

# **Policy Evaluation Model: its purpose and use in policy analysis**

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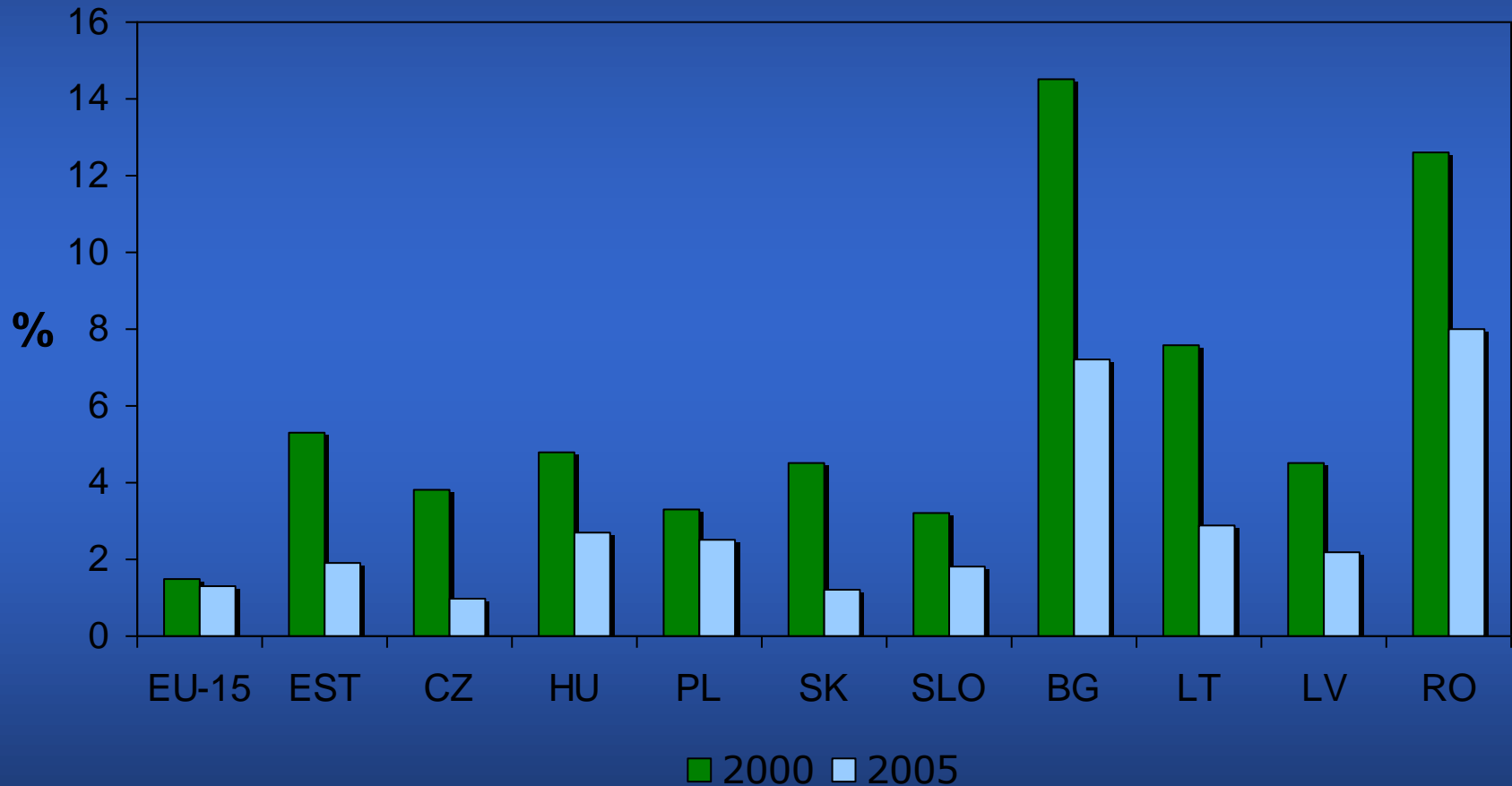
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# Extending PEM towards EU-12

