GAMS-CAPRI Training

GAMS-CAPRI features (Hands-on exercises)

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CAPRI sets

Exercise 1: CAPRI sets

1. To use GAMSIDE to view CAPRI code, first create a GAMS project file in folder CAPRI/GAMS and call it openIDE.gpr

2. Open sets.gms and find out what the set element "GVAP" means.

   ....

3. Find at least three sets where this element is a member

   ....

   ....

Exercise 2: Master sets

1. Find at least three master sets used in CAPRI

    ....

    ....

    ....

2. How have you identified them?
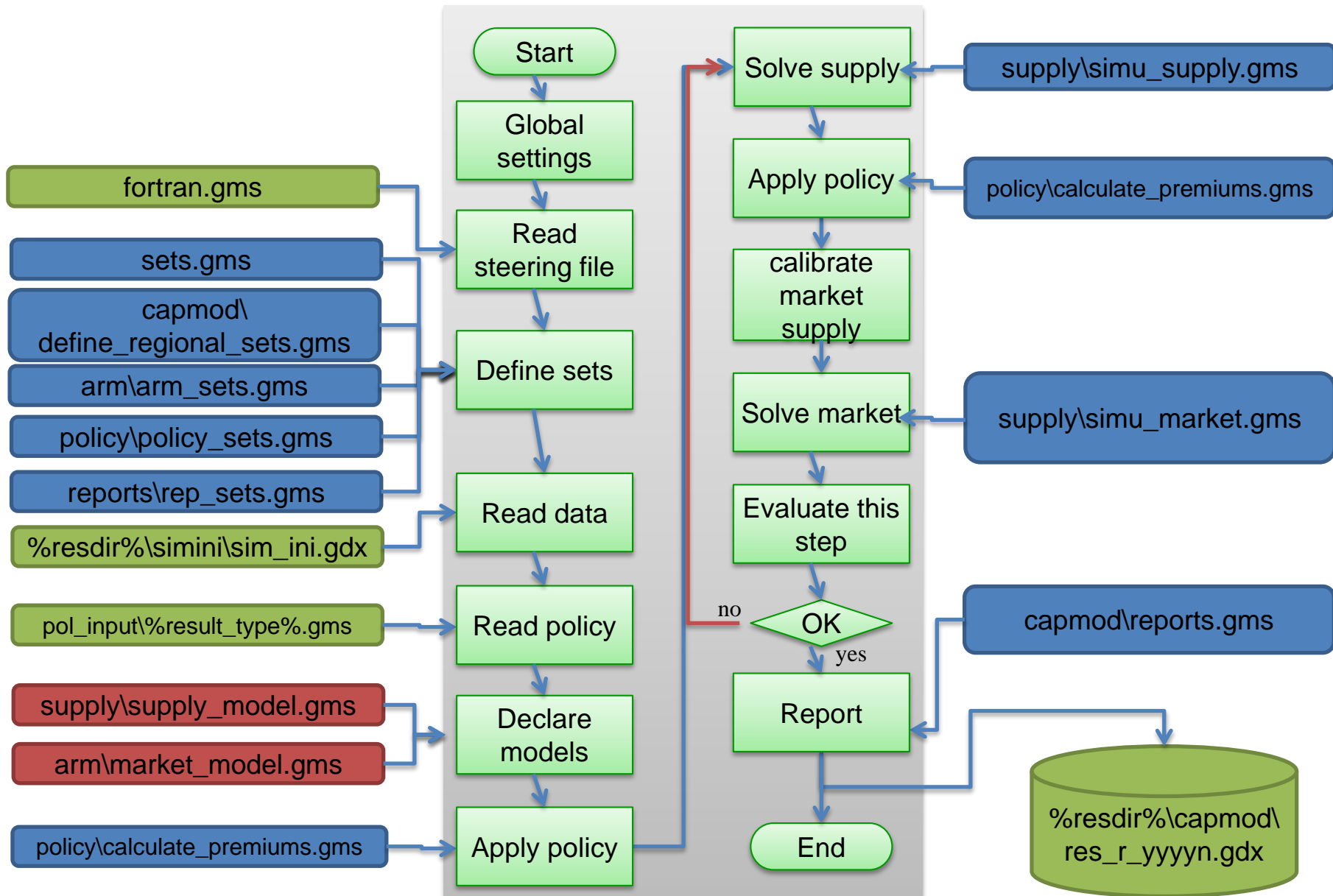
    ....

Exercise 3: View sets in Excel file

1. Use GDX2XLS to dump all the content of the file **sets.gms** to an Excel file

    a) Verify that every set gets its own sheet in the Excel file

CAPMOD components

Program flow of CAPMOD.gms

fortran.gms

sets.gms

capmod\define_regional_sets.gms

arm\arm_sets.gms

policy\policy_sets.gms

reports\rep_sets.gms

%resdir%\simini\sim_ini.gdx

pol_input\%result_type%.gms

supply\supply_model.gms

arm\market_model.gms

policy\calculate_premiums.gms

Start

Global settings

Read steering file

Define sets

Read data

Read policy

Declare models

Apply policy

Solve supply

Apply policy

calibrate market supply

Solve market

Evaluate this step

OK

no

yes

Report

End

supply\simu_supply.gms

policy\calculate_premiums.gms

supply\simu_market.gms

capmod\reports.gms

%resdir%\capmod\res_r_yyyyn.gdx

Exercise 4: CAPMOD modules

1. In which line of capmod.gms is simu_supply called?

   ....

2. In which line of capmod.gms is simu_market called?

   ....

Exercise 5: Scenarios

1. In which line of capmod.gms is the policy scenario included?

....

Defining scenarios

Exercise 6: Defining scenarios

1. Make a copy of
    "gams\pol_input\cap_after_2014**ref.gms**" and call
    it "**cap_ref.gms**". This scenario correspond to the
    CAPRI baseline and includes the CAP 2014-2020.

2. Create a new scenario "**cap_no_vcs.gms**" to
    simulate the CAP 2014-2020 but without voluntary
    coupled support. All other policy measures are
    identical as in "**cap_ref.gms**"

Running scenarios

Exercise 7: Running scenarios

1. Prepare the batch file

   a) Make a copy of "**GUI\batchfiles\ build_database_and_baseline.txt**" and call it "**run_cap_scenarios.gms**"

   b) Check the folder settings at the beginning of the file "**run_cap_scenarios.gms**" and change them to fit yours

   c) Delete all TASKS in this file apart from "Run scenario with market model". Modify this task to fit the two scenarios defined in previous exercise.

Exercise 6: Running scenarios

2. Run the scenarios using the CAPRI GUI

   a) Open GUI=>Batch execution

   b) First, only compilation. Verify that new fortran.gms files have been generated. Find your scenario names in those files.

   c) Next, simulation. Verify the model runs.

   d) Exploit results in the GUI, comparing the new scenario cap_no_vcs against the baseline.

Checking results

Exercise 8: Checking results

2. Exploit scenario results using the CAPRI GUI

   a) Open the results files for the two scenarios and check main results

   b) Compare results of the NO_VCS scenario against the baseline