Forwarding Armenian Statistics Through Twinning

AM09/ENP-PCA/TP/04

Study visit report

ICT Society Statistics

Activity F5
Study Visit

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Denmark, 29 August- 2 September 2011

National Statistical Service of RA	Statistics Denmark

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List of abbreviations

ICT	Information and communication technologies
BC	Beneficiary Country
MS	Member State
MSE	Mermber State Experts
ToR	Terms of Reference
NSSRA	National Statistical Service of Republic of Armenia

1. Executive summary

Three BC Experts from NSSRA participated in a study visit to Statistics Denmark on Information and Communication Technologies (ICT) statistics. The study visit took place 29 August - 2 September 2011 in the framework of the EU Twinning project "Forwarding Armenian Statistics through Twinning".

The NSSRA staff had worked on a draft questionnare (according to EU regulations) on ICT usage before the study visit, and the draft had been submitted to Statistics Denmark before the study visit. The draft questionnaire on the ICT usage in enterprises, the principles for the sample for pilot survey for a limited number of enterprises as well as other methodological issues were discussed during the study visit.

The study visit was very inspirational concerning the further development of business statistics in NSSRA and data collection in general, and ICT statistics in particular.

2. General comments

The draft of this study visit report was prepared in Statistics Denmark. The BC Experts would like to express their gratitude to the representatives of Statistics Denmark for providing valuable methodological information and for their kind support during the stay.

3. Purpose of study visit

The study visit was devoted to the following issues:

- EU regulations on ICT statistics
- Danish ICT statistics methodology and its relation to EU regulations
- Planning ICT usage survey, implementation plan, quality issues, methodological peculiarities
- Questionnaire design and indicators sampling principles regarding ICT usage in enterprises
- Instructions for completion the ICT usage questionnaire
- Error detection, adjustments mechanisms, editing and processing tools as well as approaches to tabulate the data
- Dissemination of the results of ICT usage survey

4. Expected output of the activity

- To make the necessary conclusions related to the implementation of the ICT usage survey by NSS RA regarding methodological peculiarities, implementation plan for the ICT usage survey as well as quality related issues
- To improve the draft questionnaire on ICT usage prepared by NSS RA according to the comments and recommendations by Statistics Denmark's experts on ICT statistics
- To study sample methodology regarding the limited number of enterprises in the pilot survey of ICT usage in Armenian enterprises
- Clarification of the roadmap for the implementation of the necessary activities by NSS RA before the next mission
- To decide upon the preferred timing of the next activity.

5. Discussed topics

The ICT statistics methodology applied by Statistics Denmark, ICT usage survey design, implementation plan and quality related peculiarities were topics that were covered during the study visit. The draft questionnaire for the ICT usage presented by NSSRA, the layout of the questionnaire and the chosen indicators were discussed.

The Danish experts made recommendations on inclusion of some indicators in the questionnaire. Also, the Danish experts recommended working out interviewer guidelines (instructions) for the coming pilot study on ICT usage. After the implementation of the pilot, this experience could be used to improve the instructions for future surveys.

During the discussions it was mentioned that the pilot study may be implemented by the drafted questionnaire. However, it was also decided to send the questionnaire to Enterprise Incubator Foundation to get their feedback.

The sample should be based on NSSRA's business register database.

The main emphasis for the sampling should be put on industry types and number of employees: According to international practice on ICT usage, including the Danish experience, it would be reasonable to include enterprises with more than 10 employees in the sample, and to further stratify according to economic activity according to the Armenian classification groupings based on NACE rev. 2.

Due to financial issues, the possibility of including only a small population for the implementation of a pilot survey was discussed, in order to ensure the effectiveness of the project and its continuation. Concretely, it was discussed to conduct a pilot sample survey only for Yerevan city.

