	A01-03; C10-33; D35; E36, 38, 39; H49-53; I55-56; J58-63; M69-75; N77-82; P85; QA86; QB87
Zambia	ISIC Rev. 4	Manufacturing, services, higher education, private non-profit organisations and R&D

Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

The International Standard Industrial Classification of All Economic Activities (ISIC) is the international reference classification of productive activities. Its main purpose is to provide a set of activity categories that can be utilised for the collection and reporting of statistics according to such activities.

The Statistical Classification of Economic Activities in the European Community (NACE) is the statistical classification of economic activities in the European Community and must be used within all Member States of the European Union.

As can be seen in **Figure 9**, there is a balance between the number of countries which use ISIC Rev. 4/NACE Rev. 2 and those which use ISIC Rev. 3.1/NACE Rev. 1.1[1].

Figure 9. Industrial classification
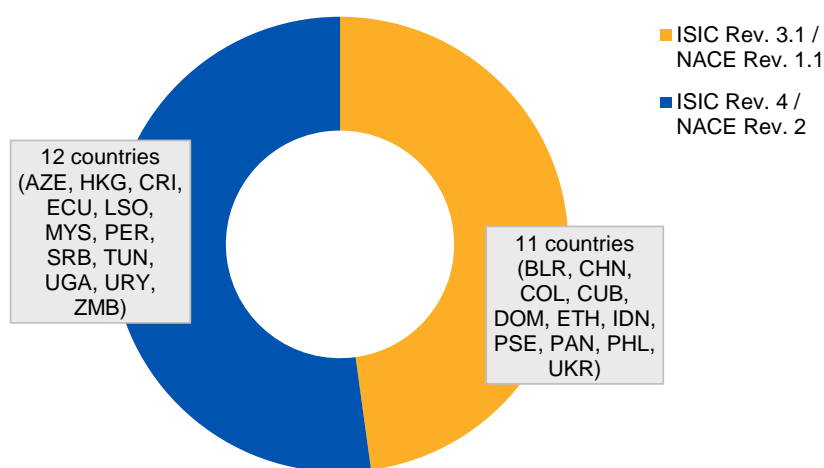
Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

Tables 7 and **8** outline the economic activities which are covered in national innovation surveys according to the adopted classification. It is interesting to note that manufacturing is the only sector included in all surveys.

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[1]   ISIC Rev 3.1 is compatible with NACE Rev. 1.1, while ISIC Rev. 4 is compatible with NACE Rev. 2.

Table 7. Industrial coverage – ISIC Rev. 3.1 or NACE Rev. 1.1

ISIC Rev. 3.1/NACE Rev. 1.1	Countries covering the activity	Number of countries
A 01-02. **Agriculture, hunting and forestry**	**DOM** (01), **PAN** (01-02)	2
B 05. **Fishing**	**PAN** (05)	1
C 10-14. **Mining and quarrying**	**BLR** (10-14), **CHN** (10-14), **CUB** (10-14), **DOM** (10-14), **PSE** (1411), **PAN** (10-14), **UKR** (10-14)	7
D 15-37. **Manufacturing**	**BLR** (15-37), **CHN** (15-37), **COL** (15-37), **CUB** (15-37), **DOM** (15-37), **ETH** (1511-1549, 1551-1554, 1710-1820, 1911-1920, 2100-2109, 2200-2230, 2411-2430, 2511-2520, 2610-2699, 2710-3430, 3610), **IDN** (15-37), **PSE** (151, 1511, 153, 154, 155, 1561, 1571, 1584, 1585, 1589, 159-1598, 2670), **PAN** (15-37), **PHL** (15, 32), **UKR** (15-37)	11
E 40-41. **Electricity, gas and water supply**	**BLR** (40-41), **CHN** (40-41), **CUB** (40-41), **DOM** (40-41), **PAN** (40-41), **UKR** (40-41)	6
F 45. **Construction**	**CUB** (45), **DOM** (45), **PAN** (45)	3
G 50-52. **Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods**	**PAN** (50-52), **UKR** (51)	2
H 55. **Hotels and restaurants**	**DOM** (55), **PAN** (55)	2
I 60-64. **Transport, storage and communications**	**BLR** (64), **CUB** (60-64), **DOM** (64), **PAN** (60-64), **UKR** (60-64)	5
J 65-67. **Financial intermediation**	**PAN** (65-67), **UKR** (65-67)	2
K 70-74. **Real estate, renting and business activities**	**BLR** (72), **CUB** (72), **PAN** (70-74), **UKR** (70-72, 742, 743)	4
Other economic activities covered	**DOM** (N85, O90-93), **PAN** (M 80, N 85)	2

Note: For the Philippines, the coverage is D15, 32 and I.T. manufacturing and services.
Source: 2012 UIS innovation metadata collection.

