

The EUROMOD platform II

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UNU-WIDER Training course

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Content

- Overview of EUROMOD structure
- EUROMOD User Interface

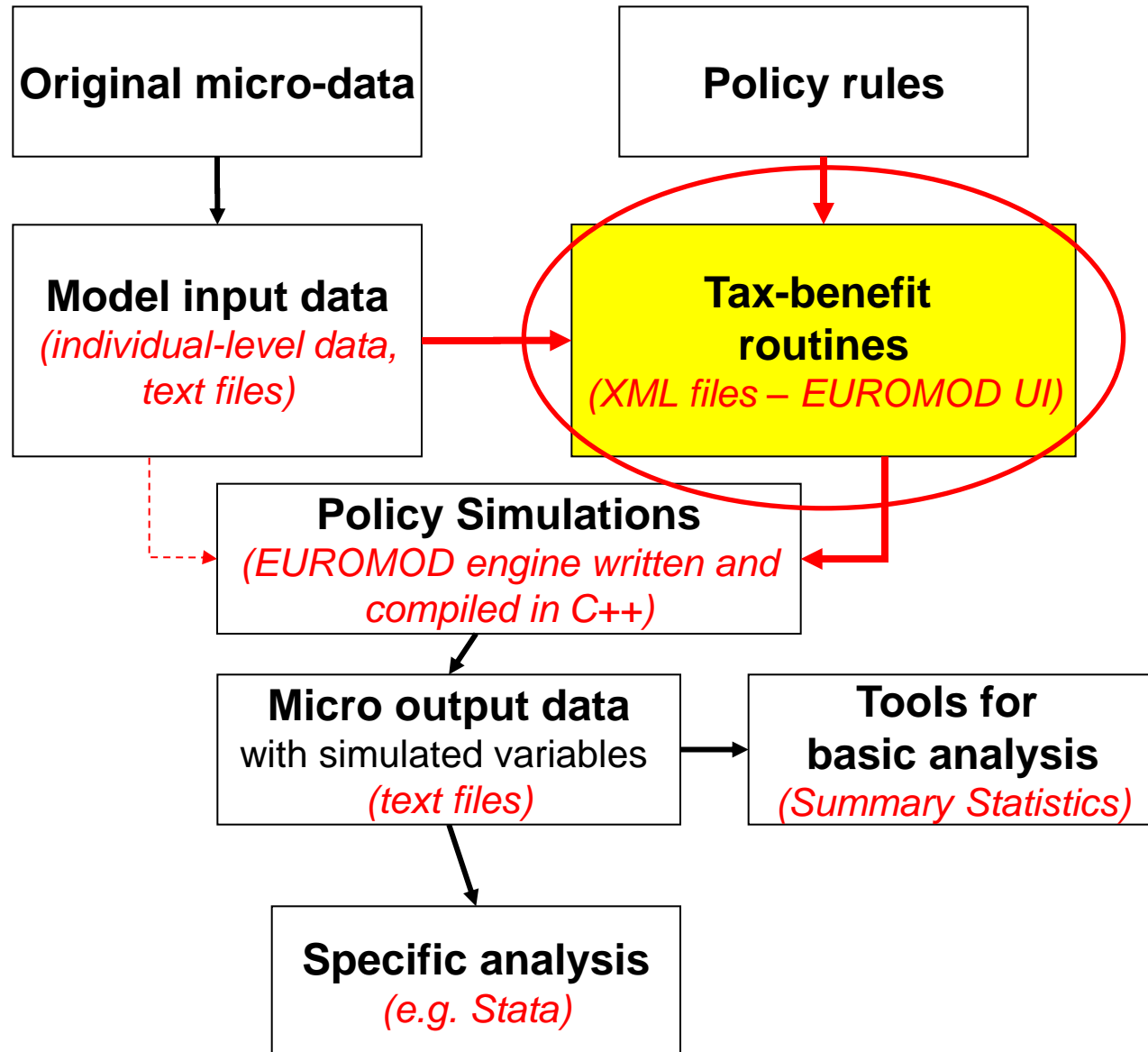


Content

- **Overview of EUROMOD structure**
- EUROMOD User Interface



EUROMOD: how does it work?



EUROMOD input dataset

- Variables: demographic, labour, income, assets, expenditure
- Harmonised data reference period
- Compulsory variables (id, demographic and labour status variables)
- No missing values
- Gross income
- At the individual level
- Income and expenditure data expressed in monthly terms
- In national currency
- In tabulated text format
- Documentation – do-files and Data Requirement Document (DRD)



Variable name convention

Names are combination of acronyms: **abb****

- **a=class 1** – type of information (e.g., y: income, x: expenditure)
- **bb=class 2** – specific for each type **a** (e.g. y| em: employment, se: self-employment)
e.g. yem: employment income; yse: self-employment income
- further **bb's** for additional information/detail
e.g. ysebs: business self-employment income
- Common Variables file (VarConfig.xml)



EUROMOD country parameter files

- Contain all information about tax-benefit rules
- Stored in XML files read by the EUROMOD engine
- Two files per country
 - Data config file
 - Parameters file
- Manipulated via user interface (UI)
- Implemented via EUROMOD functions grouped in policies
 - Defining elements to be used later on (tax units, income lists, constants etc.)
 - Simulation of tax-benefit policies
 - Controlling the output dataset file



Questions?