In general, it was mentioned by the Danish experts that it is necessary to ensure that the sampling is representative in order for the statistical results to be valid for Armenian enterprises as a whole. In particular this would imply that if the pilot study in the future – and with the financing in place – is developed into a proper survey - the stratification of the sample should also include geography – besides industry (economic activity) and size level.

If the sample for the pilot study as discussed would be taken only from a population of Yerevan enterprises, the results would only be valid for the capital,

Different topics related to data collection, error detection and adjustment mechanisms as well as input processing and formation of output tables issues were also discussed.

Different approaches for the publishing of the survey results and general dissemination were discussed.

The following presentations were made by the experts of Statistics Denmark as part of the programme of the week:

- "Danish ICT Statistics"
- "Developments in data collection methods"
- "Data Dissemination in Statistics Denmark"

- "The relation of Business Register to the ICT statistics" and other to business statistics
- "Sampling methodology in Enterprises
- "Cooperation between Statistics Denmark and administrative registers including tax authorities for updating statistical business register
- "Online completion and usage of questionnaires''
- "Burden measurement".

All presentations were very informative, and the power point presentations were all handed over to the BC Experts electronically.

5.Results

The study visit provided the BC Experts an opportunity to get introduced to EU regulations on ICT statistics, Danish questionnaire on ICT usage, the layout of the questionnaire and its indicators, issues related to the quality as well as to other methodological peculiarities.

Taking into consideration comments and recommendations of the Danish experts, the draft questionnaire for the ICT usage made by NSSRA will be improved by adding relevant indicators (annex 5). Furthermore:

- It was decided to have pilot survey with small population of enterprises and include only Yerevan city.
- The Danish experts' recommendations on the methodology of sampling mechanisms gave an opportunity to clarify sampling principles for the ICT usage survey, taking into account the limited number of enterprises. Particularly, it was decided to include in the survey enterprises with more than 10 employees, and to do the sampling according to Armenian NACE rev 2 economic activity classification groupings, including the following industries:
  o Section C "Manufacturing,
  o Section D
  o E "Electricity, gas and steam, water supply, sewerage and waste management"
  o Section F "Construction"
  o Section G "Wholesale and retail trade; repair of motor vehicles and motorcycles"
  o Section H "Transportation and storage"
  o Section I "Accommodation and food service activities"
  o Section J "Information and communication"
  o Section L "Real estate activities"
  o Section M, group 69-74 "Professional, scientific and technical activities"
  o Section N "Administrative and support activities"
  o Section S, group 95.1 "Repair of computers";
  o It was decided to submit the questionnaire to Enterprises Incubator Foundation to get their feedback before the implementation of the pilot survey
  o A roadmap with action points for the NSS RA before the next mission was developed
  o The timing for the next activity F.3 was defined as 7-11 November 2011.

Working discussions gave an opportunity to enhance the knowledge of NSS RA staff in the mentioned field to summarize the implemented work and clarify the roadmap for next actions (annex 4).

Annex 1   Terms of Reference

EU Twinning Project

Forwarding Armenian Statistics Through Twinning
AM09/ENP-PCA/TP/04

<u>DRAFT</u> Terms of Reference (F5); 29 August – 2 September 2011

Component A   Quality Management
Component B   Business Register, Structural Business Survey, and Respondent Burden
Component C   Improvement of the Exhaustiveness of GDP
Component D   Agricultural Census
Component E   Harmonized Consumer Price Index
Component F   ICT Society

Activity F.5   Study visit: Study of the Danish surveys on ICT Statistics

1. Purpose of activity
The purpose of the activity is a demonstration and discussion of the system of Danish ICT statistics. The focus will be on the development of the Danish system with respect to the perspectives of the ICT statistics of NSSRA.