Table 8. Industrial coverage – ISIC Rev. 4 or NACE Rev. 2

ISIC Rev. 4/NACE Rev. 2	Countries covering the activity	Number of countries
A 01-03. **Agriculture, forestry and fishing**	**SRB** (01-03), **URY** (01-03), **TUN** (01-03)	3
B 05-09. **Mining and quarrying**	**AZE** (05-09), **SRB** (05-09), **TUN** (05-09), **UGA** (05-09)	4
C 10-33. **Manufacturing**	**AZE** (10-33), **HKG** (10-33), **CRI** (10-25, 27-33), **MYS** (10-33), **PER** (10-33), **SRB** (10-33), **TUN** (10-33), **UGA** (10-33), **URY** (10-33), **ZMB** (10-33)	10
D 35. **Electricity, gas, steam and air conditioning supply**	**AZE** (35), **HKG** (35), **CRI** (3510), **MYS** (35), **SRB** (35), **TUN** (35), **UGA** (35), **URY** (35)	8
E 36-39. **Water supply; sewerage, waste management and remediation activities**	**AZE** (36-39), **HKG** (36-39), **MYS** (36-39), **SRB** (36-39), **TUN** (36-39), **UGA** (36-39), **URY** (36, 38-39)	7
F 41-43. **Construction**	**AZE** (41-43), **HKG** (41-43), **MYS** (41-43), **SRB** (41-43), **TUN** (41-43), **UGA** (41-43)	6
G 45-47. **Wholesale and retail trade; repair of motor vehicles and motorcycles**	**AZE** (45-47), **HKG** (45-47), **MYS** (45-47), **SRB** (45-47), **TUN** (45-47)	5
H 49-53. **Transportation and storage**	**AZE** (49-53), **HKG** (except taxi and public light buses), **MYS** (49-53), **SRB** (49-53), **TUN** (49-53), **UGA** (49-53), **URY** (49-53)	7
I 55-56. **Accommodation and food service activities**	**HKG** (55-56), **MYS** (55-56), **SRB** (55-56), **TUN** (55-56), **UGA** (55-56), **URY** (55-56)	6
J 58-63. **Information and communication**	**AZE** (58-63), **HKG** (58-63), **CRI** (61, including C 26), **MYS** (58-63), **SRB** (58-63), **TUN** (58-63), **UGA** (58-63), **URY** (58-63)	8
K 64-66. **Financial and insurance activities**	**HKG** (64-66), **MYS** (64-66), **SRB** (64-66), **TUN** (64-66), **UGA** (64-66)	5
L 68. **Real estate activities**	**HKG** (68), **MYS** (68), **SRB** (68), **TUN** (68), **UGA** (68)	5
M 69-75. **Professional, scientific and technical activities**	**HKG** (69-75), **MYS** (69-75), **SRB** (69-70, 72-75), **TUN** (69-75), **URY** (69-75), **ZMB** (72)	6
N 77-82. **Administrative and support service activities**	**HKG** (77-82), **MYS** (77-82), **SRB** (77-82), **TUN** (77-82), **URY** (77-82)	5
Other economic activities covered	**HKG** (O 84, P 85, Q 86-88, R 90-93, S 94-95), **MYS** (O 84, P 85, Q 86-88, R 90-93, S 94-96, T 97-98, U 99), **UGA** (R 90-93, S 94-96), **URY** (P 85, Q 86-87), **ZMB** (P 85, private non-profit organisations)	5

Notes: For Hong Kong Special Administrative Region of China, construction firms with less than 10 employees are not very involved in innovation activities, and they are excluded from the coverage of the Survey of Innovation Activities for cost considerations. For Malaysia, the survey was still ongoing when metadata were submitted. For Tunisia, all sectors are covered, including services. For Zambia, the survey covers manufacturing and services, higher education, private non-profit organizations and R&D.