Content

- Overview of EUROMOD structure
- **EUROMOD User Interface**

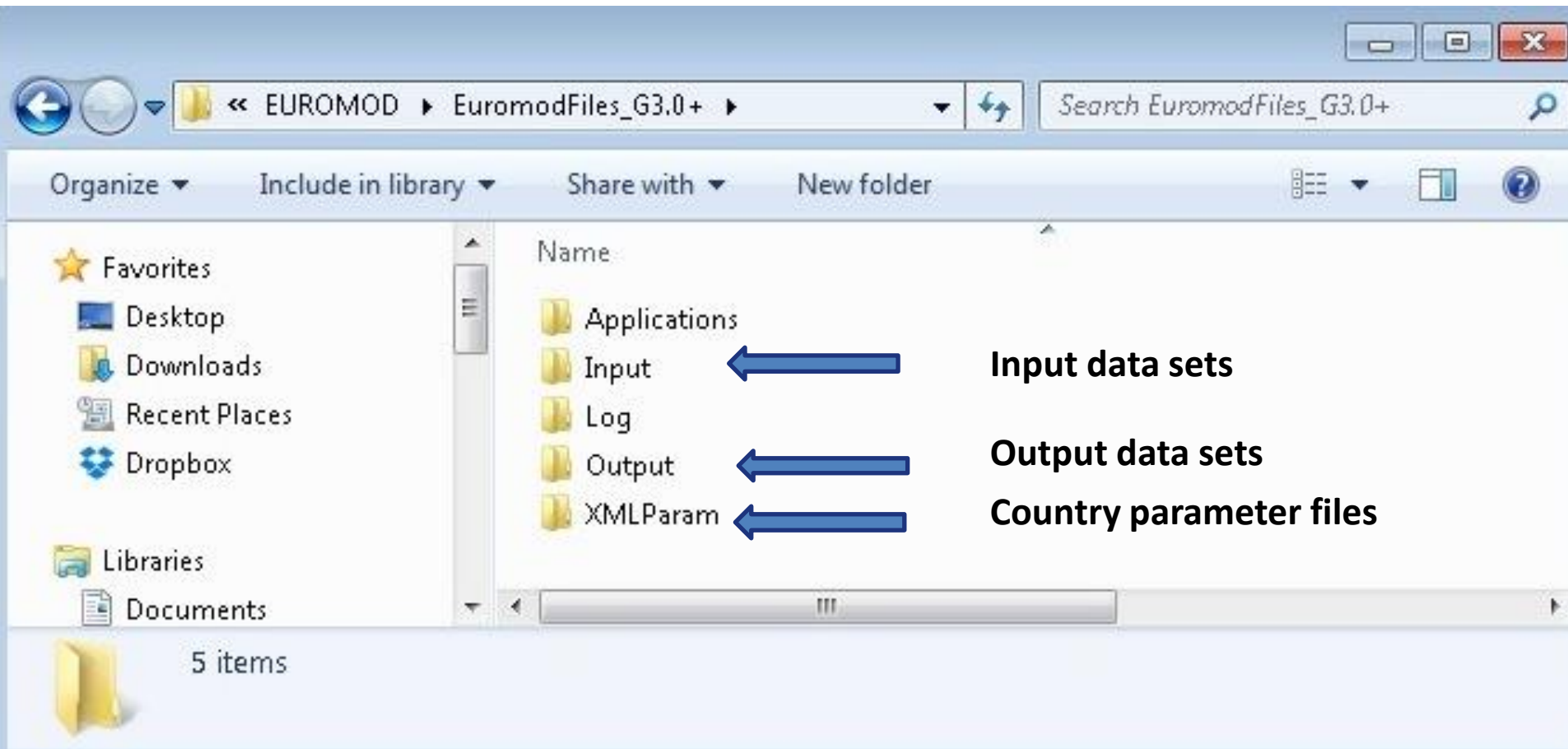


Installation

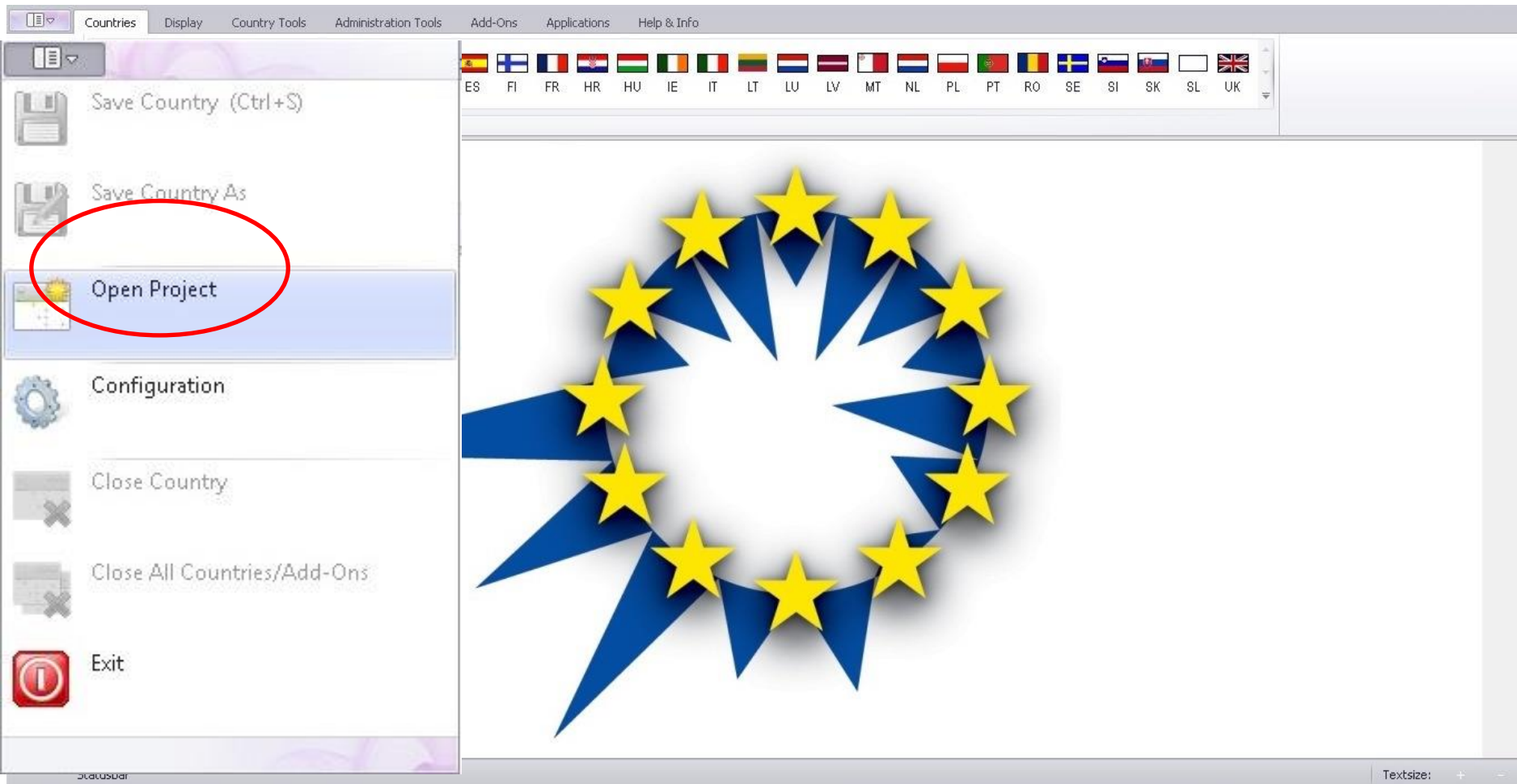
- Requires Microsoft .NET framework files or an Internet connection to download files in the SETUP process
- Complete separation between the **User Interface (UI)** and **EUROMOD** ‘**content**’ (i.e. country files, input, output, applications) files
- Only one copy of the UI but can use multiple ‘content’ files
- Run the Installation Wizard
- Set the path to your EUROMOD ‘content’ files
 - Project path
 - (if necessary) separate input data and output data paths



