How To Change a Factor Market Closure

This guide shows you how to change a factor market closure in the UNI-CGE model. A full employment/unemployment closure and sector-specific factors are defined using set definitions in the Excel country data file.

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1. FACTOR MARKET CLOSURE

Factors in the UNI-CGE model can be described (1) with a full employment or unemployment closure, and (2) as mobile across activities (can move to new employment) or sector-specific (must remain in their original employment) . Both closures – full employment and mobility - are defined in the UNI-CGE model using set definitions in the Excel country data file. The modeler defines the set of factors that may become unemployed or re-employed due to changing economic conditions, or that are sector-specific. Given these set definitions, the UNI-CGE model automatically implements the appropriate flag or model code.

2. FACTOR MARKET CLOSURE – DEFINE SETS IN EXCEL FILE

A. View the factor sets in the Excel country data file

i. Open the Excel file with your country data. Our example uses the SAM-US333.xlsx file.

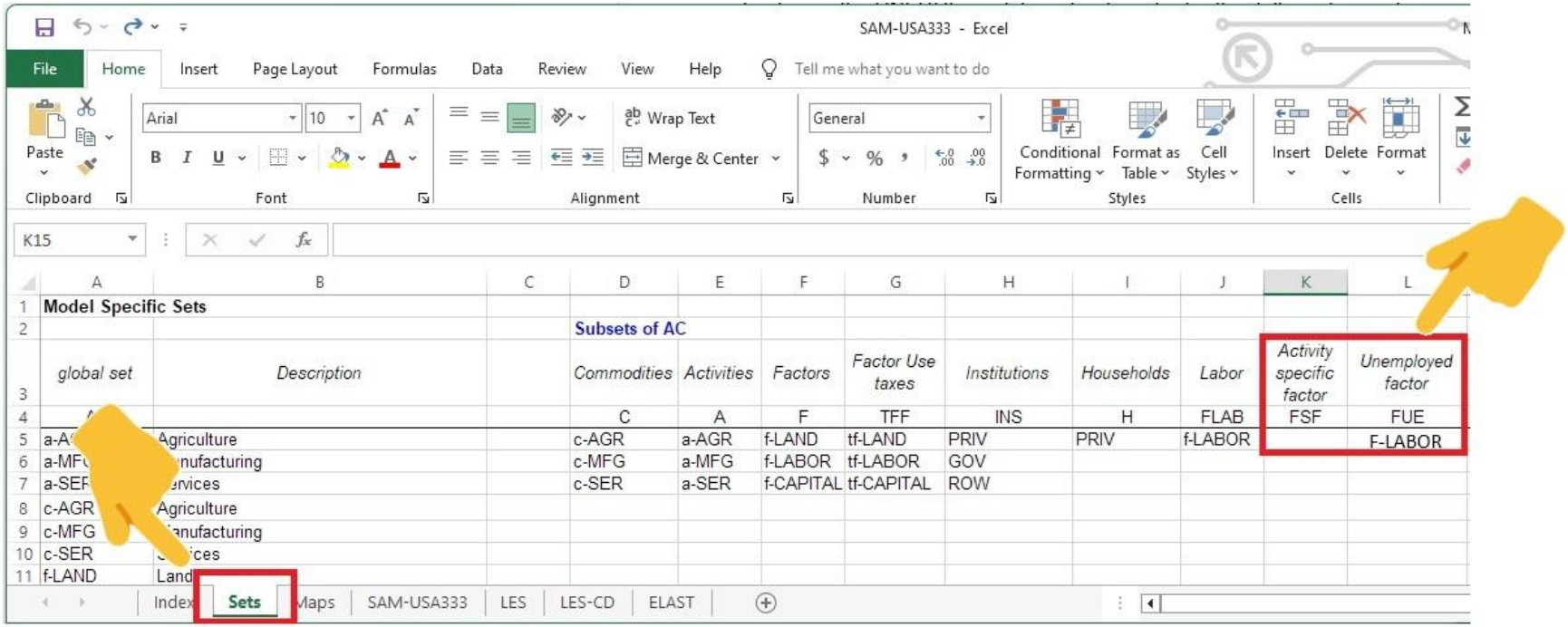
ii. Go to the "Sets" worksheet. This page has the definitions of all sets in the model.

iii. The UNI-CGE model has two factor sets:

SET FSF - Factors that are Sector-specific (Fixed in original employment)
SET FUE - Factors that can be UnEmployed

iv. In Figure 1, SET FUE has been defined to include labor (f-LABOR). Set FSF is empty – so no factor has been designated as sector-specific. These set definitions are shown in the figure only for demonstration. The default factor

Figure 1. Set definition worksheet in SAM-US333.xlsx data file



market closure that is used in model experiments assumes full employment and fully mobile factors. Both sets are therefore left empty.

NOTE - a factor cannot be BOTH unemployed and activity-specific. If you assign the same factor to the set FUE(f) and FSF(f), the model treats the factor as unemployed.

3. UNEMPLOYMENT CLOSURE – FLAGS IN THE UNI-CGE MODEL

Factor market full employment/unemployment closure in the UNI-CGE model is implemented using flags. After set FUE is defined, the model automatically applies the appropriate flag.

The factor employment closure has a flag value of one or two (Table 1). A full employment closure has a value of 1, and an unemployment closure has a value of 2.

Table 1. Factor market closure – full employment versus unemployment

Closure	Flag number	Fixed variable	Variable that adjusts
Full employment	FCLOS(f) = 1	Factor supply	Factor wage or rent
Unemployment	FCLOS(f) = 2	Factor wage or rent	Factor supply

First, the UNI-CGE model code defines all factors as fully employed, with a flag of 1:

```
FCLOS(F)          = 1 ;
```

Then, the model redefines a factor as having an unemployment closure, with a flag of 2, IF it is included in set FUE in the country data file:

```
FCLOS(f)$FUE(f)   = 2 ;
```

4. FACTOR MOBILITY CLOSURE - CODE IN THE UNI-CGE MODEL

The factor mobility closure in the UNI-CGE model is implemented by turning on the appropriate model code IF the modeler has defined a sector-specific factor in set FSF. Table 2 presents and explains the code:

Table 2. UNI-CGE model code for sector-specific factors

Model code	**What it does:**
IF((FCLOS(F) = 1 **AND** FSF(F)),	The code is conditioned. It is turned on IF the factor is fully employed AND it is included in set FSF
QF.FX(F,A) = QF0(F,A) ;	The quantity of factor f (QF) employed in activity a is fixed at the original level
WFDIST.LO(F,A) = -**INF** ; WFDIST.UP(F,A) = +**INF** ;	The sectoral wage/rent differential (WFDIST) will adjust to keep factors in their original employment
WF.FX(F) = WF0(F) ;	The economy-wide average wage/rent (WF) (excluding the sectoral premia) is fixed at its original level.