2. Expected output of the activity
The expected outputs of the activity are:
o   A thorough understanding of the Danish ICT Statistics system and its' relation to the EU Regulations
o   Understanding of the different phases of producing ICT statistics and the involvement of other divisions– from sampling frame and the use of different data collection mechanisms and quality systems to dissemination strategies;
o   Awareness of the potential pitfalls (misunderstandings) to the development of ICT Statistcs;
o   A discussion of the next steps and possible adjustment to the road map related to the ICT Statistics component of the Twinning Project

The learnings and output from the study visit will be documented in a joint study visit report by the participants.

3. Study visit participants
Mr. Gagik Ananyan, Member of State Council on Statistics, NSSRA (BC Component Leader)
Mrs. Anahit Harutyunyan, Head of Trade and Other Services Division, NSSRA
Mrs. Inga Baroyan, Main Specialist, Trade and Other Services Division, NSSRA

Diana Gasoyan, RTA Assistant and Interpreter

4. Meeting Programme for BC Experts

29 August (Monday) – 2 September (Friday)

Time	Event	Purpose / detail
29 August, 10:00	Welcome	Introduction to Statistics Denmark and of the programme of the week (*Lars Thygesen, Jesper Ellemose*)
29 August, 13:00	Introduction to ICT Statistics in Denmark	The development and present status in Denmark of ICT statistics, incl. the consequences of EU Regulations The future perspectives (Martin Lundø, Agnes Tassy)
30 August 9:30	Status on the ICT Statistics component within the Twinning Project	Presentation on the progress so far (BC Experts)
30 August 13:00	Data collection and quality management in relation to ICT statistics	The use of surveys vs. administrative sources (registers). Design of reporting forms, incl. electronic reporting channels. Error detection and correction mechanisms. (Martin Lundø, Agnes Tassy, Ashu Conrad)
31 August 9:30	Other methodogical issues Dissemination of ICT Statistics	Sampling and weighting (Martin Lundø; Methodology Division) Publications and internet strategy (Agnes Tassy; Dissemination Division)
31 August 13:00	Workshop on the ICT Statistics component within the Twinning Project	Discussion of the alternative solutions (BC Experts, Martin Lundø, Agnes Tassy)
1 September 9:00	The Danish Business Register	The Business Register's relevance for ICT Statistics and other business statistics. The co-operation between Statistics Denmark and Tax Authorities on updating the Business Register and this co-operations's relevance for Armenia. (Søren S. Andersen, Vibeke Skov Møller)
1 September 13:00	SBS related issues	SBS reporting forms. Response burden measurement. (Carsten Zornig, Ashu Conrad)
2 September 9:30	Road map for the ICT Statistics component	Possible updates according to the discussions *(Martin Lundø, Agnes Tassy)*
2 September 13:00	Debriefing	Other issues and evaluation of the study visit *(Lars Thygesen, Jesper Ellemose)*

Lunch time every day 12:00 - 13:00 (Statistics Denmark's canteen).

Annex 2 Persons met

BC experts met with the following MS experts during study visit to Statistics Denmark

Lars Thygesen	Sales and Marketing director, Statistics Denmark
Jesper Ellemose	Chief advisor, International consulting division, Statistics Denmark
Martin Lundø	Chief Adviser, Business Development Division, Statistics Denmark
Søren S. Andersen	Division Head, External Trade and Balance of Payments division, Statistics Denmark
Vibeke Skov Møller	Chief advisor, Business register division, Statistics Denmark
Peter Linde	Division Head, Survey and Methods Division, Statistics Denmark
Carsten Zornig	Deputy division head, Survey and Methods division, Statistics Denmark
Ashu Conrad	Chief Advisor, Survey and Methods Division, Statistics Denmark
Carsten Zangenberg	Division Head, Communication Division, Statistics Denmark
Ulla Agerskov	Leading Advisor , Communication Division, Statistics Denmark
Pia Thomsen	Chief Advisor, Survey and Methods Division, Statistics Denmark

Annex 3 Action points for the NSS RA staff before next mission

- To make revisions and work on final version of the draft questionnaire taking into consideration the working discussions and recommendations of Statistics Denmark's experts on the draft questionnaire presented by NSS RA during the study visit.
- To provide the draft questionnaire to Enterprises Incubator Foundation to get their feedback and comments on questionnaire.
- To discuss the changes proposed by Enterprises Incubator Foundation internally in NSSRA and, if possible and if in line with the EU regulation, update the draft question-naire accordingly.
- To fix a date for a workshop and invite the relevant external stakeholders during the week 7-11 November 2011 of the next mission, F3, with focus on presentation and discussion of the draft questionnaire.