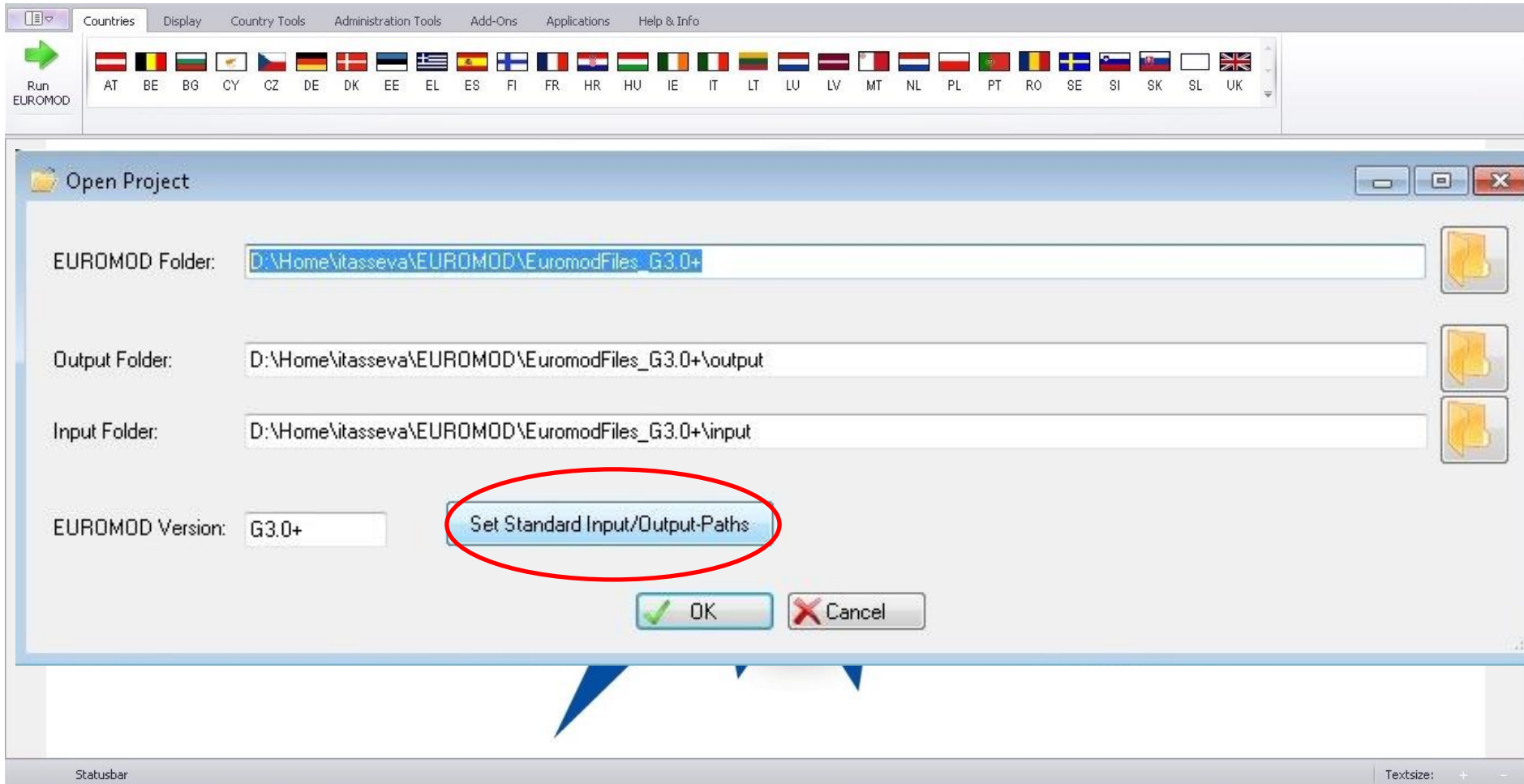
EUROMOD content folder structure



Linking the User Interface to EUROMOD content files



Linking the UI to EUROMOD content files

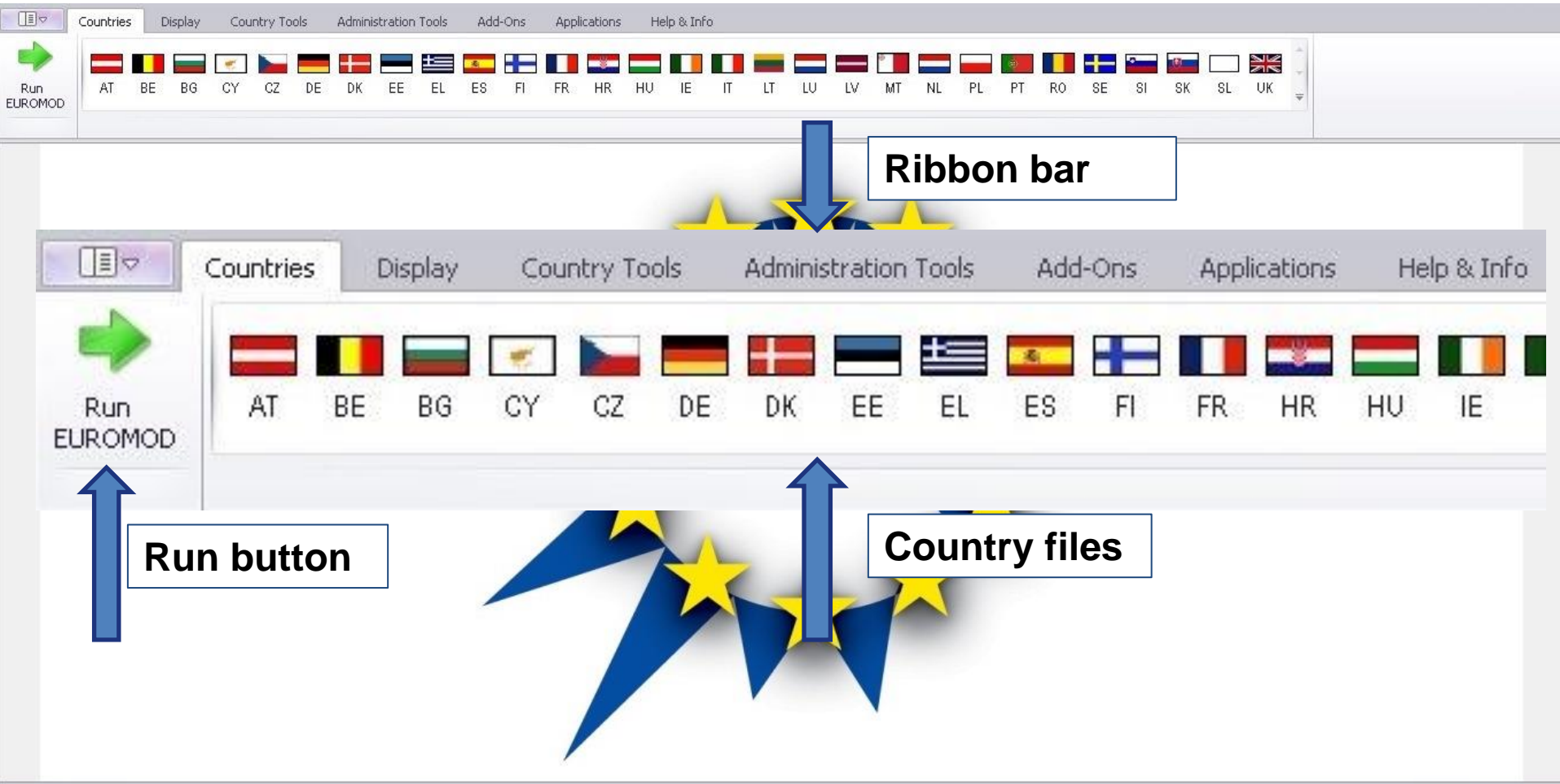


User Interface (UI)

- Single stand-alone piece of software-Windows Operating System
- Single working environment
- Mostly point and click but some hot keys are available (standard and specific)
- In-built features that allow for improved user control and guidance
- Intuitive!
- **Features:**
 - Ribbon bar with tabs
 - Context menus
 - IntelliSense (suggestion of parameter values)
 - Built-in help
 - Variables file – VarConfig.xml



User Interface (UI)



Statusbar

Textsize: + -

Working environment

Run EUROMOD

Countries: Austria (loaded)