Source: 2012 UIS innovation metadata collection.

Section 8.   Survey type and data collection methods

Table 9 presents the type of survey done and the method of data collection used for the most recent innovation survey in participating countries.

Table 9. Survey type and data collection method

Country	Survey type	Data collection method
Azerbaijan	Census	Web questionnaire
Belarus	Census	Mail
China	Combined (sample, small enterprises; census, large and medium-sized enterprises)	Other (in a meeting, Local Statistical Offices handed the questionnaire to the enterprises, which completed it afterwards)
China, Hong Kong	Sample	Email, mail, in-person and phone interviews
Colombia	Census	Web questionnaire
Costa Rica	Sample	In-person and phone interviews
Cuba	Sample	In-person interview
Dominican Republic	Sample	In-person interview and web questionnaire
Ecuador	Sample	n.a.
Ethiopia	Sample	In-person interview
Indonesia	Sample	In-person interview
Lesotho	Census	In-person interview
Malaysia	Sample	Web questionnaire, email, mail, in-person interview, other (workshop, seminar, group briefing)
Palestine	Sample	In-person interview
Panama	Sample	In-person interview and email
Paraguay	Sample	In-person interview
Peru	Sample	In-person interview and web questionnaire
Philippines	Sample	Other (self-administered)
Serbia	Combined (sample; census, enterprises with 250+ employees and take-all units determined by Hidiroglou algorithm, enterprises that received subsidy from the government and enterprises that were supposed to have innovation)	Web questionnaire, email and mail
Tunisia	Combined (use of data from the 2005 R&D and innovation survey)	In-person interview
Uganda	Sample	In-person interview
Ukraine	Combined (sample, for 10-49 employees; census, other)	Mail
Uruguay	Combined (not specified)	In-person and phone interviews
Zambia	Combined (sample and census)	In-person interview and mail

Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

As shown in **Figure 10**, a sample survey was conducted in 14 out of 24 participating countries.

Figure 10. Survey type
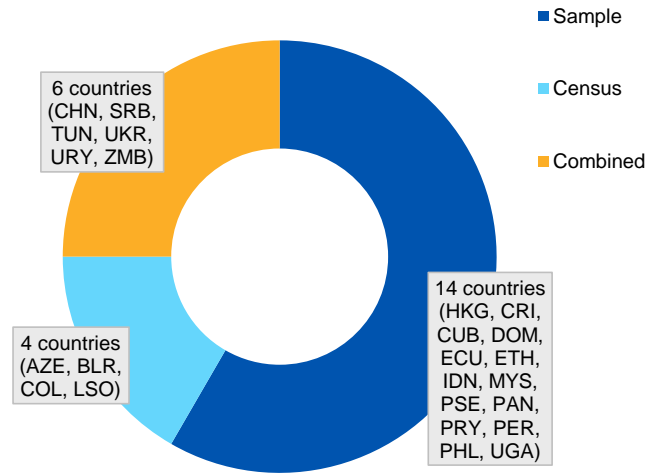
Note: For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

Moreover, in-person interviews were the sole data collection method used by 8 participating countries, as shown in **Figure 11**.

