

## **REPORT FROM THE WORKSHOPS Tuesday August 21<sup>st</sup> 2007:**

Participants: Marjan Nikolov, Aleksandar Stojkov, Todor Milcevski, Katerina Suleva and Filip Blazeovski.

### **Tuesday morning August 21<sup>st</sup> 2007: workshop by Michiel Vergeer: Fiscal analysis, Budget forecasting tool**



Photo participants (from left to right): drs. Michiel Vergeer (short term expert MMC in Indonesia and Ethiopia), Todor Milcevski, Marein van Schaaijk, Marjan Nikolov, Katerina Suleva, Filip Blazeovski and Aleksandar Stojkov.

Drs. Michiel Vergeer, chief economist of the statistics bureau of the Netherlands presented a modeling tool for budget forecasting that MMC consultants developed in 2000 for Indonesia (at that time he was one of the MMC consultants in Indonesia). The World Bank financed the activity. The forecasting tool functions independently but can also be linked to a Macroabc model.

The forecasting tool, after number of amendments and calibrations, is still in use and helps Indonesia run prudent fiscal policy. The tool produces the following output:

- projections of the tax revenues
- projections of customs revenues
- projections of various budgetary expenditures
- projections of budget deficit and public debt etc.

The forecasting tool feeds on data on (reflecting Indonesian specifics as a natural resources rich country):

- oil prices
- oil production
- food costs
- foreign debt
- net domestic revenue etc.

Interesting for Macedonia is the experience of Indonesia in negotiating with IMF because the IMF agreed with forecasting budget revenues by 20% to 40% (depending on the revenue category) higher than the previous year in a row of 5 years.

Another interesting issue for Macedonia is that this tool was taking into account the subsovereign public finances as well, but the revenue sharing mechanism has been modeled in a separate file.

The projections on these variables are fed in to the tool from the Macroabc model for Indonesia. Used together with the Macroabc model, this tool provides additional data useful for policy makers. The tool presents useful and interesting extension to the Macroabc model.

The lesson learned for Macedonia was that the Macedonian Macroabc model would benefit from introducing additional exogenous variables for:

- world metal prices
- regional energy prices
- world oil price etc.

## WORKSHOP Afternoon Tuesday August 21<sup>st</sup> 2007

### Purchasing Power analysis, by Stephen Chong



Participants WS purchasing power parity (from left to right): Marein, Stephen, Todor, Katerina, Filip, Marjan and Aleksandar.

On today's workshop Drs. Stephen Chong gave a presentation about the purchasing power analysis. Drs. Stephen Chong is an economist at MMC and expert for poverty models. He explained the poverty model that MMC have made for Namibia in 2006. Marein van Schaijk who worked there at that time originally developed this model at the CPB in 1987. This model is still in use and the CPB provides updates of the model two times a year at their web site: [www.cpb.nl](http://www.cpb.nl).

In the last few years MMC further developed the MicromacroSim methodology. This methodology is an auxiliary in the translation of macroeconomic forecasts and policy simulations and scenarios into microeconomic information about the changes in the number of people below a poverty line. The input consists of macroeconomic data and forecasts, for example coming from a Macroabc model, on the one hand and the microeconomic information of a recent income distribution on the other hand. This can be expanded with input about the tax and social security premium system if that would be useful.

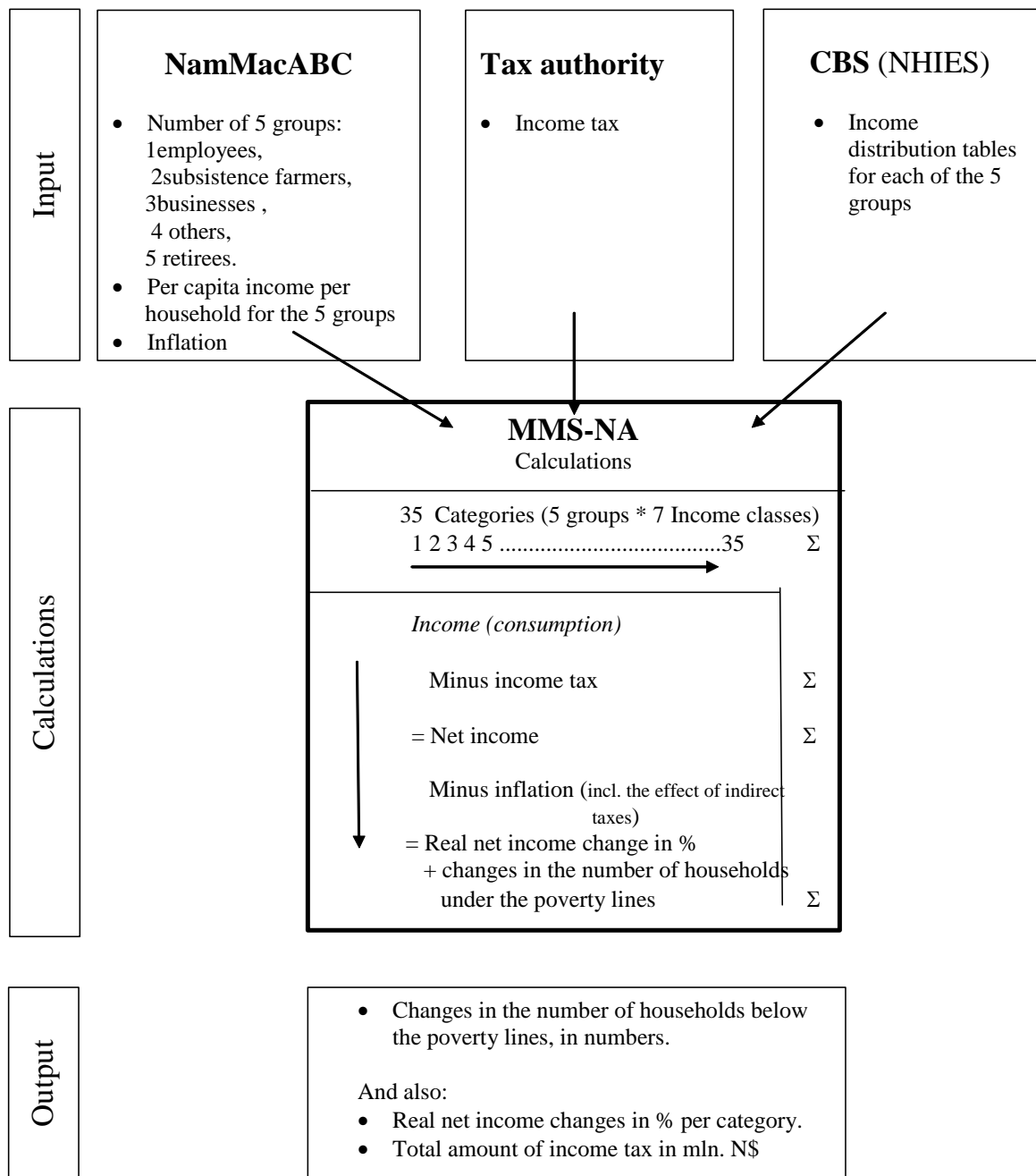
The system also gives information about the real net income growth of different groups in society. If data about the tax system is included it can further calculate gross and net income of certain individuals and the total amount of taxes paid within society.