Display Country Tools Administration Tools Add-Ons Applications Help & Info

policy systems

AT BE BG CY CZ DE DK EE EL ES FI FR HR HU IE IT LT LU LV MT

Policy	Grp/No	at_2013	at_2014	at_2015	Comment
7 yem_at		off	off	off	DEF: minimum wage
8		on	on	on	DEF: recode negative self-employment values to zero
9 tscer_at		on	on	on	SIC: social insurance contributions employer (Arbeitgeberbeitraege zur Sozialversicherung)
10 tscee_at		on	on	on	SIC: social insurance contributions employee (Arbeitnehmerbeitraege zur Sozialversicherung)
11 tscse_at		on	on	on	SIC: social insurance contributions self-employed (Beitraege zur Sozialversicherung fuer
12 bch00_at		on	on	on	BEN: Main child benefit
pch00_at		off	off	off	BEN: child bonus for pensioners (Kinderzuschuss)
14 pchcs_at		off	off	off	BEN: child bonus for civil servant pensioners (Kinderzulage)
15 bunct_at		on	on	on	BEN: unemployment benefit (Arbeitslosengeld) (PART
16 pmmtu_at		on	on	on	BEN: minimum pension top-up (Ausgleichszulage)
17 pcstu_at		on	on	on	BEN: minimum pension top-up for civil servants (Ergaenzungszulage)
18 tscpe_at		on	on	on	SIC: social insurance contributions pensioner (Beitraege zur Sozialversicherung fuer Rentner)

open country

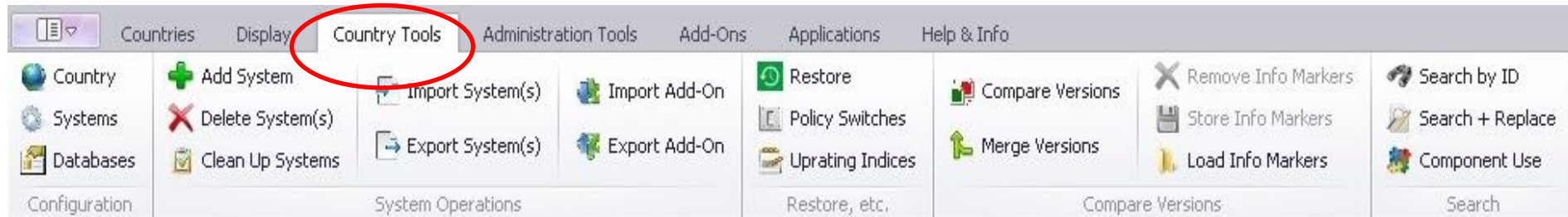
comments

policies

AT tundef_at



Ribbon bar – country tools



- Country must be open to activate buttons
- Contains options that manipulate the general parameters of a country file
 - Name and acronym
 - Available policy systems and their characteristics
 - Available datasets and their characteristics
- Adding and deleting systems
- Search and replace
- More advanced (import/export systems, add-ons etc.)



Policy system settings

Country Tools Administration Tools Add-Ons Applications Help & Info

Country Systems Databases

Add System Delete System(s) Clean Up Systems

Import System(s) Export System(s)

Import Add-On Export Add-On

Restore Policy Switches Upgrading Indices

Compare Versions Merge Versions

Remove Info Markers Store Info Markers Load Info Markers

Configuration System Operations Restore, etc. Compare Versions

System Configuration

AT

System	Exchange Rate	Currency Parameters	Currency Output	Private	Income for Unit Head Definition
at_2007	1	euro	euro	<input type="checkbox"/>	ils_origy
at_2008	1	euro	euro	<input type="checkbox"/>	ils_origy
at_2009	1	euro	euro	<input type="checkbox"/>	ils_origy
at_2010	1	euro	euro	<input type="checkbox"/>	ils_origy
at_2011	1	euro	euro	<input type="checkbox"/>	ils_origy
at_2012	1	euro	euro	<input type="checkbox"/>	ils_origy
at_2013	1	euro	euro	<input type="checkbox"/>	ils_origy
at_2014	1	euro	euro	<input type="checkbox"/>	ils_origy
at_2015	1	euro	euro	<input type="checkbox"/>	ils_origy

OK Cancel

all policy years/systems

exchange rate national to euro

income used for unit head definition

parameters currency

output currency

16	pmmtu_at	on	on	BEIN: minimum pension top-up (Ergaenzungszulage)
17	pcstu_at	on	on	minimum pension top-up for civil servants (Ergaenzungszulage)
18	tscpe_at	on	on	SIC: social insurance contributions pensioner (Beitraege zur Sozialversicherung fuer Rentner)

AT tundef_at



Database settings

Country Tools Administration Tools Add-Ons Applications Help & Info

Country Systems Databases Add System Delete System(s) Clean Up Systems Import System(s) Export System(s) Import Add-On Export Add-On Restore Policy Switches Updating Indices Compare Versions Merge Versions Remove Info Markers Store Info Markers Load Info Markers

Configure Databases

AT

all policy years/systems

all input datasets

	at_2007	at_2008	at_2009	at_2010	at_2011	at_2012	at_2013	at_2014	at_2015
AT_2008_a6	best	best	x	x	x	x	x	x	x
AT_2010_a3	x	x	best	best	x	x	x	x	x
AT_2012_a2	x	x	x	x	best	best	best	best	best
training_data	x	x	x	x	x	x	x	x	x

Collection Year: 2008 Income Year: 2007 Currency: euro Decimal Sign: . Private: Use Common Default:

Path:

