



Modelling and forecasting functions of the MMA



Maldives Monetary Authority
mma.gov.mv

Overview

- History and evolution of modelling and forecasting
- Current status
 - Inflation
 - Gross Domestic Product
 - Tourism
 - Gross International Reserves
- Future plans, developmental work and challenges

History and evolution of modelling at the MMA

- A dedicated section, the Modelling and Forecasting Section (MFS) was first established in 2013
- First forecasts made included weekly reserve money projections and liquidity forecast
- Utilized simple approaches such as moving averages, growth percentages
- Currently, relatively more sophisticated, model-based approaches used
- The MFS currently comprises of 4 employees

Current state of modelling and forecasting

- 4 main economic indicators are forecasted on a routine basis:
 - Inflation
 - Gross Domestic Product
 - Tourism - arrivals and bednights
 - Gross International Reserves

Inflation

- Frequency: Quarterly
- Model: Linear OLS model
- Explanatory variables:
 - First order lag of inflation,
 - Set of exogenous variables: International crude oil prices and policy dummy variables

Gross Domestic Product

- Frequency: Annual with bi-annual revision
- Forecasted in coordination the Ministry of Finance
- MMA forecasts GDP deflator, tourism, wholesale and retail trade, financial services, fisheries
- All sectors modelled using single-equation ARIMA models

Tourism

- Frequency: Monthly
- Two tourism indicators forecasted are: Arrivals and bednights
- Forecasts made using historical data on total passenger arrivals and total tourist arrivals
- The historical ratio of tourists to total passenger arrivals used to make forecasts based on total passenger arrivals forecast provided by the Maldives Airports Company Ltd.
- Forecasts over the medium term are made using an ARIMA model

Gross International Reserves

- Frequency: Monthly
- Framework based forecast
- Relies on latest available projections for expected foreign currency receipts and scheduled foreign currency obligations of the government and the MMA to estimate the reserve trajectory

Future plans, developmental work and challenges

- Work is being undertaken to revamp the inflation and tourism models
- Establishing an FPP framework is also on the workplan
- Integrated macroeconomic model
- Data constraints pose a significant challenge to the modelling and forecasting of economic data in the Maldives

Thank you