

LEAD MARKETS AND INNOVATION POLICY OF THE CEECs

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RESEARCH QUESTIONS

- ③ Is the EU lead market policy concept suitable for the CEECs?
- ③ Do the CEECs include lead market policy measures in their innovation strategies?
- ③ Problems in the analysis:

**LACK OF DATA TO ANALYSE ALL MARKETS AND
LEAD MARKET FACTORS**

OUTLINE

- ① Introduction,
- ① Demand for innovation and lead market concept,
- ① Measurement of demand for innovation and lead market potential,
- ① Lead market approach in CEECs innovation policy,
- ① Conclusions.

MAIN CHALLENGES FOR THE CEECs

- ③ Boosting of economic growth and catching-up process,
- ③ Mismatch between R&D and education policies on one hand and industry needs on the other.

DEMAND FOR INNOVATION AND LEAD MARKETS

- ③ **Demand based innovation policy:** “set of public measures to increase the demand for innovations, improve the conditions for the uptake of innovations and/or to improve the articulation of demand in order to spur innovations and the diffusion of innovations” (J. Edler),
- ③ **Lead markets:** “regional markets (usually countries) that generally take up a particular innovation design earlier than other countries” (T. Cleff, Ch. Grimpe, Ch. Rammer)



LEAD MARKET FACTORS ACCORDING TO T. CLEFF, CH. GRIMPE, CH. RAMMER

- ⊙ Demand advantage,
- ⊙ Price advantage,
- ⊙ Export advantage,
- ⊙ Transfer advantage
- ⊙ Market structure

LEAD MARKETS ACCORDING TO THE COMMISSION

- ① eHealth,
- ① Protective textiles,
- ① Sustainable construction,
- ① Recycling,
- ① Bio-based products
- ① Renewable energies.

DEMAND ADVANTAGE INDICATOR

⊙ Demand Advantage Indicator =

$$SD_i / SD_{EU-27}, \text{ where:}$$

SD_i - the share of demand for the given product group in the country's i total GDP

SD_{EU-27} - the share of demand for the given product group in the EU-27 total GDP.

⊙ Total demand is calculated according to the formula:

$$\text{Total demand} = \text{Production output (sold)} - \text{export} + \text{import}$$

PHARMACEUTICALS

Country	Average DAI (2000-2003)	Average DAI (2004-2008)
CZ	0,4	0,4
EE		0,0
HU		1,3
LV	0,5	0,6
LT		0,2
PL		0,2
SK		1,3
SL		0,4
BG		0,0

TEXTILES

Country	Average DAI (2000-2003)	Average DAI (2004-2008)
CZ	0,98	1,09
EE		3,18
HU		1,07
LV		0,54
LT	2,86	1,78
PL		0,46
SK		0,79
SL	1,16	1,18
BL		0,84

PLASTICS

Country	Average DAI (2000-2003)	Average DAI (2004-2008)
CZ	1,83	2,09
EE	0,96	2,63
HU	1,92	2,09
LV	2,32	2,58
LT	2,85	2,42
PL	1,75	1,53
SK	2,33	2,22
SL	5,16	2,38
BL	1,19	1,49
RO	1,53	1,63

PRICE ADVANTAGE INDICATOR

◎ Price Advantage Indicator (PAI)

Price Advantage is calculated according to the formula:

$$\text{PAI} = \ln [\text{PPP Sector country} = i / 100] * (-1)$$

PHARMACEUTICALS

	PAI (2000-2003)	PAI (2004-2008)
CZ	-4,2	-3,2
EE	-4,5	-3,4
HU	-4,1	-3,2
LV	-4,3	-3,6
LT	-4,4	-3,4
PL	-4,5	-3,2
SK	-4,3	-3,1
SL	-4,6	-3,4
BG	-4,4	-3,0
RO	-4,4	-2,8

CLOTHING MATERIALS

	PAI (2000-2003)	PAI (2004-2008)
CZ	-4,2	-4,4
EE	-4,4	-4,5
HU	-4,2	-4,4
LV	-4,7	-4,7
LT	-4,5	-4,5
PL	-4,4	-4,2
SK	-4,1	-4,3
SL	-4,5	-4,5
BG	-4,2	-4,0
RO	-3,8	-4,1

HOUSEHOLD TEXTILES

	PAI (2000-2003)	PAI (2004-2008)
CZ	-4,3	-4,5
EE	-4,1	-4,1
HU	-4,2	-4,3
LV	-4,5	-4,4
LT	-4,3	-4,2
PL	-4,3	-4,5
SK	-4,1	-4,4
SL	-4,5	-4,8
BG	-3,9	-4,0
RO	-3,8	-4,2

