SOUTHMOD

Exercises

Ghana

GHAMOD v1.1

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Note: The exercises presented below are applicable to GHAMOD model v1.1.

Exercise 1: Running GHAMOD and analyzing poverty and inequality

Task:

Run GHAMOD for two years, 2013 and 2016. Analyze what happens to poverty (as measured by the headcount index) and inequality (as measured by the Gini index) between the years. Explain the results.

Purpose of the exercise:

The purpose of this exercise is to help you understand how GHAMOD can be run and how results can be analyzed using the Statistics Presenter tool.

Exercise 2: Implementation of the LEAP cash transfer programme

Task:

The Ghanaian government has decided to double the benefit amounts offered by the LEAP cash transfer programme for 2013. Simultaneously it decided to double the extreme poverty line used in the calculations for eligibility. Implement the above reform of the LEAP cash transfer programme and examine the impacts of this policy change on government expenditure, poverty and inequality.

Purpose of the exercise:

The purpose of this exercise is to help you learn to examine how simple policy changes where parameters are altered can be examined using GHAMOD.

Exercise 3: Examine the increase of LEAP benefit financed by an employee payroll tax

Task:

This is a continuation to Exercise 2. We now seek to examine a combination of policies where the LEAP benefit increase is financed by an increase in the employee payroll tax. This is done by increasing the payroll tax by half a percentage point in 2013. Examine the impacts of the combined policy on poverty, inequality and the government budget.

Purpose of the exercise:

The purpose of this exercise is to help you learn to examine revenue-neutral reforms.

Exercise 4: Implementation of universal old-age pension benefit

Task:

The Ghanaian government considers introducing a universal old-age pension benefit. All people who are 65 years old or older but who do not yet collect any pension benefits are eligible. The amount given is 50 Ghana Cedi a month. Calculate the impacts of such a benefit on old-age poverty and government expenditure in policy year 2016.

Purpose of the exercise:

This exercise teaches you how to examine the impacts of counterfactual policies that do not yet exist.

Exercise 5: Implementation of old-age-grant like in South Africa

Task:

The Ghanaian government is interested in knowing what would happen if it introduced an old-age grant in the manner of the present policy in place in South Africa. Examine the impacts that the S-A old-age benefit system would have if it was implemented in Ghana in 2016.

For cost savings, let us assume that the amounts are divided by ten when converting to Ghana Cedi. This means that if the amount is 69,000 Cedis a year, the value to be used in the exercise is 6,900.

In Ghana, the benefit is targeted to those whose disposable income (ils_dispy) falls below the threshold values.

Your task is to simulate the impacts of such a policy on poverty among households with older persons and on government expenditure.

Purpose of the exercise:

The purpose of this exercise is to help you learn to implement a policy swap - a unique opportunity offered by the EUROMOD software.

Exercise 6: Replacement of a progressive personal income (labour) tax system with a flat rate tax system

Task:

The Ministry of Finance would like to analyze replacing the current progressive personal income (labour) tax system with a flat rate tax system in 2016. The flat rate tax rate shall be 16% and the tax base is composed of earnings (gross employment and gross self-employment income). Only those in the formal sector are paying taxes.

Introduce a new labour tax policy for 2016 based on the above assumptions and turn off the policy for the current progressive tax system. Use the DefConst, DefII and BenCalc functions to model the policy. Use the output variables that are already available from the existing labour tax policy function.

Use the Statistics Presenter to check the impact of the policy experiment on the government's budget balance, poverty and inequality.

Purpose of the exercise:

The purpose of this exercise is to help you learn to implement a new policy.

Exercise 7: Personal income tax and social security payments in full formal sector employment

Task:

The Ghanaian government wants to know how much its personal income tax and social security payments would increase if all workers were to work for the formal sector. Your responsibility is to examine the impacts of such a scenario on direct tax revenues, poverty, and inequality for the policy year 2017.

Purpose of the exercise:

The purpose of this exercise is to help you learn to adjust the income tax base and appreciate the importance of the formality (lfo) variable.

Exercise 8: Change of direct/indirect tax mix

Task:

A policy proposal about changing the direct/indirect tax mix has been floated around. The idea is to increase the reliance on the personal income tax and use the additional revenues to reduce the value-added tax rate. In the end, the total tax revenue remains (almost) unchanged. The policy involves raising all personal income tax rates by 10 percentage points. For example, the lowest rate is increased from 5 to 15, etc.

You are asked to evaluate the impacts of the reform on poverty and inequality (after taking into account indirect tax payment) for policy year 2017.

Purpose of the exercise:

The purpose of this exercise is to make you familiar with the notion of after-fiscal income (consumption) and use the Statistics Presenter in the Indirect tax tool on mode.

Exercise 9: New information on tax and benefit policies for 2018

Task:

Start preparing the update of GHAMOD to policy year 2018. It includes finding all policy rules (any changes to tax and benefit rules) as well as finding a suitable uprating index.

Purpose of the exercise:

To get to learn how the model is kept up to date.

Exercise 10: Implementation of new policy rules to GHAMOD 2018

Task:

Implement the changes to the policy rules for GHAMOD 2018.

Purpose of the exercise:

To get to learn how the model is kept up to date.