Add Dataset Delete Dataset Rename Dataset OK Cancel

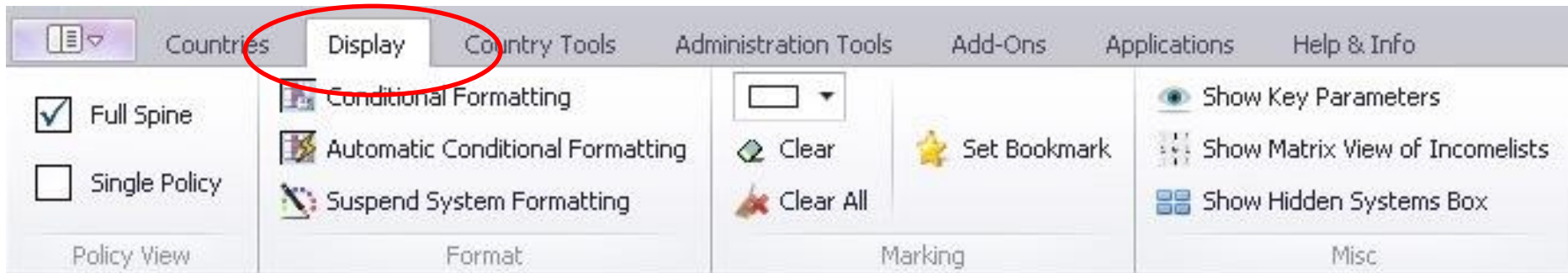
adding/deleting

characteristics of input dataset

BEN: minimum pension top-up for civil servants (Ergaenzungszulage)
 SIC: social insurance contributions pensioner (Beitraege zur Sozialversicherung fuer Rentner)

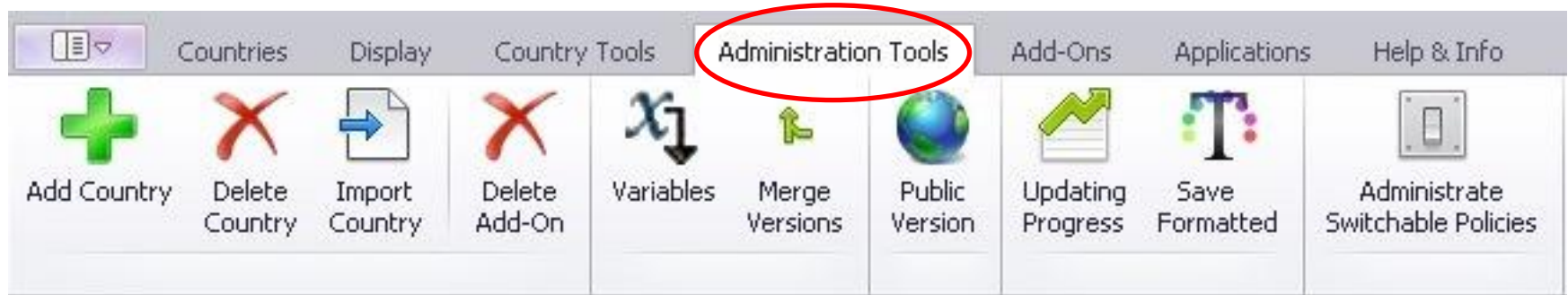
AT tundef_at

Ribbon bar - control display and formatting



- View full policy spine vs. single policy
- Conditional formatting (similar idea to EXCEL)
- Bookmarks
- ...

Ribbon bar – administration tools



- Adding and deleting countries
- Accessing and administering the variables file
- Updating progress: overview of available policy systems and datasets
- More advanced & not covered in this course:
 - available add-ons
 - applications

EUROMOD Help

Countries Display Country Tools Administration Tools Add-Ons Applications **Help & Info**

Help

EUROMOD Help

Hide Back Print Options

Help

Contents Search

- EUROMOD Basic Concepts
- Working with EUROMOD
- EUROMOD Functions
- EUROMOD Installation and Architecture
- EUROMOD Version Control

browse **search**

EUROMOD Basic Concepts

What is EUROMOD?

EUROMOD is a tax-benefit microsimulation model for the European Union (EU) that enables researchers and policy analysts to calculate, in a comparable manner, the effects of taxes and benefits on household incomes and work incentives for the population of each country and for the EU as a whole. As well as calculating the effects of actual policies it is also used to evaluate the effects of tax-benefit policy reforms and other changes on poverty, inequality, incentives and government budgets.

What can EUROMOD do?

EUROMOD can be used in many different ways in different contexts. Examples include:

Standard

- Estimation of poverty, inequality and redistribution statistics under actual conditions, previous or future tax-benefit rules
- Budgetary effects
- Effects of simple tax-benefit policy reforms (or illustrative changes to household composition and original income)
- "Model family" calculations
- Indicators of work incentives

More advanced

- Complex policy reforms (e.g. effects of revenue-neutral

7

8

9

10

11

12

13

14

15

16

17

18

SOCIAL RESEARCH

Context menus

The screenshot displays the EUROMOD software interface. A context menu is open over the policy 'bch00_at' in the main table. The menu options are:

- Add Policy Before
- Add Policy After
- Delete Policy/ies Del
- Rename Policy
- Copy Policy
- Paste Policy Before
- Paste Policy After
- Paste Reference Before
- Paste Reference After
- Copy Value(s)
- Paste Value(s)
- Move Policy/ies Up Ctrl+Up
- Move Policy/ies Down Ctrl+Down
- Copy Identifier
- Copy Symbolic Identifier
- Set/Unset Private
- Expand All Functions
- Collapse All Functions
- Paste Function(s)
- Add Function

The background interface shows a table with columns 'Policy' and 'Comment'. The selected row is 'bch00_at' with the comment 'BEN: Main child benefit'. Other rows include '12.1 DefConst', '12.2 Elig', '12.3 ArithOp', '12.4 Elig', '12.5 ArithOp', '12.6 Elig', '12.7 ArithOp', '12.8 DefVar', '12.9 BenCalc', '12.10 BenCalc', '12.11 BenCalc', '12.12 Elig', '12.13 ArithOp', '12.14 BenCalc', '12.15 Elig', and '12.16 ArithOp'. The 'Comment' column contains various tax-related descriptions for each policy.



