ISIM-MAMS: An Excel interface for MAMS

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Outline

- Introduction
- Using ISIM-MAMS
- Real-Time Simulations

Introduction

- The purpose of developing an interface for MAMS is to make MAMS user-friendly.
- The combined program, consisting of the underlying MAMS program and the MAMS interface is referred to as ISIM-MAMS.
- The current ISIM-MAMS version was developed for the World Bank as an add-in for Excel 2007/2010
  - the user can define and run MAMS simulations in the Excel environment, without directly running GAMS
  - the software is still in beta version but is being used in several UN-DESA projects – it's becoming more robust

Using ISIM-MAMS

- When doing simulations using ISIM-MAMS, the user has to
  1. open Excel
  2. open an existing ISIM-MAMS application or create a new application
     - an application is associated with a country-specific dataset
     - the user can select to work with the Core or MDG version of MAMS
  3. select the ISIM-MAMS tab
     - opens a ribbon with MAMS-specific buttons

Using ISIM-MAMS – cont.

- When doing simulations using ISIM-MAMS, the user has to – cont.

4. define and/or run one or more scenarios
   - a base scenario and one or more policy scenarios
   - to run MAMS, the user has to click on the “Run” button on the MAMS Interface ribbon
5. access MAMS results inside the Excel file
   - pre-defined tables
   - pre-defined graphs
   - raw results

Using ISIM-MAMS – cont.

- The MAMS Interface is connected to a database that stores, among other things, data elements that are specific to the country dataset and that may be needed to define scenarios
  - set elements
    - commodities, activities, factors, institutions, etc.
  - default elasticities and closure and rules/policies elements
    - these can be re-defined using ISIM-MAMS

Using ISIM-MAMS – cont.

- The user-defined scenarios are saved as part of the ISIM-MAMS application Excel file.
- ISIM-MAMS allows changes in and creation of application datasets. In addition,
  - an **Expert Mode** permits the addition of new country datasets
  - advanced users can change these datasets and the MAMS code by editing relevant files in the MAMS folder

Simulation Parameters

- The shocks are grouped in different Excel sheets according to their category
  - external
    - world price of exports and imports, FDI, borrowing
  - total factor productivity
  - demographic
    - population and growth in non-capital and non-labor factors
    - growth in labor factors – only for the Core version of MAMS
  - MDG targeting
    - only for MDG version of MAMS

Simulation Parameters – cont.

- The closure and rules selection includes the following elements
  - government
  - savings-investment
  - factor markets
  - rules for government spending
    - growth rates, GDP shares, absorption shares
  - rules for government receipts – including foreign transfers
    - growth rates, GDP shares, absorption shares
  - rules for non-government payments
    - transfers, borrowing, investment, others

Computer Presentation

- getting help on ISIM-MAMS
- getting help on MAMS
- ISIM-MAMS configuration
  - GAMS executable
  - MAMS-in-GAMS folder
  - reports (period, tables, order)
  - MAMS Poverty Module
- create a new ISIM-MAMS application
- restart an ISIM-MAMS application

Computer Presentation – cont.

- model setup – implies the selection of
  - version (Core/MDG)
  - simulation period
  - elasticities – contextual help
  - closure and rules – contextual help
  - the MAMS Poverty Module
- using the Navigation Tree
- run pre-programmed reference scenario
  - validation of user input

Computer Presentation – cont.

- define simulation scenarios (base + others)
  - scenario manager
    - create and edit simulations (e.g., rename scenarios)
  - adding shocks – hide/unhide
  - selecting closure and rules
  - view the summary report of closures and shocks
- run simulations
  - validation of user input
- view log and/or listing files
  - capturing GAMS errors
- view MAMS results
  - macro reports
  - meso reports
  - graphics in the dashboard

Example Simulations

- As an example, we will use a Uganda dataset to conduct the following simulations:
  1. inspect the SAM and other data
  2. increase in the world price of agricultural products – using MDG version of MAMS
     - 25% during 2011-2015
  3. (1) + targeting of MDG 2
     - use government consumption of c-edup as policy tool
  4. increase in foreign aid channeled to the financing of public infrastructure (roads)
     - foreign transfers increase to 10% of GDP during 2011-2015
  5. targeting of MDG 4 using different financing mechanisms;

Example Simulations

- As an example, we will use the Uganda dataset to conduct the following simulations:
  - **pwfood**: increase in the world price of food products – using MDG version of MAMS
    - 20% during 2011-2015
  - **aid-hd**: increase in foreign aid channeled to the financing of human development spending
    - foreign transfers increase to 10% of GDP during 2011-2015
  - **mdg4-fb** and **mdg4-db**: targeting of MDG 4 using different financing mechanisms
    - foreign and domestic, respectivey

Show and Analyze Results