



TWINNING CONTRACT

JO 21 ENI ST 01 22

Strengthening the capacity of Jordan's Department of Statistics in terms of compilation, analysis and reporting of statistical data in line with International and European best practices

MISSION REPORT

on

Component 3 Strategy for missing or erroneous data

Activity 3.2.1 Assessment of current situation and development of an adjusted rolling work plan (Restart of Component 3)

Mission carried out by
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List of Abbreviations

- BC – Beneficiary Country
- CCD - The Companies Control Department
- CoE - Census of Establishments
- DoS – Department of Statistics
- EBS – European Business Statistics
- ESS – European Statistical System
- EU - European Union
- MS – Member State
- NA – National Accounts
- ISIC - The International Standard Industrial Classification of All Economic Activities
- PL – Project Leader
- RTA – Resident Twinning Advisor
- SAE – Small Area Estimation
- SBR - Statistical Business Register
- STE – Short-term Expert

Executive Summary

DoS updated the Establishment Census from 2018 with survey data collected in 2023 and some administrative data in 2024. This dataset will be used as a sampling frame for the coming years, until the new National Statistical Business Register (SBR) is available.

Using administrative data to identify in-active establishments is done, but DoS does not yet have access to detailed economic administrative data, so direct use of administrative data for imputations or direct compilation of statistics is not yet possible.

Together with DoS experts, it was concluded that the remaining activities in component 3 should focus on guaranteeing good quality survey data in the coming years by:

- 1. Ensuring good quality sampling frame and suitable sampling methods,*
- 2. Improving data validation, editing, and imputation methods and practices,*
- 3. Renew the survey questionnaire to reduce response burden, improve data coverage, increase the quality and improve the applicability of data for the national accounts.*

STEs also recommended:

- To obtain more comprehensive admin ID information for survey data to enable broader use of administrative data, either as auxiliary data or to aid in imputation and estimation when economic administrative data becomes available for DoS.*
- Revise economic data regularly when new or corrected data becomes available, as recommended for ESS statistics.*
- Be aware that administrative data does not cover the entire economy.*

1. General comments

This mission report was prepared within the Twinning Project "Strengthening the capacity of Jordan's Department of Statistics in terms of compilation, analysis and reporting of statistical data in line with International and European best practices". The current Mission is carried out as part of component 3 - Strategy for missing or erroneous data.

The purpose of this activity was:

- To review current situation in Jordan related to the Mandatory Results.
- To obtain a common understanding of current situation, vision and challenges in relation to the Mandatory Results of this component
- To assess the level of compliance with relevant EU regulations and other international standards.

The consultants would like to express their sincere thanks to all officials and individuals met for the kind support and valuable information which they received during the stay in Jordan and which highly facilitated their work. The views and observations stated in this report are those of the consultants and do not necessarily correspond to the views of the EU, Statistics Finland or Statistics Denmark.

2. Assessment and results

The current status on relevant work related to component 3 was reviewed and these were the main points:

- DoS updated the Establishment Census from 2018 with data collected in 2023 and some administrative data in 2024
 - Establishments in blocks with more than 35 establishments were updated by surveys in 2023.
 - Some blocks with minor activity were not updated.
 - The planned collection in 2024 was postponed.
 - Approximately 1000 blocks + update of approximately 2000 establishments + newly established blocks. Total = 178.000 active establishments (previously 168.000).
- Use of Administrative data
 - The Greater Amman/Local Administration data was used to remove the inactive units from the Census2018 dataset.
 - The use of turnover data from VAT data is not possible because of legal limitations with Tax authorities.
 - The Companies Control Department (CCD) collects data where turnover and other financial statement data can be generated on the International Standard Industrial Classification of All Economic Activities, ISIC 4, activity level.
- Further use of administrative data
 - DoS has been working on linking administrative identification numbers (ID) to the units in the Enterprise Census 2018.