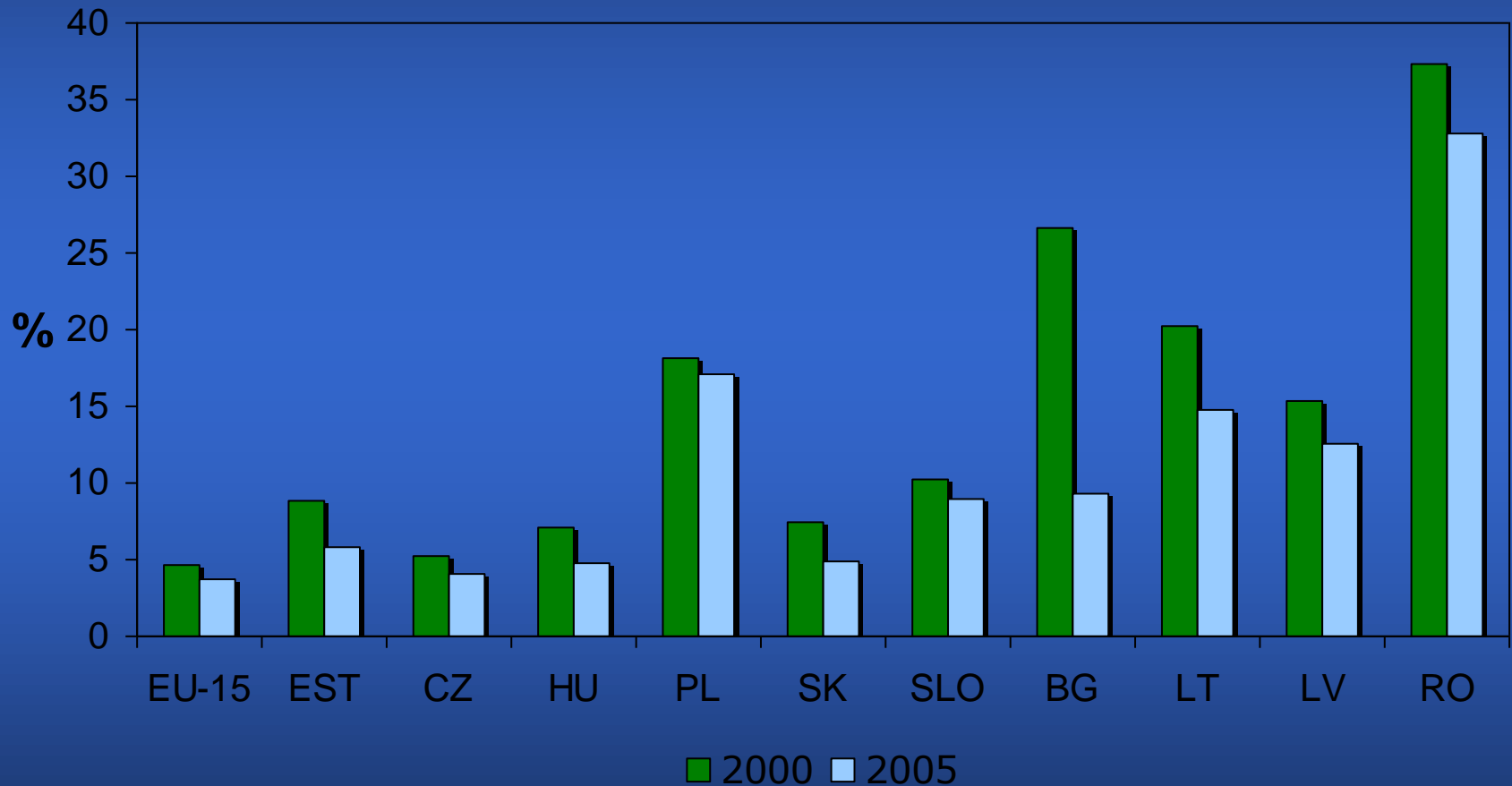
- Motivation:
  - EU enlargement towards Central and Southeastern Europe in 2004 and 2007
  - With enlargement strong increase in potential in supply and demand for agri-food products
  - However: No simple extension of current EU module in PEM
    - Structural differences between EU-15 and EU-12

# Share of Agriculture in GDP, 2000 and 2005



Source: EU-Commission.