The presented model for Namibia includes data for income distribution of the country organized in ten classes (level of income) and classified according to the main sources of income. It uses adjusted household income taking into account the demographic structure of the household (the consumption by

two children is equal to the consumption of one adult). The data can be severely distorted if child labour generate income or there is underreporting of household income. The model uses measures of absolute and relative poverty. The structure of the model and the methodology for deriving policy simulations is illustrated in Figure 1.

Based on the poverty model for Namibia we made a number of tax policy simulations. In particular we considered the welfare effects for each income class, if the flat tax would be adopted instead of progressive tax system.

**Figure 1: Structure MicromMacroSim-NA: input, calculations and output.**



**Second workshop in afternoon Tuesday August 21<sup>st</sup> 2007: by Marein van Schaaik:**

**Discussion of plausibility of coefficients and specification Central Government block, equation by equation**

<b>Revenue</b>	<b>Present formula</b>	<b>Discussed</b>
Personal income tax	Current values * growth in wage bill (in the government and non-government sector)	Income tax follows the wage growth. We have amended the formula by including the effects of the flat tax adoption at the beginning of 2007
Profit tax	Current values * growth in disposable profit income of enterprises	We have amended the formula by including the effects of the flat tax adoption at the beginning of 2007
VAT	Current values * growth in private consumption + add-factor	Discussed and remained the same
Excises	Current values * growth in private consumption	No change
Import duties	Current values * growth of imports of goods and services	No change
Other taxes	No change (unless add-factor is included)	No change
Non-tax revenue	Current values * nominal GDP growth	No change
Capital revenue	No change	No change
Grants	No change	The figures are the same as 2006, but we have to take into account that the donor support will decline in medium term (it is expected that EU pre-accession funds should fill the gap).

<b>Expenditure</b>		
Wages and salaries	Current values * Change in government employment * Change in nominal wage in the private sector + add-factor	Government wages follow the private wage growth.
Goods and services	Current values * [ 0.4 * change in government employment + 0.2 * change in overall population + 0.4 * real GDP growth) * annual inflation rate + add-factor	Discussed during the workshop in 2003.
Refugee and poverty-related expenditure	No change	No change
Transfers to Pension Fund	Current values * Change in Population	The formula was revised and no change with respect to the previous year was assumed
Social assistance programmes	Current values * Change in Population	No change
Transfer to Employment Agency	Current values * Change in Population	No change
Other social programmes	Current values * Change in Population + Add-factor	No change
Subsidies	Current values + Add-factor	No change
Other current transfers	Current values * Change in Population	No change
Domestic interest payments	Current values * Change in domestic debt * Change in the domestic short-term interest rate	Instead of the long-term interest rate, we assumed that the short-term interest rate is relevant for forecasting the domestic interest

Foreign interest payments	Current values * [ External debt (in millions of Denars) * Long-interest rate in the Euro area in current year / External debt (in millions of Denars) * Long-interest rate for the Euro area in previous year ]	payments. Instead of the domestic long-term interest rate, we assumed that the long-term interest rate in the Euro area is relevant for forecasting the foreign interest payments.
Capital expenditure	Current values * [ Change in Capital revenue and Grants ]	
Commodity reserves	No change with respect to previous year	No change
Arrears	Assumed zero	No change
Reform costs	No change with respect to previous year	

Note:

The local self-government is not considered as separate sector this model, but it is rather de facto part of the private sector. Thus, it is reflected in the discrepancy between the consolidated central government budget and the national accounts definition. (In the Start Model implement revenue and expenditure items for the local self-government in between the rows 98 and 107).

This workshop is continued Wednesday afternoon 22th August