Annex 4 Roadmap for the implementation of pilot survey for ICT usage

Time	Tasks
September 2011	To make revisions and work on the final version of the draft questionnaire taking into consideration the working discussions and recommendations of Statistics Denmark's experts on the draft questionnaire presented by NSS RA during the study visit
September 2011	To provide the draft questionnaire to Enterprise Incubator Foundation to get their feedback and comments on the draft questionnaire
October 2011	To make relevant changes in the questionnaire according to comments and recommendations of Enterprise Incubator Foundation in case the latter do not contradict the EU methodology
October 2011	To prepare the final version of the questionnaire with the relevant layout, indicators and methodology
November 2011	To organize a workshop for the MS experts and external stakeholders.
End of December 2011	Decision of what industries to include in the pilot survey and organization of the relevant sampling
Febryary-March 2012	Organisation of work related to distribution of questionnaires and collection of filled-in questionnaire by interviewers
Before June 2012	Data entry work, output tables formation , implementation of programming work
Before December 2012	Dissemination on NSSRA web-site of survey results

Annex 5 Draft questionnaire for the ICT usage survey

 National Statistical Service of RA

Anonymity of provided information is guaranteed by law

Enterprise name_____ Main activity type _____ _____ I I I I I I Address _____ I I I I I (postal code) Marz _____I I I Community _____I I I I I I Web site _____ State register registration number I I I I I I I I I I Identification code I I I I I I I I I Tax payer registration number I I I I I I I I I *State register registration number and identification code are filled according to the data available on the certificate provided by the Ministry of Justice of Republic of Armenia*	Form 1-ICT *1.1. «Confirmed by »* *1.2. Resolution 02 -Ն dated 25/06/2010 by State Statistical Council* *Submitted by legal units*

ONE TIME SURVEY ICT AND E-COMMERCE USE UN ENTERPRISES

Module A **Use of computers and computer networks in January 2011**		
	YES	NO
A1. **Did your enterprise use computers?** Computers include Personal Computers, portable computers (e.g. laptops, notebooks, nettops), personal digital assistants (PDA) or smartphones	☐	☐ → Go to X1
A2. **Number of employees using computers** Computers include Personal Computers, portable computers (e.g. laptops, notebooks, nettops), personal digital assistants (PDA) or smartphones	☐	☐
A3 **Did you use internal computer network (ex: Local Area Network)**		

			YES	NO
A4.	**Does your enterprise have internal home page (Intranet)?**		☐	☐
A4.	**Did the persons employed have access to personal human resources services electronically?** e.g. working time recording system, request annual leave, view or download payslips, or other services		☐	☐

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Section 1. Access to Internet in January 2011