# Share of Agriculture in Employment, 2000 and 2005



Source: ZMP and EU-Commission.

# Extending PEM towards EU-12

- Extension must take principles of EU policies into consideration
  - market unity,
  - community preference and
  - financial solidarity
- Simple extension of current EU in PEM would ignore existing differences
- Full integrated markets would assume
  - same product and factor prices
  - same costs structure
  - same supply response in EU-15 and EU-12

# Segmentation of Product and Factor Markets in the EU

	Integrated with EU-15 part of PEM	Separated from EU-15 part of PEM
Wheat	<input checked="" type="checkbox"/>	
Coarse grain	<input checked="" type="checkbox"/>	
Oilseeds	<input checked="" type="checkbox"/>	
Rice	<input checked="" type="checkbox"/>	
Milk		<input checked="" type="checkbox"/>
Beef	<input checked="" type="checkbox"/>	
Other arable crops	<input checked="" type="checkbox"/>	
<hr/>		
Hired labour		<input checked="" type="checkbox"/>
Miscellaneous inputs		<input checked="" type="checkbox"/>
All factor and inputs markets	<input checked="" type="checkbox"/>	

# Data Base for EU-12

- Production and land use:
  - ESIM data base for 2004/2005
- Factor shares:
  - FADN data
  - Problem: not available for all EU-12 states
- Parameters of factor substitution and supply:
  - ???

# Factor Cost Shares for the EU-12

	Wheat	Coarse Grains	Oilseeds	Rice	Milk	Beef
Farm-owned Capital	0.24	0.24	0.24	0.24	0.18	0.17
Land	0.04	0.04	0.04	0.04	0.02	0.02
Cows	0.00	0.00	0.00	0.00	0.03	0.04
Hired Labour	0.19	0.19	0.19	0.19	0.19	0.20
Other Purchased Inputs	0.18	0.18	0.18	0.18	0.16	0.19
Concentrated Feeds	0.00	0.00	0.00	0.00	0.27	0.24
Chemicals	0.08	0.08	0.08	0.08	0.00	0.00
Energy	0.10	0.10	0.10	0.10	0.09	0.09
Fertiliser	0.08	0.08	0.08	0.08	0.00	0.00
Insurance	0.02	0.02	0.02	0.02	0.00	0.00
Irrigation	0.00	0.00	0.00	0.00	0.00	0.00
Interest	0.01	0.01	0.01	0.01	0.00	0.00
Machinery and Equipment	0.06	0.06	0.06	0.06	0.04	0.04

Source: FADN data base.

# Factor Substitution Elasticities

<b>EU-15</b>		Among purchased inputs	btw'n land and other farm owned factors	btw'n land and purchased inputs	btw'n purchased and other farm owned inputs	btw'n land and feed
Crops	Base	0.5	0.4	0.5	0.9	-
	min	0.0	0.0	0.0	0.0	-
	max	1.0	0.8	1.0	1.8	-
Beef & Milk	Base	0.15	0.15	0.15	0.15	0.5
	min	0.075	0.075	0.075	0.075	0.25
	max	0.3	0.3	0.3	0.3	1.0

- Value of factor substitution elasticities determine reaction of the producer to changes in factor prices
- In current EU module in PEM value of elasticities based on econometric evidence
- Problem for extension of PEM to EU-12:
  - Lack of econometric evidence due to lack of reliable time series data

# Conclusions and Recommendations

- Dynamic development in EU-12 agricultural product and factor markets
- No big price difference in product prices between EU-15 and EU-12
- Harmonization of policies between EU-15 and EU-12
- Recommendation for model development in the case of paucity of econometric estimates
  - Starting from EU-15 values
  - Ad-hoc adjustments based on experts knowledge
    - Consider dynamic development of agriculture in EU-12
    - Econometric evidence (?)
  - Systematical sensitivity analysis

# OECD Regional Meeting on Agricultural Policy Reform

Bucharest , Romania

# Thank you!

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