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- DoS experienced problems with respondents not being willing to answer questions about ID numbers. One example is a block with 5000 units where only 1000 units revealed the ID number.
- For 22.000 (large establishments) out of 178.000 the IDs have been identified
- Automatic merging by IT support of administrative data with the updated 2018 frame have not been tried yet
- DoS does not yet have access to detailed economic administrative data, so further development of advanced use of administrative data is a priority for the longer term.

It was found that at this point, DoS would benefit the most from advice and assistance in:

- **Forming a sampling frame for economic surveys and drawing a sample**
for the coming years, until the new National Statistical Business Register (SBR) is available for this purpose. (The development of SBR is supported by the component 1 of the Twinning project.) This task is complicated by the upcoming revision of the sampling strata, which is still in the planning stage. Assistance would be particularly needed in widening the knowledge on different sampling methods.
- **Validating, editing, and imputing missing economic data.**
It would be beneficial to familiarise with different methods and also consider situations where imputation should not be performed. (In practice, item non-response is not a problem, as the interviewer collects information until the form is fully completed.) The quality of imputation could be improved by utilising administrative data. Currently, available economic admin data is still scarce, but it might already be possible to test the utilisation of such auxiliary information. The challenge is that administrative ID is currently known for only certain surveyed establishments. Unfortunately only small part of the respondents agree to provide this information, and they are not obliged to do so, but these could be a starting point.
- **Updating economic survey questionnaires,**
as currently their completion requires respondents to provide a wide range of information about the establishment's finances, often necessitating multiple visits by the interviewer to the respondent. The challenge, in addition to the number of questions, is that some questions are quite complex and may not be answerable based on standard accounting records. The collected data and terminology also partially align with the concepts and items of national accounts, which is challenging for respondents. Therefore, DoS has begun redesigning the survey questionnaires. It has also been noted that smaller establishments do not need to be asked for as much information as larger ones.

There are still many unachieved results remaining in the component 3 relative to the available time. It was therefore concluded that the objectives should be prioritised. Mandatory Result (MR) 3.3 was considered less critical by DoS compared to other Mandatory Results, and thus no activities were planned for this sub-component. The common understanding was that allocating more time to directly applicable topics would be beneficial to ensure they are sufficiently addressed and to allow for effective absorption of all the new methods and practices presented and discussed.

STEs also gave presentations on

- National Accounts, Business Register and Exhaustiveness in Statistics Denmark

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- Key data sources and sampling strategies for Business Statistics in Finland

There was a lively discussion around these presentations and main subjects included: 1) The data requirements in the EU illustrated by Eurostats: ESA transmission program for National Accounts. 2) Ensuring that Censuses and Surveys cover the full economy. Administrative data does not cover all economic activity so it is important to maintain the ability to describe the informal economy that is not covered by administrative data. 3) Revision practices. EU countries regularly revise business statistics and national accounts. The regular calculation and analysis of revisions are an important part of statistical quality work. The STEs briefly presented the common EU practices and formulas for calculating the indicators.

3. Conclusions and recommendations

Based on the discussions and information provided by DoS experts, it was concluded that the remaining activities in component 3 should focus on guaranteeing good quality survey data in the coming years by:

1. Ensuring good quality sampling frame and suitable sampling methods
2. Improving data validation, editing, and imputation methods and practices
3. Renew the survey questionnaire to reduce response burden, improve data coverage, increase the quality and improve the applicability of data for the national accounts.

These priorities were used to revise the activity plan for component 3, which was updated during this activity. The revised plan is included as an [annex](#).