Figure 11. Data collection method

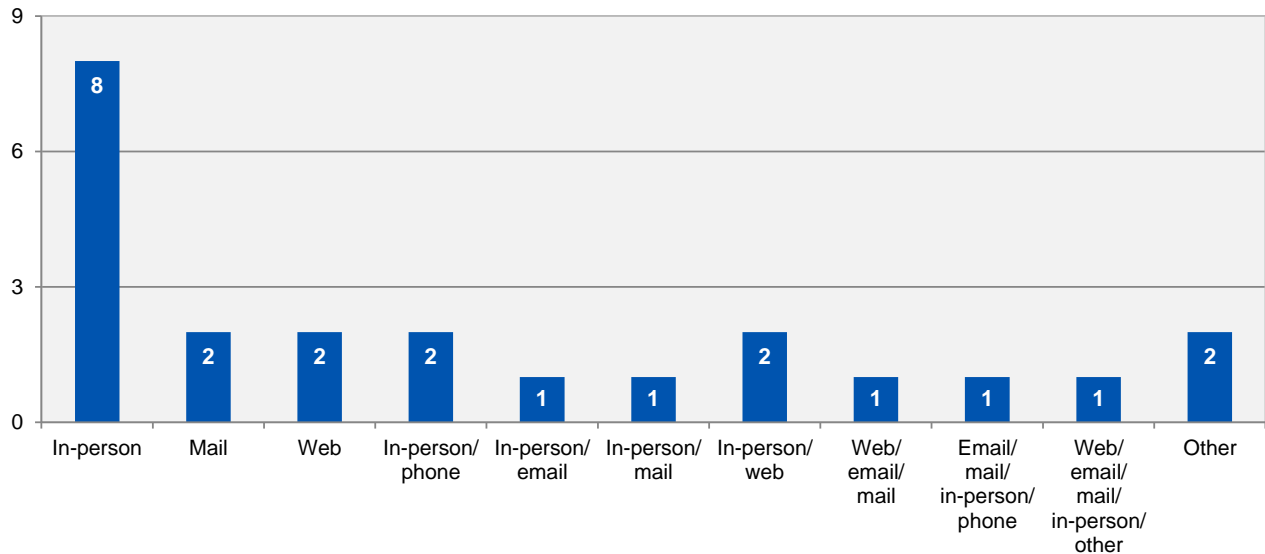**Note:** For Ecuador and Malaysia, the surveys were still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

Section 9.   Population

Table 10[2] presents the number of firms in the total business and target populations, achieved sample, and response rates of participating countries' most recent innovation survey.

Table 10. Populations, sample and responses (total)

Country	Business population (number of firms)	Target population (number of firms)	Achieved sample (number of firms)	Unweighted response rate (% of firms)	Weighted response rate (% of firms)
Azerbaijan	2,626	2,626	2,573	98%	n.a.
Belarus	2,149	2,149	2,149	n.a.	100%
China	n.a.	299,995	75,521	n.a.	89%
China, Hong Kong	332,859	258,371	5,465	98%	n.a.
Colombia	n.a.	n.a.	n.a.	n.a.	n.a.
Costa Rica	n.a.	1,860	650	63%	n.a.
Cuba	3,519	n.a.	n.a.	98%	n.a.
Dominican Republic	n.a.	n.a.	n.a.	n.a.	n.a.
Ecuador	n.a.	n.a.	n.a.	n.a.	n.a.
Ethiopia	n.a.	n.a.	n.a.	n.a.	n.a.
Indonesia	n.a.	n.a.	n.a.	n.a.	n.a.
Lesotho	n.a.	n.a.	n.a.	n.a.	n.a.
Malaysia	n.a.	6,116	n.a.	n.a.	n.a.
Palestine	950	n.a.	160	90%	n.a.
Panama	3368	735	n.a.	71%	68%
Paraguay	3,500	n.a.	851	n.a.	73%
Peru	n.a.	n.a.	n.a.	n.a.	n.a.
Philippines	n.a.	1,824	500	n.a.	95%
Serbia	12,145	3,982	2,841	71%	71%
Tunisia	120,000	13,683	1,046	n.a.	77%
Uganda	458,106	4,912	582	84%	n.a.
Ukraine	377,608	38,324	23,065	94%	85%
Uruguay	n.a.	n.a.	n.a.	n.a.	n.a.
Zambia	n.a.	600	416	n.a.	n.a.

Notes: For China, the achieved sample includes only large and medium-sized enterprises. For Malaysia, the survey was still ongoing when metadata were submitted. For the Philippines, the survey covered only food manufacturing, electronics manufacturing and ICT manufacturing and services in four geographic areas.

Source: 2012 UIS innovation metadata collection.

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[2]   Detailed information for manufacturing, services and other activities can be found in Annex Tables A1, A2 and A3.

