

# € TRAINING

Principles of Econometric and Its  
Applications Using Statistical Analysis SPSS

A group of four smiling business professionals (two men and two women) sitting at a table in a meeting room. They are all wearing white shirts. The woman in the foreground is wearing a black top and a multi-strand necklace. The background is blurred, showing a modern office environment.

10 - 21 November 2024  
Dubai (UAE)



# Principles of Econometric and Its Applications Using Statistical Analysis SPSS

REF: F1447 DATE: 10 - 21 November 2024 Venue: Dubai (UAE) - Fee: 7480 Euro

## Introduction:

This training program provides an in-depth understanding of econometric principles and their applications, focusing on the use of SPSS for statistical analysis. It empowers participants to apply econometric techniques to real-world data, perform robust statistical analyses, and derive actionable insights.

## Program Objectives:

By the end of this program, participants will be able to:

- Understand the fundamental principles of econometrics.
- Use SPSS for data management and statistical analysis.
- Apply econometric models to analyze economic data.
- Interpret econometric results for decision-making.
- Perform diagnostic tests and ensure model validity.

## Target Audience:

- Economists.
- Data analysts.
- Researchers.
- Statisticians.
- Professionals using statistical tools for economic data analysis.

## Program Outline:

### Unit 1:

#### Introduction to Econometrics:

- Overview of econometrics and its importance.
- Types of econometric models.
- Basic concepts: dependent and independent variables.

- Understanding the assumptions of econometric models.
- Introduction to SPSS for econometric analysis.

## Unit 2:

### Data Management in SPSS:

- Importing and managing datasets in SPSS.
- Data cleaning and preparation for analysis.
- Handling missing data and outliers.
- Creating and transforming variables in SPSS.
- Data visualization techniques in SPSS.

## Unit 3:

### Simple and Multiple Regression Analysis:

- Basics of simple linear regression.
- Extending to multiple regression analysis.
- Estimating and interpreting regression coefficients.
- Hypothesis testing and significance levels.
- Using SPSS for regression analysis.

## Unit 4:

### Econometric Applications in Time Series Analysis:

- Understanding time series data and its characteristics.
- Autocorrelation and stationarity in time series.
- ARIMA models for time series forecasting.
- Model selection and diagnostics for time series.
- Applying time series analysis in SPSS.

## Unit 5:

## Panel Data Econometrics:

- Introduction to panel data and its advantages.
- Fixed effects vs. random effects models.
- Estimating panel data models using SPSS.
- Diagnostic testing for panel data models.
- Applications of panel data in economic research.

## Unit 6:

### Econometric Models for Categorical Data:

- Introduction to logistic regression and probit models.
- Estimating binary outcome models in SPSS.
- Interpreting results from categorical data models.
- Diagnostic tests for categorical models.
- Applications of categorical econometric models.

## Unit 7:

### Simultaneous Equation Models:

- Understanding systems of simultaneous equations.
- Identification problems in simultaneous equations.
- Estimating simultaneous equations with SPSS.
- Structural vs. reduced-form models.
- Real-world applications of simultaneous equations.

## Unit 8:

### Diagnostic Testing in Econometrics:

- Testing for multicollinearity, heteroskedasticity, and autocorrelation.
- Performing model diagnostic tests in SPSS.
- Ensuring the validity and reliability of econometric models.

- Remedies for common econometric problems.
- Practical examples of diagnostic testing.

## Unit 9:

### Forecasting with Econometric Models:

- Introduction to forecasting techniques in econometrics.
- Building forecasting models in SPSS.
- Evaluating the accuracy of forecasts.
- Application of econometric forecasting to economic data.
- Best practices for developing reliable forecasts.

## Unit 10:

### Advanced Econometric Techniques:

- Introduction to advanced topics: GMM, VAR, and VEC models.
- Handling endogeneity in econometric models.
- Structural equation modeling SEM in SPSS.
- Practical applications of advanced econometric techniques.
- Integrating advanced techniques into economic research.