Running a more complex experiment
The policy experiment

- All output subsidies on food in the EU will be removed
- All export subsidies paid by the EU on food will be removed
- All import tariffs on food imported into the EU will be removed
Check you are using the ACOR3X3 aggregation
Check you are using the standard closure
Click on the **Shocks** tab
  - Clear Shocks List
Select *to* as a variable to shock
Elements to shock are “Food” and “EU”
Select **%target rate** as Type of Shock
Enter a shock value of zero
Click ‘**Add to Shock List**’
Adding the trade policy shocks

- Variable to shock: txs
- Elements to shock:
  - "food" "EU" "All REG"
  - Set "%target rate" to zero
  - Click on Add to Shock List
Variable to shock: tms

Elements to shock:
- “food” “All REG” “EU”
- Set “%target rate” to zero
- Add to Shock List

There should now be 3 lines of shocks
- Click on the **Solve** tab
- Check solution method and parameter file
- Save this new experiment:
  - Click on **Save Experiment**
  - Provide a description
    - `<food liberalisation in EU>`
  - And file name `<foodlib>`
  - Click **OK**
  - Now Click on **Solve**
Discuss some aspects of the solution

- Sector output $q_0$
- Trade flows
  - $q_{xs}(\text{"food"**})$
  - $q_{xs}(\text{"Mnfcs"**})$
- Market prices $p_m$
- Sectoral demands for factors
  - $q_{fe}(\text{*Food*})$
- Trade balances $DTBAL_i$
World prices  pxwcom

Private household demand

- qp
- qpd
- qpm

Check the updated tax rates:

- View|Updated Data|Updated Tax Rates
Welfare and its Decomposition

- Look at EV
- Look at terms of trade $t_{ot}$
- Look at export and import price indices
  - $psw$ and $pdw$
- Decomposition
  - View|Updated Data|Welfare decomposition
  - Click on line 1
  - Line 2
  - Line 3
  - Line 24
Creating Subtotals

- This is very useful in understanding your results.
- It allows you to apportion the total change in any endogenous variable among the various shocks.
- For example, how much of the welfare gain comes from tariff elimination?
- How much due to elimination of export subsidies?
- Several studies of Doha round show most of global gains due to market access, and very little to reform of export & domestic farm subsidies.
How to get subtotals

- Keep the same shocks as before, and reload this experiment if necessary
- Click on **Define Subtotal**
- Select variable to
- Enter the elements **Food** and **EU**
- Click **Add variable to subtotal**
- Click **OK**, and **OK** again
- Click **Define Subtotal** again
- Now select **txs** and enter required elements
- Now do the same for **tms**
- Three subtotal lines should now have been added to the shocks list
- The “elements” in each should be identical to those in the Shock statements
- Now click **Solve**
- **Save Experiment** with a new name and description
- Check Solution method and parameter file
- Click the **Solve** button
Looking at the results

- Get results for pw
- The world price of “food” has increased by 1.63%
  - Most of this rise (1.18%) is due to elimination of EU export subsidies
  - EU’s elimination of food output subsidies has increased world price by 0.43%
  - Cuts to EU import tariff on food increased world price by only 0.02%
Food sector contracts, as expected, due mainly to changes in trade policies.

But the expansion in the Mnfc sector is driven mainly by the EU elimination of export subsidies.
Look at \( q_0(\text{SSA}) \)

- In SSA, the food sector expands by 4.75%
- Mainly due to increased access to the EU
Welfare changes

- Look at EV
- ROW suffers welfare loss
  - Can see now it is due mainly to EU cuts in food export subsidies. Why?
  - Look at \textit{pcif(**food)}
  - Is the EU a major supplier of food to the ROW?
- EU gains overall, but the tariff cut made a negative contribution (which is rather similar to EU welfare loss in the first experiment)
- But EU tariff cut made positive contribution to welfare in SSA and ROW