Section 10. Non-response treatment

Table 11 presents the methods used by participating countries to treat unit and item non-response in their most recent innovation survey. These methods are also shown in **Figures 12** and **13**.
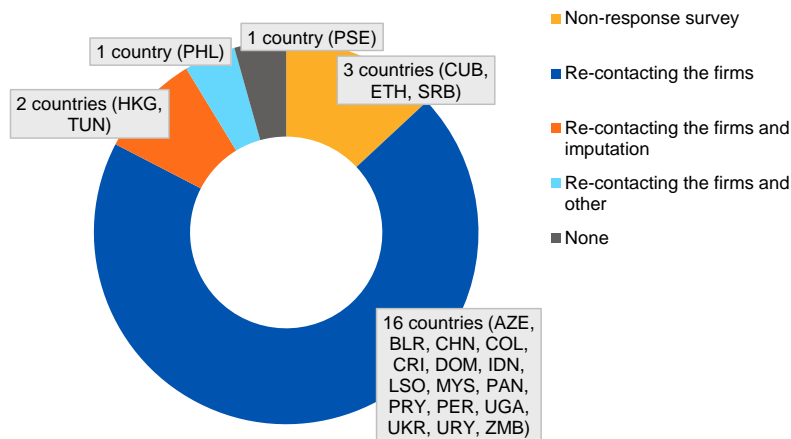
Table 11. Non-response treatment

Country	**Unit** non-response	**Item** non-response
Azerbaijan	Re-contacting the firms	Re-contacting the firms
Belarus	Re-contacting the firms	Re-contacting the firms
China	Re-contacting the firms	Re-contacting the firms
China, Hong Kong	Re-contacting the firms and imputation	Re-contacting the firms and imputation
Colombia	Re-contacting the firms	Re-contacting the firms
Costa Rica	Re-contacting the firms	Re-contacting the firms
Cuba	Non-response survey	Non-response survey
Dominican Republic	Re-contacting the firms	Re-contacting the firms
Ecuador	n.a.	n.a.
Ethiopia	Non-response survey	None
Indonesia	Re-contacting the firms	Re-contacting the firms
Lesotho	Re-contacting the firms	Re-contacting the firms
Malaysia	Re-contacting the firms	Re-contacting the firms
Palestine	No estimation has been made for non-response survey	No estimation has been made for non-response survey
Panama	Re-contacting the firms	Re-contacting the firms
Paraguay	Re-contacting the firms	Re-contacting the firms
Peru	Re-contacting the firms	Re-contacting the firms
Philippines	Re-contacting the firms and other (replacement samples for: transfer to address located outside survey area; closure; referral to unit outside survey area; other justifiable reasons)	None
Serbia	Non-response survey	Non-response survey
Tunisia	Re-contacting the firms and imputation	Re-contacting the firms and imputation
Uganda	Re-contacting the firms	Imputation
Ukraine	Re-contacting the firms	Re-contacting the firms
Uruguay	Re-contacting the firms	Re-contacting the firms
Zambia	Re-contacting the firms	Re-contacting the firms

Notes: For Ecuador, the survey was still ongoing when metadata were submitted. For Malaysia, the survey was still ongoing when metadata were submitted; however, normally there are not many non-response items and they do not gravely affect overall answers, they are analysed and reported as missing values.

Source: 2012 UIS innovation metadata collection.

Figure 12 illustrates the methods used by participating countries to treat unit non-response. In 16 cases, the procedure adopted was to re-contact the firms. It is interesting to note that only one participating country does not address unit non-response.

Figure 12. Treatment of unit non-response

Notes: For Ecuador, the survey was still ongoing when metadata were submitted. For Malaysia, the survey was still ongoing when metadata were submitted; however, normally there are not many non-response items and they do not gravely affect overall answers, they are analysed and reported as missing values.

Source: 2012 UIS innovation metadata collection.

Similar to the case of unit non-responses, re-contacting the firms was also the procedure used by most participating countries to treat item non-response, as illustrated in Figure 13.

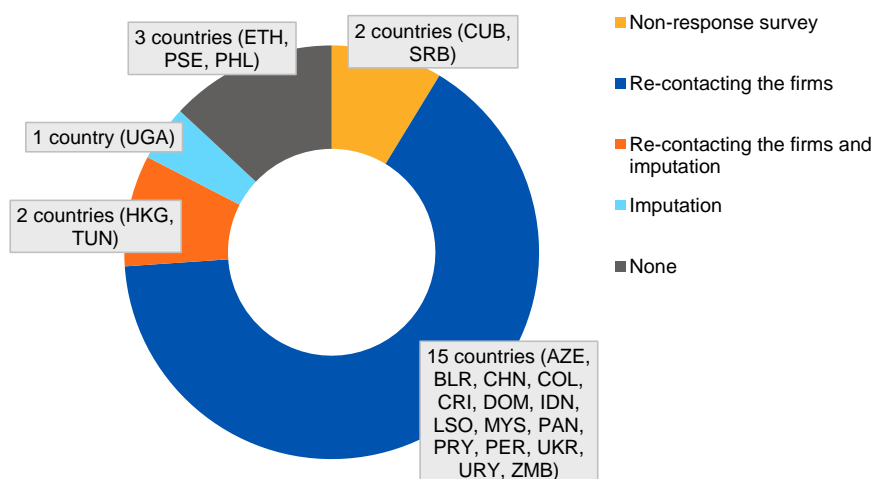**Figure 13. Treatment of item non-response**

