

Training on Data Analysis Toolkits (Eviews and SPSS): Key Messages and Suggested Next Steps

I Introduction

The two-day training on data analysis toolkits served as a platform to engage the staff of the Ministry of Trade, Industry, Regional Integration and Employment (MOTIE) on the importance of utilizing high-quality data to guide the planning, implementation and evaluation of policies and programmes supporting Micro, Small, Medium Enterprises (MSMEs) and the achievement of Sustainable Development Goals (SDGs). Increasingly, policymakers have realized that rigorous data analyses comprise crucial parts for strengthening evidence-based policymaking process.

The training took place within the framework of the project to strengthening the capacity of staff of MOTIE. It brought together staff, leaders and policymakers to improve their competencies in survey, data gathering, data process and analysis with the aim to enhance policymaking process.

The workshop trained participants on the use of EViews and SPSS. The training methodology was interactive and ensured that knowledge was not only disseminated but accurately perceived and understood by the participants. To achieve this, participants and the trainer engaged in discussions as the forum was open throughout for feedback, queries and suggestions. The in-class sessions were hands-on and supported with the use of distributed pre-meeting reference materials, and in-session notes on the subject matter. The workshop spanned two days— EViews was covered on December 13th and SPSS on December 14th, and was facilitated by Ms. Sheyi Oladipo, from the State University of New York.

II Venue and Date

The training venue was held at the Sir Dawda Kairaba Jawara International Conference Centre, Bijilo, The Gambia on December 13th and 14th, 2021.

III Objectives

The specific objectives of the training were as follows:

- ❖ Develop testable hypotheses from research questions that address economic issues, supported by empirical strategies and available data;

- ❖ Use statistical software (EViews and SPSS) for data analysis, including appropriate diagnostic and adjustment processes that avoid common problems in econometric techniques;
- ❖ Interpret limitations of econometric models for their effects on the validity of research results and statistical inference;
- ❖ Provide actionable insights based on statistical and economic significance of results in order to inform future actions.

IV Participants' profile

The training participants are staff of MOTIE. A total number of 14 participants registered, see appendix for the list of participants.

V Proceedings

Day 1: Monday December 13th, 2021

The session started at 9.25am and ended at 4.00pm. The training introduced participants to a EViews, a statistical software package. EViews is most commonly used for time series analysis in academics, business, and government. The participants were taught to download and launch the software, import Excel data into the EViews software, and use EViews for basic statistics like including plotting charts, graphs, descriptive analysis, correlation, estimating mean, medium and mode of the data. The participants also learned how to test for stationarity using Augmented Dickey Fuller (ADF) and Phillip Perron (PP) tests, test for short and long run relationship among the variables using the Johansen cointegration technique and the diagnostic tests. During the session, the capabilities of the EViews software in identifying policy trends and priorities in the MSME sector in The Gambia was covered extensively.

Although the appropriate data collection methods was a topic covered in the pre-meeting reference material shared ahead with participants and also in the in-person sessions, only secondary data for The Gambia was used for the training sessions. The data was sourced from the World Bank and

the Gambia Bureau of Statistics. The specific data collected and used for the EViews training is presented in the table below. Through interactive hands-on data practice sessions, participants learned good practices of incorporating EViews analysis in effective policymaking process in African countries.

Data	Sources
<ul style="list-style-type: none"> • Official exchange rate (LCU per US\$, period average) • Merchandise exports (current US\$) • Merchandise trade (% of GDP) • Gross domestic savings (% of GDP) • GDP growth (annual %) • Gross national expenditure (current US \$) • Export of goods and services (current US\$) • Inflation, consumer prices (annual %) • Industry (including construction), value added (current LCU) • Agriculture, forestry, and fishing value added (current US\$) • Manufacturing value added (constant LCU) • Services, value added (constant LCU) 	<p>The World Bank Country Indicators The Gambia Bureau of Statistics</p>

Day 2: Tuesday December 14th, 2021

The session started at 9.15am and ended at 4.00pm. The training started with a recap of the previous day's training on EViews. The second day's training focused on SPSS. The training focused on SPSS interface, import external data into SPSS, cleaning and editing data in SPSS, plotting graphs and charts, frequencies, descriptive analysis, correlation, and linear regressions. Although the appropriate data collection methods was a topic covered in the pre-meeting reference material shared ahead with participants and also in the in-person sessions, only secondary data specifically for The Gambia was used for the training sessions. The data was sourced from the World Bank, the Gambia Bureau of Statistics and the United Nations Statistics Division. The specific data collected and used for the SPSS training is presented in the table below.

