

Assessing Development Strategies to Achieve the MDGs in the Arab Region

Plenary Sessions V and VI: MAMS Scenarios

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Outline

- run simulations with MAMS looking at the macro and meso results
 - copy the example MAMS files
 - baseline simulation under different closure rules
 - MDG targeting simulations

Running MAMS – Steps (assuming GAMS is already installed)

1. Create the folder C:\MAMS-example
2. Copy the MAMS folder (mams-example-2008-12-3) into the directory C:\mams-example
3. Open EXCEL and change the security setting for macros to intermediate. Close EXCEL.
4. Open the file run-mams.xls (in the directory “MAMS-example”). If needed, adjust the text in the cells for “GAMS path” and “MAMS Directory” and save the file.
5. In run-mams.xls, first click on “run mams setup”. when the run is complete, click on “run mams simulations”.
6. Open the files repmacro.xls and repmeso.xls to review the simulation results.

Rules for clearing the government budget

No.	Variable clearing the budget
1	all domestic tax rates (direct and indirect): uniform scaling
2	direct tax rates: uniform point change for selected households
3	direct tax rates: uniform scaling for selected households
4	transfers to government from the rest of the world (grant aid)
5	foreign borrowing;
6	domestic government borrowing (interest paid on debt)
7	government borrowing via monetary sector
8	separate treatment of current and capital budgets:*
	a. current budget: direct tax rates: uniform scaling for selected households (same as 3)
	b. capital budget: domestic government borrowing (same as 6)
	exogenous government savings*
9	government spending on one or more commodities (specified by government spending rule)

*To separate the two, government saving (current receipts - current spending) is exogenous; for all other rules, it is endogenous.

Selected Government Closure Rules

- $\text{govclos0} = 2$
direct tax rate
- $\text{govclos0} = 5$
foreign borrowing
- $\text{govclos0} = 6$
- domestic government borrowing

Comparing Results

government receipts and spending in base year and by simulation in final year
(% of nominal GDP)

Indicator		2004	Final year		
			govclos=2 base	govclos=5 base	govclos=6 base
Receipts	Direct taxes	5.6	10.6	5.6	5.6
	Import tariffs	2.1	2.3	2.3	2.3
	Export taxes				
	Other indirect taxes	-4.9	-5.6	-5.6	-5.6
	Private transfers				
	Foreign transfers	0.9	0.9	0.9	0.9
	Factor income	21.0	16.3	15.9	16.3
	Domestic borrowing	5.1	0.8	0.8	21.0
	Foreign borrowing	-2.8	1.3	5.0	1.3
	Total	27.0	26.6	24.9	41.8

Rules for clearing saving- investment balance

No.	household investment	household saving
1	clearing variable: investment quantities; endogenous GDP and absorption shares	rule-determined savings rate for households
2	exogenous absorption share	clearing variable: uniform savings rate point change for selected households
3	exogenous absorption share	clearing variable: uniform savings rate scaling for selected households
4	exogenous GDP share	clearing variable: uniform savings rate point change for selected households
5	exogenous GDP share	clearing variable: uniform savings rate scaling for selected households

Rules for government spending

No. Rule (disaggregated by commodity)

- 1 Fixed real growth rates for government consumption*
 - 2 Fixed GDP share
 - 3 Fixed absorption share
 - 4 Fixed educational quality for cycle of commodity**
 - 5 All items under 1-4 are flexible***
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*For infrastructure, fixed growth rate for capital, not consumption;

**Only for education services (one per level or cycle);
quality = [service level]/[enrollment].

***If other rule controls spending. Required for at least one commodity if government closure 9; required for MDG-related services when MDGs are targeted.

Rules for government receipts

	Fixed	
	1	2
Direct taxes	rate	GDP share
Import taxes	rate	GDP share
Export taxes	rate	GDP share
Other indirect taxes	rate	GDP share
Transfers from RoW	value (FCU)**	GDP share
Government borrowing		
-- bond	value	GDP share
-- monetary system	value	GDP share
Foreign borrowing	value (FCU)	GDP share

*In addition, selected receipts may be flexible as part of the over-all government closures; if so, items 1 and 2 are both flexible. **FCU = foreign currency units.