STEs also recommended the following:

- It would be beneficial to obtain more comprehensive admin ID information for survey data to enable broader use of administrative data, either as auxiliary data or to aid in imputation and estimation when economic administrative data becomes available for DoS. Therefore, STEs suggest to improve the coverage of administrative IDs in the survey data. This can be done gradually. Broader coverage of admin IDs would also allow for more reliable comparison of survey and administrative data since information could be matched at the unit level. It would be useful to experiment with different matching information, including the use of multiple identifiers. Determining the administrative business IDs for the remaining establishments where matching was unsuccessful might be assigned to interviewers, who would use various registers to deduce correct IDs.
- Revise economic data regularly when new or corrected data becomes available, as recommended for ESS statistics. It is also advisable and considered good practise to calculate and analyse data revision regularly. More information on recommended practices and calculation of revision indicators can be found in the [ESS Handbook for Quality and Metadata Reports](#).
- Be aware that administrative data does not cover the entire economy. It is important to continue to be able to describe the informal economy, which is not covered by administrative data.

Actions needed for moving forward as well as for preparing the next mission.

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Action	Deadline	Responsible person
Finalise the update of Census of Establishments from year 2018	Before the next mission	Economic Surveys Department

Updated activity plan for component 3

Act.	Subject	Description	Time period
3.2.2	Frame evaluation	<ul style="list-style-type: none"> ● Review and analyse the results from updated sampling frame. ● Assist with designing the documentation of the frame. ● Compare the results of a selected group of largest establishments against the administrative data. 	16 - 19 Sep 2024
3.2.3	Sampling methods	Design the method for drawing the sample.	07 -10 Oct 2024
3.2.4	Sample evaluation	Evaluate the previous sample (coverage etc.) and compare it with the new one.	21-23 Oct 2024
3.2.5	Imputation methods	<ul style="list-style-type: none"> ▪ Study practical imputation methods and principals based on the Industry Survey (imputation for unit non-response), ▪ Validation and editing ▪ Test some of them for a small sample of Industry Survey data. ▪ Discuss exit strategy for sustainability of results 3.2. 	04-07 Nov 2024
3.4.1	Review and harmonize economic questionnaires with the System of National Accounts (SNA)	<ul style="list-style-type: none"> ● Review the Industry survey as a pilot to decide which questions could be removed, simplified, or shortened in order to lower the response burden, increase the response rate and improve the quality of the responses. ● The decisions should be balanced between the relevance of the information and the difficulty on providing the accurate data. ● Terminology and requested data should be aligned with financial statements as far as possible. ● Design a shorter survey questionnaire for the smaller establishments. ● Harmonize questionnaires with the System of National Accounts. ● Discuss exit strategy for sustainability of results 3.4. 	13-16 Jan 2025
3.4.2 (s)	Study visit	Subject to be decided	02-05 Dec 2024

Annex 1: Terms of Reference

Terms of Reference

EU Twinning Project JO 21 ENI ST 01 22

Component 3:

Develop strategy for dealing with missing or erroneous data

Activity 3.2.1:

Assessment of current situation and development of an adjusted rolling work plan
(Restart of Component 3)

Dates: 30 July - 01 August 2024

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List of abbreviations

BC	Beneficiary Country
CoE	Census of Establishments
DoS	Department of Statistics
ESS	European Statistical System
GSBPM	Generic Statistical Business Process Model
MS	Member State
NA	National Accounts
NSDS	National Strategy for the Development of Statistics 2018-2022
PL	Project Leader
QPI	Quality and Performance Indicators
RTA	Resident Twinning Advisor
RTAA	Resident Twinning Advisor Assistant
RTALA	Resident Twinning Advisor Language Assistant
SBR	Statistical Business Register
STE	Short Term Expert
ToR	Term of References

0. Mandatory Results for the component

Table 1: Mandatory results (MR) and indicators for achievement (IA) for each sub-components within Component 3 from the Twinning Addendum no 2 – Approved 15 April 2024