Data	Sources
<ul style="list-style-type: none"> • Self-employed, male (% of male employment) • Children out of school, primary, male • Vulnerable employment, total (% of total employment) • Children out of school (% of primary school age) • Unemployment, total (% of total labor force) • Vulnerable employment, male (% of male employment) • Children out of school, male (% of male primary school age) 	World Bank Country Indicators and the Gambian Bureau of Statistics United Nations Statistics Division

The feedback from the participants was very encouraging. They acknowledged that they benefited greatly from attending the workshop and intended to continue practicing to prevent knowledge loss. participants with which the participants engaged with the depth of the session was with participants expressing their satisfaction with the pace and breath of the material covered. The two-day training workshop wrapped up with the MOTIE Permanent Secretary Ebrima Sisawo expressing his pleasure at the level of engagement and diligence displayed by the participants, and his commitment to supporting their continued skills development.

VI Key Messages and Follow-Up Steps to Enhance Sustainability

There following are some takeaways from the training:

1. Although the appropriate data collection methods was a topic covered in the pre-meeting reference material shared ahead with participants and also in the in-person sessions, only secondary data specifically for The Gambia was used for the training sessions.
2. The participants were taught the unique advantages of each software. Although both EViews and SPSS are data analysis tools, each has its unique strengths and what specific tasks it is better suited to.
3. The participants used the trial version of EViews which does not include several helpful features. They will benefit greatly from obtaining licensed copies of the EViews software to allow them experience the full range of capabilities of the software and be able to practice to improve their skills, without restrictions in software features.
4. While the two-day training was very successful in introducing participants to the power of statistical analysis using EViews and SPSS, it will be necessary to keep them engaged with

these tools if they are to retain their knowledge. Participants should be encouraged to use their newly acquired skills in their day-to-day data analysis tasks.

5. Participants also learned the importance relying on data as a useful tool in policymaking. Some of the in-class exercises revealed that there could be common misconceptions around the right policies. This was a particularly enlightening finding for many participants, as they discovered from the hands-on data analysis that some of their presuppositions were erroneous. The training sessions reinforced the importance of evidence-based policymaking.
6. Further hands-on training in the use of these statistical toolkits is recommended to build on the foundation established in this first workshop. This should be arranged in a timely fashion to keep participants motivated and to build on their statistical analysis skills. Suggested topics for future training sessions include working with panel data for comparative analysis, nonlinear regression methods, proper estimation of economic volatility, and forecasting.

Appendix

1. List of trainees from MOTIE

<u>Name</u>	<u>G</u>	<u>Designation</u>	<u>Qualification & Specialization</u>
Ebrima Sisawo	M	Permanent Secretary	MSc. in Public Policy
Hassan S. Gaye	M	Permanent Secretary	MSc. In International Business and Finance
Fabba Jammeh	M	Director of Industry and Investment	MSc. Economic Policy
Omar Badjie	M	Director of Industry and Investment	MSc. in Economic Policy
Aziz Bala-Gaye	M	Principal Industry and Investment Economist	BSc. in Economics
Isatou A. Jallow	F	Industry and Investment Economist	MA in Economics
Modou K. Manneh	M	Industry and Investment Economist	BSc. in Economics
Basiru Secka	F	Senior Labour Economist	MBA in Human Resource Management
Fatoumatta Jammeh	F	Intern – Employment Directorate	BSc. in Economics
David Mendy	M	Senior Trade Economist	MSc. in Economics
Kutubo Jarju	M	Trade Economist	BSc. in Economics
Augustine F.D Mendy	M	Principal Assistant Secretary	MBA in International Business and Human Resource Management
Ismaila Saidy	M	Trade Economist	MSc. in Public Policy
Aminata Dibbasey	F	Trade Economist	BSc. in Economics
Sikati Sanneh	M	Senior Planner	MSc. in Economics