Notes: For Ecuador, the survey was still ongoing when metadata were submitted. For Malaysia, the survey was still ongoing when metadata were submitted; however, normally there are not many non-response items and they do not gravely affect overall answers, they are analysed and reported as missing values.

Source: 2012 UIS innovation metadata collection.

Section 11.   Future survey

Table 12 presents plans of participating countries regarding the conduct of the next round of national innovation surveys.

Table 12. Next round of national innovation surveys

Country	Year of the next survey	Observation period of the next survey
Azerbaijan	2013	2012
Belarus	2013	2012 (calendar year)
China	2015 (maybe)	2012-2014 (maybe)
China, Hong Kong	2012	2011
Colombia	2013	2011-2012
Costa Rica	2014	2012-2013
Cuba	2013 or 2014	2010-2012
Dominican Republic	n.a.	n.a.
Ecuador	n.a.	n.a.
Ethiopia	2014	2010-2013
Indonesia	2014	2011-2013
Lesotho	Not decided yet	Not decided yet
Malaysia	2014	2012-2013
Palestine	n.a.	2012-2014
Panama	2013	2009-2011
Paraguay	2013 or 2014	Not decided yet
Peru	n.a.	n.a.
Philippines	Not decided yet	Not decided yet
Serbia	2013	2010-2012
Tunisia	2013	2008-2009-2010-2011
Uganda	2015	2011-2013
Ukraine	2013	2010-2012
Uruguay	2013	2010-2012
Zambia	2013	2010-2012 (or nearest year)

Source: 2012 UIS innovation metadata collection.

Annex – Statistical tables

Table A1. Populations, sample and responses (manufacturing)

Country	Business population (number of firms)	Target population (number of firms)	Achieved sample (number of firms)	Unweighted response rate (% of firms)	Weighted response rate (% of firms)
Azerbaijan	n.a.	n.a.	n.a.	n.a.	n.a.
Belarus	1,732	1,732	1,732	n.a.	100%
China	n.a.	277,475	28,842	n.a.	n.a.
China, Hong Kong	n.a.	n.a.	n.a.	n.a.	n.a.
Colombia	n.a.	9,396	9,396	92%	n.a.
Costa Rica	n.a.	n.a.	n.a.	n.a.	n.a.
Cuba	786	n.a.	600	91%	n.a.
Dominican Republic	n.a.	6,895	639	79%	n.a.
Ecuador	n.a.	n.a.	n.a.	n.a.	n.a.
Ethiopia	n.a.	1,732	443	91%	n.a.
Indonesia	n.a.	27,854	1,500	n.a.	92%
Lesotho	n.a.	n.a.	53	n.a.	n.a.
Malaysia	n.a.	1,607	n.a.	n.a.	n.a.
Palestine	850	n.a.	130	n.a.	n.a.
Panama	n.a.	n.a.	n.a.	n.a.	n.a.
Paraguay	n.a.	n.a.	n.a.	n.a.	n.a.
Peru	n.a.	n.a.	1,220	92%	100%
Philippines	n.a.	1,824	500	n.a.	95%
Serbia	8,000	1,163	n.a.	n.a.	n.a.
Tunisia	6,000	n.a.	n.a.	n.a.	n.a.
Uganda	33,123	1,730	291	85%	100%
Ukraine	50,483	17,431	12,670	95%	88%
Uruguay	n.a.	3,928	1,023	92%	n.a.
Zambia	n.a.	250	132	n.a.	n.a.

Notes: For China, the achieved sample includes only large and medium-sized enterprises. For Malaysia, the survey was still ongoing when metadata were submitted. For the Philippines, the survey covered only food manufacturing, electronics manufacturing and ICT manufacturing and services in four geographic areas.