Develop strategy for dealing with missing or erroneous data	
Mandatory Results (MR)	Indicators of achievements (IA)
MR 3.1: Review current methodology for dealing with missing or erroneous data by sector, and make recommendations	<p>Undertake review of level and quality of responses in DoS surveys and reasons underlying response rates</p> <p>Review current methodology and devise action plan for delivering better quality survey data</p> <p>Methodology for treatment of non-response, missing values etc. reviewed and updated</p>
MR 3.2: Explore how administrative data can help update the business register, improve the sampling frame for economic surveys and enhance economic statistics	<p>Analysis completed on how administrative data on businesses can update the business register</p> <p>Traditional sampling framework for economic surveys are harmonized with administrative data</p> <p>Methodology for drawing and designing economic samples updated</p>
MR 3.3: Review quality framework for survey data and make recommendations	The foundations of verifying economic data as an input to National Accounts outlined
MR 3.4: Review and harmonize economic questionnaires with the System of National Account (SNA)	Economic questionnaires harmonized with the requirements in the System of National Accounts (SNA)

1. Purpose of the activity

- The purpose of this activity is to review current situation in Jordan related to the Mandatory Results. The Twinning team, MS experts and DoS experts will obtain a common understanding of current situation, vision and challenges in relation to the Mandatory Results of this component
- The level of compliance with relevant EU regulations and other international standards will be assessed.

2. Expected output of the activity

- Common understanding of current situation, vision and challenges in relation to the Mandatory Results of this component
- Headlines and brief descriptions to all planned activities for the remaining project period in accordance template in table 2

Table 2: Template for describing activities.

Activity number	Title
Subject	
Methods	
Resources	
Duration	
Output	
Time schedule	

3. Participants

MS Short Term Experts (STE's):

- **Ms. Ulla Virtanen**, Head of Development, Statistics Finland. Ms. Ulla Virtanen has hold various positions in business statistics and business surveys and member member of the European Business Statistics Directors Group (BSDG). Currently, Ms. Ulla Virtanen is coordinator of European business statistics (EBS) regulation monitoring in Finland, responsible of Short Term Statistics (STS) in Finland, involved in methodological work on STS statistics plus a project manager and steering group member in several projects. Previously Ms. Ulla Virtanen was product owner of in-house volume index production software and a team leader responsible for industrial turnover, construction production and gross wages and salaries for both industries.
- **Mr. Timmi Rølle Graversen**, Chief Advisor and National Account Experts, International Consulting, Statistics Denmark. Mr. Timmi Rølle Graversen has more than 20 years' professional experience in National Account both in Statistics Denmark as well as short and long-term consultants in International projects.

DoS experts:

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Twinning team:

- **Eng. Tamer Alrousan** (Proposed RTA Counterpart)
- **Ms. Charlotte Nielsen** (RTA)
- **Ms. Thekra Altorah** (RTA Assistant)
- **Ms. Zaina Amireh** (Language Assistant)

4. Resources

Translation and interpretation will be provided throughout the activity. Translation will be provided as sequential translation. Therefore, please keep frequent pauses when presenting and talking allowing the translator to provide as precise translation as possible.

All material will be provided in both English and Arabic before, under and after the Mission.

The venue will be the Meeting room at DoS. Overhead projector, flip-overs and other office material will be available.

Mission reports from all previously completed Missions can be found on our project webpage:

<https://www.dst.dk/en/consulting/projects/jordan-2022-2024>

5. Overall agenda

- Day 1: Current status and challenges in DoS
- Day 2: Outlining the activity plan
- Day 3: Summary and conclusions.

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6. Background information

Altogether, eight economic surveys are carried out in DoS. They are:

- Industry Survey
- Service Survey
- Internal Trade Survey
- Transport Survey
- Construction Survey
- Finance Survey
- Insurance Survey
- Employee Benefits Survey

Methodological description for Economic surveys can be found at the DoS homepage at the following link:

<https://dosweb.dos.gov.jo/data-quality/economic-survey-data-quality/>

Methodological description of National Account can be found at the DoS homepage at the following link:

<https://dosweb.dos.gov.jo/data-quality/national-accounts-data-quality/>

Administrative data sources available in doS:

In brief, DoS has reached out to the following owner of administrative data.

