

## Macro-economic Policy Analysis and Forecasting Course Details

Department: Accounting, Finance and Budgeting

Presented by Magna Skills Development Institute

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## Course Summary

This two-week course aims at providing participants a rigorous training on the use of simple Dynamic New Keynesian (DNK) models to conduct monetary analysis and forecasting with an emphasis on analyzing monetary policy responses to macroeconomic imbalances and shocks. Participants are provided with the tools needed to develop and/or extend the model to fit their own monetary policy framework. Country case studies are used to reinforce participants' understanding and to help them compare, contrast, and assess various experiences.

In this macroeconomics course, you will learn to predict macroeconomic variables such as inflation, growth or consumption, and to create statistical models in economics and use them to predict responses to economic policy.

You will learn from hands-on demonstrations of model-building, forecasting and policy analysis, using data sets from a wide variety of countries. During this economics course, you will be provided with a free temporary license to EViews – a popular software for estimating and simulating forecasting models that has become a standard in central banks and academic institutions worldwide

## Course Objectives

- Customize a simple model of an economy in the region that embodies the monetary policy transmission mechanism and the shocks it may face.
- Acquire and apply tools used in modern central banks to conduct 'model-based' monetary policy analysis and forecasting utilizing a hands-on software-based framework.
- Conduct nowcasting and near-term forecasting for that economy using various estimation-based econometric techniques and expert judgment.
- Use the model to develop consistent medium-term quarterly projections of key macro variables such as output, inflation, interest rate and the exchange rate.
- Identify risks in the baseline forecast and develop medium-term projections for alternative scenarios, which assume that such risks materialize..
- Start building a simple model for monetary policy analysis using own country data, when they return home.
- Evaluation of macro econometric models
- Forecasting of uncertainty and forecasting for policy analysis
- Properties of time series data and model design
- Dynamic specification and the use of vector auto-regression models (VARs) and error correction models (VECMs)

## Course Outline

### **MONETARY POLICY MODERNIZATION, FPAS AND THE COURSE OVERVIEW**

- Principles of modern monetary policy
- Policy frameworks in practice Structure of the course

### **THE CORE MODEL AND OTHER COMPONENTS OF A FORECASTING AND POLICY ANALYSIS SYSTEM (FPAS )**

- Role of the core component of FPAS (the core quarterly projection model)
- Effective integration of all FPAS components: databases, monitoring and reporting, forecasting (short- to medium-term), communication and decision-making
- FPAS: a coherent view of economic developments and policy implications inside central banks

### **CONSISTENCY OF POLICY OBJECTIVES AND KEY MACROECONOMIC TRENDS**

- Convergence, relative version of PPP and the Balassa-Samuelson effect
- Empirical behavior of the exchange rate and risk-premia and implication for policy analysis and forecasting
- Uncovered interest rate parity: long-run version
- Interpreting economic trends and convergence to those (the nominal trend, the real trend, and relative price trends)

### **INTRODUCTION TO A SMALL NEW KEYNESIAN MODEL FOR POLICY ANALYSIS**

- Model structure: Aggregate Demand, New Keynesian Phillips Curve, Uncovered Interest Rate Parity (UIP), and forward-looking monetary policy rule
- Steady-states, trends and business cycle: Understanding equilibrium conditions (steadystate/trends) and short-run adjustment towards equilibrium (business cycles)
- Solving the model (Blanchard-Quah algorithm)
- Data, initial calibration and model properties

### **THE CPI COMPONENTS AND THEIR RELATIVE PRICES IN THE MODEL**

- A theory of inflation in New Keynesian models and the role of the inflation target
- Understanding the dynamics of CPI Components: core, food, and energy inflation and their relative prices
- Policy responses to first and second round effects of shocks to CPI components
- Economic foundation of transitory and permanent shocks in relative prices

## **ALTERNATIVE EXCHANGE RATE REGIMES AND FOREIGN EXCHANGE INTERVENTION**

- Monetary policy rule: under a pure IT- floating regime and its modification to reflect exchange rate management and targeting
- Uncovered Interest Rate Parity under alternative exchange rate regimes
- Modeling the exchange rate as the operational target
- Modeling foreign exchange intervention (as an additional instrument)
- Capital account openness, exchange rate regime and monetary policy autonomy, currency substitution

## **ESTIMATING LONG-RUN TRENDS AND GAPS**

- Identification of trends
- Univariate filters
- Multivariate (Kalman) filters

## **METHODS IN MODEL PARAMETERIZATION AND MODEL PROPERTIES ASSESSMENT**

- Calibration versus estimation (Bayesian and maximum likelihood) methods: in more detail
- Model properties: model and data implied correlations
- Model properties: recursive forecast

## **NOWCAST AND NEAR-TERM FORECAST**

- Short-term analysis and nowcasting in the FPAS context
- State Space models
- Near-term forecasting

## **MODELING FISCAL POLICY**

- An auxiliary satellite model to analyze the fiscal impact / fiscal impulse
- Introducing the fiscal impulse measure in the aggregate demand equation
- Simulation properties of different fiscal stimulus / adjustment scenarios

## **MEDIUM-TERM FORECASTING: BASELINE AND COUNTERFACTUALS FOR POLICY ANALYSIS**

- Baseline forecast: building macro scenarios for policy dialogue
- Baseline forecast: discussion of specific risks and developing contingency plans

- Role of judgment
- Alternative forecast scenarios
- List of scenario possibilities
- Scenarios and communication



## Company Overview

**Who We Are:** Magna Skills is a premier training and capacity-building organization specializing in professional development for government institutions, NGOs, and the private sector.

**Our Mission:** To provide world-class training solutions that equip professionals with the expertise needed to excel in their careers and contribute meaningfully to their organizations.

**Our Vision:** To be the leading provider of professional training and development across Africa, fostering excellence, innovation, and capacity-building in public and private sectors.

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- **Excellence** – Delivering high-quality training tailored to meet the evolving needs of professionals.
- **Integrity** – Upholding the highest ethical standards in all our engagements.
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- **Customer-Centric Approach** – Ensuring client satisfaction by providing relevant, practical, and impactful training.
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## Our Training Methodology

We use a blended learning approach that includes instructor-led training, case studies, workshops, and post-training support.

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