

## ISIM-MAMS Exercises: Interpretation of Results; Increase in Foreign Direct Investment

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### Definition of Scenarios: Shocks

- **fdi-inc** = increase FDI 5 percentage points (of GDP) w.r.t. base during 2014-2025 (i.e., each year FDI is 5 percentage points larger than in base scenario); gov balancing with infra spending

### Definition of **fdi-inc** Scenario: Macro Closure

- Government (**govclossim**) = **government spending** is the clearing variable for the government budget.
- Savings-Investment (**siclossim**) = **household investment** is the clearing variable (i.e., endogenous real growth, GDP and absorption shares).

### Definition of **fdi-inc** Scenario: Rules Gov Spending (**govspndrulesim**)

- c-othinfra = endogenous gov consumption
- For the rest, we keep BASE default!

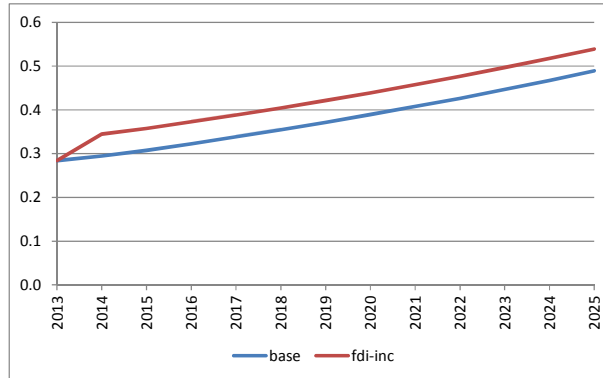
### Definition of Scenarios: Rules Gov Receipts (**govrecrulesim**)

- Question: do we need to introduce any change?

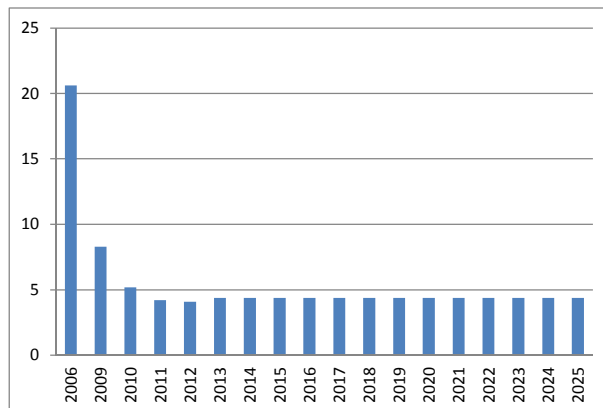
### Definition of Scenarios: Rules Non-Gov Payments (**ngovpayrulesim**)

- Question: do we need to introduce any change?

## Definition of Scenarios: fdisim (located in gdx file!; use to calculate ratios to impose simulation)



## Key Aspects of Base Year: FDI GDP Share



## Key Equations and Variables: Balance of Payments (in FCU)

$$\begin{aligned}
 & \sum_c pwm_{c,t} \cdot QM_{c,t} + \frac{\sum_f YIF_{row,f,t}}{EXR_t} + \frac{\sum_{i \in insdng} TRII_{row,i,t}}{EXR_t} \\
 & + \overline{TRANSFR}_{row,gov,t} + \sum_{i \in insd} fintrat_{i,t} \cdot FDEBT_{i,t} = \\
 & \sum_c pwe_{c,t} \cdot QE_{c,t} + \sum_{i \in insdnh} \overline{TRANSFR}_{i,row,t} + \sum_h trnsfrpc_{h,row,t} \cdot \overline{POP}_{h,t} \\
 & + \sum_f \overline{TRANSFR}_{f,row,t} + \sum_{i \in insd} \overline{FBOR}_{i,t} + fdi_{row,t}
 \end{aligned}$$

In words, outflows of foreign exchange (left) = inflows of foreign exchange (right).

## Key Equations and Variables: Non-Government Investment Demand

$$\begin{aligned}
 & \sum_{f \in FCAP} PK_f \cdot DKINS_{insng,f} = HSAV - BOR_{gov,h} \\
 & \left[ \begin{array}{l} \text{fixed investment value for non-} \\ \text{gov't } i \text{ (hhd or RoW): sum over} \\ \text{product of prices and investments} \end{array} \right] = \left[ \begin{array}{l} \text{house-} \\ \text{hold} \\ \text{savings} \end{array} \right] - \left[ \begin{array}{l} \text{government} \\ \text{direct borrowing} \\ \text{from hhd } h \end{array} \right] \\
 & - \overline{BORMS}_h + \left( \overline{BOR}_{h,row} + fdi_{row} \right) \cdot EXR_t \\
 & - \left[ \begin{array}{l} \text{net borrowing of} \\ \text{monetary system} \\ \text{from household } h \end{array} \right] + \left[ \begin{array}{l} \text{net borrowing} \\ \text{from RoW} \\ \text{plus FDI} \end{array} \right]
 \end{aligned}$$

## Important!

- Before Running the Setup, Adjust Reporting Period to 2006-2025.

## Macro Results; average growth rate 2006-2025 (%)

Indicator	Final year		
	2006	base	fdi-inc
Absorption	156667.43	3.57	4.28
Consumption - private	84687.78	4.70	5.07
Consumption - government	26188.88	3.47	3.48
Fixed investment - private	32825.10	-0.26	2.17
Fixed investment - government	11833.00	3.12	5.22
Stock change	1132.66	Eps	Eps
Exports	55056.04	5.61	7.51
Imports	89878.14	3.90	5.14
GDP at factor cost	108719.07	4.43	5.46
Total factor employment (index)	Eps	2.86	3.55
Total factor productivity (index)	Eps	1.57	1.90
Real exchange rate (index)	Eps	-0.04	0.13
Headcount poverty rate (%)		Eps	Eps

## MDG Indicators 2025

	1990	2006	goal2015	base	fdi-inc
mdg1	15.00		7.50		
mdg2		58.18	100.00	70.02	71.58
mdg4	39.00	21.00	13.00	10.30	9.62
mdg5	48.00	19.00	12.00	12.70	12.22
mdg7w	92.80	98.41	99.00	98.79	98.91
mdg7s	48.00	62.15	70.00	67.10	68.71

Why is there an improvement in the MDG indicators? hint: analyze the determinants.

## Sectoral Results: Government Investment; GDP Share 2025 (%)

	2006	base	fdi-inc
inv-edupgov	0.55	0.42	0.37
inv-edusgov	0.54	0.31	0.27
inv-edutgov	0.15	0.09	0.08
inv-watervgov	0.16	0.13	0.14
inv-healthgov	1.36	0.89	0.81
inv-publicadm	3.23	1.72	1.50
inv-othinfra	3.71	3.71	6.10
total	39.21	38.39	35.10