1. The Ministry of Industry and Trade (MIT)
2. Companies Controller Department (CCD)
3. Social Security Corporation (SSC)
4. Income and Tax department
5. Greater Amman Municipality
6. Ministry of Local Administration
7. Ministry of digital Economy and Entrepreneurship
8. Income and Tax Department (Only data at an aggregated level is available for selected sectors)

The current status is that the microdata for the following sources has been received and that metadata is currently being prepared and will be provided before the Mission

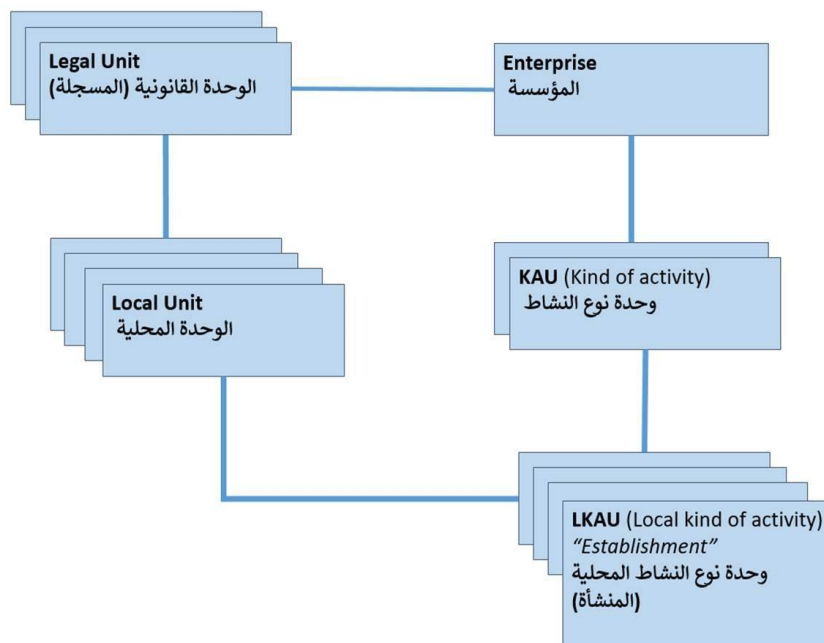
- The Ministry of Industry and Trade (MIT) (16 variables)
- The Companies Control Department (CCD) (10 variables)
- The Social Security Corporation (SSC) (28 variables)

Even though the Income and Tax Department has been identified as essential DoS has not been able to receive microdata data from the Income and Tax Department. The obstacle for the lack

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of data from the Income and Tax Department is that according to the law, the Income and Tax Department is only allowed to provide data to four institutions and DoS is not one of them.

Units in the future SBR in Jordan



StatBuS – The supporting IT system for building a SBR in Jordan

Currently, StatBuS is the supporting IT system being tested in Jordan. StatBus is the a client-server based system for statistical business registers which is an important backbone of any national statistical office. For additional information, please consult: <https://www.StatBus.org/>

The main features are:

- A tool for storing and maintain information on businesses from administrative sources, surveys and censuses
- Licensed as open source
- Based on UN international guidelines for development and maintenance of statistical business registers
- Used for drawing samples and make national economic statistics
- Important for National Accounts

The status for StatBus currently is that StatBuS has been successfully installed on a DoS server and test populations and key classification was uploaded to the system.

Furthermore, it has been proved that the system support both Arabic and English. Mission Report from former Mission can be found on the project webpage:

<https://www.dst.dk/en/consulting/projects/jordan-2022-2024/component-1-integrated-administrative-data-system>.

Annex 2: Persons met

Mr. Mohammad AbelRazzaq

Mr. Murad Bani Hamad

Ms. Faten Alrimini

Mr. Mazen Khalifa

Ms. Abeer Ahmad

Mr. Ashraf Al-Hayaj

Ms. Iman Alassaf

Ms. Nisreen Alaween

Ms. Nisreen AlKhateeb

Ms. Yousef Al Atharbeh