			YES	NO
B1.	**Did your enterprise have access to Internet?**		☐	☐ → Go to C1
B2	**Number of employees with access to the Internet**			
B3.	**Did your enterprise have the following types of external connection to the Internet ?**			
	a) Traditional Modem (dial-up access over normal telephone line) or ISDN connection		☐	☐
	b) DSL (xDSL, ADSL, SDSL etc) connection		☐	☐
	c) Other fixed Internet connection, e.g. cable, leased line (e.g. E1 or E3 at level 1 and ATM at level 2), Frame Relay, Metro-Ethernet, PLC - Powerline communication, etc, fixed wireless connections		☐	☐
	d) **Mobile broadband** connection (via at least 3G modem or handset) using e.g. UMTS, CDMA2000 1xEVDO, HSDPA		☐	☐
	e) Other **mobile** connection using e.g. analogue mobile phone, GSM, GPRS, EDGE		☐	☐
B4.	**What was the maximum contracted download speed of the fastest Internet connection of your enterprise?** (tick only one)			
	a) less than 2 Mbit/s			
	b) at least 2 but less than 10 Mbit/s			
	c) at least 10 but less than 30 Mbit/s			
	d) at least 30 but less than 100 Mbit/s			
	e) at least 100 Mbit/s			
B5.	**How many persons employed were provided with a portable device with at least 3G technology for accessing the Internet?** e.g. via portable computer with modem or via handset, with at least 3G technology using e.g. UMTS, CDMA2000 1xEVDO, HSDPA, **while excluding GPRS**	_____ number ⟨⟩ _____ %		

			YES	NO
B6.	**Did your enterprise have a Website or Home Page?**		☐	☐ → Go to B7
B7.	**Did the Website or Home Page have any of the following facilities** a) Online ordering or reservation or booking, e.g. shopping cart b) A privacy policy statement, a privacy seal or certification related to website safety c) Product catalogues or price lists d) Possibility for visitors to customise or design the products e) Advertisement of open job positions or online job application f) Other online facilities		☐	☐

Section 2. Use of the Internet in contact with public authorities in 2010

		YES	NO
B8.	**did your enterprise use the Internet to**	☐	☐ → Go to B8
	a) obtain information from public authorities' websites or home pages?	☐	☐
	b) obtain reporting forms from public authorities' websites or home pages? e.g. tax declaration	☐	☐
	c) return filled in reporting forms electronically, e.g. forms for customs or VAT declaration	☐	☐
	d) other purpose (mention)		
B9.	**Do you consider any of the following reasons as limiting your electronic interaction with public authorities?**		
	a) Concerns related to data confidentiality and security	☐	☐
	b) Electronic procedures are too complicated and/or too time consuming	☐	☐
	c) Electronic procedures still require exchange of paper mail or personal visits	☐	☐
	d) other reason(mention)		

Section 3. Internet usage for interaction with public authorities for el-procurement in 2010

Public electronic Procurement refers to the use of the Internet by enterprises to offer goods or services to public authorities at national level or in other EU countries. The eProcurement process is based on a number of stages from the notification process (online availability of procurement notices and tender specifications) through **tendering**, awarding, to payment.

eTendering is the stage of an eProcurement process dealing with the preparation and submission of tenders or proposals online; this includes bids submitted through open, restricted, or negotiated procedures, as well as Framework Agreements and Dynamic Purchasing Systems (DPS). **Submission of bids by e-mail is excluded.**

		YES	NO
B10.	**Did your enterprise use the Internet for accessing tender documents and specifications in electronic procurement systems of public authorities?**	☐	☐
B11.	**During 2011, did your enterprise use the Internet for offering goods or services in public authorities' electronic procurement systems (eTendering)?**	☐	☐
	1) RA	☐	☐
	2) in other countries	☐	☐
B12.	**During 2011, did your enterprise use electronic signature in any message sent?** **(, i.e. using encryption methods that assure the authenticity and integrity of the message (uniquely linked to and capable of identifying the signatory and where any subsequent change to the message is detectable)**	☐	☐

Module C
Sending/receiving of messages suitable for automatic processing to/from

systems outside the enterprise in January 2011		
Electronic transmission of data suitable for automatic processing means: – **sending and/or receiving of messages** (e.g. orders, invoices, payment transactions, product descriptions, transport documents, tax declarations) – in an **agreed or standard format** which **allows their automatic processing**, e.g. EDI, EDIFACT, ODETTE, TRADACOMS, XML , xCBL, cXML, ebXML – to or from other enterprises, public authorities or financial institutions – without the individual message being typed manually – via any computer network		