Source: 2012 UIS innovation metadata collection.

Table A2. Populations, sample and responses (services)

Country	Business population (number of firms)	Target population (number of firms)	Achieved sample (number of firms)	Unweighted response rate (% of firms)	Weighted response rate (% of firms)
Azerbaijan	n.a.	n.a.	n.a.	n.a.	n.a.
Belarus	199	199	199	n.a.	100%
China	n.a.	n.a.	n.a.	n.a.	n.a.
China, Hong Kong	n.a.	n.a.	n.a.	n.a.	n.a.
Colombia	n.a.	n.a.	n.a.	n.a.	n.a.
Costa Rica	n.a.	n.a.	n.a.	n.a.	n.a.
Cuba	1,995	n.a.	200	68%	n.a.
Dominican Republic	n.a.	n.a.	n.a.	n.a.	n.a.
Ecuador	n.a.	n.a.	n.a.	n.a.	n.a.
Ethiopia	n.a.	n.a.	n.a.	n.a.	n.a.
Indonesia	n.a.	n.a.	n.a.	n.a.	n.a.
Lesotho	n.a.	n.a.	n.a.	n.a.	n.a.
Malaysia	n.a.	4,509	n.a.	n.a.	n.a.
Palestine	100	n.a.	30	n.a.	n.a.
Panama	n.a.	n.a.	n.a.	n.a.	n.a.
Paraguay	n.a.	n.a.	n.a.	n.a.	n.a.
Peru	n.a.	n.a.	n.a.	n.a.	n.a.
Philippines	n.a.	n.a.	n.a.	n.a.	n.a.
Serbia	4,141	2,819	n.a.	n.a.	n.a.
Tunisia	114,000	n.a.	n.a.	n.a.	n.a.
Uganda	126,490	3,182	291	83%	100%
Ukraine	249,350	20,893	10,395	93%	82%
Uruguay	n.a.	6,023	1,001	88%	n.a.
Zambia	n.a.	250	233	n.a.	n.a.

Note: For Malaysia, the survey was still ongoing when metadata were submitted.
Source: 2012 UIS innovation metadata collection.

Table A3. Populations, sample and responses (other economic activities)

Country	Business population (number of firms)	Target population (number of firms)	Achieved sample (number of firms)	Unweighted response rate (% of firms)	Weighted response rate (% of firms)
Azerbaijan	n.a.	n.a.	n.a.	n.a.	n.a.
Belarus	218	218	218	n.a.	100%
China	n.a.	22,520	n.a.	n.a.	n.a.
China, Hong Kong	n.a.	n.a.	n.a.	n.a.	n.a.
Colombia	n.a.	n.a.	n.a.	n.a.	n.a.
Costa Rica	n.a.	n.a.	n.a.	n.a.	n.a.
Cuba	738	n.a.	n.a.	n.a.	n.a.
Dominican Republic	n.a.	n.a.	n.a.	n.a.	n.a.
Ecuador	n.a.	n.a.	n.a.	n.a.	n.a.
Ethiopia	n.a.	n.a.	n.a.	n.a.	n.a.
Indonesia	n.a.	n.a.	n.a.	n.a.	n.a.
Lesotho	n.a.	n.a.	n.a.	n.a.	n.a.
Malaysia	n.a.	n.a.	n.a.	n.a.	n.a.
Palestine	n.a.	n.a.	n.a.	n.a.	n.a.
Panama	n.a.	n.a.	n.a.	n.a.	n.a.
Paraguay	n.a.	n.a.	n.a.	n.a.	n.a.
Peru	n.a.	n.a.	n.a.	n.a.	n.a.
Philippines	n.a.	n.a.	n.a.	n.a.	n.a.
Serbia	4	n.a.	n.a.	n.a.	n.a.
Tunisia	n.a.	n.a.	n.a.	n.a.	n.a.
Uganda	298,493	n.a.	n.a.	n.a.	n.a.
Ukraine	77,775	0	0	n.a.	n.a.
Uruguay	n.a.	n.a.	n.a.	n.a.	n.a.
Zambia	n.a.	100	51	n.a.	n.a.

Note: For China, the achieved sample includes only large and medium-sized enterprises.
Source: 2012 UIS innovation metadata collection.