ELECTRICITY

	PAI (2000-2003)	PAI (2004-2008)
CZ	-4,4	-4,7
EE	-4,0	-4,1
HU	-4,4	-4,6
LV	-4,2	-4,0
LT	-4,3	-4,2
PL	-4,4	-4,3
SK	-4,3	-4,6
SL	-4,7	-4,5
BG	-3,8	-4,0
RO	-3,9	-4,4

EXPORT ADVANTAGE INDICATOR (EAI)

- © To measure competitive advantages between two countries, the ratio of export surpluses to total trade volume within a product group p should be applied:

$$eai_{tik} = [x_{tik} - m_{tik}] / [x_{tik} + m_{tik}]$$

PHARMACEUTICALS

Country	Average EAI (2003-2007)
CZ	-16,23
EE	1,30
HU	-0,82
LV	-4,34
LT	1,51
PL	1,29
SK	-0,29
SL	-11,50
BG	-1,05

TEXTILES

Country	Average EAI (2003-2007)
CZ	-0,47
EE	
HU	-2,29
LV	-4,77
LT	-7,03
PL	-2,52
SK	-3,51
SL	-3,00
BG	-2,73

PLASTICS

Country	Average EAI (2003-2007)
CZ	-0,67
EE	-0,93
HU	-0,67
LV	-1,11
LT	-0,39
PL	-0,54
SK	-0,87
SL	-0,41
BG	-1,10

TRANSFER ADVANTAGE INDICATOR

- ③ $TAI = \left[\frac{FDI_{\text{sector home to foreign market}} / FDI_{\text{sector foreign to home market}}}{FDI_{\text{overall country home to foreign market}} / FDI_{\text{overall country foreign to home market}}} \right]$
- ③ To attain a final value between -1 and 1, data standardization is made

CHEMICALS

Countries	Average TA (2000-2003)	Average TA (2004-2007)
CZ	0,93	0,98
EE		0,60
HU		0,65
LV	0,70	0,99
LT	1,00	0,81
PL	0,51	0,21
SK		0,08
SL		0,90
BG		0,24
RO		

TEXTILES

Country	Average TA (2000-2003)	Average TA (2004-2007)
CZ	0,19	0,23
EE	0,48	0,26
HU		0,01
LV		0,86
LT		0,15
PL	0,73	0,98
SK		0,29
SL		1,00
BG		0,87
RO		

PLASTICS

Country	Average TA (2000-2003)	Average TA (2004-2007)
CZ	0,24	0,52
EE		
HU		0,56
LV		
LT	1,00	0,75
PL	0,13	0,56
SL		0,52
SK		0,98
BG		0,55
RO		

ELECTRICITY

Country	Average TA (2004-2007)
CZ	0,88
EE	
LV	0,15
LT	0,06
HUN	
PL	0,15
SK	-0,23
SL	0,21
BG	0,29
RO	

CONSTRUCTION

Country	Average TA (2000-2003)	Average TA (2004-2007)
CZ	0,50	0,82
EE	0,45	0,93
HU	0,34	0,32
LV	0,99	0,41
LT	0,99	0,85
PL	0,59	0,82
SK	0,95	0,93
SL	-0,94	0,27
BG	0,96	0,16
RO		0,12

LEAD MARKETS AND INNOVATION POLICY IN CEECs

COUNTRY	INNOVATION POLICY
SLOVAK REPUBLIC	Innovation culture, technology transfers, growth poles in regions
BULGARIA	Transfer between R&D and industry, awareness creation, diffusion of technologies
CZECH REPUBLIC	Cooperation between R&D and its users, transfer of research results
ESTONIA	Awareness creation, transfer of knowledge
HUNGARY	Key technology areas, promotion of demand for R&D results, feedback from business demand towards R&D
LATVIA	Commercialization of science, public awareness of innovation, facilitation of user-driven innovation
ROMANIA	Usage of indirect instruments, awareness creation, technology transfer
POLAND	Research in strategic areas, public procurement
SLOVENIA	Research more integrated with needs of business sector
LITHUANIA	R&D intensive industries identified, innovation culture, increase in demand for innovation, awareness creation, technology transfer

CONCLUSIONS

- ⊙ CEECs reveal huge differentiation concerning lead markets potential,
- ⊙ Lead market factors are however very general and not sensitive to innovative products,
- ⊙ Implementation of the innovation policy in most cases is carried out through the EU Structural Funds,
- ⊙ The Structural Funds support mainly supply-side measures of the innovation policy,
- ⊙ There is a weak implementation of indirect demand-side innovation policy measures,
- ⊙ Should the CEECs develop their „own“ lead markets?