Context menus

- Activated by right-clicking
- Intuitive options controlling the respective elements
- Description available



IntelliSense

Run EUROMOD
Countries
Display
Country Tools
Administration Tools
Add-Ons
Applications
Help & Info

Austria
AT
BE
BG
CY
CZ
DE
DK
EE
EL
ES
FI
FR
HR
HU
IE
IT
LT
LU
LV
MT
NL
PI

	Policy	Grp/No	at_2013	at_2014	at_2015	Comment
12	• bch00_at		on	on	on	BEN: Main child benefit
12.1	↳ fx DefConst		on	on	on	
12.2	↳ fx Elig		on	on	on	TAX: tax allowance for cost of earnings (Werbungskostenabzug)
12.2.1	elig_cond		{yem>0}	{yem>0}	{y	
12.2.2	TAX_UNIT		tu_individual_at	tu_individual_at		
12.3	↳ fx ArithOp		on	on		
12.4	↳ fx Elig		on	on		
12.5	↳ fx ArithOp		on	on		
12.6	↳ fx Elig		on	on		
12.7	↳ fx ArithOp		on	on		
12.8	↳ fx DefVar		on	on		
12.9	↳ fx BenCalc		on	on		
12.10	↳ fx BenCalc		on	on		
12.11	↳ fx BenCalc		on	on		
12.12	↳ fx Elig		on	on		
12.13	↳ fx ArithOp		on	on		
12.14	↳ fx BenCalc		on	on		
12.15	↳ fx Elig		on	on		

yag
yag01
yag02
yaj
ychmp_s
ychoth_s
ydg01_s
ydg02_s
ydg03_s
ydg04_s
yds
ydses_o
yem
yem_s
yem00

ance for employees:
ductions
enpauschale)

19 and youth in education
income below 10000

inside the household

e HH for 2011 data

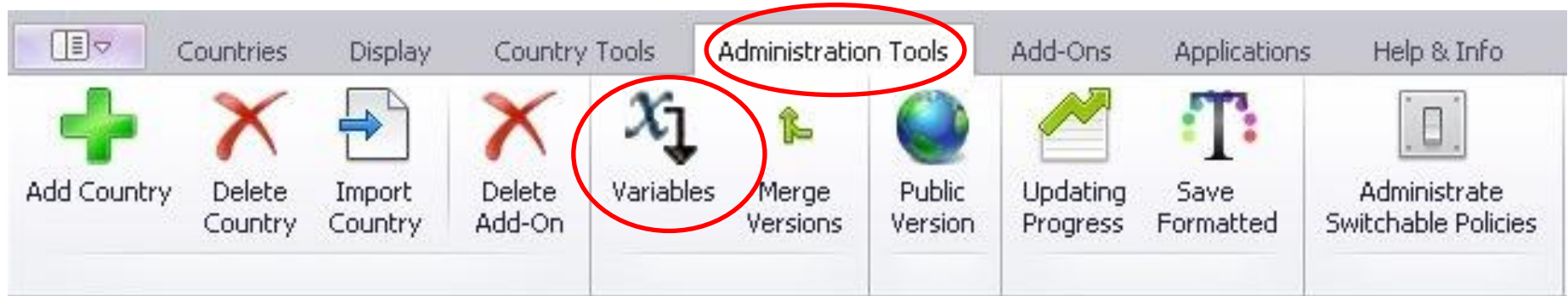
e HH for 2008 and 2010

education or disabled with
10000

AT
bch00_at - Elig



Variable Administration



Variable Administration

Administration of Variables and Acronyms

Variables | Acronyms

Add Variable Delete Variable Apply Filters Select All Filters Unselect All Filters

Monetary Data Has Specific Description DEMOGRAPHIC INCOME EXPENDITURE EUROSTAT
 Non-monetary Simulated Country: Any Country LABOUR MARKET TAX IN KIND IDENTIFIER
 BENEFIT/PENSION ASSETS SYSTEM UNKNOWN

Show variables ... Search Va... Search

Variables

Name	Monetary	Automatic Label
1 afc	<input checked="" type="checkbox"/>	assets : financial capital
2 afc00	<input checked="" type="checkbox"/>	assets : financial capital : main/basic
3 afc00_s	<input checked="" type="checkbox"/>	assets : financial capital : main/basic : simulated
4 afcbd	<input checked="" type="checkbox"/>	assets : financial capital : bonds
5 afccu	<input checked="" type="checkbox"/>	assets : financial capital : current accounts
6 afcoc	<input checked="" type="checkbox"/>	assets : financial capital : other capital
7 afcsa	<input checked="" type="checkbox"/>	assets : financial capital : savings accounts
8 afcsg	<input checked="" type="checkbox"/>	assets : financial capital : ????
9 afcsh	<input checked="" type="checkbox"/>	assets : financial capital : shares
	<input checked="" type="checkbox"/>	assets : imputed value
	<input checked="" type="checkbox"/>	assets : imputed value : simulated
12 aldagar	<input type="checkbox"/>	assets : land : agriculture : area in m2
13 aldagar_s	<input checked="" type="checkbox"/>	assets : land : agriculture : area in m2 : simulated
14 aldagariv	<input type="checkbox"/>	assets : land : agriculture : area in m2 : imputed value
15 aldar	<input type="checkbox"/>	assets : land : area in m2
16 aldiv_s	<input checked="" type="checkbox"/>	assets : land : imputed value : simulated

name

list of all variables defined in the variables file in alphabetical order

variable is monetary or non-monetary

automatic label

Acronyms

Description	Acronym
DEMOGRAPHIC	D
LABOUR MARKET	L
BENEFIT/PENSION	B/P
INCOME	Y
TAX	T
ASSETS	A
EXPENDITURE	X
IN KIND	K
SYSTEM	S
EUROSTAT	E