		Yes	No
C1.	In 2011, did your enterprise send or receive electronically such information in a format that allowed its automatic processing?	☐	☐ → Go to D1
C2.	Did your enterprise send or receive electronically such information for the following purposes?		
	a) Sending payment instructions to financial institutions	☐	☐
	b) Sending or receiving product information (e.g. catalogues, price lists)	☐	☐
	c) Sending or receiving transport documents (e.g. consignment notes)	☐	☐
	d) Sending or receiving data to/from public authorities (e.g. tax returns, statistical data, import or export declarations	☐	☐
	e) other purposes(mention)		

Module D		
Submission of documents (invoices) electronically in January 2011		

		YES	NO
D1.	Did your enterprise send electronic documents (invoices)	☐	☐ → Go to D2
	a) e-invoices in a standard structure suitable for automatic processing? e.g. EDI, UBL, XML, (please add national examples)	☐	☐
	b) Electronic invoices **not** suitable for automatic processing e.g. emails, email attachment in PDF format	☐	☐
D2.	In January 2011, did your enterprise *receive* e-invoices in a standard structure suitable for automatic processing? e.g. EDI, UBL, XML, please national examples	☐	☐

Module E		
Automatic share of information within the enterprise in January 2011		

		YES	NO

1.	Did your enterprise receive sales order or if other information **was the relevant information about it shared electronically and automatically with the software used for the following functions?** (eg accounting etc)	☐	☐

Module F
Ecommerce transactions (sales and purchase)in 2010

An **e-commerce transaction** is the sale or purchase of goods or services conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders. The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online.
e-commerce transactions **exclude** orders made by manually typed e-mail messages.

Section 1. WEB sales

		YES	NO
F1.	**During 2011, did your enterprise *receive* orders for products or services placed via a website?**	☐	☐ → Go to F4
F2.	**did your enterprise *receive* orders placed via a website by customers located in the following geographic areas**		
	1) RA	☐	☐
	2) CIS countries	☐	☐
	3) Other countries	☐	☐
F3.	**Please state the value of the turnover resulting from orders *received* that were placed via a website (in monetary terms, excluding VAT**	_____ thousand drams Or _____ %	

Section 2 EDI-type sales

EDI-type sales are sales made via EDI-type messages. EDI (electronic data interchange) is used here as a generic term for sending or receiving business information in an agreed format which allows its automatic processing (e.g: EDIFACT, UBL, XML, …).

		YES	NO
F4.	**Did your enterprise *receive* orders for products or services placed via EDI-type messages?**	☐	☐ → Go to F7
F5.	**In 2010, did your enterprise *receive* orders placed via EDI-type messages by customers located in the following geographic areas?**		
	1) RA	☐	☐
	2) CIS countries	☐	☐
	3) Other countries	☐	☐
F6.	**Please state the value of the turnover resulting from orders *received* that were placed via EDI-type messages (in monetary terms, excluding VAT**	_____ thousand drams Or	

_____ %

Section 3. E-commerce Purchases		
	YES	**NO**
27. **During 2011, did your enterprise send orders for products or services via computer networks?** (via a website or EDI-type systems, and excluding manually typed e-mails)	☐	☐ → GO to G1
29. **Did your enterprise *place* orders via a website or EDI-type messages to suppliers located in the following geographic areas**		
1) RA	☐	☐
2) CIS countries	☐	☐
3) other countries	☐	☐
28. **Please state the value of the purchases resulted from orders *placed* electronically (in monetary terms, excluding VAT**	_____ *Thousand drams* Or _____ *%*	

Module G Main indicators of enterprise activity in 2010		
G1.	Average monthly number of employees used for calculation of salaries	_____ employees
G2.	Total turnover (in value terms, excluding VAT	_____thousand drams

2.

3.   **Thank you for providing information!**

Interviewer _____   _____
                    (Name, surname)   *(Signature)*

« ____ »_____20____
(Completion date)