Descriptions

Country	Description
at	-
be	financial capital
bg	-
cy	financial capital
cz	Financial capital (Financni kapital)

description of variable for countries where it is used

Categories

Value	Description

Adding a variable

Administration of Variables

Variables Acronyms

Add Variable Delete Variable Apply Filters Select All Filters Unselect All Filters Monetary Non-monetary Data Simulated Has Specific Country Any Cour

Edit Show v

Add Variable (Alt+V)
Add new variable below the selected Automatic Label

1	afc	<input checked="" type="checkbox"/>	assets : financial capital
▶ 2		<input checked="" type="checkbox"/>	
3	afc00	<input checked="" type="checkbox"/>	assets : financial capital : main/basic
4	afc00_s	<input checked="" type="checkbox"/>	assets : financial capital : main/basic : simulated
5	afcbd	<input checked="" type="checkbox"/>	assets : financial capital
6	afccu	<input checked="" type="checkbox"/>	
7	afcoc	<input checked="" type="checkbox"/>	
8	afcsa	<input checked="" type="checkbox"/>	
9	afcsg	<input checked="" type="checkbox"/>	assets : financial capital : ????
10	afcsh	<input checked="" type="checkbox"/>	assets : financial capital : shares
11	aiv	<input checked="" type="checkbox"/>	assets : imputed value
12	aiv_s	<input checked="" type="checkbox"/>	assets : imputed value : simulated
13	aldagar	<input type="checkbox"/>	assets : land : agriculture : area in m2
14	aldagar_s	<input checked="" type="checkbox"/>	assets : land : agriculture : area in m2 : simulated
15	aldagariv	<input type="checkbox"/>	assets : land : agriculture : area in m2 : imputed value
16	aldar	<input type="checkbox"/>	assets : land : area in m2

**new empty row;
fill in name and monetary**

Descriptions

Country	Description
at	-
be	-
bg	-
cy	-
cz	-



Naming a variable

Administration of Variables and Acronyms

Variables Acronyms

Add Variable
Delete Variable
Edit

Show variables ...
Search
Search Va...

Variables		
Name	Monetary	Automatic Label
2	afc	assets : financial capital
3	aarag	assets : area in m2 : agriculture
4	afc00	
5	afc00_s	
6	afcbd	
7	afccu	
8	afcoc	
9	afcsa	
10	afcsg	
11	afcsh	
12	aiv	assets : imputed value
13	aiv_s	assets : imputed value : simulated

EUROMOD - Request

Invalid variable name: wrong order of acronyms.

Undo change?

Yes No

Acronyms	
Description	Acronym
ASSETS	A
main	
use	
agriculture	AG
business	BS
non agricultural	
characteristics	
area in m2	AR
building's age (years)	BY
heating	HT
imputed value	IV
years living in this residence	LY
	MV
	OW
	PU

acronyms

UI checks validity of name and existence of the variable

Filtering variables

Administration of Variables and Acronyms

Variables | Acronyms

Add Variable | Delete Variable | **Apply Filters**

Monetary | Data | Has Specific Description | DEMOGRAPHIC | INCOME | EXPENDITURE | EUROSTAT

Non-monetary | Simulated | Country: Any Country | LABOUR MARKET | TAX | IN KIND | IDENTIFIER

BENEFIT/PENSION | ASSETS | SYSTEM | UNKNOWN

Search Va...

Variables

Apply Filters (Alt+F)
Display variables with ticked properties only

Name		
494 d08	<input type="checkbox"/>	demographic : 08
495 dag	<input type="checkbox"/>	demographic : age
496 dag00	<input type="checkbox"/>	demographic : age : main/basic
497 dag01	<input type="checkbox"/>	Demographic : age : 01
498 dcc	<input type="checkbox"/>	Demographic : child care
499 dccdh	<input type="checkbox"/>	Demographic : child care : holiday care days
500 dccdm	<input type="checkbox"/>	Demographic : child care : days per month
503 dchor01	<input type="checkbox"/>	Demographic : child : orphan : 01
504 dchor02	<input type="checkbox"/>	Demographic : child : orphan : 02
505 dco	<input type="checkbox"/>	Demographic : co parenting
506 dcolv	<input type="checkbox"/>	Demographic : co parenting : level (%)
507 dct	<input type="checkbox"/>	demographic : country
508 dcu	<input type="checkbox"/>	demographic : consensual union
509 dcz	<input type="checkbox"/>	demographic : citizenship
510 ddi	<input type="checkbox"/>	demographic : disability
511 ddi01	<input type="checkbox"/>	demographic : disability : 01
512 ddi02	<input type="checkbox"/>	demographic : disability : 02
513 ddilv	<input type="checkbox"/>	demographic : disability : level (%)
514 ddiot	<input type="checkbox"/>	demographic : disability : other
515 ddipd	<input type="checkbox"/>	demographic : disability : period
516 ddipd00	<input type="checkbox"/>	demographic : disability : period : main/basic
517 ddita	<input type="checkbox"/>	demographic : disability : tax related
522 ddt	<input type="checkbox"/>	demographic : date of interview

Acronyms

Description	Acronym
DEMOGRAPHIC	D
LABOUR MARKET	L
BENEFIT/PENSION	B/P
	Y
	T
	A
EXPENDITURE	X
IN KIND	K
SYSTEM	S
EUROSTAT	E

select filters

Questions?

